
A COMMUNITY OF SCHOLARS

The Institute for Advanced Study

Faculty and Members 1930-1980

The Institute for Advanced Study, Princeton, New Jersey

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It is fundamental in our purpose, and our express desire, that in the appointments to the staff and faculty, as well as in the admission of workers and students, no account shall be taken, directly or indirectly, of race, religion, or sex. We feel strongly that the spirit characteristic of America at its noblest, above all, the pursuit of higher learning, cannot admit of any conditions as to personnel other than those designed to promote the objects for which this institution is established, and particularly with no regard whatever to accidents of race, creed or sex.

Extract from the letter
addressed by the Founders
to their Trustees,
dated June 6, 1930,
Newark, New Jersey.

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Foreword

The certificate of incorporation of the Institute for Advanced Study was signed on the twentieth day of May, 1930. A half-century of any institution's life is a fitting moment to pause for reflection, assessment and general summing up, even as we look forward with anticipation to the half-century which lies before us. The publication of *A Community of Scholars* is thus designed to mark the fiftieth anniversary of the founding of the Institute and to provide that "literal record of the Institute's primary work" upon which any ultimate judgment of its achievements must be based.

In the summer and early fall of 1929, the two philanthropists who were soon to found the Institute for Advanced Study, Louis Bamberger and his sister, Mrs. Felix Fuld, decided to sell their business to R. H. Macy & Co. and to devote their time and their fortunes to the welfare of others. The timing could not have been more propitious. Within weeks of the consummation of the sale, the crash of 1929 followed, releasing forces of destruction and of evil which, along with other events of similar gravity elsewhere, made the decade of the thirties a time of tragedy for so many. Into these troubled waters the newly launched Institute elected to cast a lifeline of learning, to rescue those who could escape the collapse of European culture and to bring them to the haven of a deeply troubled but still safe America. Thus, the accidental confluence of two streams of western history brought the Institute for Advanced Study into being and shaped its early character: the American philanthropic tradition exemplified by the Bambergers, and the rise of Nazism and Fascism which sent to America's shores a flood of refugee scholars (some 1,600 of them) for most of whom the Institute was a beacon in the descending darkness, for some of whom it was a gateway to a new life, and for a very few a final place within which to continue to work and to transmit to others the style and the techniques of great learning from the other shore.

The interplay of economic events, the personalities of the founding philanthropists, their friends and advisers, and the state of higher education in America during the twenties, all combining to bring the Institute to life, is a fascinating tale too long and too tangled to tell here. Nonetheless, one name rises above all the rest. More than any other individual, it was Abraham Flexner who designed and developed the very idea of an Institute for Advanced Study. Deriving his notions from a careful analysis of such prior patterns as had

come into being at All Souls College at Oxford, the Collège de France and the late nineteenth century German universities, particularly the University of Göttingen, Flexner argued for the need of a postdoctoral research and teaching institution.

He did so at a time when his own career as a critic and a reformer of higher education appeared to have passed its zenith, for he was 64 when the Bambergers sought him out and much was behind him. He had taught Greek and Latin until he was 39, followed by graduate study at Harvard and Berlin. Employment by the Carnegie Foundation for the Advancement of Teaching in 1908 led to a study of American medical education and research that revolutionized the entire field in the United States and eventually the world. Published in 1910 as *Bulletin No. 4* of the Carnegie Endowment, the Flexner Report, as it came to be known, exposed American medicine for the shallow teaching enterprise it then was. It also made a national, indeed an international, figure of Flexner almost overnight.

Abraham Flexner firmly believed that men could shape their own affairs, direct their lives toward a desirable future, and that research and education were major instruments of that endeavor. In his medical experience and its consequences, he discovered a larger purpose and the energy to sustain the drive for a new institution of higher learning. One result was an analysis of higher education published as *Universities: American, English, German*. A second result was the general outline for an institute for advanced study.

In that volume on universities, Flexner wrote of the need for "creative activity, productive and critical inquiry [and] minds which can both specialize and generalize," for what he was after was not only the advancement of knowledge but the nourishment of those values which make life worthwhile. Thus, when the Bambergers invited Flexner to guide and to direct their effort, their thought was of a new university, but as discussions among them developed and external counsel came to bear upon the question, the burdens of the conventional educational marketplace and the multiple purposes and limitations of university life appeared to be increasingly restrictive. In the confidential memorandum that Flexner then prepared for the Bambergers, he called for the creation of an Institute for Advanced Study designed so that it

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should be small, that its staff and students or scholars should be few, that administration should be inconspicuous, inexpensive, subordinate, that members of the teaching staff, while freed from the waste of time involved in administrative work, should freely participate in decisions involving the character, quality, and direction of its activities, that living conditions should represent a marked improvement over contemporary academic conditions in America, that its subjects should be fundamental in character, and that it should develop gradually.

It was thus basic to Flexner's design that the permanent faculty would be "contributors to the progress of knowledge and the solution of problems," as if they were members of a research institute or center, but they would also be teachers, "choosing a few competent and earnest disciples engaged in mastery of a subject"—a mastery which of course included the research process itself. Furthermore, Flexner wrote:

The Institute will be neither a current university, struggling with diverse tasks and many students, nor a research institute, devoted solely to the solution of problems. It may be pictured as a wedge inserted between the two—a small university, in which a limited amount of teaching and a liberal amount of research are both to be found.... The level of the teaching and its form mark it off sharply from college teaching, from most university teaching, from technological or professional teaching.

As for academic organization, given the boundary conditions to which I have referred, Flexner saw the Institute as a kind of expanding circle, within which, he wrote:

I should, one by one, as men and funds are available—and only then—create a series of schools or groups—a school of mathematics, a school of economics, a school of history, etc. The "schools" may change from time to time; in any event, the designations are so broad that they may readily cover one group of activities today, quite another group as time goes on. Thus, from the outset the school of mathematics might well contain the history or philosophy of science; the school of economics a chair of law or political theory. Each school should conduct its affairs in its own way; for neither the subjects nor the scholars will all fit into one mold.

And perhaps in anticipation of the difficulty of dealing with the distinguished scholars who would come to inhabit the Institute, Flexner also said:

These men know their own minds; they have their own ways; the men who have, throughout human

history, meant most to themselves and to human progress have usually followed their own inner light; no organizer, no administrator, no institution, can do more than furnish conditions favorable to the restless prowling of an enlightened and informed human spirit....

The first academic appointments, naming Albert Einstein and Oswald Veblen as Professors at the Institute, were approved in the autumn of 1932, in initiation of academic work. The impact of these first appointments exemplifies much of what I have said above about the eventual influence on the Institute of both American and European ideals of education.

Veblen was brought to Princeton University in 1905 by the then President of the University, Woodrow Wilson, and by Dean Henry Burchard Fine. Following his appointment to the Institute in 1932, Veblen remained a member of the Institute's faculty until he was made emeritus in 1950. As Deane Montgomery has pointed out elsewhere, Veblen was largely responsible for the selection of the Institute's early mathematics faculty, which, in addition to himself, included James W. Alexander, Albert Einstein, Marston Morse, John von Neumann and Hermann Weyl. Moreover, he shared responsibility with Flexner for determining the Institute's policy of concentrating on postdoctoral work. He was a trustee of the Institute from its early days until his death (for his last few years he was an honorary trustee). He also played a large part in arranging the purchase by the Institute of the tract of land it now occupies. To the end of his life he was convinced that a great part of the mathematical lifeblood of the Institute was in the flow of young mathematicians through it. He felt too that the main justification for the Institute was in whatever impact it might have on the academic scene, particularly in America. The pages which follow reveal to what extent his ideas in this regard have shaped the Institute's characteristic mode of operation.

One of Abraham Flexner's first acts as Director was to recruit a faculty for the new Institute. Invited in January, 1932, to visit the California Institute of Technology by Robert Millikan and George Ellery Hale, under whose leadership another transformation in higher education and research was under way, Flexner gladly accepted, primarily to meet Albert Einstein, who was spending the second of three projected winter visits there. Apparently it was Flexner's intention only to consult with Einstein about the nature and future form of the Institute. In turn, he received an invitation from Einstein to continue the conversation in Oxford later in the year. There in the following spring Flexner offered him a professorship with the words, "You would be welcome on your own terms." Einstein expressed serious interest in the possibility and asked Flexner to join him at his summer home in Caputh outside Berlin. In June, at the conclusion of a day's discussion about how the Institute would develop, Einstein said, "Ich bin Feuer und Flamme dafür."

The meaning of Einstein's arrival in 1933 for science and learning in America is best summed up in a comment by Paul Langevin, a good friend and scientific colleague. When he heard that Einstein had accepted Flexner's offer, he said, "It's as important an event as would be the transfer of the Vatican from Rome to the New World. The pope of physics has moved and the United States will now become the center of the natural sciences."

The powerful gravitational effect created by Einstein's presence attracted others, even outside his field. The School of Mathematics, which was formally founded in 1933, was followed by the School of Humanistic Studies and the School of Economics and Politics in 1935. Subsequent developments resulted in the formal designation of the School of Historical Studies in 1948, and the School of Natural Sciences in 1966, and of the creation of the School of Social Science in 1973.

These three Schools, with the School of Mathematics, comprise the Institute today. Each School has a small permanent faculty, and some 160 fellowships are awarded annually to visiting members from other research institutions and universities throughout the world.

The objectives of the Institute were described as follows in the Founders' original letter to the first trustees: "The primary purpose is the pursuit of advanced learning and exploration in fields of pure science and high scholarship to the utmost degree that the facilities of the institution and the ability of the faculty and students will permit."

During the past half-century, these goals have been implemented by a faculty of exceptional merit; by an annually renewed group of carefully selected visiting members; and by the development of facilities and a mode of operation designed specifically to support and assist the Institute's intellectual purposes in every way possible.

Although the Institute is small when measured in terms of the size of its immediate academic community or of its operating budget, its intellectual weight is great and its influence on science and scholarship extraordinary. From its earliest years, it has been internationally recognized as one of the world's leading centers of research. Indeed, its successful example has created imitators both in the United States and abroad.

From the beginning the Institute has been an international institution, although American in location and organizational form. It has operated throughout its existence on the premise that science and learning transcend national boundaries and that scholars and scientists are members of one republic of the spirit. Of the present faculty, many have begun their scientific and scholarly careers outside the United States. One-third of the visiting members come from abroad, mostly from the great centers of learning of Western Europe and, to a lesser extent, from other regions of the world.

With its devotion to the continuing examination of new and centrally important questions as they arise at the frontiers of knowledge, the Institute in accordance with Flexner's original plan partakes of the character of both a university and a research institute, while differing in significant ways from both. It is unlike a university, for instance, in its small size—its academic membership annually numbers somewhat under 200—and in the fact that it has no formal curriculum, no scheduled courses of instruction, no commitment that all branches of learning be represented in its faculty and members. It is unlike the usual research institute in that it supports many separate fields of study, maintains no laboratories and determines its programs in terms of individual intellectual imperatives rather than the collective aims of research teams or the particular interests of donors.

For close to five decades the Institute for Advanced Study has made a substantial contribution to the world of higher learning by providing support—intellectual and material—to visiting members whose development and growth constitute one of its principal purposes. More than half of these visiting members are young men and women 35 years of age or less whose work at the Institute involves the faculty in a substantial amount of postdoctoral training. Though none of the visiting members are students in the narrow sense of being degree candidates, educational growth is still before them.

The Institute devotes special attention to identifying young people of accomplishment and promise and offers them membership at a stage in their careers when independent work is of the highest importance to their intellectual development. These younger temporary members then return to or join the faculties of universities all over the world and share what they have learned as a result of their stay at the Institute. This might be termed the invisible work of the Institute; its visible work is contained in the publications of the faculty and visiting members. Both serve to reinforce in highly significant ways the quality of scholarship and research throughout the world.

The varied work of the Institute is, of course, specialized; no advanced study or deep scholarship can be otherwise. Formal attempts to organize scholarly work at the Institute are minimal, although lectures and seminars are a regular feature of its internal life. The choice and conduct of research and study are matters which are decided entirely by each individual member of the Institute.

The Institute is nonetheless an intellectual community and not a mere collection of scholars. Community is possible because faculty and members have some substantial knowledge outside their own fields of specialization. The fact that the visiting members live together in Institute housing, eat in the same dining hall, share the same common room and libraries, and carry out their work in an institutional setting where human scale has been carefully

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maintained is conducive to common interest, mutual understanding and friendship.

The faculty and members of the Institute are also a part of the larger community of Princeton, New Jersey, with its University and its numerous institutions of research and learning. Many Institute seminars are open to interested members of the University's faculty and graduate school, and University seminars and conferences are frequently attended by Institute faculty and members. Without the University, Princeton itself would be both physically and intellectually inadequate as the site of the Institute; and the Institute has brought a high degree of international excellence to the general academic community of Princeton, contributing to the development of what has become one of the world's great educational centers.

The Institute today occupies a square mile of land in Princeton. Most of this is farm and woodland. Its buildings house libraries, offices for faculty and members, seminar and lecture rooms, and common rooms. Although the Institute has no administrative or organic connection with Princeton University, there has always been very close collaboration between the two institutions on matters of common interest.

At this stage in the Institute's development, it has seemed appropriate to recall its beginnings and to describe its present form and function. I should like to close with two paragraphs which a former Director, J. Robert Oppenheimer, contributed to his Foreword to the companion volume which appeared on the occasion of the Institute's twenty-fifth anniversary:

The immediate effects of the Institute's work are in knowledge and in men. The new knowledge and the ideas find their way into the worldwide communities of science and scholarship, and the men take their part throughout the world in study, in teaching, in writing and in discovering new truth.

History teaches—and even the brief history of the Institute confirms—that new knowledge leads to new power and new wisdom, and alters the destiny and heightens the dignity of man.

The new knowledge itself is disseminated in many ways—through lectures and seminars and intimate conversation, through letters and syllabi and notes. But the primary and the formal and the decisive means is publication, which is for the scholar both the definitive act of formulation, and the performance of his duty to his colleagues and to the world of science and of man. It has thus seemed appropriate to mark this anniversary by a record of what the members of the Institute have published, a literal record of the Institute's primary work. What has come of these ideas, what has become of the men who have held them or discovered them, how these have molded the present and the cast of the future, later historians may discover.

Finally, my profound thanks to all those whose combined efforts have made this memorial volume possible, and in particular to Janet A. Mitchell, who has served as Editor. A special expression of gratitude goes to the Union Carbide Corporation whose generous grant to the Institute has enabled us to recover for the historical record the results of fifty years of work done at the Institute by a remarkable community of men and women whose contributions to human understanding are the best testimony to what has been accomplished here during the past half-century.

Harry Woolf, Director

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Editor's Introductory Notes

In addition to commemorating the fiftieth anniversary of the founding of the Institute for Advanced Study, *A Community of Scholars* is designed as a companion volume to a bibliography published in 1955 in honor of the Institute's twenty-fifth anniversary. The present publication includes much of the same kind of bibliographic material as that contained in the earlier volume but has been expanded to allow for a short biographic section on each member.

The first and major portion of the directory is thus devoted to bio-bibliographical data on the more than 3,100 visiting members who have been in residence during the fifty-year period 1930-1980 and the sixty-three past and present Faculty members. The second portion is made up of a series of appendixes based on the information contained in the first: institution of affiliation at the time of membership; current geographical location; Institute school attended; and a list by country of birth. The third major portion is a listing of those persons who came to the Institute as visitors, research assistants to Faculty members, or as participants in the electronic computer project which operated during the period 1946-1957 with government support.

In order to be included as a member in the main part of the directory, one had to be invited to come to the Institute for residence during a semester or a full year. Visitors, on the other hand, were here for perhaps as little as one day to give a special lecture, or for as much as an academic year, but not as a member in residence. The dividing line was in many cases blurred and the distinction difficult to make, particularly in the early years when invitations were tendered on a more informal basis. The editor apologizes for any errors in this regard. Also because late appointments did not always show up on membership lists, and because of the different terminology in identifying types of memberships over the years, it is possible that some members have been overlooked or wrongly categorized. For the accuracy achieved in this regard, the assistance of the School Administrative Officers was invaluable; any inadequacies are again to be attributed to the editor.

Some persons named in the book have been at the Institute in more than one capacity. In such cases,

these individuals will be found in what might be called the category of longest tenure. For example, the entry on a faculty member who had been a visitor one summer and a member one semester will be in the faculty section with a cross index reference in the members' section. Not all faculty were members at one time or another nor were all Directors faculty members.

To obtain the data on which this publication is based, questionnaires were mailed in late 1978 and again in 1979 to 2,649 living and locatable persons who had been at the Institute at one time or another. Of this total 78 percent replied. Efforts were made to find those for whom the Institute had incorrect addresses by querying universities from which they had received degrees, by checking the various library reference sources and by asking acquaintances, all of which resulted in a statistically high percentage of success in obtaining current information for the directory.

Once received, however, the completed questionnaires posed some problems. Space considerations made it impossible in some cases to print all of the information provided. In other cases, handwriting was illegible, bibliographical references when checked turned out to be inaccurate, abbreviations were not explained and, with all due respect, some of the foreign handwritten words and abbreviations could not be translated. Considerable time was spent on finding complete bibliographical references for publications, but financial limitations made a completely accurate reference in all cases impossible. In the end we have edited and printed the information provided to the best of our ability, given the various unavoidable constraints.

Finally, the editor wishes to thank all those at the Institute who helped in compiling this volume. It is my hope that in addition to providing an indispensable record of fifty years of Institute history, it will contribute to a wider understanding of the creative role of this unique institution in the international world of learning during much of the twentieth century.

Janet A. Mitchell, Editor

List of Abbreviations Used in This Book

The abbreviations used in this book are for the most part those in common usage in scholarly and technical reference works. Periods have been omitted to save space. The list is divided into two categories: those abbreviations which appear mainly in the biographical part of the entries and those in the bibliographical part. Omitted are: abbreviations for earned and honorary academic degrees because of the wide variety of spellings, languages and style

used by the holders of the degrees; abbreviations of the states of the United States (official abbreviations of the US Postal Service are given, with the two-letter form following the zip code in the address); and foreign addresses and names which are abbreviated according to individual preference in most cases. Any abbreviations not included here may be found in specialized dictionaries.

Part I

AAAS American Association for the Advancement of Science; American Academy of Arts and Sciences

AAS American Astronomical Society

AAUW American Association of University Women

Acad Academy

Accad Accademia

ACLS American Council of Learned Societies

Adv Advisory, advancement

AEC Atomic Energy Commission

AHA American Historical Association

AID Agency for International Development

Ak(ad) d(er) W(iss) Akademie der Wissenschaften

Am, Amer America(n)

AMIAS Association of Members of the Institute for Advanced Study

AMS American Mathematical Society

Anthro(pol) Anthropology, anthropological

APSA American Political Science Association

Arch(a)eol Arch(a)eology, arch(a)eological

Assn, Assoc Association, associate

Astro(n) Astronomy, astronomical

Astrophys Astrophysics, astrophysical

Awd Award

Bayer(in) Bavarian

Bio(l) Biology, biological

Brit Britain, British

Cal Tech California Institute of Technology

Can Canada, Canadian

Cantab. Of Cambridge University

CBE Commander of the Order of the British Empire

CBMS Conference Board of the Mathematical Sciences

CCNY College of the City of New York

CERN Conseil Européen pour la Recherche Nucléaire (Geneva)

Chem Chemistry, chemical

Chm(n) Chairman

CNRS Centre National de la Recherche Scientifique

Comm Commission, Committee

Corr Corresponding

Cttee Committee

CUNY City University of New York

DDR Deutsche Demokratische Republik, official name of East Germany

Deut Deutsch(er)

Dir Director

DMV Deutsche Mathematiker Vereinigung

DPG Deutsche Physikalische Gesellschaft

Ec(on) Economic(s)

Ed(s) Editor(s), edition(s)

Ed(uc) Education(al)

EEC European Economic Community

List of Abbreviations

Emer Emeritus	IUPAP International Union of Pure and Applied Physics
Eng English	KBE Knight Commander of the Order of the British Empire
Engn, Engin Engineering	Lang(s) Language(s)
Env(iron) Environment(al)	Ling(s) Linguistic(s)
ETH Eidgenössische Technische Hochschule (Swiss Federal Institute of Technology)	Lit(s) Literature(s)
FBA Fellow of the British Academy	MAA Mathematical Association of America
FIEC International Federation of the Society of Classical Studies	Math Mathematics
For Rels Foreign Relations	MBE Member of the Order of the British Empire
FRAM Fellow of the Royal Academy of Music	Mech Mechanics, mechanical
FRAS Fellow of the Royal Astronomical Society; Fellow of the Royal Asiatic Society	Med Medi(a)eval
FRCM Fellow of the Royal College of Music	MIT Massachusetts Institute of Technology
FR Econ S Fellow of the Royal Economic Society	MLA Modern Language Association
FRHS, FR Hist S Fellow of the Royal Historical Society	MRIA Member of the Royal Irish Academy
FRS Fellow of the Royal Society	NAS National Academy of Sciences (USA)
FRSA Fellow of the Royal Society of Arts	NASA National Aeronautics and Space Administration
FRSC Fellow of the Royal Society of Canada	Nat(I) National
FRSE Fellow of the Royal Society of Edinburgh	Nat Scis Natural Sciences
FRSL Fellow of the Royal Society of Literature	Naz Nazionale
FSA Fellow of the Society of Antiquaries	NEH National Endowment for the Humanities
GBE Knight, Grand Cross of the British Empire	NIH National Institutes of Health
GDR German Democratic Republic (East Germany)	NSF National Science Foundation
Geog Geography, geographical	NSW New South Wales, Australia
Geol Geology, geological	Nuc Nuclear
Geom Geometry, geometrical	OBE Officer of the Order of the British Empire
Geophys Geophysics, geophysical	OM Member of the Order of Merit
Ger German, Germany	O Prof, Ord Prof Full professor
Gr, Grk Greek	Oxon. Of Oxford University
Grad Graduate	PBK Phi Beta Kappa
hc honoris causa (signifying an honorary degree)	Phil, philos Philosophy
Hist History, historical	Phys Physics, physical
IAU International Astronomical Union	Pol(i) Politics, political
ICM International Congress of Mathematicians	Priv Doz Privat Dozent (University lecturer; recognized teacher not on the regular staff)
IEEE Institute of Electrical and Electronics Engineers	Proc Proceedings
IHES Institut des Hautes Etudes Scientifiques	Relig Religion
IMU International Mathematical Union	Ren Soc Am Renaissance Society of America
Int, Inter, Internatl International	Res Research
Ital Italy, Italian	Retd Retired
IUPAC International Union of Pure and Applied Chemistry	Rev Review
	RHS Royal Historical Society

RPI Rensselaer Polytechnic Institute
SIAM Society for Industrial and Applied Mathematics
Sci(s) Science(s)
Slav Slavic
Soc(iol) Sociology, sociological
Span Spanish
SSRC Social Science Research Council
SUNY State University of New York

Tech Technical, technology
Top Topology
Trans Translation, translator
UCB University of California, Berkeley
UCLA University of California, Los Angeles
VWF Verband der Wissenschaftler an
 Forschungsinstituten

Part II

Acad Pol Sci Proc Academy of Political Science
 Proceedings
Acta Cryst Acta Crystallographica
Acta Math Acta Mathematica
Acta Sci Math Szeged Acta Scientiarum
 Mathematicarum, Szeged
Actas Acad Ci Lima Actas de la Academia Nacional
 de Ciencias Exactas, Físicas y Naturales de Lima
Amer Econ R American Economic Review
Amer Hist R American Historical Review
Amer Inst Iran Art Bul Iranian Institute of America
 Art Bulletin
Amer J Archaeol American Journal of Archaeology
Amer J Int Law American Journal of International
 Law
Amer J Math American Journal of Mathematics
Amer J Philol American Journal of Philology
Amer Math Monthly American Mathematical Monthly
Amer Orient Soc J American Oriental Society
 Journal
Amer Pol Sci R American Political Science Review
Amer Scholar American Scholar
Anais Acad Brasil Ci Anais da Academia Brasileira
 de Ciencias
Ann Am Ac Annals of the American Academy of
 Political and Social Science
Ann Inst Fourier Grenoble Université de Grenoble.
 Annales de l'Institut Fourier
Ann Mat Pura Appl Annali di Matematica Pura ed
 Applicata
Ann Math Statistics Annals of Mathematical
 Statistics
Ann of Math (2) Annals of Mathematics, Series 2
Ann Sci Ecole Norm Sup Annales Scientifiques de
 l'École Normale Supérieure
Ann Sci ENS Annales Scientifiques de l'École
 Normale Supérieure
Ap J Astrophysical Journal
Ark Fys Arkiv för Fysik
Ark Mat Arkiv för Matematik

Ars Islam ARS Islamica
Art Bul Art Bulletin
Art in Am Art in America
Art Q Detroit Institute of Arts Art Quarterly
Assn Comp Mach J Association for Computing
 Machinery Journal
Astrophys J Astrophysical Journal
Bull Amer Math Soc Bulletin of the American
 Mathematical Society
Bull Amer Meteorol Soc Bulletin of the American
 Meteorological Society
Bull AMS Bulletin of the American Mathematical
 Society
Bull Atomic Sci Bulletin of the Atomic Scientists
Bull Corresp Hellénique Bulletin de Correspondance
 Hellénique
Bull Sci Math Bulletin des Sciences Mathématiques
Byzan Z Byzantinische Zeitschrift
Canadian J Math Canadian Journal of Mathematics
Church Hist Church History
Class J Classical Journal
Class Philol Classical Philology
Class Q Classical Quarterly
Class R Classical Review
Class W Classical Weekly
CMP Communications in Mathematical Physics
Comm Algebra Communications in Algebra
Comm Math Helv Commentarii Mathematici Helvetici
Comm Pure Appl Math Communications on Pure
 and Applied Mathematics
Comment Math Helv Commentarii Mathematici
 Helvetici
Compositio Math Compositio Mathematica
CPAM Communications on Pure and Applied
 Mathematics
C R Acad Sci Paris Comptes Rendus
 Hebdomadaires des Séances de l'Académie des
 Sciences
Duke Math J Duke Mathematical Journal

List of Abbreviations

- Fogg Mus Bull** Harvard University. William Hayes Fogg Art Museum Bulletin
- For Affairs** Foreign Affairs
- Fund Math** Fundamenta Mathematicae
- Gaz Beaux-Arts** Gazette des Beaux-Arts
- Helvetica Phys Acta** Helvetica Physica Acta
- Ill J Math** Illinois Journal of Mathematics
- Indag(ationes) Math** Indagationes Mathematicae
- Int Affairs** International Affairs
- Inv(ent) Math** Inventiones Mathematicae
- J Acoust Soc Amer** Journal of the Acoustical Society of America
- J Analyse Math** Journal d'Analyse Mathématique
- Jap J Math** Japanese Journal of Mathematics
- J Appl Phys** Journal of Applied Physics
- J Chem Phys** Journal of Chemical Physics
- J Econ Hist** Journal of Economic History
- J Franklin Inst** Journal of the Franklin Institute
- J Hellen Stud** Journal of Hellenic Studies
- J Hist Ideas** Journal of the History of Ideas
- J Indian Math Soc (N.S.)** Journal of the Indian Mathematical Society, New Series
- JLMS** Journal of the London Mathematical Society
- J London Math Soc** Journal of the London Mathematical Society
- J Math Physics** Journal of Mathematics and Physics
- J Math Soc Japan** Journal of the Mathematical Society of Japan
- J Meteorol** Journal of Meteorology
- J Mod Hist** Journal of Modern History
- JPAA** Journal of Pure and Applied Algebra
- J Pol** Journal of Politics
- J Pol Econ** Journal of Political Economy
- JQSRT** Journal of Quantitative Spectroscopy and Radiative Transfer
- J Rational Mech Anal** Journal of Rational Mechanics and Analysis
- J Reine Angew Math** Journal für die Reine und Angewandte Mathematik
- J Symbolic Logic** Journal of Symbolic Logic
- Lett N Cim** Lettere al Nuovo Cimento
- Mag Art** Magazine of Art
- Math Ann** Mathematische Annalen
- Math Nachr** Mathematische Nachrichten
- Math Notae** Mathematicae Notae
- Math Scand** Mathematica Scandinavica
- Mem AMS** Memoirs of the American Mathematical Society
- Michigan Math J** Michigan Mathematical Journal
- Monatsh Math** Monatshefte für Mathematik
- N Cim** Nuovo Cimento
- Nederl Akad Wetensch Proc** Koninklijke Nederlandse Akademie van Wetenschappen Proceedings
- NF** New Series
- Pacific J Math** Pacific Journal of Mathematics
- Philol Q** Philological Quarterly
- Philos Mag** Philosophical Magazine
- Philos Sci** Philosophy of Science
- Physical Rev (2)** Physical Review, Series 2
- Phys Rev Lett** Physical Review Letters
- PMLA** Publication of the Modern Language Association
- PNAS USA** Proceedings of the National Academy of Sciences of the USA
- Pol Sci Q** Political Science Quarterly
- Port Math** Portugaliae Mathematica
- PR** Physical Review
- Princeton Mus Rec** Princeton University. Museum of Historic Art Record
- PRL** Physical Review Letters
- Proc Amer Math Soc** Proceedings of the American Mathematical Society
- Proc Amer Philos Soc** Proceedings of the American Philosophical Society
- Proc Cambridge Philos Soc** Proceedings of the Cambridge Philosophical Society
- Proc Japan Acad** Proceedings of the Japan Academy
- Proc London Math Soc** Proceedings of the London Mathematical Society
- Proc (NAS) Nat Acad Sci USA** Proceedings of the National Academy of Sciences of the United States of America
- Proc Roy Soc Edinburgh** Proceedings of the Royal Society of Edinburgh
- Proc Roy Soc London** Proceedings of the Royal Society of London
- Progress Theoret Physics** Progress of Theoretical Physics
- Publ Inst Mat Univ Nac Litoral** Publicaciones del Instituto de Matemáticas de la Facultad de Ciencias Matemáticas, Universidad Nacional del Litoral
- Publ Math Debrecen** Publicaciones Mathematicae, Debrecen
- Quart Appl Math** Quarterly of Applied Mathematics
- Quart J Econ** Quarterly Journal of Economics
- Quart J Math Oxford Ser** Quarterly Journal of Mathematics, Oxford Series
- Quart J Mech Appl Math** Quarterly Journal of Mechanics and Applied Mathematics
- RCRF** Rei Cretariae Romanae Fautores
- R Pol** Review of Politics
- Rend Circ Mat Palermo** Rendiconti del Circolo Matematico di Palermo
- Rev Modern Physics** Reviews of Modern Physics
- Revista Ci Lima** Revista de Ciencias, Lima
- Riv Mat Univ Parma** Rivista di Matematica della Università di Parma

List of Abbreviations

- Scripta Math** Scripta Mathematica
- TAMS** Transactions of the American Mathematical Society
- TAPA** Transactions of the American Philological Association
- Tohoku Math J** Tohoku Mathematical Journal
- Trans Amer Math Soc** Transactions of the American Mathematical Society
- Univ Nac Tucumán Revista** Universidad Nacional de Tucumán Facultad de Ciencias Exactas Revista
- Univ Roma Ist Naz Alta Mat Rend Mat e Appl** Università di Roma Istituto Nazionale di Alta Matematica Rendiconti
- Verl** Verlag (publisher)
- Walters J** Journal of the Walters Art Gallery
- Warburg J** London University Warburg Institute Journal
- World Pol** World Politics
- Yale Law J** Yale Law Journal
- Yale R** Yale Review
- Z, Zeit** Zeitschrift (journal, periodical)
- Z Angew Math Phys** Zeitschrift für Angewandte Mathematik und Physik
- Z Physik** Zeitschrift für Physik
- Z Wahr** Zeitschrift für Wahrscheinlichkeits-theorie und Verwandte Gebiete

**Directors of the
Institute for Advanced Study**

Explanatory Notes

The five Directors of the Institute for Advanced Study are named in order of tenure with the years in office following the name.

Biographical data.

Date and place of birth. Official zip code abbreviations of the Post Office are used for US state names.

Highest earned degree(s); year, field, and granting institution.

If living, current address.

Honors: included are academic honors, scholarships, fellowships, lectureships, honorary degrees, prizes, awards, memberships in societies, etc.

Appointments: included are academic and federal appointments, service on national commissions, advisory boards or professional committees, editorial appointments, etc.

Memberships in professional associations or organizations.

Bibliography.

Because of space limitations, only a selected sample is given. The order of information in the citations, which are separated by semicolons, is as follows: biographee is editor or translator; name of coauthor or coeditor; book title (in italics) or title of journal article; author of translated or edited work; title of periodical (in italics); series and/or edition of book; volume or issue number; year of issue of journal (in parentheses) and page reference; city, publisher and date of publication of book.

Directors of the Institute for Advanced Study

Flexner, Abraham 1930-39

Born 1866 Louisville, KY. AM 1906 Harvard Univ. Deceased.

Honors: Cmdr Legion of Honor (France) 1926; Rhodes Mem Lectureship Oxford 1927-28; LLD: Western Reserve Univ 1916; Swarthmore Coll 1934; MD(hc): Univ of Berlin 1929; Univ of Brussels 1930; LLD: NYU 1936; Princeton Univ 1940; Johns Hopkins Univ 1949; Washington Univ 1950; DLitt Univ of Iowa 1936.

Selected publications: *The American College*. New York: Century, 1908; *Medical Education in the US and Canada*. Report to the Carnegie Foundation for the Advancement of Teaching. New York: 1910; *Medical Education in Europe*. Report to the Carnegie Foundation for the Advancement of Teaching. New York: 1912; *Prostitution in Europe*. New York: Century, 1920; *A Modern School*. New York: General Educ Bd, 1916; *A Modern College*. Garden City, NY: Doubleday, Page, 1923; *Medical Education, A Comparative Study*. New York: Macmillan, 1925; *Do Americans Really Value Education?*. Cambridge, MA: Harvard Univ Press, 1927; *Universities - American, English, German*. New York: Oxford Univ Press, 1930; *I Remember: An Autobiography*. NY: Simon & Schuster, 1940; *Henry S. Pritchett, A Biography*. New York: Columbia Univ Press, 1943; *Daniel Colt Gilman: Founder of the American Type of University*. New York: Harcourt Brace, 1946.

Aydelotte, Frank 1939-47

Born 1880 Sullivan, IN. AM 1903 English Harvard Univ; BLitt 1908 Oxford Univ. Deceased.

Honors: Phi Beta Kappa; Amer Philos Soc; Rhodes Scholar 1905-07; LLD: Indiana Univ 1937; Allegheny Coll 1923; Yale Univ 1928; NYU 1940; Dickinson Coll 1940; Pomona Coll 1941; Univ of Iowa 1941; Univ of Calif 1942; LHD: Univ of Penn 1924; Swarthmore Coll 1940; D Litt: Univ of Pittsburgh 1925; Oberlin Coll 1926; DCL: Oxford Univ 1937; Univ of the South 1949; Hon Fellow Brasenose Coll Oxford.

Appointments: Pres Swarthmore College 1921-40; Pres Assoc of Amer Colls 1925; Amer Sec, Rhodes Trustees 1918-53; Pres Assn Amer Rhodes Scholars 1930-56; Trustee Carnegie Found for Adv of Teaching 1922-53; Chmn Ed Adv Bd, Guggenheim Foundation 1925-50; Trustee World Peace Found 1927-56; Trustee Inst for Adv Study 1930-56.

Memberships: MLA; AHA; Council on For Rels.

Selected publications: *Elizabethan Rogues and Vagabonds*. Oxford: Clarendon Press, 1913; *College English*. New York: Oxford Univ Press, 1913; *The Oxford Stamp*. New York: Oxford Univ Press, 1917; *Ed Materials for the Study of English Literature and Composition*. New York: Oxford Univ Press, 1914; *Ed English and Engineering*. New York: McGraw Hill, 1917; Ed with L.A. Crosby and A. C. Valentine, *Oxford of Today*. New York: Oxford Univ Press, 1922, 1927; *Ed Honors Courses in American Colleges and Universities*. 2nd Edition. Natl Research Council, 1925; *Breaking the Academic Lock-Step. School and Society* 26 (Oct 1, 1927) 1-4; *Opportunities and Dangers of Educational Foundations. Jour of Proc & Addresses of the AAU 27th Annual Conf* (Oct 1925) 60-64; *The Outlook for Higher Education. Proc of Amer Philos Soc* 69 (1930) 271-280; *The American Rhodes Scholarships*. Princeton Univ Press, 1946.

Oppenheimer, J. Robert 1947-66

Born 1904 New York, NY. PhD 1927 Physics Univ of Göttingen. Deceased.

Honors: Fellow, AAAS, Am Phys Soc, NAS, Am Philos Soc; Internatl Educ Bd fellow Univ of Leiden & Zurich 1928-29.

Appointments: Dir Los Alamos Sci Lab 1943-45.

Selected publications: *The New Weapon: The Turn of the Screw*, in *One World or None*, ed. by Dexter Masters and Katharine Way, New York: McGraw-Hill, 1946; *Science and the Common Understanding*. The B.B.C. Reith Lectures, 1953. London & New York: Oxford Univ Press & Simon and Schuster, 1954; *The Open Mind*. New York: Simon and Schuster, 1955; *Jews in the World of Science*. New York: Monde, 1956; *The Constitution of Matter*. Eugene, Ore: Oregon State System of Higher Education, 1956; *The Flying Trapeze: Three Crises for Physicists*. London: Oxford Univ Press, 1964; *Quantum Theory and Intensity Distribution in Continuous Spectra. Nature* 118 (1926) 771; *On the Quantum Theory of Vibration-Rotation Bands. Proc Camb Phil Soc* 23 (1925-27) 327-335; *On the Quantum Theory of the Problem of the Two Bodies. Proc Camb Phil Soc* 23 (1925-27) 422-431; *Quantentheorie des kontinuierlichen Absorptionsspektrums. Naturwissenschaften* 14 (1926) 1282; *On the Quantum Theory of the Polarization of Impact Radiation. Proc NAS* 13 (1927) 800-805; *Bemerkung zur Zerstreung der α = Teilchen. Zeits für Phys* 43 (1927) 413-415; *Zur Quantentheorie kontinuierlicher Spektren. Zeits für*

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Phys 41 (1927) 268-293; Zur Quantenmechanik der Richtungsentartung. *Zeits für Phys* 43 (1927) 27-46; with M. Born, Zur Quantentheorie der Molekeln. *Ann Phys* 84 (1927) 457-484; Three Notes on the Quantum Theory of Aperiodic Effects. *Phys Rev* 31 (1928) 66-81; On the Quantum Theory of the Capture of Electrons. *Phys Rev* 31 (1928) 349-356; On the Quantum Theory of Field Currents. *Phys Rev* 31 (1928) 914; On the Quantum Theory of Electronic Impacts. *Phys Rev* 32 (1928) 361-376; On the Quantum Theory of the Ramsauer Effect. *Proc NAS* 14 (1928) 261-262; On the Quantum Theory of the Autoelectric Field Currents. *Proc NAS* 14 (1928) 363-365; Über die Strahlung der Freien Elektronen im Coulombfeld. *Zeits für Phys* 55 (1929) 725-737; with Harvey Hall, Why Does Molecular Hydrogen Reach Equilibrium So Slowly?. *Phys Rev* 35 (1930) 132-133; Note on the Theory of the Interaction of Field and Matter. *Phys Rev* 35 (1930) 461-477; On the Theory of Electrons and Protons. *Phys Rev* 35 (1930) 562-563; Two Notes on the Probability of Radiative Transitions. *Phys Rev* 35 (1930) 939-947; Selection Rules and the Angular Momentum of Light Quanta. *Phys Rev* 37 (1931) 231; Note on the Statistics of Nuclei. *Phys Rev* 37 (1931) 232-233; with P. Ehrenfest, Note on the Statistics of Nuclei. *Phys Rev* 37 (1931) 333-338; with Harvey Hall, Relativistic Theory of the Photoelectric Effect by Harvey Hall: Part II -Photoelectric Absorption of Ultragamma Radiation. *Phys Rev* 38 (1931) 57-79; Note on Light Quanta and the Electromagnetic Field. *Phys Rev* 38 (1931) 725-746; with J.F. Carlson, On the Range of Fast Electrons and Neutrons. *Phys Rev* 38 (1931) 1787-88; with J. F. Carlson, Impacts of Fast Electrons and Magnetic Neutrons. *Phys Rev* 41 (1932) 763-792; Disintegration of Lithium by Protons. *Phys Rev* 43 (1933) 380; with M. S. Plesset, The Production of the Positive Electron. *Phys Rev* 44 (1933) 53-55; with Leo Nedelsky, The Production of Positives by Nuclear Gamma-Rays. *Phys Rev* 44 (1933) 948-949; with W. H. Furry, On the Theory of the Electron and Positive. *Phys Rev* 45 (1934) 245-262; The Theory of the Electron and Positives. *Phys Rev* 45 (1934) 290; with W. H. Furry, On the Limitation of the Theory of the Positron. *Phys Rev* 45 (1934) 903-904; with C. C. Lauritsen, On the Scattering of the Th C" γ -Rays. *Phys Rev* 46 (1934) 80-81; Are the Formulae for the Absorption of High Energy Radiation Valid?. *Phys Rev* 47 (1935) 44-52; Note on Charge and Field Fluctuations. *Phys Rev* 47 (1935) 144-145; Note on the Production of Pairs by Charged Particles. *Phys Rev* 47 (1935) 146-147; The Disintegration of the Deuteron by Impact. *Phys Rev* 47 (1935) 845-846; with M. Phillips, Note on the Transmutation Function for Deuterons. *Phys Rev* 48 (1935) 500-502; On the Elementary Interpretation of Showers and Bursts. *Phys Rev* 50 (1936) 389; with Robert Serber, The Density of Nuclear Levels. *Phys Rev* 50 (1936) 391; with J. F. Carlson, On Multiplicative Showers. *Phys Rev* 51 (1937) 220-231; with G. Nordheim, L. W. Nordheim and R. Serber, The Disintegration of High Energy Protons. *Phys Rev* 51 (1937) 1037-1045; with

R. Serber, Note on the Nature of Cosmic Ray Particles. *Phys Rev* 51 (1937) 1113; with F. Kalckar and R. Serber, Note on Nuclear Photoeffect at High Energies. *Phys Rev* 52 (1937) 273-278; with F. Kalckar and R. Serber, Note on Resonances in Transmutations of Light Nuclei. *Phys Rev* 52 (1937) 279-282; with R. Serber, Note on Boron Plus Proton Reactions. *Phys Rev* 53 (1938) 636-638; with R. Serber, On the Stability of Stellar Neutron Cores. *Phys Rev* 54 (1938) 540; with G. M. Volkoff, On Massive Neutron Cores. *Phys Rev* 55 (1939) 374-381; with H. Snyder, On Continued Gravitational Contraction. *Phys Rev* 56 (1939) 455-459; with J. S. Schwinger, On Pair Emission in the Proton Bombardment of Fluorine. *Phys Rev* 56 (1939) 1066-1067; Behavior of High Energy Electrons in Cosmic Radiation by C. G. Montgomery and D. C. Montgomery: Discussion by J. R. Oppenheimer. *Rev Mod Phys* 11 (1939) 264-266; Celebration of the Sixtieth Birthday of Albert Einstein. *Science* 89 (1939) 335; with H. Snyder and R. Serber, The Production of Soft Secondaries by Mesotrons. *Phys Rev* 57 (1940) 75-81; On the Applicability of Quantum Theory to Mesotron Collisions. *Phys Rev* 57 (1940) 353; On the Spin of the Mesotron. *Phys Rev* 59 (1941) 462; On the Selection Rules in Beta-Decay. *Phys Rev* 59 (1941) 908; with J. Schwinger, On the Interaction of Mesotrons and Nuclei. *Phys Rev* 60 (1941) 150-152; Internal Conversion in Photosynthesis. *Phys Rev* 60 (1941) 158; with R. Christy, The High Energy Soft Component of Cosmic Rays. *Phys Rev* 60 (1941) 159; with E. C. Nelson, Multiple Production of Mesotrons by Protons. *Phys Rev* 60 (1941) 159-160; On the Internal Pairs from Oxygen. *Phys Rev* 60 (1941) 164; The Mesotron and the Quantum Theory of Fields, in *Nuclear Physics*, ed. by Enrico Fermi et al, 39-50. Philadelphia: University of Pennsylvania Press, 1941; with E. C. Nelson, Pair Theory of Meson Scattering. *Phys Rev* 61 (1942) 202; with H. A. Bethe, Reaction of Radiation on Electron Scattering and Heitler's Theory of Radiation Damping. *Phys Rev* 70 (1946) 451-457; with H. W. Lewis and S. A. Wouthuysen, The Multiple Production of Mesons. *Phys Rev* 73 (1948) 127-140; with S. T. Epstein and R. J. Finkelstein, Note on Stimulated Decay of Negative Mesons. *Phys Rev* 73 (1948) 1140-1141; Discussion on the Disintegration and Nuclear Absorption of Mesons, Remarks on μ -Decay. *Rev Mod Phys* 21 (1949) 34-35; with William Arnold, Internal Conversion in the Photosynthetic Mechanism of Blue Green Algae. *J Gen Physiology* 33 (1950) 423-435; Thirty Years of Mesons. *Physics Today* 19 (1966).

Kaysen, Carl 1966-76

Born 1920 Philadelphia, PA. PhD 1954 Economics Harvard Univ. Prof, Dept of Economics, MIT, Cambridge, MA 02139.

Honors: Sr Fulbright Res Scholar London Schl of Econ 1955-56; Guggenheim Fellow 1955-56; Am Philos Soc; AAAS; Phi Beta Kappa.

Appointments: Deputy Spec Asst to Pres Kennedy for natl security affairs 1961-63; Member, Carnegie Comm on Higher Ed, 1968-.

Selected publications: *United States v United Shoe Machinery Corporation, an Economic Analysis of an Anti-Trust Case*. Harvard Univ Press, 1956; with F. X. Sutton, S. E. Harris, and J. Tobin, *The American Business Creed*. Harvard Univ Press, 1956; with D. F. Turner, *Anti-Trust Policy*. Harvard Univ Press, 1959; with Franklin M. Fisher, *The Demand for Electricity in the United States*. North-Holland Pub Co, 1962; *The Higher Learning, the Universities and the Public*. Princeton Univ Press, 1969; *Ed Content and Context, Essays on College Education*. McGraw-Hill, 1973; A Revolution in Economic Theory?. *Rev of Econ Studies* 14 (1946-47) 1; with J. N. Lorie, A Note on Professor Schultz's Analysis of the Long Run Agricultural Problem. *Rev of Econ and Statistics* 30 (1948) 4; A Dynamic Aspect of the Monopoly Problem. *Rev of Econ and Statistics* 31 (1949) 2; Professor Blackett and the Bomb. *Social Research* 16 (1949) 3; Basing Point Pricing and Public Policy. *Quarterly J of Econ* 63 (1949) 3; Military Importance of the Atomic Bomb. *Bull of the Atomic Scientists* (December 1949); Cyclical Price Flexibility in Steel. *Econometrica* 18 (1950) 3; Collusion Under the Sherman Act. *Quarterly J of Econ* 65 (1951) 2; The Minimax Rule of the Theory of Games and the Choice of Strategies Under Conditions of Uncertainty. *Metroeconomica* 4 (1952) 1; Dynamic Aspects of Oligopoly Price Theory. *Am Econ Rev Papers and Proceedings*, 42 (1952) 2; On Defining a Subsidy. *Public Policy* 4 (1952/3); Market Definition in Anti-Trust Law Proceedings. *Current Business Studies* (March 1954); Recent Books About Competition. *Harvard Bus Rev* (May-June 1954); Big Business and the Liberals, Then and Now. *New Republic* (1922 November 1954) 118; Some Data on Plant Size and Firm Size. *Review of Econ and Statistics* (February 1954); Comment on "Economic Theory and Concentration Measurement" . in *Business Concentration and Price Policy* Report of a National Bureau of Economic Research Conference. Princeton Univ Press, 1955; The Restrictive Practices Bill: An American View. *London and Cambridge Econ Bull* (June 1956); Anti-Monopoly Policy in Britain and the United States. *Westminster Bank Review* (August 1956); Anti-Monopoly Policy in the United Kingdom and the United States. *The Free Trader* (December 1956); The Social Significance of the Modern Corporation. *Am Econ Rev Papers and Proceedings* (May 1957); with D. R. Fagg and R. N. McKean, What the Factory Worker Knows About His Factory. *J Bus Univ of Chicago* (July, 1958); US v Du Pont (General Motors). *Modern Law Rev Case Notes* (March 1958); The Corporation: How Much Power, What Scope?. in *The Corporation in the Modern Economy*, ed. by E. S. Mason, Harvard Univ Press, 1960; Industrial Concentration in the United States. in *Die Konzentration in der Wirtschaft*, ed. by H. Arndt, Dunker and Humboldt, 1960; Some General Observations on the Pricing of Higher Education. in

Higher Education in the United States, ed. by Seymour E. Harris, Harvard Univ Press, 1960; with Franklin M. Fisher, Zvi Griliches, The Costs of Automobile Model Changes Since 1949. *Jour of Political Economy* (October, 1962); Another View of Corporate Capitalism. *Quarterly J of Econ* (February 1965); The Present War on Bigness. *Natl Industl Conf Bd Inc Report* (March 4, 1965); Federal Support of Basic Research, in a *Report to the Committee on Science and Astronautics, US House of Representatives* National Academy of Sciences, March 1965; The New Competition and the Old Regulation. in *Patents and Progress*, ed. by Alderson, Terpstra and Shapiro, Richard D. Irwin, Inc, 1965; with Jeremy J. Stone, Keeping the Lid on Nuclear Weapons. *New Republic* (January 15, 1966); The Complexity of Scientific Choice. *Minerva* (Spring 1966); Data Banks and Dossiers. *The Public Interest* (Spring 1967); The Business Corporation as a Creator of Values. in *Human Values and Economic Policy*, ed. by Sidney Hook, New York Univ Press, 1967; Military Strategy, Military Force, and Arms Control. in *Agenda for the Nation* The Brookings Institution, 1968; Keeping the Strategic Balance. *Foreign Affairs* (July 1968); Model-makers and Decision Makers: Economists and the Policy Process. in *Economic Means and Social Ends*, ed. by Robert L. Heilbroner, Essays in honor of Adolph Löwe. Prentice-Hall, 1969; Higher Education: For Whom? At Whose Cost?. in *Proc of the 1970 Invitational Conf on Testing Problems* Educational Testing Service, 1971; Government and Scientific Research Some Unanswered Questions. *The Public Interest* (Summer 1971); The Computer that Printed Out W*O*L*F. *Foreign Affairs* 50, 4 (July 1972); New Directions for Research. in *Does College Matter?* Academic Press, 1973; What Should Undergraduate Education Do?. *Daedalus* (Fall 1974); National Goals for Higher Education: What is College For?. in *Education and the State* American Council on Education, 1975.

Woolf, Harry 1976-

Born 1923 New York, NY. PhD 1955 History of Science Cornell Univ. Institute for Advanced Study, Princeton, NJ 08540.

Honors: Acad Internatle d'Hist des Scis 1971; Phi Alpha Theta 1959; Sigma Xi 1957; Phi Beta Kappa 1972; American Philosophical Society 1977; DSc(hc) Whitman College 1979.

Appointments: Member of various commissions and panels of: NSF, SSRC, ACLS; Member, US Natl Comm for the Internatl Union of the Hist and Philos of Sci, 1959-63; Trustee, Associated Universities, Inc, (Brookhaven Nat Labs, and National Radio Astronomy Observ) 1972-; Member, Adv Bd, Smithsonian Inst Research Awds 1975-79; Member, Natl Adv Child Health and Human Develop Council, NIH 1977-; Trustee, Chmn of the Bd, Universities Research Assoc, Inc (Fermi Nat'l Accelerator Lab) 1978-; Ed, *Isis*, Official Quarterly J of the Hist of Sci Soc 1958-64; Ed, *The Sources of Science*, 1964-.

Directors

Memberships: Hist of Sci Soc; Am Assoc Adv Sci; Royal Astron Soc; Council on For Rels; Rockefeller Foundation, Commission on the Humanities.

Selected publications: *The Transits of Venus. A Study in Eighteenth-Century Science.* Princeton: Princeton Univ Press, 1959; Editor *Quantification: Essays in the History of Measurement in the Natural*

and Social Sciences. Indianapolis: Bobbs-Merrill, 1961; Editor *Science as a Cultural Force.* Baltimore: Johns Hopkins Press, 1964; *Quelques aspects de l'astrophysique au debut du XIX^e siecle.* Histoire des Sciences Series D106. Palais Decouverte, 1965; Assoc Ed *Dictionary of Scientific Biography.* 15 vols. New York: Charles Scribner's Sons, 1970-78.

Faculty, Professors Emeriti and Permanent Members

Explanatory Notes

Present Institute faculty members are listed first, followed by former faculty members including professors emeriti, deceased faculty and those now teaching elsewhere. Permanent members of the Institute are named last. Listed in the main section of the book are members with long term appointments who are so identified in their entries.

Biographical data.

Name, IAS school of appointment (abbreviated), field of specialization. IAS schools are abbreviated as M for School of Mathematics, NS for School of Natural Sciences, HS for School of Historical Studies, Soc for School of Social Science. M(NS) is used for those in the natural sciences who came to the Institute before the School of Natural Sciences was started in 1966. HS(H) and HS(EP) is used for those who were at the Institute's School of Humanistic Studies and School of Economics and Politics which merged in 1949 to become the School of Historical Studies.

Date and place of birth. Official zip code abbreviations of the Post Office are used for US state names. Foreign place names are anglicized.

Highest earned degree(s); year, field and granting institution.

Dates of residence at the Institute as a member and faculty member. The designations "s" and "f" stand for spring term or fall term.

Other current academic affiliations, if applicable.

Honors: included are academic honors, scholarships, fellowships, lectureships, honorary degrees, prizes, awards, memberships in societies, etc.

Appointments: included are academic and federal appointments, service on national commissions, advisory boards or professional committees, editorial appointments, etc.

Memberships in professional associations or organizations.

Bibliography.

Because of space limitations, only a selected sample is given. As a rule, the citations are given in the original language of the publication, or transliterated into the roman alphabet where necessary. Papers submitted but not yet accepted for publication or those in preparation are not included.

The order of information in the citations, which are separated by semicolons, is as follows: biographee is editor or translator; name of coauthor or coeditor; book title (in italics) or title of journal article; author of translated or edited work; title of periodical (in italics); series and/or edition of book; volume or issue number; year of issue of journal (in parentheses) and page reference; city, publisher and date of publication of book.

An editorial judgment was sometimes made to include only material most likely to prove useful to the reader. The length of an entry is of course not necessarily a measure of the relative importance of a person's worth.

Faculty, Professors Emeriti and Permanent Members

Present Faculty

Adler, Stephen L. NS, High Energy Physics
Born 1939 New York, NY. PhD 1964 Physics
Princeton Univ. Member IAS 1966-69, Professor
since 1969. Visit Lect with rank of Prof Princeton
Univ.

Appointments: Program Adv Cttees for Brookhaven;
SLAC; Fermilab; LAMPF.

Memberships: Amer Phys Soc; NAS.

Selected publications: with R. Dashen, *Current Algebras*. New York: W.A. Benjamin, 1968; π^0 Decay. in *High Energy and Nuclear Structure* New York: Plenum Press, 1970; Consistency Conditions on the Strong Interactions Implied by a Partially Conserved Axial Vector Current. *Phys Rev* 137 (1965) B1022; Sum Rules for the Axial-Vector Coupling Constant Renormalization in Beta Decay. *Phys Rev* 140 (1965) B736; Sum Rules Giving Tests of Local Current Commutation Relations in High Energy Neutrino Reactions. *Phys Rev* 143 (1966) 1144; Photo-, Electro- and Weak Single Pion Production in the (3,3)- Resonance Region. *Ann Phys (NY)* 50 (1968) 189; Axial-Vector Vertex in Spinor Electrodynamics. *Phys Rev* 177 (1969) 2426; with W.A. Bardeen, Absence of Higher Order Corrections in the Anomalous Axial-Vector Current Divergence Equation. *Phys Rev* 182 (1969) 1517; with W.K. Tung, Breakdown of Asymptotic Sum Rules in Perturbation Theory. *Phys Rev Lett* 22 (1969) 978; Photon Splitting and Photon Dispersion in a Strong Magnetic Field. *Ann Phys NY* 67 (1971) 599; Short Distance Behavior of Quantum Electrodynamics and an Eigenvalue Condition for Alpha. *Phys Rev D5* (1972) 3021; Massless, Euclidean Quantum Electrodynamics on the 5-Dimensional Unit Hypersphere. *Phys Rev D6* (1972) 3445; with S. Nussinov and E.A. Paschos, Nuclear Charge Exchange Corrections to Leptonic Pion Production in the (3,3)-Resonance Region. *Phys Rev D9* (1974) 2125; Application of Current Algebra Techniques to Soft Pion Production by the Weak Neutral Current: V,A Case. *Phys Rev D12* (1975) 2694; Classical Algebraic Chromodynamics. *Phys Rev D17* (1978) 3212; Classical Quark Statics. *Phys Rev D* in press.

Bahcall, John Norris NS, Astrophysics
Born 1934 Shreveport, LA. PhD 1961 Physics
Harvard Univ. Member IAS 1969s, 1969-70,
Professor since 1971. Visit lect with rank of Prof
Astronomy Dept Princeton Univ.

Honors: Helen B. Warner Prize of AAS 1970; Sloan
Fellow 1969-71; Nat Acad of Arts and Sci 1976;
AAAS.

Appointments: Working Group of the Space
Telescope; Councilor to the Amer Astron Soc;
Physics Adv Com to the NSF; Assoc Ed of the
Astrophys Journal Letters (1973-present).

Memberships: Amer Astron Soc; Amer Phys Soc;
Member, URA X-Ray Astron Cttee, 1976.

Selected publications: Exchange and Overlap
Effects in Electron Capture and in Related
Phenomena. *Phys Rev* 132 (1963) 362; Electron
Capture in Stellar Interiors. *Ap J* 139 (1964) 318;
Solar Neutrino Cross-sections and Nuclear Beta-
decay. *Phys Rev* 135 (1964) B137; Neutrino Opacity,
I. Neutrino-Lepton Scattering. *Phys Rev* 136 (1964)
B1164; with S.C. Frautschi, Neutrino Opacity, II.
Neutrino-Nucleon Interactions. *Phys Rev* 136 (1964)
B1547; Solar Neutrinos, I. Theoretical *Phys Rev Lett*
12 (1964) 300; with R. A. Wolf, Neutron Stars. I.
Properties at Absolute Zero Temperature. *Phys Rev*
140 (1965) B1445; with R.A. Wolf, Neutron Stars II.
Neutrino-Cooling and Observability. *Phys Rev* 140
(1965) B1452; with E.E. Sapeter, Absorption Lines in
the Spectra of Distant Sources. *Ap J* 144 (1966) 847;
with M. Schmidt, Does the Fine-Structure Constant
Vary with Cosmic Time?. *Phys Rev Lett* 19 (1967)
1294; with R.A. Wolf, Fine-Structure Transitions. *Ap J*
152 (1968) 701; A Systematic Method for Identifying
Absorption Lines as Applied to PKS 0237-23. *Ap J*
153 (1968) 679; with R.M. May, The Rate of the
Proton-Proton Reaction and Some Related
Reactions. *Ap J* 155 (1969) 501; with B-Z Kozlovsky,
Some Models of the Emission-Line Region of 3C 273.
Ap J 155 (1969) 1077; with L. Spitzer, Absorption
Lines Produced by Galactic Halos. *Ap J* 156 (1969)
L63; with N.A. Bahcall, R.K. Ulrich, Sensitivity of the
Solar Neutrino Fluxes. *Ap J* 156 (1969) 559; with M.
Schmidt, J.E. Gunn, Are Some Quasi-Stellar Objects
Associated with Cluster of Galaxies?. *Ap J* 157 (1969)
L77; Some Unsolved Problems in Astrophysics.
Astron J 76 (1971) 283; with R.L. Sears, Solar
Neutrinos. *Ann Rev Astron and Astrophys* 10 (1972)
25; with N. Bahcall, The Period and Light Curve of HZ
Herculis. *Ap J* 178 (1972) L1; with R. Hills, The
Hubble Diagram for the Brightest Quasars. *Ap J* 179
(1973) 699; with W. F. Heubner, N.H. McGee, A. L.
Merts, R. K. Ulrich, Solar Neutrinos IV. Effect of

Radiative Opacities on Calculated Neutrino Fluxes. *Ap J* 184 (1973) 1; with J. Kormendy, Faint Envelopes of Galaxies. *Ap J* 79 (1974) 671; with Y. Avni, Ellipsoidal Light Variations and Masses of X-Ray Binaries. *Ap J* 197 (1975) 675; Splittings in Quasar Absorption Lines. *Ap J* 200 (1975) L1; with N. Bahcall, S.S. Murray, M. Schmidt, Optical Studies of 10 High Galactic Latitude X-Ray Sources. *Ap J* 199 (1975) L9; with R. Davis, Jr., Solar Neutrinos: A Scientific Puzzle. *Science* 191 (1976) 264; with R.A. Wolf, Star Distribution Around a Massive Black Hole in a Globular Cluster. *Ap J* 209 (1976) 214; with C.L. Sarazin, Parameters and Predictions for the X-Ray Emitting Gas of Coma, Perseus and Virgo. *Ap J* 213 (1977) L99; with R.A. Wolf, The Star Distribution Around a Massive Black Hole in a Globular II. Unequal Star Masses. *Ap J* 216 (1977) 883; Masses of Neutron Stars and Black Holes in X-ray Binaries. *Ann Rev Astron Astrophys* 16 (1978) 241-64; Solar Neutrino Experiments. *Rev of Mod Phys* 50 (1978) 881-904; with B. Cleveland, R. Davis, Jr., I. Dostrovsky, J.C. Evans, Jr., W. Frati, G. Friedlander, K. Lande, K. Rowley and J. Weneser, A Proposed Solar Neutrino Experiment Using ^{71}Ga . *Phys Rev Lett* 40, 20 (1978) 1351.

Bombieri, Enrico M, Number Theory

Born 1940 Milan, Italy. Doctorate 1963 Math Univ of Milan. Member IAS 1974s, Professor since 1977.

Honors: Fields Medal 1974.

Appointments: Member, Exec Cttee, IMU, 1975-78.

Selected publications: Sulle soluzioni intere dell'equazione $4x^3 = 27y^2 + N$. *Riv Mat Univ Parma* 8 (1957) 199-206; Sull'approssimazione di numeri algebrici mediante numeri algebrici. *Boll Un Mat Ital* (3) 13 (1958) 351-354; Un collegamento tra un teorema di K. Prachar e un teorema di G. Ricci sulle differenze di numeri primi consecutivi. *Boll Un Mat Ital* (3) 15 (1960) 30-33; Limitazioni riguardanti somme di caratteri reali e somme di funzioni completamente moltiplicative. *Ist Lombardo Accad Sci Lett Rend A* 94 (1960) 642-649; Su un teorema di A. C. Woods sul prodotto di n forme lineari reali non omogenee. *Boll Un Mat Ital* (3) 16(1961)288-294; I raggi singolari delle serie di potenze e le variazioni di segno dei coefficienti. *Riv Mat Univ Parma* (2) 2(1961) 207-216; Un principio generale della Geometria dei Numeri e sue applicazioni ai problemi non omogenei. *Atti Accad Naz Lincei Rend Ci Sci Fis Mat Nat* (8) 33 (1962) 45-48; Sulla dimostrazione di C. L. Siegel del teorema fondamentale di Minkowski nella geometria dei numeri. *Boll Un Mat Ital* (3) 17(1962) 283-288; Maggiorazione del resto nel "Primzahlsatz" col metodo di Erdős-Selberg. *Ist Lombardo Accad Sci Lett Rend A* 96(1962) 343-350; Sulle formule di A. Selberg generalizzate per classi di funzioni aritmetiche e le applicazioni al problema del resto nel "Primzahlsatz". *Riv Mat Univ Parma* (2) 3 (1962) 393-440; Sopra un teorema di H. Bohr e G. Ricci sulle funzioni maggioranti delle serie di potenze. *Boll Un Mat Ital* (3) 17 (1962) 276-282; Sul teorema di

Tschebotarev. *Acta Arith* 8 (1962/63) 273-281; Alcune osservazioni sul prodotto di n forme lineari reali non omogenee. *Ann Math Pura Appl* (4) 61 (1963) 279-285; Sul problema di Bieberbach per le funzioni univalenti. *Atti Accad Naz Lincei Rend Ci Sci Fis Mat Natur* (8) 35 (1963) 469-471; Sull'analogo della formula di Selberg nei corpi di funzioni. *Atti Accad Naz Lincei Rend Ci Sci Fis Mat Natur* (8) 35 (1963) 252-257; On functions which are regular and univalent in a half-plane. *Proc Lond Math Soc* (3) 14a (1965) 47-50; On the large sieve. *Mathematika* 12 (1965) 201-225; with H. Davenport, Small differences between prime numbers. *Proc Roy Soc Ser A* 293 (1966) 1-18; On exponential sums in finite fields. *Am J Math* 88 (1966) 71-105; On Galois coverings over finite fields. in *Proc Internat Colloq Alg Geom, Madrid, 1965* 23-30. Madrid: Inst Jorge Juan del CSIC IMU, 1966; with H. Davenport, On two problems of Mordell. *Am J Math* 88 (1966) 61-70; Nuovi risultati sulla geometria di una ipersuperficie cubica a tre dimensioni. *Simpos Internaz Geom Algebr, Roma, 1965* (1967) 22-28; Sulla seconda variazione della funzione di Koebe. *Boll Un Mat Ital* (3) 22 (1967) 25-32; with H.P.F. Swinnerton-Dyer, On the local zeta function of a cubic threefold. *Ann Scuola Norm Sup Pisa* (3) 21 (1967) 1-29; On the local maximum property of the Koebe function. *Invent Math* 4 (1967) 26-27; with P. Ragnedda, Sulle deficienze delle funzioni meromorfe di ordine inferiore finito *Rend Sem Fac Sci Univ Cagliari* 37 (1967) 23-38; Nuovi metodi e nuovi risultati nella teoria dei numeri. *Boll Un Mat Ital* (4) 1 (1968) 96-106; A geometric approach to some coefficient inequalities for univalent functions. *Ann Scuola Norm Sup Pisa* (3) 22 (1968) 377-397; Nuovi risultati sulle ipersuperfici minimali non parametriche. *Rend Sem Mat Fis Milano* 38 (1968) 203-213; with H. Davenport, Some inequalities involving trigonometrical polynomials. *Ann Scuola Norm Sup Pisa* (3) 23 (1969) 223-241; with E. De Giorgi and E. Giusti, Minimal cones and the Bernstein problem. *Invent Math* 7 (1969) 243-268; with E. De Giorgi and M. Miranda, Una maggiorazione a priori relativa alle ipersuperfici minimali non parametriche. *Arch Rational Mech Anal* 32 (1969) 255-267; Varietà algebriche omeomorfe. in *Symposia Math* 2 (INDAM, Rome, 1968): 353-356. London: Academic Press, 1969; with H. Davenport. On the large sieve method. in *Number Theory and Analysis Papers in honor of E. Landau*: 9-22. NY: Plenum, 1969; with A. Andreotti, Sugli omeomorfismi delle varietà algebriche. *Ann Scuola Norm Sup Pisa* (3) 23 (1969) 431-450; The pluricanonical map of a complex surface. in *Proc Conf, Univ of Maryland, College Park, 1970* Several Complex Variables, 1: 35-87. Berlin: Springer, 1970; On a theorem of van Lint and Richert. in *Symposia Math* 4 (INDAM, Rome, 1968/69): 175-180. London: Academic Press, 1970; with S. Lang, Analytic subgroups of group varieties. *Invent Math* 11 (1970) 1-14; Algebraic values of meromorphic maps. *Invent Math* 10 (1970) 267-287; A note on the large sieve. *Acta Arith* 18 (1971) 401-404; Density theorems for the zeta function, in *Proc Sympos Pure Math, vol 20,*

SUNY, Stony Brook, 1969 Number Theory Institute 1969: 352-358. Providence, RI: Amer Math Soc, 1971; Régularité des hypersurfaces minimales. *Sém Bourbaki 1968-69* 353 (1971) 111-121; with E. Giusti, Harnack's inequality for elliptic differential equations on minimal surfaces. *Invent Math* 15 (1972) 24-46; Counting points on curves over finite fields [d'après S. A. Stepanov]. *Springer Lecture Notes* 431; Canonical models of surfaces of general type. *IHES Publ Math* 42 (1973) 171-219; with E. Giusti, Local estimates for the gradient of non-parametric surfaces of prescribed mean curvature. *Commun Pure Appl Math* 26 (1973) 381-394; On large sieve inequalities and their applications. *Trudy Mat Inst Steklov* 132 (1973) 251-256; Simultaneous approximations of algebraic numbers (following W. M. Schmidt). *Lecture Notes in Math* 317 (1973) 1-20; Superfici irregolari canoniche e pluricanoniche. in *Symp Mathematica, 11 (INDAM, Rome, 1972)* 313-323. London: Academic Press, 1973; Le grand crible dans la théorie analytique des nombres. *Astérisque* 18 (1974); The large sieve in the analytic theory of numbers. *Proc Internat Conf Prospects in Math, Kyoto 1973* (1974) 25-35; On twin almost primes. *Acta Arith* 28 (1975) 177-193; Canonical models of surfaces. Manifolds. *Proc Internat Conf Manifolds and Related Topics, Tokyo 1973* (1975) 393-398; with D. Husemoller, Classification and embeddings of surfaces. *Proc Symp Pure Math* 29 (1975) 329-420; Corrigendum to my paper on twin almost primes and an addendum on Selberg's sieve. *Acta Arith* 28 (1976) 457-461; Hilbert's 8th problem: an analogue. *Proc Symp Pure Math* 28 (1976) 269-274; Variational problems and elliptic equations. *Proc Symp Pure Math* 28 (1976) 525-535; with D. Mumford. Enriques' classification of surfaces in Char. in *Complex Analysis and Algebraic Geometry II*: 23-42. Cambridge Univ Press, 1977; with D. Mumford, III. *Invent Math* 35 (1976) 197-232; The asymptotic sieve. *Mem Accad Naz* 40 (1977).

Borel, Armand M, Algebraic Groups

Born 1923 Chaux-de-Fonds, Switzerland. PhD 1952 Math U of Paris. Member IAS 1952-54, Professor since 1957.

Honors: Hon degree U of Geneva 1952; Brouwer medal Dutch Math Soc 1978; AAAS 1976; Foreign member Finnish Acad Scis and Letters 1978.

Appointments: Member (resp Chrm) Consultative Cttee for the Intern Congress Math Moscow 1966 (resp. Helsinki 1978).

Memberships: AMS; French & Swiss Math Socs.

Selected publications: Some remarks about Lie groups transitive on spheres and tori. *Bull AMS* 53 (1949) 580-587; with J. de Siebenthal, Les sousgroupes fermés de rang maximum des groupes de Lie clos. *Comm Math Helv* 23 (1949) 200-220; Le plan projectif des octaves et les sphères comme espaces homogènes. *CR Acad Sci Paris* 230 (1950) 1378-1380; with J-P. Serre, Impossibilité de fibrer un espace euclidien par des fibres compactes.

CR Acad Sci Paris 230 (1950) 2258-2260; **Impossibilité** de fibrer une sphère par un produit de sphères. *CR Acad Sci Paris* 231 (1950) 943-945; Cohomologie des espaces localement compacts d'après J. Leray (Notes, EPF Zurich 1951 3rd edition). *Springer Lecture Notes* 2 (1964); Les fonctions automorphes de plusieurs variables complexes. *Bull Soc Math France* 80 (1952) 167-182; Sur la cohomologie des espaces fibrés principaux et des espaces homogènes de groupes de Lie compacts (Thesis, Paris, 1952). *Ann Math* 57 (1953) 115-207; La cohomologie mod. 2 de certains espaces homogènes. *Comm Math Helv* 27 (1953) 165-197; with J-P. Serre, Groupes de Lie et puissances réduites de Steenrod. *Am J Math* 75 (1953) 409-448; Les bouts des espaces homogènes de groupes de Lie. *Ann Math* 58 (1953) 443-457; Sur l'homologie et la cohomologie des groupes de Lie compacts connexes. *Am J Math* 76 (1954) 273-342; Kählerian coset spaces of semi-simple Lie groups. *Proc NAS* 40 (1954) 1147-1151; Nouvelle démonstration d'un théorème de P. A. Smith. *Comm Math Helv* 29 (1955) 27-39; with G. D. Mostow, On semi-simple automorphisms of Lie algebras. *Ann Math* 61 (1955) 389-405; Topology of Lie groups and characteristic classes. *Bull AMS* 61 (1955) 397-432; Groupes linéaires algébriques. *Ann Math* 64 (1956) 20-82; The Poincaré duality in generalized manifolds. *Michigan Math J* 4 (1957) 227-239; with F. Hirzebruch, Characteristic classes and homogeneous spaces I, II, III. *Am J Math* 80, 81, 82 (1958, 1959, 1960) 458-538, 315-382, 49; with J-P. Serre, Le théorème de Riemann-Roch, d'après Grothendieck. *Bull Soc Math France* 86 (1958) 97-136; with J. C. Moore, Homology theory for locally compact spaces. *Michigan Math J* 7 (1960) 137-159; Density properties for certain subgroups of semi-simple groups without compact components. *Ann Math* 72 (1960) 179-188; with contributions by G. Bredon, E. Floyd, D. Montgomery, R. Palais, *Seminar on transformation groups*. Ann Math Studies, 46. Princeton U Press, 1960; Sous groupes commutatifs et torsion des groupes de Lie compacts connexes. *Tôhoku Math (2)* 13 (1961) 216-240; with A. Haefliger, La classe fondamentale d'un espace analytique. *Bull Soc Math France* 89 (1961) 461-513; with R. Remmert, Über kompakte homogene Kählerisch Mannigfaltigkeiten. *Math Ann* 145 (1962) 429-439; with Harish-Chandra, Arithmetic subgroups of algebraic groups. *Ann Math* 75 (1962) 485-535; Ensembles fondamentaux pour les groupes arithmétiques. in *Théorie des Groupes Algébriques, Coll Bruxelles 1962* 23-40. Louvain: CBRM, 1962; Some finiteness properties of adèle groups over number fields. *Publ Math IHES* 16 (1963) 5-30; Arithmetic properties of algebraic groups. in *Proc Internat Congress Math Stockholm 1962* 10-21. Uppsala: 1963; Compact Clifford Klein forms of symmetric spaces. *Topology* 2 (1963) 111-122; with J-P. Serre, Théorèmes de finitude en cohomologie galoisienne. *Comm Math Helv* 39 (1964) 111-164; with J. Tits, Groupes réductifs. *Publ Math IHES* 27

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(1965) 55-150; with W. Baily, Compactification of arithmetic quotients of bounded symmetric domains. *Ann Math* 84 (1966) 442-528; Density and maximality of arithmetic subgroups. *J Reine Angew Math* 224 (1966) 78-89; Opérateurs de Hecke, fonctions zeta. *Séminaire Bourbaki Exp 307 1966*; *Topics in the homology theory of fibre bundles*. Lect Notes in Math, 36. Berlin: Springer, 1967; with R. Narasimhan, Uniqueness conditions for certain holomorphic mappings. *Inv Math* 2 (1967) 247-255; with T. A. Springer, Rationality properties of linear algebraic groups II. *Tôhoku Math J* 20 (1968) 443-497; On the automorphisms of certain subgroups of semi-simple Lie groups, in *Proc Int Colloquium on Algebraic Geometry, Bombay 1968* 43-73. London: Oxford U Press, 1969; *Linear algebraic groups*. Math Lecture Notes Series. New York: Benjamin, Inc., 1969; *Introduction aux groupes arithmétiques*. Act Sci Ind, 1341. Paris: Hermann, 1969; Pseudo-concavité et groupes arithmétiques. in *Essays on topology and related topics, Mémoires dédiés à G. de Rham* 70-84. Berlin: Springer, 1970; with J. Tits, Elements unipotents et sous groupes paraboliques de groupes réductifs. *Inv Math* 12 (1971) 95-104; with J. Tits, Compléments à l'article: "Groupes réductifs" *Publ Math IHES* 41 (1972) 253-276; *Représentations de groupes localement compacts*. Lect Notes in Math, 276. Berlin: Springer, 1972; Some metric properties of arithmetic quotients of symmetric spaces and an extension theorem. *J Diff Geom* 6 (1972) 543-560; with J. Tits, Homomorphismes "abstraits" de groupes algébriques simples. *Ann Math* 97 (1973) 499-571; with J-P. Serre, Corners and arithmetic groups. *Comm Math Helv* 48 (1974) 244-297; Stable real cohomology of arithmetic groups. *Ann Sci ENS Paris* (4) 7 (1974) 235-272; Cohomology of arithmetic groups. in *Proc Int Cong Math Vancouver 1974* 1: 435-442. Can Math Cong, 1975; Formes automorphes et séries de Dirichlet (d'après R.P. Langlands). in *Séminaire Bourbaki 1974-75 27th year Exp 466* Lect Notes in Math 514: 183-222. Berlin: Springer; Cohomologie de sous-groupes discrets et représentations de groupes semi-simples. *Astérisque* 32-33 (1976) 73-111; with J-P. Serre, Cohomologie d'immeubles et de groupes S-arithmétiques. *Topology* 15 (1976) 211-232; Admissible representations of a semi-simple group over a local field with vectors fixed under a Iwahori subgroup. *Inv Math* 35 (1976) 233-259; Cohomologie de SL_n et valeurs de fonctions zeta aux points entiers. *Ann Sc Norm Sup Pisa (IV)* 4 (1977) 613-636; with G. Harder, Existence of discrete cocompact subgroups of reductive groups over local fields. *J Reine Angew Math* 298 (1978) 53-64; On the development of Lie Group Theory. *Nieuw Archief voor Wiskunde* (3) 27 (1979) 13-25; Automorphic L-functions, in *Proc Symp Pure Math* 33 part 2 27-61. AMS, 1979; with N. Wallach, Continuous cohomology, discrete subgroups and representations of reductive groups. *Ann Math Studies* 94 (1980).

Clagett, Marshall HS, Medieval Science

Born 1916 Washington, DC. PhD 1941 Medieval History Columbia Univ. Member IAS 1958-59, 1963, Professor since 1964.

Honors: Guggenheim Fellow 1946, 1950-51; NSF Grants 1955-56, 1962-64; AAAS; Pfizer Awd 1960; Charles Homer Haskins Medal 1968; LLD George Washington Univ 1969; LHD Univ of Wis June 1974.

Appointments: Panel of Referees, NSF; Adv Panel to Div of Soc Sci, NSF; Gen Ed *Publications in Mediaeval Science*; Assoc Ed *Dictionary of Scientific Biography*; Mediaeval Ed *Isis*.

Memberships: Medieval Acad of Amer; Hist of Sci Soc, Pres 1962-64; Intl Acad of Hist of Sci, Vice Pres 1968; Amer Philos Soc, Vice Pres 1969-72.

Selected publications: *Giovanni Marliani and Late Medieval Physics*. New York: Columbia Univ Press, 1941; The Medieval Heritage, in *Chapters in Western Civilization* 1-123. New York: Columbia Univ Press, 1948; Some General Aspects of Medieval Physics, *Isis* 39 (1948) 29-44; Richard Swineshead and Late Medieval Physics. *Osiris* 9 (1950) 131-61; Archimedes in the Middle Ages: "The De mensura circuli". *Osiris* 10 (1952) 587-618; A Medieval Fragment of the "De Sphaera et Cylindro" of Archimedes. *Isis* 43 (1952) 36-38; with Ernest Moody, *Medieval Science of Weights*. Madison: Univ of Wis Press, 1952; Use of the Moerbeke Translations of Archimedes in the Works of Johannes de Muris. *Isis* 43 (1952) 236-42; Medieval Latin Translations from the Arabic of the "Elements" of Euclid, etc. *Isis* 44 (1953) 16-42; Medieval Mathematics and Physics: A Check List of Microfilm Reproductions, *Isis* 44 (1953) 371-81; The "De curvis superficiebus Archimendis:" A Medieval Commentary of Johannes de Tinemud on Book I of the "De Sphaera et cylindro". *Osiris* 11 (1954) 295-358; King Alfred and the Elements of Euclid, *Isis* 45 (1954) 269-77; A Medieval Latin Translation of a Short Arabic Tract on the Hyperbola. *Osiris* 11 (1954) 359-84; *Greek Science in Antiquity*. New York: 1955; The "Quadratura per lunulas:" A Thirteenth-Century Fragment of Simplicius, Commentary on the "Physics" of Aristotle. in *Essays in Medieval Life and Thought* (1955;) 99-108. The "Liber de motu" of Gerard of Brussels. *Osiris* 12 (1956) 73-175; Editor *Critical Problems in the History of Science*. Univ of Wis Press, 1959; Impact of Archimedes on Medieval Science. *Isis* 50 (1959) 419-29; *The Science of Mechanics in the Middle Ages*. Univ of Wis Press, 1959; *Archimedes in the Middle Ages*. 1. Madison: 1964; Nicole Oresme and Medieval Scientific Thought. *Proc Amer Philos Soc* 108, 4 (1964) 298-309; The Pre-Galilean Configuration Doctrine: 'The Good Treatise on Uniform and Difform (Surfaces)'. *Saggi su Galileo Galilei* (1967) 1-24; A Medieval Archimedean-type Proof of the Law of the Lever. *Divinitas* 11 (1967) 805-820; Johannes de Muris and the Problem of Proportional Means. *Medicine, Science and Culture* (1968) 35-49; *Nicole Oresme and the Medieval Geometry of Qualities*. Madison: Univ of Wis Press, 1968; Some Novel Trends in the Science of the Fourteenth Century. *Art, Science, and History in the Renaissance* (1968) 275-

303; The Quadrature by Lune in the Later Middle Ages. in *Philosophy, Science, and Method: Essays in Honor of Ernest Nagel* 508-522. NY: 1969; Prosdocius de Beldomandis and Nicole Oresme's Proof of the Merton Rule of Uniformly Difform. *Isis* (1969) 223-225; Archimedes. *Dictionary of Scientific Biography* 1 (1970) 213-231; Leonardo da Vinci and the Medieval Archimedes. *Physis* (1970) 100-151; Archimedes in the Late Middle Ages. in *Perspectives in the History of Science and Technology* 239-259. Norman: Univ of Oklahoma Press, 1971; Leonardo da Vinci: Mechanics. *Dictionary of Scientific Biography* 8 (1973) 215-234; Nicole Oresme. *Dictionary of Scientific Biography* 10 (in press); The Works of Francesco Maurolyco. *Physis* 16 (1974) 149-198; The "Questio de Proportionibus Motuum" of Francischus de Ferrara. *Annali dell'istituto e museo di storia della scienza di Firenze* 3 (1978) 3-63; The Life and Works of Giovanni Fontana. *Annali dell'istituto e museo di storia della scienza di Firenze* 1 (1976) 5-28; *Archimedes*. 4. 1979.

Dashen, Roger Frederick NS, Quantum Field Theory

Born 1938 Grand Junction, CO. PhD 1964 Theoretical Physics Cal Tech. Member IAS 1966-69, Professor since 1969. Visit Lect with rank of Prof Princeton Univ.

Appointments: Adv Bd, Natl Inst for Theoret Phys; Scientific Policy Cttee, SLAC.

Selected publications: with S.L. Adler, *Current Algebras*. New York: W.A. Benjamin, Inc., 1968; with S. Flatte, W. Munk, K. Watson and F. Zachariasen, *Propagation of Sound in a Fluctuating Ocean*. NY: Cambridge Univ Press, forthcoming; Theory of Electron Backscattering. *Phys Rev* 134 (1964) A1025; with S. Frautschi, S-Matrix Method for Calculation of Electromagnetic Corrections to Strong Interactions. *Phys Rev* 135 (1964) B1190; Calculation of the Proton-Neutron Mass Difference by S-Matrix Methods. *Phys Rev* 135 (1964) B1196; with S. Frautschi, M. Gell-Mann and Y. Hara. Octet Enhancement. in *The Eightfold Way*, ed. by M. Gell-Mann & Y. Ne'eman, New York: W.A. Benjamin, Inc., 1964; with M. Gell-Mann, Approximate Symmetry and the Algebra of Current Components. *Phys Lett* 17 (1965) 142; with M. Gell-Mann, Applications of the Algebra of Current Components. *Phys Lett* 17 (1965) 145; with S. Frautschi, General S-Matrix Methods for Calculation of Perturbations on the Strong Interactions. *Phys Rev* 137 (1965) B1318; with S. Frautschi, Octet Enhancement in the B and Δ Supermultiplets. *Phys Rev* 137 (1965) B1331; with M. Gell-Mann, Representations of Current Algebra at Infinite Momentum. *Phys Rev Lett* 17 (1966) 340; with Y. Frishman, Theories with too Much Symmetry. *Phys Rev Lett* 22 (1969) 572; $SU(3) \otimes SU(3)$ as a Symmetry of the Strong Interactions. *Phys Rev* 183 (1969) 1245; with M. Weinstein, Soft Pions, Chiral Symmetry, and Phenomenological Lagrangians. *Phys Rev* 133 (1969) 1261; with S-K. Ma and H.J.

Bernstein, S-Matrix Formulation of Statistical Mechanics. *Phys Rev* 187 (1969) 345; Some Features of Chiral Symmetry Breaking. *Phys Rev D3* (1971) 1879; with T.P. Cheng, Is $SU(2) \times SU(2)$ a Better Symmetry than $SU(3)$?. *Phys Rev Lett* 26 (1971) 594; with S-K. Ma, S-Matrix and Low Energy Theorem in the Theory of Correlation Functions. *J Math Phys* 12 (1971) 1449; with Y. Frishman, Thirring Model with $U(n)$ Symmetry: Scale Invariant Only for Fixed Values of a Coupling Constant. *Phys Rev Lett* 46B (1973) 439; with R. Rajaraman, Effective Elementarity of Resonances and Bound States in Statistical Mechanics. *Phys Rev D10* (1974) 708; with B. Hasslacher and A. Neveu, Non-Perturbative Methods and Extended Hadron Models in Field Theory I. Semi-Classical Functional Methods II. Two-Dimensional Models and Extended Hadrons. *Phys Rev D10* (1974) 4114, 4130; with David Campbell and Jamal Manassah, Chiral Symmetry and Pion Condensation I. Model Dependent Results II. General Formalism. *Phys Rev D12* (1975) 979, 1010; with B. Hasslacher and A. Neveu, The Particle Spectrum in Model Field Theories from Semi-Classical Functional Integral Techniques. *Phys Rev D11* (1975) 3424; with B. Hasslacher and A. Neveu, Semi-Classical Bound States in an Asymptotically Free Theory. *Phys Rev D12* (1975) 2443; with G. Baym, D. Campbell and J. Manassah, A Simple Model Calculation of Pion Condensation in Neutron Matter. *Phys Lett* 58B (1975) 304; with C. Callan and D. Gross, The Structure of the Gauge Theory Vacuum. *Phys Lett* 63B (1976) 334; with J.B. Healy and I. Muzinich, Potential Scattering with Confined Channels. *Ann Phys* 102 (1976) 1; Path Integrals for Waves in Random Media. *J Math Phys* (in press); with C. Callan and D. Gross, Pseudoparticles and Massless Fermions in Two Dimensions. *Phys Rev D16* (1977) 2526; with D. Gross and C. Callan, Toward a Theory of the Strong Interactions. *Phys Rev D17* (1978) 2717; with C. Callan and D. Gross, A Theory of Hadronic Structure. *Phys Rev D* (in press).

Dyson, Freeman John NS, Mathematical Physics

Born 1923 Crowthorne Berkshire, England. BA 1945 Mathematics Cambridge Univ. Member IAS 1948-49, 1950f, Professor since 1953.

Honors: Dannie Heineman Prize Amer Inst Phys 1965; Lorentz Medal of the Royal Netherlands Acad 1966; Hughes Medal of the Royal Soc London 1968; Max Planck Medal of the German Phys Soc 1969; J. Robert Oppenheimer Memorial Prize Center for Theoret Studies, Miami 1970; Harvey Prize by the Technion Haifa, Israel 1977; FRS 1952; NAS 1964; Hon degrees from Yeshiva U 1968; Glasgow U 1974; Princeton U 1974.

Appointments: NAS Cttee on Science and Public Policy COSPUP 1977-80; Chm Fed of Amer Scientists 1962-63.

Memberships: Amer Phys Soc Council 1969-73; Corr member Bavarian Acad Sci 1975.

Selected publications: Some Guesses in the Theory of Partitions. *Eureka* 8 (1944) 10-15; A Theorem on the Densities of Sets of Integers. *J London Math Soc* 20 (1945) 8-14; The Approximation to Algebraic Numbers by Rationals. *Acta Math* 89 (1947) 225-240; A Theorem in Algebraic Topology. *Ann Math* 49, 1 (1948) 75-81; On the Product of Four Non-Homogeneous Linear Forms. *Ann Math* 49, 1 (1948) 82-109; The S-Matrix in Quantum Electrodynamics. *Phys Rev* 75, 11 (1949) 1736-1755; The Radiation Theories of Tomonaga, Schwinger and Feynman. *Phys Rev* 75, 3 (1949) 486-502; The Renormalization Method in Quantum Electrodynamics. *Proc Royal Soc A* 207 (1951) 395-401; Continuous Functions Defined on Spheres. *Ann Math* 54, 3 (1951) 534-536; Divergence of Perturbation Theory in Quantum Electrodynamics. *Phys Rev* 85, 4 (1952) 631-632; The Dynamics of a Disordered Linear Chain. *Phys Rev* 92, 6 (1953) 1331-1338; The Rate of Growth of Functions Defined by Dirichlet Series. *Ann Math* 60, 3 (1954) 437-446; Electron Spin Resonance Absorption in Metals. II. Theory of Electron Diffusion and the Skin Effect. *Phys Rev* 98 (1955) 349-359; Scattering of Mesons by a Fixed Scatterer. *Phys Rev* 100, 1 (1955) 344-348; General Theory of Spin-Wave Interactions. *Phys Rev* 102, 5 (1956) 1217-1230; Thermodynamic Behavior of an Ideal Ferromagnet. *Phys Rev* 102, 5 (1956) 1230-1244; with L. Castillejo and R. H. Dalitz, Low's Scattering Equation for the Charged and Neutral Scalar Theories. *Phys Rev* 101, 1 (1956) 453-458; Ground State Energy of a Hard-Sphere Gas. *Phys Rev* 106, 1 (1957) 20-26; Connection between Local Commutativity and Regularity of Wightman Functions. *Phys Rev* 110, 2 (1958) 579-581; Integral Representations of Causal Commutators. *Phys Rev* 110, 6 (1958) 1460-1464; Search for Artificial Stellar Sources of Infrared Radiation. *Science* 131, 3414 (1960) 1667-1668; Stability of an Idealized Atmosphere. II. Zeros of the Confluent Hypergeometric Function. *Phys Fluids* 3, 2 (1960) 155-157; A Brownian-Motion Model for the Eigenvalues of a Random Matrix. *J Math Phys* 3, 6 (1962) 1191-1198; The Threefold Way. Algebraic Structure of Symmetry Groups and Ensembles in Quantum Mechanics. *J Math Phys* 3, 6 (1962) 1199-1215; Statistical Theory of the Energy Levels of Complex Systems. I, II, III. *J Math Phys* 3, 1 (1962) 140-156, 157-165, 16; Models of Total Ignorance in Quantum Mechanics. in *Math Models in Phys Sciences, Proc Conf U Notre Dame 1962*, ed. by Stefan Drobot, 49-60. New York: Prentice-Hall, 1963; with Madan Lal Mehta, Statistical Theory of the Energy Levels of Complex Systems. IV, V. *J Math Phys* 4, 5 (1963) 701-712, 713-719; The Search for Extraterrestrial Technology, in *Perspectives in Modern Physics: Essays in Honor of Hans A. Bethe*, ed. by R. E. Marshak, 641-655. New York: Wiley, 1966; *Symmetry Groups in Nuclear and Particle Physics, a Lecture-Note and Reprint Volume*. New York: W. A. Benjamin, 1966; with A. Lenard, Stability of Matter. I, II. *J Math Phys* 8, 9 (1967, 1968) 423-434, 698-711; Ground-State Energy of a Finite

System of Charged Particles. *J Math Phys* 8 (1967) 1538-1545; Dynamics of a Spinning Gas Cloud. *J Math and Mech* 18 (1969) 91-102; Seismic Response of the Earth to a Gravitational Wave in the One-Hertz Band. *Ap J* 156 (1969) 529-540; A New Symmetry of Partitions. *J Comb Theory* 7 (1969) 56-61; Existence of a Phase-Transition in a One Dimensional-Ising Ferromagnet. *Comm Math Phys* 12 (1969) 91-107; Non-Existence of Spontaneous Magnetization in a One-Dimensional Ising Ferromagnet. *Comm Math Phys* 12 (1969) 212-215; Neutron Stars and Pulsars, in *Fermi Lectures 1970, Scuola Normale Superiore de Pisa Quaderno No 152*. Accademia Nazionale dei Lincei, 1971; Reflections - The Sell-Out. *New Yorker* (Feb 21 1970) 44; Correlations Between Eigenvalues of a Random Matrix. *Comm Math Phys* 19 (1970) 235; Chemical Binding in Classical Coulomb Lattices. *Ann Phys* 63 (1971) 1; An Ising Ferrromagnet with Discontinuous Long-Range Order. *Comm Math Phys* 21 (1971) 269; The Fundamental Constants and Their Time Variation. in *Aspects of Quantum Theory*, ed. by A. Salam and E. P. Wigner, In honor of PAM Dirac's 70th Birthday. Cambridge Univ Press, 1972; Energy in the Universe. *Scientific American* (Sept 1971) 51; Letter from Armenia. *New Yorker* (Nov 6 1971) 126; A Class of Matrix Ensembles. *J Math Phys* 13 (1972) 90; Quaternion Determinants. *Helv Phys Acta* 45 (1972) 289; Erratum. 46 (1973) 274; Missed Opportunities. *Bull AMS* 78 (1972) 635; Photon Noise and Atmospheric Noise in Active Optical Systems. *J Opt Soc America* 65 (1975) 551; Fredholm Determinants and Inverse Scattering Problems. *Comm Math Phys* 47 (1976) 1971-1983; Can We Control the Amount of Carbon Dioxide in the Atmosphere. *Energy* 2 (1977) 287-291; with E. Lieb and B. Simon, Phase Transitions in Quantum Spin Systems with Isotropic and Non-Isotropic Interactions. *J Stat Phys* 18 (1978) 335-383; *Disturbing the Universe*. New York: Harper and Row, 1979; Pilgrim Fathers, Mormon Pioneers, and Space Colonists: An Economic Comparison. *Proc Am Phil Soc* 122, 2 (1978) 63-68.

Elliott, John Huxtable HS, Early Modern History

Born 1930 Reading, Berkshire, England. PhD 1955 Cambridge Univ. Professor since 1973.

Honors: Corr Fellow Royal Acad Madrid 1965; Fellow Brit Acad 1972; Fellow Royal Acad Letters Seville 1976; AAAS 1977.

Selected publications: *The Revolt of the Catalans*. Cambridge: 1963; *Imperial Spain 1469-1716*. London: 1963; *Europe Divided 1559-1598*. London: 1968; *The Old World and the New 1492-1650*. Cambridge: 1970; with José F. de la Peña, *Memoriales y Cartas del Conde Duque de Olivares*. 2 vols. Madrid: 1978-9.

Geertz, Clifford Soc, Social Anthropology

Born 1926 San Francisco, CA. PhD 1956 Anthropology Harvard Univ. Professor since 1970. Visit Lect with rank of Prof Hist Dept Princeton U.

Honors: AAAS 1966; Amer Philos Soc 1972; NAS 1973; Doctor of Laws(hc) Harvard Univ 1974; DHum-Litt(hc) North Mich Univ 1975; Doctor of Laws(hc) Bates Coll 1980.

Appointments: NAS Comm on Intl Relations 1974-77; NAS Cttee on Human Rights 1977; SSRC Bd of Directors 1976.

Memberships: Amer Anthro Assoc; Assoc for Asian Studies; Middle East Studies Assoc.

Selected publications: *The Religion of Java*. Glencoe, Ill: The Free Press, 1960; *Peddlers and Princes*. Chicago: Univ of Chicago Press, 1963; *Agricultural Involvement*. Berkeley: Univ of Calif Press, 1963; *The Social History of an Indonesian Town*. Cambridge, Mass: MIT Press, 1965; *Islam Observed*. New Haven: Yale Univ Press, 1968; *The Interpretation of Cultures*. New York: Basic Books, 1973; with H. Geertz, *Kinship in Bali*. Chicago: Univ of Chicago Press, 1975; with H. Geertz & L. Rosen, *Meaning and Order in Contemporary Morocco*. New York: Cambridge Univ Press, 1979; *Negara: The Balinese State in the Nineteenth Century*. forthcoming.

Gilliam, James Frank HS, Roman History

Born 1915 Seattle, WA. PhD 1940 Ancient History and Classics Yale Univ. Member IAS 1958-59, 1963-64, Professor since 1965. Curator of Papyrology Columbia Univ.

Honors: Guggenheim Fellow 1955-56; Sather Lecturer U of Calif Berkeley 1979.

Appointments: NEH Individual Grants Comm 1977.

Memberships: Am Inst of Archaeol; Deut Archaeol Inst; Assoc Internatle de Papyrologues; Am Soc of Papyrologists.

Selected publications: The Dux Ripae at Dura. *TAPA* 72 (1941) 157-175; Some Latin Military Papyri from Dura. *Yale Class St* 11 (1950) 169-252; The Minimum Subject to the Vicesima Hereditatum. *AJP* 73 (1952) 397-405; The Veterans and Praefectus Castrorum of the II Traiana in AD 157. *AJP* 77 (1956) 359-375; The Governors of Syria Coele from Severus to Diocletian. *AJP* 79 (1958) 225-242; with C. B. Welles and R. O. Fink, *The Excavations at Dura-Europos, Final Report*. Parchments and Papyri, 5. Yale Univ Press, 1959; The Plague under Marcus Aurelius. *AJP* 82 (1961) 225-251; An Ab Epistulis Graecis and Praefectus Vigilum from Egypt. *Mél Seston* (1974) 217-225; Gibbon and the Roman Army, in *Gibbon et Rome a la Lumière de l'Historiographie Moderne* 137-154. Genève: 1977; Some Roman Elements in Roman Egypt. *Illinois Classical Studies* 3 (1978).

Habicht, Christian Herbert HS, Greek and Roman History, Greek Epigraphy

Born 1926 Dortmund, Germany. DPhil 1952 Ancient History Univ of Hamburg. Member IAS 1972-73, Professor since 1973. Hon Prof Univ of Heidelberg; Visit Prof Princeton Univ.

Honors: Heidelberger Ak d Wiss Member 1970 (corr mem 1977); Deut Archäolog Inst Member 1977 (corr mem 1962); Österreichisches Archäolog Inst corr mem 1972.

Appointments: 1972/73 Chmn Comm on Classics Deut Forschungsgemeinschaft.

Selected publications: *Gottmenschentum und griechische Städte*. Munich: C. H. Beck, 1970; Samische Volksbeschlüsse der hellenistischen Zeit. *Athenische Mitteilungen* 72 (1957) 152-274; *Die Inschriften des Asklepieions*. Altertümer von Pergamon, 8, 3. Berlin: 1969; 2. *Makkabä erbuch (Jüdische Schriften aus hellenistisch-römischer Zeit I 3)*. Gütersloh, 1976; *Untersuchungen zur politischen Geschichte Athens im 3 Jahrhundert v Chr*. Munich: C. H. Beck, 1979.

Harish-Chandra M, Harmonic Analysis on Reductive Groups

Born 1923 Kanpur, U.P., India. PhD(Cantab.) 1947 Theoretical Physics. Member IAS 1947-49, 1955-56, 1961-62, Professor since 1963.

Honors: Cole Prize Amer Math Soc 1954; Srinivasa Ramanujan Medal Indian National Science Academy 1974; DSc(hc) University of Delhi 1973.

Memberships: Royal Soc London; Indian Nat Sci Acad; Indian Acad Scis.

Selected publications: On some applications of the universal enveloping algebra of a semisimple Lie algebra. *Trans AMS* 70 (1951) 28-96; Automorphic forms on a semisimple Lie group. *Proc NAS* 45 (1959) 570-573; Discrete series for semisimple Lie groups, I and II. *Acta Math* 113, 116 (1965, 1966) 241-318, 1-111; Eisenstein Series over finite fields, in *Functional Analysis and Related Fields* 76-88. Springer-Verlag, 1970; Harmonic analysis on reductive p-adic groups. *Lecture Notes in Math* 162 (1970); Harmonic analysis on real reductive groups III. *Ann Math* 104 (1976) 117-201; The characters of reductive p-adic groups, in *Contributions to Algebra* 175-182. Academic Press, 1977.

Hirschman, Albert O. Soc, Economics

Born 1915 Berlin, Germany. Doct 1938 Economics Univ of Trieste. Member IAS 1972-73, Professor since 1974.

Honors: Rockefeller Fellow 1941-43; Ford Found Fac Res Fellow 1964-65; LLD(hc) Rutgers U 1978; AAAS.

Appointments: Consultant, Rockefeller Found, 1957-58; Dir, Lat Amer Project, Twentieth Cent Fund, 1960-63; Member, Bd of Eds, *American Economic Review*, 1961-64; Study Dir For Policy Studies, Brookings Inst, 1964-66; Chmn, SSRC-ACLS Joint Comm on Lat Amer Studies, 1973-76; Consultant, AID, summer 1967, spring 1978; Consultant, Ford Found, 1976-78; Committee Member, OECD, 1976-78.

Memberships: Am Econ Assoc; Lat Amer Studies Assoc; Council on For Rels.

Selected publications: *National Power and the Structure of Foreign Trade*. U of California Press, 1969; *The Strategy of Economic Development*. Yale

Univ Press, 1958; *Journeys Toward Progress: Studies of Economic Policy-Making in Latin America*. The Norton Library, 1973; *Development Projects Observed*. Brookings Institution, 1967; *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States*. Harvard U Press, 1970; *A Bias for Hope: Essays on Development and Latin America*. Yale U Press, 1971; *The Passions and the Interests: Political Arguments for Capitalism before Its Triumph*. Princeton U Press, 1977; Editor and coauthor *Latin American Issues*. Twentieth Century Fund, 1961; Nota su due recenti tavole di nazionalità della popolazione italiana. *Giornale degli Economisti* (Jan 1938); The Commodity Structure of World Trade. *Quart J Econ* (Aug 1943); On Measures of Dispersion for a Finite Distribution. *J Am Stat Assoc* (Sept 1943); Inflation and Deflation in Italy. *Am Econ Rev* (Sept 1948); Disinflation, Discrimination, and the Dollar Shortage. *Am Econ Rev* (Dec 1948); Devaluation and the Trade Balance. *Rev Econ and Stat* (Feb 1949); with Robert V. Roosa, Postwar Credit Controls in France. *Federal Reserve Bulletin* (Apr 1949); with Lewis N. Dembitz, Movement Toward Balance in International Transactions of the United States. *Fed Reserve Bull* (Apr 1949); International Aspects of a Recession. *Am Econ Rev* (Dec 1949); The European Payments Union—Negotiations and Issues. *Rev Econ and Stat* (Feb 1951); Types of Convertibility. *Rev Econ and Stat* (Feb 1951); Industrial Nations and Industrialization of Under-Developed Countries. *Economia Internazionale* (Aug 1951); Effects of Industrialization on the Market of Industrial Countries. in *The Progress of Underdeveloped Areas*, ed. by Bert F Hoselitz, University of Chicago Press, 1952; Guía para el análisis y la confección de recomendaciones sobre la situación monetaria. *Economía Colombiana* (Oct 1954); Economics and Investment Planning: Reflections Based on Experience in Colombia. in *Investment Criteria and Economic Growth* New York: Asia Pub House, 1961; with George Kalmanoff, *Colombia: Highlights of a Developing Economy*. Bogota: Banco de la Republica Press, 1955; with George Kalmanoff, Demanda de energía eléctrica para la C.V.C.. *Economía Colombiana* (June 1956); Economic Policy in Underdeveloped Countries. *Econ Develop and Cultural Change* (July 1947); Investment Policies and "Dualism" in Underdeveloped Countries. *Am Econ Rev* (Sept 1957); with Gerald Sirkin, Investment Criteria and Capital Intensity Once Again. *Quart J Econ* (Aug 1958); Primary Products and Substitutes: Should Technological Progress be Policed?. *Kyklos* 12, 3 (1959); The Strategy of Economic Development. *Farm Policy Forum* 12 (1959-60); Invitation to Theorizing about the Dollar Glut. *Rev Economics and Stat* (Feb 1960); Exchange Controls and Economic Development: Comments, in *Economic Development for Latin America*, ed. by H.S. Ellis, 457-65. New York: St. Martin's Press, 1961; Second Thoughts on the "Alliance for Progress". *The Reporter* (May 25, 1961); Ed. Ideologies of Economic Development in Latin America, in *Latin American Issues—Essays and*

Comments New York: Twentieth Century Fund, 1961; Ed. Abrazo vs. Co-existence: Comments on Ypsilon's Paper, in *Latin American Issues—Essays and Comments* New York: Twentieth Century Fund, 1961; Analyzing Economic Growth: A Comment, in *Development of the Emerging Countries*, ed. by Robert E. Asher, et al, Washington, DC: The Brookings Institution, 1962; with Charles E. Lindblom, Economic Development, Research and Development, Policy-Making: Some Converging Views. *Behavioral Science* (Apr 1962); Models of Reformmongering. *Quart J Econ* (May 1963); The Stability of Neutralism: A Geometrical Note. *Am Econ Rev* (Mar 1964); Obstacles to Development: A Classification and a Quasi-Vanishing Act. *Econ Devel and Cultural Change* (July 1965); Out of Phase. *Encounter* (Sept 1965); The Principle of the Hiding Hand. *The Public Interest* (Winter 1967); The Political Economy of Import-Substituting Industrialization. *Quart J Econ* (Feb 1968); with Richard Bird, Foreign Aid: A Critique and a Proposal, *Princeton Essays in International Finance* (July 1968); Underdevelopment, Obstacles to the Perception of Change, and Leadership. *Daedalus* (Summer 1968); Industrial Development in the Brazilian Northeast and the Tax Credit Scheme of Article 34/18. *J Devel Studies* (Oct 1968); How to Divest in Latin America, and Why. *Princeton Essays in International Finance* (Nov 1969); The Search for Paradigms as a Hindrance to Understanding. *World Politics* (Mar 1970); Ideology: Mask or Nessus Shirt?, in *Comparison of Economic Systems, Theoretical and Methodological Approaches*, ed. by Alexander Eckstein, Univ of Calif Press, 1971; The Changing Tolerance for Income Inequality in the Course of Economic Development. *Quart J Econ* (Nov 1973); An Alternative Explanation of Contemporary Harriedness. *Quart J Econ* (Nov 1973); Exit, Voice, and Loyalty: Further Reflections and a Survey of Recent Contributions. *Social Science Information* (Feb 1974); Policy Making and Policy Analysis in Latin America — A Return Journey. *Policy Sciences* (Dec 1975); On Hegel, Imperialism, and Structural Stagnation. *J Devel Econ* (March 1976); Exit, Voice and Loyalty — Comments. *Am Econ Rev, papers and proceedings* (May 1976); A Generalized Linkage Approach to Development, with Special Reference to Staples. in *Economic Development and Cultural Change* 25, Supplement 1977 ; Beyond Asymmetry: Critical Notes on Myself as a Young Man and on Some Other Old Friends. *International Organization* (1978); Exit, Voice, and the State. *World Politics* (Oct 1978); The Turn to Authoritarianism in Latin America and the Search for Its Economic Determinants. in *The New Authoritarianism in Latin America*, ed. by David Collier, Princeton University Press, forthcoming.

Langlands, Robert Phelan M, Automorphic Forms

Born 1936 New Westminster, Canada. PhD 1960 Mathematics Yale Univ. Member IAS 1962-63, Professor since 1972.

Honors: Wilbur Lucius Cross Medal Yale University 1975.

Memberships: Royal Soc of Canada; AMS; Canadian Math Soc.

Selected publications: Problems in the theory of automorphic forms. in *Lectures on Modern Analysis and Applications, III* Springer-Verlag, 1970; *Base change for $GL(2)$* . Lecture notes IAS. 1975; On the functional equations satisfied by Eisenstein series. *Springer Lecture Notes* 544 (1976); On the zeta functions of some simple Shimura varieties. *Can Jour Math* (in press).

Lavin, Irving HS, History of Art

Born 1927 St. Louis, MO. PhD 1955 History of Art Harvard Univ. Professor since 1973.

Honors: Arthur Kingsley Porter Prize of the Coll Art Assoc 1959, 1962, 1968; Fellow, AAAS 1978; Charles T. Mathews Lectures, "Byzantine Architectural Decoration" Columbia Univ 1957; Franklin Jasper Walls Lectures, "Bernini and the Unity of the Visual Arts" Pierpont Morgan Library 1975.

Appointments: Adv Council, Dept of Art and Archaeology, Princeton Univ, 1973-; Comm on Ren Studies, Princeton Univ, 1973-; Adv Bd, *J of Medieval and Ren Studies*, 1974-; Natl Comm for Hist of Art, 1975-; Bd of Dirs, Coll Art Assoc, 1976-; Visit Comm, Dept of Fine Arts, Harvard Univ, 1977-; Adv Bd, Cntr for Adv Study in Visual Arts, Natl Gallery of Art, 1979-.

Memberships: Coll Art Assoc; Ren Soc of Amer; Soc of Architect Historians; Columbia Univ Seminar on the Renaissance; Assoc internatle pour l'étude des mosaïques antiques.

Selected publications: The House of the Lord, Aspects of the Role of Palace Triclinia in the Architecture of Late Antiquity and the Early Middle Ages. *Art Bull* 44 (1962) 1-27; The Hunting Mosaics of Antioch and Their Sources. A Study of Compositional Principles in the Development of Early Mediaeval Style. *Dumbarton Oaks Papers* 17 (1963) 179-286; The Ceiling Frescoes in Trier and Illusionism in Constantinian Painting. *Dumbarton Oaks Papers* 21 (1967) 97-113; *Bernini and the Crossing of Saint Peter's*. Monographs on Archaeology and the Fine Arts sponsored by the Archaeol Inst and the Coll Art Assoc, 17. New York: 1968; Five New Youthful Sculptures by Gianlorenzo Bernini and a Revised Chronology of his Early Works. *Art Bull* 50 (1968) 223-48; Bernini's Death. *Art Bull* 54 (1972) 158-186; Divine Inspiration in Caravaggio's Two St. Matthews. *Art Bull* 56 (1974) 59-81; The Sculptor's Last Will and Testament. *Allen Mem Art Museum Bull, Oberlin Coll* 35 (1977-78) 4-39.

Milnor, John Willard M, Topology

Born 1931 Orange, NJ. PhD 1954 Mathematics Princeton Univ. Member IAS 1966s, Professor since 1970.

Honors: Hon DSc Syracuse Univ 1965; DSc Univ of Chicago 1967; Fields Medal 1962; National Medal of

Science 1967; James Madison Medal Princeton Univ 1977.

Memberships: AMS; NAS; Am Philos Soc.

Selected publications: *Morse Theory, based on lecture notes by M. Spivak and R. Wells*. Ann Math Studies, no 51. Princeton Univ Press, 1963; *Topology from the Differentiable Viewpoint*. Univ of Virginia Press, 1965; with J. Stasheff, *Characteristic Classes*. Ann Math Studies, no 76. Princeton Univ Press, 1974.

Montgomery, Deane M, Topology

Born 1909 Weaver, MN. PhD 1933 Mathematics Univ of Iowa. Member IAS 1934-35, 1941-42, 1945-46, Professor since 1948.

Honors: Hon DSc Hamline Univ 1954; Univ of Illinois 1977; Yeshiva Univ 1961; Dr of Laws Tulane Univ 1967; AMS Colloquium Lecturer 1951.

Memberships: AMS (Pres 1960-62); MAA; Sigma Xi; AAAS; Am Philos Soc; NRC; IMU (Pres 1974-78).

Selected publications: with L. Zippin, Non-abelian compact connected transformation groups of three-space. *Am J Math* 61 (1939) 375-387; with S. Bchner, Locally compact groups of differentiable transformations. *Ann Math* 47 (1946) 639-653; with L. Zippin, Small subgroups of finite-dimensional groups. *Ann Math* 56 (1952) 213-241; with L. Zippin, *Topological Transformation Groups*. New York: Interscience Press, 1955; with C. T. Yang. Free differentiable actions on homotopy spheres. in *Proc Conf on Transformation Groups, New Orleans, 1967* 175-192. Springer, 1968; with C. T. Yang. Differentiable pseudo-free circle actions on homotopy seven spheres, in *Proc Conf on Transformation Groups, U of Mass, 1971* Springer.

Regge, Tullio Eugene NS, Mathematical Physics

Born 1931 Turin, Italy. PhD 1956 Physics Univ of Rochester. Member IAS 1963-64, Professor since 1965.

Honors: D. Heineman Award 1964; Francesco Somaini Award for Physics 1967; Einstein Award 1979.

Memberships: AMS; Am Phys Soc.

Selected publications: with M. Verde, Scattering Problems with Spin-Orbit Couplings. *N Cim* (9) 10 (1953) 997-1011; Tensor Force and Intermediate Coupling in P-shell Nuclei. *N Cim* (9) 11 (1954) 285-291; with B. Bosco, On the Polarization of High Energy Nucleons Scattered by a Nuclear Field. *N Cim* (9) 12 (1954) 285-287; Angular Correlations between Decay Planes τ Mesons and their Production Geometry. *N Cim* 4 (1956) 1615-1617; On the Properties of Spin 2 Particles. *N Cim* 5 (1957) 325-336; with J. R. Wheeler, Stability of a Schwarzschild Singularity. *Phys Rev* 108 (1957) 1063-1069; Gravitational Fields and Quantum Mechanics. *N Cim* 7 (1957) 215-221; Analytic Properties of the Scattering Matrix. *N Cim* 8 (1958) 671-679; On the Analytic Behavior of the Eigenvalue of the S-matrix in the Complex Plane of the Energy. *N Cim* 9 (1958) 295-302; Construction of Potentials from Resonance

Parameters. *N Cim* 9 (1958) 491-503; Symmetry Properties of Clebsch-Gordon's Coefficients. *N Cim* 10 (1958) 544-545; Symmetry Properties of Racah's Coefficients. *N Cim* 11 (1958) 116-117; Introduction to Complex Orbital Momenta. *N Cim* 14 (1959) 951-976; Bound States, Shadow States, and the Mandelstam Representation. *N Cim* 18 (1960) 947-956; General Relativity without Coordinates. *N Cim* 19 (1961) 558-571; with V. DeAlfaro, A Discussion of the Noyes and Wong Equation for Potential Scattering. *N Cim* 20 (1961) 956-962; with L. Fonda, L. A. Radicati, Mandelstam Representation for the Nonrelativistic Many Channel Problem. *Ann Phys* 12 (1961) 68-85; with A. Bottino, A.M. Longoni, Potential Scattering for Complex Energy and Angular Momentum. *N Cim* 23 (1962) 954-1004; with E. Predazzi, The Maximum Analyticity Principle in the Angular Momentum. *N Cim* 24 (1962) 518-533; with V. DeAlfaro, C. Rossetti, A Dynamical Equation for the Jost Function. *N Cim* 25 (1962) 701-703; with G. A. Viano, The Interpolation Problem in the Theory of Complex Angular Momentum. *N Cim* 25 (1962) 709-722; with V. DeAlfaro, C. Rossetti, Dynamical Equations and Angular Momentum. *N Cim* 26 (1962) 1029-1962; with G. Barucchi, On the Properties of Landau Curves. *N Cim* 34 (1964) 106; with V. DeAlfaro, *Potential Scattering*. NY: Interscience (Wiley), 1965; with V. DeAlfaro, B. Jakšić Differential Properties of Feynman Amplitudes, in *Symposium on High-Energy Physics and Elementary Particles* 263. Vienna: Intern'l Atomic Energy Agency, 1965; with G. Ponzano. Semiclassical Limit of Racah Coefficients, in *Spectroscopic and Group Theoretical Methods in Physics* Racah Memorial Volume: 1-58. North-Holland Publishing Co, 1968; Algebraic Topology Methods in the Theory of Feynman Relativistic Amplitudes, in *Battelle Rencontres, 1967 Lectures in Math and Phys* 433-458. W. A. Benjamin and Co, 1968; with S. Doplicher and I. M. Singer, A Geometrical Model Showing the Independence of Locality and Positivity of the Energy. *Comm Math Phys* 7 (1968) 51; with G. Ponzano, E. R. Speer, M. J. Westwater, The Monodromy Rings of a Class of Self-Energy Graphs. *Comm Math Phys* 15 (1969) 83; The Fundamental Group of Poincaré and the Analytic Properties of Feynman Relativistic Amplitudes, in *Nobel Symposium 8* 285-309. New York: John Wiley, 1968; with G. Ponzano, E. R. Speer and M. J. Westwater, The Monodromy Rings of One Loop Feynman Integrals. *Comm Math Phys* 18 (1970) 18; with Molinari, Phonon Excitations in Liquid He II. *Phys Rev Lett* 26 (1971) 1531; Free Boundary of He II and Feynman Wave Functions. *J Low Temp Phys* 7, 3/4 (1972); Rotational Motion at Large Angular Momentum in Even-Even Deformed Nuclei. *Phys Lett* 41B, 2 (September 1972); with G. Barucchi, G. Ponzano, *Collective Coordinates in Many-Boson Systems*. Sonderdruck Pub, 1972; with B. L. Hu, Perturbations on the Mixmaster Universe. *Phys Rev Lett* 29 (1972) 1616; with A.J. Hanson, The Relativistic Spherical Top. *Ann Phys* 87 (1974) 498; with M. Rasetti, Helium in Small Assemblies and

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Rosenbluth, Marshall Nicholas NS, Plasma Physics

Born 1927 Albany, NY. PhD 1949 Physics Univ of Chicago. Professor since 1967. Sr Res Physicist, Consultant and Visit Lect with rank of Prof in Astrophysics, Princeton University.

Honors: E. O. Lawrence Prize 1964; Albert Einstein Award 1967; Andrew D. White Prof-at-Large Cornell Univ 1976; James Clerk Maxwell Prize, Plasma Phys Am Phys Soc 1976; Member AAAS; NAS; Am Phys Soc Council.

Appointments: Consultant: AEC, NASA, IDA, Maxwell Labs; NAS Bd of Energy Studies, 1975— ; JASON (Consultants DOD), 1968— ; US Rep, Scientific Council, Internatl Cntr for Theoret Phys, Trieste, 1965— ; Dir, US/Russian Plasma Physics Year, Trieste, 1965; Member, Fluid Dynamics Comm, NASA, 1970-1972; Summary Speaker, IAEA Fusion Conferences: Salzburg, Austria, 1961 and Berchtesgaden, Germany, 1976; Consultant, Livermore, CA, Los Alamos, NM, 1968 to present; Chmn, Plasma Physics Div, APS, 1960; Co-Chmn, Internatl Theoret Plasma Phys, Kiev, USSR Conf, 1976; Various Review Panels, AEC, NASA, DOD; Bd of Eds, *Physics of Fluids*-1965-1967; Invited Review Paper, Fusion Theory, Plasma Phys Div, Am Phys Soc, 1975— ; Council, Am Phys Soc, 1976-1979.

Selected publications: High Energy Elastic Scattering of Electrons on Protons. *Phys Rev* 79

(1950) 615; with N. Metropolis, A. W. Rosenbluth, A. H. Teller and E. Teller, Equation of State Calculations by Fast Computing Machines. *J Chem Phys* 21 (1953) 1087; with C. L. Longmire, Diffusion of Charged Particles Across a Magnetic Field. *Phys Rev* 103 (1956) 507; with W. M. MacDonald and Wong Chuck, Fokker-Planck Equation for an Inverse Square Force. *Phys Rev* 107 (1957) 350; Stability and Heating in the Pinch Effect. *Proc Second UN Internat Conf on Peaceful Uses of Atomic Energy Geneva* 31 (1958) 144; with N. Rostoker, Theoretical Structure of Plasma Equations. *Phys Fluids* 2 (1959) 23; with N. Rostoker, Test Particles in a Plasma. *Phys Fluids* 2 (1959) 23; with N. Rostoker, Test Particles in a Completely Ionized Plasma. *Phys Fluids* 3 (1960) 1; with W. E. Drummond, Cyclotron Radiation from a Hot Plasma. *Phys Fluids* 3 (1960) 45; Plasma Physics ("Quantum" and "Classical"). *Phys Today* 13 (1960) 932; with N. A. Krall, Stability of Slightly Inhomogeneous Plasma. *Phys Fluids* 4 (1961) 163; with N. Rostoker, Scattering of Electromagnetic Waves by a Nonequilibrium Plasma. *Phys Fluids* 5 (1962) 776; with N. A. Krall and N. Rostoker, Finite Larmor Radius Stabilization of "Weakly" Unstable Confined Plasmas. *Nucl Fusion Suppl* 1 (1962) 143; with H. P. Furth and J. Killeen, Finite-Resistivity Instabilities of a Sheet Pinch. *Phys Fluids* 6 (1963) 459; with A. Simon, Necessary and Sufficient Condition for the Stability of Plane Parallel Inviscid Flow. *Phys Fluids* 7 (1964) 557; ed. Topics in Microinstabilities. in *Advanced Plasma Theory* 137. New York: Academic Press, 1964; with R. F. Post, High Frequency Electrostatic Plasma Instability Inherent to "Loss-Cone" Particle Distributions. *Phys Fluids* 8 (1965) 547; with H. P. Furth, J. Killeen and B. Coppi, Stabilization by Shear and Negative V. in *Plasma Physics and Controlled Nuclear Fusion Research Proc 2nd Internat Conf Culham, England, 1965*, I: 103. Vienna: IAEA, 1966; with B. Coppi, H. P. Furth and R. Z. Sagdeev, Drift Instability Due to Impurity Ions. *Phys Rev Lett* 17 (1966) 377; with R. Z. Sagdeev, J. B. Taylor and G. M. Zaslavski, Destruction of Magnetic Surfaces by Magnetic Field Irregularities. *Nucl Fusion* 6 (1966) 297; with B. Coppi, G. Laval and R. Pellat, *Collisionless Microinstabilities in Configurations with Periodic Magnetic Curvature*. Internat Cntr for Theoret Phys Conf Trieste 1967. IAEA Report IC/66/55, unpublished; with H. L. Berk and L. D. Pearlstein, Absolute Instabilities in a Finite Open-Ended Plasma System. *Bull Am Phys Soc* 13 (1968) 297; Low-Frequency Limit of Interchange Instability. *Phys Fluids* 11 (1968) 869; with B. Coppi and R. N. Sudan, Nonlinear Interactions of Positive & Negative Energy Modes in Plasmas, in *Plasma Physics & Controlled Nuclear Fusion Research Proc 3rd Int Conf, Novosibirsk, 1968* 1: 771. Vienna: IAEA, 1969; with A. A. Galeev, R. Z. Sagdeev and H. P. Furth, Plasma Diffusion in a Toroidal Stellarator. *Phys Rev Lett* 22 (1969) 511; with J. B. Taylor, Plasma Diffusion & Stability in Toroidal Systems. *Phys Rev Lett* 23 (1969) 367; with H. P. Furth, P. H. Rutherford & W. Stodiek,

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Selberg, Atle M, Number Theory, Analysis

Born 1917 Langesund, Norway. PhD 1943 Mathematics Univ of Oslo. Member IAS 1947-48, Professor since 1949.

Honors: Fields Medal 1950; Hon Doct Univ of Trondheim 1972; Hon Fellow Tata Inst of Fund Research, India.

Memberships: Norwegian Acad of Sci and Letters; AAAS; Royal Norwegian Soc of Sci; Royal Danish Acad of Scis and Letters; Royal Swedish Acad of Scis.

Selected publications: An Elementary Proof of Dirichlet's Theorem about Primes in an Arithmetic Progression. *Ann Math (2)* 50 (1949) 297-304; An Elementary Proof of the Prime-Number Theorem. *Ann Math (2)* 50 (1949) 305-313; On Elementary Methods in Prime-Number-Theory and Their Limitations. *Compte Rendu du Onzième Cong de Mathématiciens Scandinaves Tenu à Trondheim, 1949* (1952) 13-22; with S. Chowla, On Epstein's Zeta Function (I). *Proc NAS* 35 (1949) 371-374; An Elementary Proof of the Prime-Number Theorem for Arithmetic Progressions. *Canadian J Math* 2 (1950) 66-78; The General Sieve-Method and Its Place in Prime Number Theory. *Proc of Internatl Cong of Mathematicians, Cambridge, Mass, 1950* 1 (1952) 286-292.

Setton, Kenneth M. HS, Middle Ages, Renaissance

Born 1914 New Bedford, MA. PhD 1941 Columbia Univ. Professor since 1968. Senior Fellow Dumbarton Oaks Byzantine Research Center.

Honors: LittD(hc) Boston University 1957; John Frederick Lewis Prize Am Philos Soc 1957; Gold Cross of the Order of George I, Greece 1967; Premi Catalònia Inst d'Estudis Catalans, Barcelona 1976;

Prix Gustave Schlumberger Acad Inscript et Belles-Lettres, Paris 1976.

Memberships: Medieval Academy of America.

Selected publications: *Christian Attitude Towards the Emperor in the Fourth Century*. New York: Columbia Univ Press, 1941; *Catalan Domination of Athens, 1311-1388*. Cambridge, Mass: Mediaeval Acad Amer, 1948; *Europe and the Levant in the Middle Ages and the Renaissance*. London: Variorum, 1974; *Athens in the Middle Ages*. London: Variorum, 1975; *Los Catalanes en Grecia*. Barcelona: Aymà 1975; *The Papacy and the Levant, 1204-1571*. The Thirteenth and Fourteenth Centuries, 1. Philadelphia: Amer Philos Soc, 1976; The Fifteenth Century, 2. 1978; The Sixteenth Century, 3. forthcoming; Editor-in-Chief and Contributor with M. W. Baldwin, *A History of the Crusades*. The First Hundred Years, 1. Philadelphia: U of Penn Press, 1955; with R. L. Wolff and H. W. Hazard, The Later Crusades, 1189-1311, 2. Philadelphia: U of Penn Press, 1962; with H. W. Hazard, . The Fourteenth and Fifteenth Centuries, 3. U of Wise Press, 1975; with H. W. Hazard, The Art and Architecture of the Crusader States, 4. U of Wise Press, 1977; Editorial Consultant and Contributor *The Age of Chivalry*. Washington, DC: Nat Geog Soc, 1969; Editorial Consultant and Contributor *The Renaissance*. Washington, DC: Nat Geog Soc, 1970.

White, Morton G. HS, Intellectual History and Philosophy

Born 1917 New York, NY. PhD 1942 Philosophy Columbia Univ. Member IAS 1953-54, 1962-63, 1968s, 1968f, Professor since 1970.

Honors: Woodbridge Prize in Philosophy Columbia Univ 1942; Butler Medal in Philosophy Columbia Univ 1961; Guggenheim Fellow 1950-51; Fellow, Center Advanced Study in Behav Scis 1959-60; Fellow ACLS 1962-63; LHD(Hon) 1975; AAAS; Am Phil Soc; Am Antiquarian Soc.

Memberships: Am Philos Assoc; Mind Assoc; Aristotelian Soc.

Selected publications: *The Origin of Dewey's Instrumentalism*. New York: Columbia Univ Press, 1943; *Social Thought in America: The Revolt Against Formalism*. New York: Viking Press, 1949, 1952; *Toward Reunion in Philosophy* Cambridge, Mass: Harvard Univ Press, 1956; *Religion, Politics, and the Higher Learning: A Collection of Essays*. Cambridge, Mass: Harvard Univ Press, 1959; with Lucia White, *The Intellectual Versus The City: From Thomas Jefferson to Frank Lloyd Wright*. Cambridge, Mass: Harvard Univ Press and MIT Press, 1962; *Foundations of Historical Knowledge*. New York: Harper & Row, 1965; *Science and Sentiment in America: Philosophical Thought from Jonathan Edwards to John Dewey*. New York: Oxford Univ Press, 1972; *Pragmatism and the American Mind: Essays and Reviews in Philosophy and Intellectual History*. New York: Oxford Univ Press, 1973; *The Philosophy of the American Revolution*. New York: Oxford Univ Press, 1978; Ed *Academic Freedom*,

Logic, and Religion. Philadelphia: U of Penn Press, 1953; Ed *The Age of Analysis*. Boston: Houghton Mifflin, 1955, 1956; Ed with Arthur M. Schlesinger, Jr., *Paths of American Thought*. Boston: Houghton Mifflin, 1963; Ed with P. Suppes and S. Morgenbesser, *Philosophy, Science, and Method: Essays in Honor of*

Ernest Nagel. New York: St. Martin's Press, 1969; Ed *Documents in the History of American Philosophy: From Jonathan Edwards to John Dewey*. New York: Oxford Univ Press, 1972.

Woolf, Harry see Directors.

Past Faculty

Professors Emeriti

Alföldi, Andrew E. Z. HS, Roman History and Culture

Born 1895 Pomáz, Hungary. PhD 1919 Univ of Budapest. Professor 1955-65. Professor Emeritus 1965-.

Honors: German order of Merit 1972; Austrian "Ehren-zeichen" for Sci and Arts 1975; Officer Les Palmes Académiques 1965; Golden Cross of King George II of Greece 1936; Gold Medal City of Rome 1960; Medal of the Royal Numis Soc; Huntington Medal of Am Num Soc 1965; G. Washington Medal of Am-Hungarian Foundation 1966; Medal of Hungarian Archeol Soc 1943; PhD (hc): Univ of Utrecht 1936; Univ Bonn 1967; Univ of Paris 1967.

Memberships: Hon member: Pontif Accad di Archeol (Vatican); Archeol Inst of Amer; Soc of Antiquaries (London and Scotland); Soc for Prom of Roman Studies; German Archeol Inst; Accad Latinitati excolendae (Rome); Accad d Belle Arti; Archeol Soc of Finland; Spanish Soc for Archeol, Ethno & Anthro; Soc for Ancient Art (Switzerland); Turkish Hist Soc; Royal Numis Soc; Bavarian, French, Swiss, Austrian, Hungarian Numis Socs; Hungarian Archeol Soc; Member of: Inst de France (Acad d Inscriptions et Belles Lettres); Royal Swedish Acad; Accad d'Italia (Lincci); Hungarian Acad Scis; Austrian Archeol Inst; Corr member Brit Acad; Bavarian Acad of Sci; Acad of Sci in Mainz and Göttingen; Royal Danish Acad; Bulgarian Acad of Sci; Inst di Studi Romani; Inst for Comp Research of Cultures; Inst for Cultural Morphology; Royal Soc of Sci in Lund; Finno-Ougrian Soc (Helsinki); Serbian Archaeol Soc; Croatian Numis Soc.

Selected publications: *Studien zur Geschichte der Weltkrise des 4. Jahrhunderts nach Christus*. Darmstadt: 1967; *Die monarchische Repräsentation im römischen Kaiserreiche*. Darmstadt: 1970; *Der Vater des Vaterlandes im römischen Denken*. Darmstadt: 1971; *Die zwei Lorbeerbäume des Augustus*. Antiquitas 3, Band 14. Bonn: 1973; *Die Struktur des voretruskischen Römerstaates*. NF 1, Band 5. Heidelberg: Bibliothek der Klassischen Altertumswissenschaften, 1974; *Caesar in 44 v. Chr.* Band 2, Antiquitas 3, Band 17. Bonn: 1974; *Oktavians Aufstieg zur Macht*. Antiquitas 1, Band 25. Bonn: 1976; *Römische Frühgeschichte*. NF 1, Band 6. Heidelberg: Bibliothek der Klassischen Altertumswissenschaften, 1976; with Elisabeth Alföldi and C. L. Clay, *Die Kontorniat-Medallions*. Berlin: 1976; *Das frühe Rom und die Latiner*. Darmstadt: 1977; Die Herrschaft der Reiterei in Griechenland und Rom nach dem Sturz der Könige, Gestalt und Geschichte. *Antike Kunst* Festschrift Karl Schefold (1967) 13-47; Die Verlorene Enmannsche Kaisergeschichte und die "Caesares" des Julianus Apostata. *Antiquitas* 4 (1968) 1-8; Die Denartypen

des C. Cossutius Maridianus und die Letzte Denaremission des P. Sepullius Macer. *Schweiz Numismat Rundschau* 47 (1968) 85-103; (Centuria) procum patricium. *Historia* 17 (1968) 444-460; Die Massenemission des Macer und des Buca mit Caesar Dict. Perpetvo vor Caesars Ermordung. *Schweiz Numismat Rundschau* 47 (1968) 51-74; Der Früheste Denartypus des L. Buca mit Caesar Dictator Perpetvo. *Schweizer Münzblätter* 19 (1969) 1-4; Les Deniers de C. Valerius Flaccus frappés a Marseille et les dernières émissions de drachmes Massaliotes. *Revue numismatique, 6e série* 11 (1969) 55-61; An Ugrian Creation Myth on Early Hungarian Phalerae. *Amer J Archaeol* 73 (1969) 359-361; Die Penaten, Aeneas und Latinus. *Mitteilungen des Deut Archaeol Inst, Roemische Abteilung* 78 (1971) 1-57; Zu den Sizilischen Prägungen Caesars. *Schweizer Münzblätter* 21 (1971) 85-88; Redeunt Saturnia Regna. *Revue numismatique, 6e série* 13 (1971) 76-89; Constantinus. . . Proverbio Vulgari Trachala.. .Nominatus. *Antiquitas* 4 (1972) 1-4; Redeunt Saturnia regna III: Juppiter-Apollo und Veiovis. *Chiron* 2 (1972) 215-230; Wo Lag das Regnum Vannianum?. *Zur germanischen Stammeskunde* (1972) 281-286; I Denari dell'Anno 44 AC. *Rivista Italiana di Numismatica* 20, 74 (1972) 87-93; Redeunt Saturnia Regna II: An iconographical pattern heralding the return of the Golden Age in or around 139 BC. *Chiron* 3 (1973) 131-142; Die Asse des C. Licinius Macer. *Schweizer Münzblätter* 23, 92 (1973) 117-119; La Struttura Politica di Roma nei suoi Primordi. *Rendiconti della Classe di Scienze morali, storiche e filologiche* Ser 8, 27, fasc 5-6 (1973) 307-333; La Divinisation de César dans la politique d'Antoine et d'Octavien entre 44 et 40 avant JC. *Revue numismatique* 15 (1973) 99-128; Das Verschwinden der Namen der Monetale seit dem Jahre 41 v. Chr. *Schweizer Münzblätter* 24 (1974) 107-109; Les Praefecti Urbi di César, Mélanges d'Histoire Ancienne offerts à William Seston. *Etudes* 9 (1974) 1-14; Tempestas Mariana. Das Zeugnis der Kupferprägung 87-84 v. Chr. *Chiron* 4 (1974) 207-241; Tempestas Mariana. Ergänzende Bemerkungen zur Münzprägung der Jahre 88 bis 84 v. Chr. *Schweizer Münzblätter* 24 (1974) 37-45; Octavians Aufstieg zur Macht. *Antike und Abendland* 31/1 (1975) 1-11; Heiden und Christen am Spieltisch. *Jahrbuch für Antike und Christentum* 18 (1975) 19-21; The Giant Argus and a Miracle of Apollo in the Coin-Propaganda of Cinna and Carbo. in *Essays in Archaeology and the Humanities: In Memoriam Otto J. Brendel* 115-119. Mainz: 1976; Redeunt Saturnia regna V: Zum Gottesgnadentum des Sulla. *Chiron* 6 (1976) 143-158; Redeunt Saturnia regna VI: From the Aion Plutonium of the Ptolemies to the Saeculum Frugiferum of the Roman Emperors, in *Greece and the Eastern Mediterranean in Ancient History and Pre-History: Studies presented to Fritz Schachermeyr on the occasion of his Eightieth Birthday*: 1-30. Berlin:

1977; Die zwei Lorbeerbäume des Augustus. *Römischer Kaiserkult* (1978) 403-422.

Beurling, Arne K. A. M., Analysis

Born 1905 Gothenburg, Sweden. PhD 1933 Mathematics Uppsala Univ. Member IAS 1952-54, Professor 1954-73. Professor Emeritus 1973-.

Honors: Swedish Acad Scis Prizes 1937 and 1946; Celsius Gold Medal Royal Soc of Sci, Uppsala 1963; Univ of Yeshiva Sci Awd 1963; "Beurling Year" Mittag-Leffler Inst, Stockholm 1976-77; Hon Member Swedish Math Soc.

Memberships: Royal Swedish Acad Scis; Royal Swedish Soc of Scis; Finnish Soc of Sci; Royal Danish Soc of Sci; Royal Physiographical Soc, Lund; AAAS.

Selected publications: *Études sur un problème de majoration*. Thèse pour le doctorat. Uppsala: Almqvist & Wiksell, 1933; Analyse de la loi asymptotique de la distribution des nombres premiers généralisées. *Acta Math* 68 (1937); *Sur les intégrales de Fourier absolument convergentes et leur application à une transformation fonctionnelle*. C.R. du 9-ième congrès des math scandinaves. Helsinki: 1938; Ensembles exceptionnels. *Acta Math* 72 (1940); Un théorème sur les fonctions bornées et uniformément continues sur l'axe reel. *Acta Math* 77 (1945); On two problems concerning linear transformation in Hilbert space. *Acta Math* 81 (1948); Sur les spectres des fonctions. in *Analyse Harmonique Colloques Internationaux du Centre Nationale de la Recherche Scientifique*, No 15. Paris: 1949; with L. Ahlfors, Conformal invariants and function theoretic null-sets. *Acta Math* 83 (1950); An extension of the Riemann mapping theorem. *Acta Math* 90 (1953); with L. Ahlfors, On the boundary correspondence under quasi-conformal mappings. *Acta Math* 96 (1956) 125-142; with J. Deny, Espaces de Dirichlet, le cas élémentaire. *Acta Math* 99 (1958) 203-224; Construction and analysis of some convolution algebras. *Ann de l'Institut Fourier de l'Univ de Grenoble* 14 (1964) 1-32; Local harmonic analysis with some applications to differential operators. in *Some Recent Advances in Basic Sciences* 1: 109-125. New York: Academic Press, 1966; with P. Malliavin, On the closure of characters and the zeros of entire functions. *Acta Math* 118 (1967) 79-93; On analytic extension of semi-groups of operators. *J Funct Anal* 6 (1970) 387-400; Analytic continuation across a linear boundary. *Acta Math* 128 (1972) 153-182.

Cherniss, Harold Fredrik HS, Greek and Ancient Philosophy

Born 1904 St. Joseph, MO. PhD 1929 Greek, Latin, and Sanskrit Univ of Calif, Berkeley. Professor 1948-74. Professor Emeritus 1974-.

Honors: DHL: Univ of Chicago 1950; Hebrew Union Coll 1959; Johns Hopkins Univ 1965; Brown Univ 1976; Laurea (hc) Univ degli Studi di Roma 1978; Goodwin Awd Am Philol Assoc 1977.

Memberships: AAAS; Am Philos Soc; Brit Acad; Royal Acad of Arts and Sci, Göteborg; Acad Royale Flamande des Sci, Lettres, et Beaux Arts de Belgique; Am Philol Assoc; Acad of Arts & Sci of Córdoba.

Selected publications: *The Platonism of Gregory of Nyssa*. Berkeley: Univ of Calif Press, 1930; *Aristotle's Criticism of Presocratic Philosophy*. Baltimore: Johns Hopkins Press, 1935; *Aristotle's Criticism of Plato and the Academy I*. Baltimore: Johns Hopkins Press, 1944; *The Riddle of the Early Academy*. Berkeley: Univ of Calif Press, 1945; *Plutarch, De Facie in Orbe Lunae*. Loeb Classical Library, 1957; *Plutarch, Essays on Platonic Subjects & Essays on Stoic Subjects*. Loeb Classical Library, 1976; *Selected Papers*. Leiden: Brill, 1977.

Gilbert, Felix HS, Renaissance History
Born 1905 Baden, Germany. PhD 1931 Univ of Berlin. Professor 1962-75. Professor Emeritus 1975-.

Honors: AAAS; Am Philos Soc; Corr Fellow Brit Acad.

Appointments: Sec & Chmn, AHA Mod Europ Hist Section.

Memberships: AHA; Soc of Italian Hist Studies (1976-Pres); Conf Group of Central Europ Hist (Chmn-1977); Ren Soc of Amer (Pres 1978).

Selected publications: with Edward Mead Earle and Gordon A. Craig, *Makers of Modern Strategy; Military Thought from Machiavelli to Hitler*. Princeton: Princeton Univ Press, 1943; Political Thought of the Renaissance and Reformation, a Report on Recent Scholarship. *Huntington Library Q* 4 (1940/41) 443-468; Ed Letters of Francis Kinloch to Thomas Boone, 1782-1788. *J of Southern Hist* 8 (1942) 87-105; with G. A. Craig, Jomini. in *Makers of Modern Strategy* ed. by Earle, E. M., 77-92. Princeton: 1943; Machiavelli: The Renaissance of the Art of War. in *Makers of Modern Strategy*, ed. by Earle, E. M., 3-25. Princeton: 1943; The English Background of American Isolationism in the Eighteenth Century. *William and Mary Q* (3) 1 (1944) 138-160; Sir John Fortescue's "Dominium Regale et Politicum". *Medievalia et Humanistica* 2 (1944) 88-97; The "New Diplomacy" of the Eighteenth Century. *World Pol* 4 (1951) 1-38; *To the Farewell Address*. Princeton Univ Press, 1961; *Machiavelli and Guicciardini*. Princeton Univ Press, 1965; *History: Choice and Commitment*. Cambridge, Mass: Belknap Press, 1977; Ed *Hitler Directs His War*. New York: Oxford Univ Press, 1950; Ed *The Historical Essays of Otto Hintze*. New York: Oxford Univ Press, 1975; Ed with Gordon A. Craig, *The Diplomats*. Princeton Univ Press, 1953.

Kennan, George Frost HS, Diplomatic History
Born 1904 Milwaukee, WI. Diploma 1931 Berlin Seminary for Oriental Langs. Member IAS 1950-52, 1953-55, Professor 1956-74. Professor Emeritus 1974-.

Honors: 2 Pulitzer Prizes; 2 National Book Awards; Woodrow Wilson Award Princeton Univ; Hon Degrees Oxford Univ; Harvard Univ; Yale Univ & Princeton Univ; Member (former Pres) Am Acad Arts & Letters; Member German Order of Merit.

Memberships: Am Assoc for Adv Slavic Studies.

Selected publications: *American Diplomacy, 1900-1950*. Chicago: U Chicago Press, 1951; *Soviet-American Relations 1917-1920*. 1 & 2. Princeton: Princeton U Press, 1965; *Soviet Foreign Policy, 1917-1941*. Princeton: D. Van Nostrand Company, 1960; *Russia and the West under Lenin and Stalin*. Boston: Little, Brown and Company, 1961; *The Marquis de Custine and His "Russia in 1939"*. Princeton: Princeton U Press, 1971; *The Franco-Russian Alliance of 1894*. 1. Princeton: Princeton U Press, 1979.

Meritt, Benjamin Dean HS, Greek Epigraphy

Born 1899 Durham, NC. PhD 1924 Classics Princeton Univ. Professor 1935-69. Professor Emeritus 1969-. Visit Scholar, Dept of Classics, Univ of Texas, Austin, TX.

Honors: AAAS; Corr Memb Brit Acad; D Litt Oxford Univ 1936; LL D Hamilton Coll 1937; Litt D Princeton Univ 1947; LL D U of Glasgow 1948; LHD U of Penn 1967; Litt D U of Athens (Greece) 1969; LHD Brown U 1974; Eastman Prof Oxford Univ 1945-46; Sather Prof California 1959; Decorated Commander Order of the Phoenix Greece; Order of George I (Greece).

Memberships: Pres Amer Philol Assn 1954; Member Amer Philos Soc 1938-; Hon Member Soc for Prom of Hellenic Studies; Hon Member Mich Acad; Hon Councillor Greek Archaeol Soc; For Member Acad of Athens; Assoc Member Flemish Acad; Ord Mitglied German Archaeol Inst.

Selected publications: *Documents on Athenian Tribute*. Cambridge: Harvard Univ Press, 1937; with H. T. Wade-Gery, Malcolm Francis McGregor, *The Athenian Tribute Lists*. Cambridge: Harvard Univ Press, 1939-53; with William Kendrick Pritchett, *The Chronology of Hellenistic Athens*. Cambridge: Harvard Univ Press, 1940; *Epigraphica Attica*. Martin Classical Lectures, 9. Cambridge: Harvard Univ Press, 1940; Inscriptions of Colophon. *Amer J Philol* 56 (1935) 358-397; Some Details of the Athenian Constitution. *Amer J Philol* 56 (1935) 317-323; Archelaos and the Decelean War. in *Classical Studies Presented to Edward Capps on His Seventieth Birthday* 246-252. Princeton: 1936; A New Date in the Fifth Century. *Amer J Philol* 57 (1936) 180-182; with H. T. Wade-Gery, Pylos and the Assessment of Tribute. *Amer J Philol* 57 (1936) 377-394; The Seventh Metonic Cycle. *Hesperia* 5 (1936) 201-205; The Athenian Assessment Decree. *Amer J Philol* 58 (1937) 152-156; Towns of Asia Minor. *Amer J Philol* 58 (1937) 385-391; A Note on Kleon's Assessment. *Amer J Philol* 59 (1938) 297-300; Karic Towns in the Athenian Empire, in *Anatolian Studies Presented to William Hepburn Buckler* 187-190. Manchester: 1939; A Note on L. Robert, "Collection Froehner". *Amer J Philol* 60 (1939) 202; Athens and Carthage. *Harvard Studies in Classical Philology* Supplement 1 (1940) 247-253; with E. R. Caley, Chemical Preservation of Squeezes. *J of Documentary Reproduction* 3 (1940) 204-205; A Note on Aristotle, "Ath. Pol., 54". *Amer J*

Philol 61 (1940) 78; Greek Inscriptions. *Hesperia* 4-37 (1935-1968); Athens and the Delian League, in *The Greek Political Experience* Studies in Honor of William Kelly Prentice: 50-60. Princeton: 1941; New Fragments of the Tribute Lists. *Amer J Philol* 62 (1941) 1-15; Notes on Attic Decrees. *Hesperia* 10 (1941) 301-377; The Early Athenian Tribute Lists. *Class Philol* 38 (1943) 223-239; The Argives at Tanagra. *Hesperia* 14 (1945) 134-147; Attic Inscriptions of the Fifth Century. *Hesperia* 14 (1945) 61-133; Note on I.G., I 2, 87. *Amer J Philol* 66 (1945) 254; Three Attic Inscriptions. *Amer J Philol* 66 (1945) 234-242; Athenian Alliances with Rhegion and Leontinoi. *Class Q* 40 (1946) 85-91; Borrowings in the Archidamian War. *Class Q* 40 (1946) 60-64; Note on the Athenian Calendar. *Class Q* 40 (1946) 45-46; An Athenian Treaty with an Unknown State. *Amer J Philol* 68 (1947) 312-315; The Attic Archons Diokles-Timarchos. *Amer J Philol* 68 (1947) 195-198; with H. T. Wade-Gery, The Decrees of Kallias. *Hesperia* 16 (1947) 279-286; Honors to Faustina in Corinth. *Class Philol* 42 (1947) 181-182; The Persians at Delphi. *Hesperia* 16 (1947) 58-62; Two Attic Epigrams. *Hesperia* 16 (1947) 287-289; Athens and the Amphiktyonic League. *Amer J Philol* 69 (1948) 312-314; Notes on Attic Inscriptions. *Amer J Philol* 69 (1948) 69-73; The Epigraphic Notes of Francis Vernon. *Hesperia, Supplement* 8 (1949) 213-227; with A. Andrewes, Athens and Neapolis. *Brit School at Athens Annual* 46 (1951) 200-209; The Entrance to the Areopagus. *Hesperia* 22 (1953) 129; Athenian Covenant with Mytilene. *Amer J Philol* 75 (1954) 359-368; Athens and the Amphiktyonic League. *Amer J Philol* 75 (1954) 369-373; Indirect Tradition in Thucydides. *Hesperia* 23 (1954) 185-231; *The Athenian Year*. Sather Classical Lects, 32. Berkeley, Los Angeles: 1961; with John S. Traill, *The Athenian Agora. The Athenian Councillors*. 15. Princeton, NJ: 1974.

Thompson, Homer Armstrong HS, Classical Archaeology

Born 1906 Devlin, Ontario, Canada. PhD 1929 Univ of Mich. Professor 1947-77. Professor Emeritus 1977-.

Honors: Honorary Degrees: U of British Columbia 1949; Dartmouth Coll 1957; U of Michigan 1957; U of Toronto 1961; U of Athens 1963; U of Lyon 1963; U of Freiburg i Br. 1966; Coll of Wooster 1972; New York Univ 1972; Hon Citizen of Athens 1956; Gold Medal for Disting Archaeol Achievement Archaeol Inst of Amer 1972; L.W. Drexel Gold Medal Univ of Penna 1978.

Appointments: Member, Adv Council Smithsonian Foreign Currency Prog 1968-75; Member Adv Panel NEH, 1979-; Member USA Delegation to UNESCO Conf on Exchange of Cultural Property 1976.

Memberships: Archaeol Inst of Amer; Amer Numismatic Soc, Soc of Architectural Historians; AAAS; Amer Philos Soc; British Acad; Soc of Antiquaries.

Selected publications: with K. Kourouniotis, The Pnyx in Athens. *Hesperia* 1 (1932) 90-217; Two Centuries of Hellenistic Pottery. *Hesperia* 3 (1934) 311-480; Buildings on the West Side of the Agora. *Hesperia* 6 (1937) 1-226; A Golden Nike. *Harvard Studies in Classical Philology* Supplement 1 (1940) 183-210; The Tholos of Athens and its Predecessors. *Hesperia* Supplement 4 (1940) 160; with R. L. Scranton, Stoas and City Walls on the Pnyx. *Hesperia* 12 (1943) 269-383; The Pedimental Sculpture of the Hephaisteion. *Hesperia* 18 (1949) 230-268; The Odeion in the Athenian Agora. *Hesperia* 19 (1950) 31-141; The Altar of Pity in the Athenian Agora. *Hesperia* 21 (1952) 47-82; Athenian Twilight, A.D. 267-600. *Journal of Roman Studies* 49 (1959) 61-72; *The Stoa of Attalos II in Athens*. Princeton: 1959; A Note on the Berlin Foundry Cup. in *Essays in Memory of Karl Lehmann* 1965; *The Agora of Athens: the History, Form and Uses of an Ancient City Center*; *The Athenian Agora: A Guide to the Excavation & Museum*. 3rd edition. Athens, 1976; Some Hero Shrines in Early Athens, in *Athens Comes of Age from Solon to Salamis* Princeton: 1978; Rev. V. Scully. *The Earth, the Temple and the Gods*, *Art Bull* 45 (1963) 277-280; Rev. P. W. Lehmann. *Samothrace Vol 3: The Hieron*, *Archaeology* 26 (1973) 228.

Weil, André M

Born 1906 Paris, France. DSc 1928 Paris Univ. Member IAS 1937s, Professor 1958-76. Professor Emeritus 1976-.

Honors: Member Poldavian Acad of Sci and Lett.

Memberships: Nancago Math Assoc.

Selected publications: *L'intégration dans les groupes*. Hermann, 1940; *Foundations of algebraic geometry*. AMS, 1946; *Courbes algébriques et variétés abéliennes*. Hermann, 1948; *Variétés kählériennes*. Hermann, 1958; *Adeles and algebraic groups*. IAS, 1961; *Basic Number Theory*. Springer, 1967; *Elliptic functions according to Eisenstein and Kronecker*. Springer, 1976; *Collected papers*. 3 vols. Springer, 1979; *Number Theory for Beginners*. Springer, 1979.

Whitney, Hassler M, Topology, Analysis, Instruction

Born 1907 New York, NY. PhD 1932 Mathematics Harvard Univ. Professor 1952-77. Professor Emeritus 1977-.

Honors: Hon DSc Yale Univ 1947; VP AMS 1948-50; AMS Colloquium Lect 1946; Natl Medal of Sci 1977.

Appointments: Member Math Panel, National Defense Res Comm, 1943-45; Pres, Internatl Comm on Math Instruction, 1979-82.

Memberships: AMS; NAS; Am Philos Soc.

Selected publications: Non-separable and planar graphs. *Trans AMS* 34 (1932) 339-362; Analytic extensions of differentiable functions defined in closed sets. *Trans AMS* 36 (1934) 63-89; On the abstract properties of linear dependence. *Am J Math* 57 (1935) 509-533; Differentiable manifolds. *Ann Math* 37 (1936) 645-680; Topological properties of

differentiable manifolds. *Bull AMS* 43 (1937) 785-805; On products in a complex. *Ann Math* 39 (1938) 397-432; Tensor products of Abelian groups. *Duke Math J* 4 (1938) 495-528; On the topology of differentiable manifolds, in *Lectures in Topology* 101-141. Univ of Mich Press, 1941; On ideals of differentiable functions. *Am J Math* 70 (1948) 635-658; *Geometric Intégration Theory*. Princeton Math Series, 21. Princeton, NJ: Princeton Univ Press, 1957.

Deceased Faculty

Alexander, James Waddell M, Topology

Born 1888 Seabright, NJ. PhD 1915 Mathematics Princeton Univ. Professor 1933-1947. Deceased.

Honors: HonDSc Princeton Univ 1947; Bôcher Prize 1929; Rouse Ball Lect Cambridge Univ 1936.

Appointments: VP, MAA, 1934.

Memberships: Phi Beta Kappa; NAS; Am Philos Soc; AMS; MAA; AAAS.

Selected publications: On the homology groups of abstract spaces. *Ann Math* 35 (1934) 130-151; On the characters of discrete Abelian groups. *Ann Math* 35 (1934) 389-395; with L. Zippin, Discrete Abelian groups and their character groups. *Ann Math* 36 (1935) 71-85; Note on Pontrjagin's topological theorem of duality. *Proc NAS* 21 (1935) 222-225; On the chains of a complex and their duals. *Proc NAS* 21 (1935) 509-511; On the ring of a compact metric space. *Proc NAS* 21 (1935) 511-512; On the connectivity ring of a bicomplex space. *Proc NAS* 22 (1936) 300-303; 381-384; On the connectivity ring of an abstract space. *Ann Math* 37 (1936) 698-708; A theory of connectivity in terms of gratings. *Ann Math* 39 (1938) 883-912; On the concept of a topological space. *Proc NAS* 25 (1939) 52-54; On the connectivity ring of a lattice. *Proc NAS* 25 (1939) 208-209; Ordered sets, complexes and the problem of compactification. *Proc NAS* 25 (1939) 296-298; Gratings and homology theory. *Bull AMS* 53 (1947) 201-233.

Earle, Edward Mead HS(EP), Military History

Born 1894 New York, NY. PhD 1923 Columbia Univ; LLD 1954 Columbia Univ. Professor 1934-54. Deceased.

Honors: LHD: Union Coll 1941; Colgate Univ 1947; LLD Princeton Univ 1947; Pres Medal for Merit for War Service; Columbia Univ Medal for Disting Public Svce; Chevalier Legion of Honor; George L. Beer Prize for best work on European Diplomacy.

Appointments: Member Bd Analysts OSS 1941-42; Consult to AAF 1942-45; Vice Chmn For Policy Assoc 1924-27.

Memberships: AHA; APSA; Phi Beta Kappa; Alpha Delta Phi.

Selected publications: with John H. Wuorinen, *An Outline of Modern History*. 2, 4th ed. NY: Macmillan Co., 1942; *Turkey, The Great Powers and Bagdad Railway* NY: Macmillan Co., 1923; *Against this Torrent*. Princeton U Press, 1941; with Gordon A. Craig, Felix Gilbert, *Makers of Modern Strategy: Military Thought from Machiavelli to Hitler*. Princeton

U Press, 1943; *Nationalism and Internationalism*. NY: Columbia U Press, 1950; *Modern France: Problems of the Third and Fourth Republics*. Princeton Univ Press, 1951.

Einstein, Albert M(NS), Physics

Born 1879 , Germany. PhD 1905 Univ of Zurich. Professor 1933-46. Professor Emeritus 1946-55. Deceased.

Honors: Nobel Prize for Physics 1921; Am Philos Soc; AAAS; Royal Soc; Franklin Inst Medal 1935.

Memberships: Inst de France.

Selected publications: Über einen die Erzeugung und Verwandlung des Lichtes betreffenden heuristischen Gesichtspunkt. *Ann Physik (4)* 17 (1905) 132-148; Die von der molekularkinetischen Theorie der Wärme geforderte Bewegung von in ruhenden Flüssigkeiten suspendierten Teilchen. *Ann Physik (4)* 17 (1905) 549-560; Elektrodynamik bewegter Körper. *Ann Physik (4)* 17 (1905) 891-921; Ist die Trägheit eines Körpers von seinem Energieinhalt abhängig? *Ann Physik (4)* 18 (1905) 639-641; Zur Theorie der Brownschen Bewegung. *Ann Physik (4)* 19 (1906) 371-381; Theorie der Lichtezeugung und Lichtabsorption. *Ann Physik (4)* 20 (1906) 199-206; Plancksche Theorie der Strahlung und die Theorie der spezifischen Wärme. *Ann Physik (4)* 22 (1907) 180-190, 800; Relativitätsprinzip und die aus demselben gezogenen Folgerungen. *Jahrbuch der Radioaktivität* 4, 5 (1907) 411-462, 98-99; Theorie der Opaleszenz von homogenen Flüssigkeiten und Flüssigkeitsgemischen in der Nähe des kritischen Zustandes. *Ann Physik (4)* 33 (1910) 1275-1298; Beziehung zwischen dem elastischen Verhalten und der spezifischen Wärme bei festen Körpern mit einatomigem Molekül. *Ann Physik (4)* 34 (1911) 170-174, 590; Einfluss der Schwerkraft auf die Ausbreitung des Lichtes. *Ann Physik (4)* 35 (1911) 898-908; *Entwurf einer Verallgemeinerten Relativitätstheorie und eine Theorie der Gravitation*. I. Physikalischer Teil von A. Einstein. II. Mathematischer Teil von M. Grossmann. Leipzig: Teubner, 1913; with W. J. de Haas, Experimenteller Nachweis der Ampèreschen Molekularströme. *Deutsche physikalische Gesellschaft, Verhandlungen* 17 (1915) 152-170, 203; Erklärung der Perihelbewegung des Merkur aus der allgemeinen Relativitätstheorie. *Preussische Ak d W, Sitzungsberichte* pt. 2 (1915) 831-839; Grundlage der allgemeinen Relativitätstheorie. *Ann Physik (4)* 49 (1916) 769-822; Strahlungs-emission und -absorption nach der Quantentheorie. *Deutsche physikalische Gesellschaft, Verhandlungen* 18 (1916) 318-323; Quantentheorie der Strahlung. *Physikalische Zeit* 18 (1917) 121-128; Zur affinen Feldtheorie. *Preussische Ak d W, Phys-math Klasse, Sitzungsberichte* (1923) 137-140; Quantentheorie des einatomigen idealen Gases. *Preussische Ak d W, Phys-math Klasse, Sitzungsberichte* (1924) 261-267; Quantentheorie des einatomigen idealen Gases. 2. Abhandlung. *Preussische Ak d W, Phys-math Klasse, Sitzungsberichte* (1925) 3-14; Einheitliche

Feldtheorie. *Preussische Ak d W, Phys-math Klasse, Sitzungsberichte* (1929) 2-7; with R. C. Tolman and B. Podolsky, Knowledge of past and future in quantum mechanics. *Phys Rev (2)* 37 (1931) 780-781; Einheitliche Theorie von Gravitation und Elektrizität. *Preussische Ak d W, Phys-math Klasse, Sitzungsberichte* (1931) 541-557; with W. Mayer, Einheitliche Theorie von Gravitation und Elektrizität, 2. Abhandlung. *Preussische Ak d W, Phys-math Klasse, Sitzungsberichte* (1932) 130-137; with B. Podolsky and N. Rosen, Can quantum-mechanical description of physical reality be considered complete?. *Phys Rev (2)* 47 (1935) 777-780; Some thoughts concerning education. *School and Society* 44 (1936) 589-592; with N. Rosen, On gravitational waves. *J Franklin Inst* 223 (1937) 43-54; with L. Infeld and B. Hoffmann, The gravitational equations and the problem of motion. *Ann Math (2)* 39 (1938) 65-100; On a stationary system with spherical symmetry consisting of many gravitating masses. *Ann Math (2)* 40 (1939) 922-936; Freedom and Science, in *Freedom, Its Meaning*, ed. by R. N. Anshen, 381-383. New York: 1940; Gravitational equations and the problem of motion, II. *Ann Math (2)* 41 (1940) 455-464; Science and Religion. *Conference on Science, Philosophy and Religion, 1940, New York* (1941) 209-214; The common language of science. *Adv of Sci* 2, 5 (1942) 109-110; Remarks on Bertrand Russell's Theory of Knowledge, in *The Philosophy of Bertrand Russell*, ed. by P. A. Schilpp, 277-291. Evanston: 1944; *The Meaning of Relativity*. Princeton: Princeton Univ Press, 1945; $E = MC^2$, the most urgent problem of our time. *Sci Illustrated* 1, 1 (1946) 16-17; The Way Out. in *One World or None*, ed. by D. Masters, 76-77. New York: 1946; The military mentality. *Amer Scholar* 16 (1947) 353-354; Open letter to the General Assembly of the United Nations. *UN World* 1 (1947) 13-14; A generalized theory of gravitation. *Rev Modern Phys* 20 (1948) 35-39; A message to the world congress of intellectuals. *Bull Atomic Sci* 4 (1948) 295, 299; Quanten-Mechanik und Wirklichkeit. *Dialectica* 2 (1948) 320-324; A reply to the Soviet scientists. *Bull Atomic Sci* 4 (1948) 35-37; with L. Infeld, On the motion of particles in general relativity theory. *Canadian J Math* 1 (1949) 209-241; Why Socialism? *Monthly Review*-1, 1 (1949) 9-15; The Bianchi identities in the generalized theory of gravitation. *Canadian J Math* 2 (1950) 120-128; *Out of My Later Years*. New York: Philosophical Library, 1950; On the generalized theory of gravitation. *Sci American* 182 (April 1950) 13-17; On the moral obligation of the scientist. *Impact of Sci on Soc* 1 (1950) 104-105; The advent of the quantum theory. *Science (NS)*, 113 (1951) 82-84; A comment on a criticism of unified field theory. *Phys Rev (2)* 89 (1953) 321; *Mein Weltbild*. Herausgegeben von Carl Seelig. Zürich, Stuttgart, Wien: Europa Verlag, 1953; Elementare Überlegungen zur Interpretation der Grundlagen der Quanten-Mechanik. in *Scientific Papers Presented to Max Born* 33-40. New York: 1953; with Bruria Kaufman, Algebraic properties of the field in the relativistic theory of the asymmetric

field. *Ann Math* (2) 59 (1954) 230-244; Relativity: Essence of the Theory, in *American People's Encyclopedia* 16: 604-608. Chicago: 1954; *Ideas and Opinions*. New York: Crown, 1954; A new form of the general relativistic field equation. *Ann Math* 62 (1955) 128.

Gödel, Kurt M, Mathematical Logic Born 1906 Brünn, Czechoslovakia. PhD 1930 Mathematics Univ of Vienna. Member IAS 1933-34, 1935f, 1938f, 1940s, 1940-53, Professor 1953-76. Professor Emeritus 1976-78. Deceased.

Honors: HonDLitt Yale Univ 1951; HonDSc: Harvard Univ 1952; Amherst Coll 1967; Rockefeller Univ 1972; Einstein Award 1951; AMS Gibbs Lect 1951; For Member Royal Soc of Britain; Natl Medal of Sci 1974.

Memberships: AMS; Assoc for Symbolic Logic; NAS; Am Philos Soc; Corr Member, Inst de France; London Math Soc.

Selected publications: *The Consistency of the Continuum Hypothesis*. *Ann Math Studies*, 3. Princeton: Princeton Univ Press, 1940; Über die Länge von Beweisen. *Ergeb eines Math Kolloq* 7 (1934-1935) (1936) 23-24; The Consistency of the Axiom of Choice and of the Generalized Continuum-Hypothesis. *Proc NAS* 24 (1938) 556-557; Consistency-Proof for the Generalized Continuum-Hypothesis. *Proc NAS* 25 (1939) 220-224; Russell's Mathematical Logic. in *The Philosophy of Bertrand Russell*, ed. by Schilpp, P. A., 123-153. Evanston and Chicago: 1944; What is Cantor's Continuum Problem? *Amer Math Monthly* 54 (1947) 515-525; An Example of a New Type of Cosmological Solutions of Einstein's Field Equations of Gravitation. *Rev Modern Phys* 21 (1949) 447-450; A Remark about the Relationship between Relativity Theory and Idealistic Philosophy. in *Albert Einstein, Philosopher-Scientist*, ed. by Schilpp, P.A., 555-562. Evanston: 1949; Rotating Universes in General Relativity Theory. *Proc Internatl Cong of Mathematicians, Cambridge, Mass, 1950* 1 (1952) 175-181; Über eine bisher noch nicht benützte Erweiterung des finiten Standpunktes. *Dialectica* 12 (1958) 280-287.

Goldman, Hetty HS(H), Archaeology Born 1881 New York, NY. PhD 1916 Radcliffe Coll. Professor 1936-47. Professor Emeritus 1947-72. Deceased.

Honors: Phi Beta Kappa; Corr Member German Archaeol Inst.

Appointments: Trustee Archaeol Inst Amer.

Memberships: AAUW; AAAS; Archaeol Soc Amer; Am Numismatic Soc.

Selected publications: Editor *Excavations at Gözlü Kule, Tarsus*. 1: The Hellenistic and Roman Periods. Princeton Univ Press, 1950; Excavations at Gözlü Kule, Tarsus, 1936. *Amer J Archaeol* 41 (1937) 262-286; Excavations at Gözlü Kule, Tarsus, 1937. *Amer J Archaeol* 42 (1938) 30-54; The Mound of Tarsus. *Asia* 39 (1939) 413-418; A Note on Two Painted Sherds from Tarsus with Representation of Birds. *Amer Schools of Oriental Research Bull* 76 (1939) 2-

5; The Acropolis of Halae. *Hesperia* 9 (1940) 381-514; Excavations at Gözlü Kule, Tarsus, 1938. *Amer J Archaeol* 44 (1940) 60-86; The Sandon Monument of Tarsus. *Amer Orient Soc J* 60 (1940) 544-553; The Origin of the Greek Herm. *Amer J Archaeol* 46 (1942) 58-68; with Frances F. Jones, Terracottas from the Necropolis of Halae. *Hesperia* 11 (1942) 365-422; Two Terracotta Figurines from Tarsus. *Amer J Archaeol* 47 (1943) 22-34; with J. Garstang, A Conspectus of Early Cilician Pottery. *Amer J Archaeol* 51 (1947) 370-388; Sandon and Herakles. *Hesperia, Supplement* 8 (1949) 164-174; Tarsus, First Report of the 1947 and 1948 Excavations at the Site of Gözlü Kule. *Amer J Archaeol* 53 (1949) 46-49; Buildings and Habitation Levels. in *Excavations at Gözlü Kule, Tarsus, 1* 5-28. Princeton: 1950; The Lamps. in *Excavations at Gözlü Kule, Tarsus, 1*, ed. by Frances F. Jones, 84-134. Princeton: 1950; The Terracotta Figurines. in *Excavations at Gözlü Kule, Tarsus, 1* 297-383. Princeton: 1950; A Crystal Statuette from Tarsus. in *Archaeologica Orientalia in Memoriam Ernst Herzfeld* 129-133. Locust Valley, NY: 1952; The Relative Chronology of Southeastern Anatolia. in *Relative Chronologies in Old World Archaeology*, ed. by Ehrich, R. W., 69-85. Chicago, 1954.

Herzfeld, Ernst HS(H), Archaeology Born 1879 Celle, Germany. PhD 1907 Univ of Berlin. Professor 1936-44. Deceased.

Honors: Fellow Royal Asiatic Soc; Fellow Med Acad of Amer.

Selected publications: with Friedrich Sarre, *Archaeologische Reise im Euphrat- und Tigrisgebiet*. 4 vols. Berlin: 1911-1920; *Altpersische Inschriften*. Berlin: D. Reimer, 1938; *Iran in the Ancient East, Archaeological Studies Presented in the Lowell Lectures at Boston*. London, New York: Oxford Univ Press, 1941; *Zoroaster and His World*. Princeton: Princeton Univ Press, 1947; *Geschichte der Stadt Samarra*. Hamburg: Eckhardt, 1948; Arabische Inschriften aus Iran und Syrien. *Archaeol Mitteilungen aus Iran* 8 (1936) 78-102; A Bronze Pen-Case. *Ars Islam* 3 (1936) 35-43; Die Einwanderung der Iranier. *Oostersch Genootschap in Nederland. Verslag van het Achtste Congres, Leiden, 1936*: 60-62; The Iranian Religion at the Time of Darius and Xerxes. *Religions* 15 (1936) 20-28; Iranische Kunst und Religion und die Inschriften. *Oostersch Genootschap in Nederland. Verslag van het Achtste Congres, Leiden, 1936*: 12-20; Die Silberschüsseln Artaxerxes' des I. und die Goldene Fundamenturkunde des Ariaramnes. *Archaeologische Mitteilungen aus Iran* 8 (1936) 5-51; Der Tod des Kambyses: Hvā?mršyuš Amryatā. *London Univ Schl of Oriental Studies Bull* 8 (1936) 589-597; Xerxes' Verbot des Daiva-Cultes. *Archaeol Mitteilungen aus Iran* 8 (1936) 56-77; Die Kunst des Zweiten Jahrtausends in Vorderasien, I. *Archaeol Mitteilungen aus Iran* 8 (1937) 103-160; Old-Iranian "Peership" *London Univ Schl of Oriental Studies Bull* 8 (1937) 937-945; A'-varta-'varnah = Naphtha. *Archaeol Mitteilungen aus Iran* 9 (1938) 80-89; Bronzener 'Freibrief' eines Königs von Abdadana. *Archaeol Mitteilungen aus Iran* 9 (1938) 159-177; with

Sir Arthur Keith. Iran as a Prehistoric Centre. in *Survey of Persian Art, 1*, ed. by Pope, A. U., 42-58. London, New York: 1938; Khusrau Parw'z und der Tāq i Vastān. *Archaeol Mitteilungen aus Iran* 9 (1938) 91-158; Die Kunst des Zweiten Jahrtausends in Vorderasien, II. *Archaeol Mitteilungen aus Iran* 9 (1938) 1-79; Notes on the Achaemenid Coinage and Some Sasanian Mint-Names. *Trans Internal Numis is Cong, London, 1936* (1938) 413-426; The Aryan Myth of Naphta [sic]. *World Petroleum Congress, 2d, Paris, 1937, II^e Congrès Mondial du Pétrole, IV, Section V* (1939) 21-23; Damascus: Studies in Architecture, I. *Ars Islam* 9 (1942) 1-53; Damascus: Studies in Architecture, II. *Ars Islam* 10 (1943) 13-70; Damascus: Studies in Architecture, III. *Ars Islam* 11/12 (1946) 1-71; In Memoriam: Friedrich Sarre. *Ars Islam* 11/12 (1946) 210-212; Early Historical Contacts between the Old-Iranian Empire and India. in *India Antiqua: A Volume of Oriental Studies Presented by His Friends and Pupils to Jean Philippe Vog* 180-184. ; Damascus: Studies in Architecture, IV. *Ars Islam* 13/14 (1948) 118-138; The Highway System in the Near East from 2000 BC to 500 BC. in *Highways in Our National Life*, ed. by Labatut, J., 10-15. Princeton: 1950.

Kantorowicz, Ernst H. HS, History

Born 1895 Posen, Germany. PhD 1921 Heidelberg Univ. Professor 1951-63. Deceased.

Honors: LHD Lawrence Coll 1959; Haskins Medal Med Acad Amer 1959; Fellow: AAAS; Med Acad Amer; Am Numis Soc; Deut Archaeol Inst.

Memberships: Dante Soc; Ren Soc Amer; AHA; Coll Art Assoc; Archaeol Inst Amer.

Selected publications: *Kaiser Friedrich der Zweite*. 2 vols. Berlin: 1927, 1931; *Laudes Regiae: A Study in Liturgical Acclamations and Mediaeval Ruler Worship*. U of Calif Pubs in Hist, 33. Berkeley & Los Angeles: 1946; Synthronos Dikei. *Amer J Archaeol* 57 (1953) 65-70; Inalienability; a Note on Canonical Practice and the English Coronation Oath in the Thirteenth Century. *Speculum* 29 (1954) 488-502; The Carolingian King in the Bible of San Paoli fuori le Mura. in *Late Classical and Mediaeval Studies in Honor of Albert Mathias Friend* Princeton: 1955; *The King's Two Bodies: A Study in Mediaeval Political Theology*. Princeton: 1957; Secretos de Estado. *Rev de Estudios Politicos* 104 (1959) 37-70; The Archer in the Ruthwell Cross. *Art Bull* 42 (1960) 57-59; On the Golden Marriage Belt and the Marriage Rings of the Dumbarton Oaks Collection. *Dumbarton Oaks Papers* 14 (1960) 2-16; Kingship under the Impact of Scientific Jurisprudence. in *Twelfth-Century Europe and the Foundations of Modern Society*, ed. by M. Claggett, G. Post, and R. Reynolds, 89-111. Madison, Wisc: 1961; The Sovereignty of the Artist: A Note on Legal Maxims and Renaissance Theories of Art. in *De Artibus Opuscula XL: Essays in Honor of Erwin Panofsky*, ed. by Millard Meiss, 267-279. New York: 1961; Gods in Uniform. *Proc Am Philos Soc* 105 (1961) 368-393.

Lowe, Elias Avery HS(H), Paleography

Born 1879. PhD 1907 Univ of Munich. Professor 1936-45. Professor Emeritus 1945-69. Deceased.

Honors: DLitt(hc) Oxford U; Fellow Amer Schl at Rome; LLD(hc) U of No Carolina; Haskins Medal Med Acad Amer; Gold Medal Awd Bibliog Soc London 1959; Fellow Med Acad Amer, AAAS, Brit Acad, Phi Beta Kappa; Corr Member Acad of Hist of Madrid, Bayer Ak d W, Accad Lincei, Inst France; Hon Mem Royal Irish Acad.

Appointments: Consult to Library of Congress.

Selected publications: *Scriptura Benevanta: Facsimiles of south Italian and Dalmatian manuscripts from the 6th-14th C.* 2 vols. Oxford: Clarendon Press, 1929; Ed *Codices Latini Antiquiores: a Palaeographical Guide to Latin Manuscripts Prior to the Ninth Century*. Parts 1-11. Oxford: Clarendon Press, 1934-66; The Codex Cavensis; New Light on Its Later History, in *Quantulacumque, Studies Presented to Kirsopp Lake* 325-331. London: 1937; A Manuscript of Alcuin in the Script of Tours. in *Classical and Mediaeval Studies in Honor of Edward Kennard Rand* 191-193. New York: 1938; with N. R. Ker and A. P. McKinlay, A New Fragment of Arator in the Bodleian. *Speculum* 19 (1944) 351-359; The Oldest Omission Signs in Latin Manuscripts: Their Origin and Significance. in *Miscellanea Giovanni Mercati*, 6 36-79. Città del Vaticano, 1946; Il Codice Veronese di Gaio. *Atti del Congresso Internazionale di Diritto Romano e di Storia del Diritto, Verona, 1948* 1 (1953) 1-6; A Note on the Codex Corbeiensis of the 'Historia Francorum' and Its Connection with Luxeuil. *Scriptorium* 6 (1952) 284-286; The Uncial Gospel Leaves Attached to the Utrecht Psalter. *Art Bul* 34 (1952) 237-238; The "Script of Luxeuil" :A Title Vindicated. *Revue Bénédictine* 65 (1953) 132-142; The Morgan Golden Gospels: The Date and Origin of the Manuscript. in *Studies in Art and Literature for Belle da Costa Greene* 266-279. Princeton: 1954; *English Uncial*. Oxford: Clarendon Press, 1960.

Meiss, Millard HS, Art History

Born 1904 Cincinnati, OH. PhD 1933 New York Univ. Member IAS 1940s, Professor 1958-74. Professor Emeritus 1974-75. Deceased.

Honors: DLitt: Univ of Florence, 1968; Princeton Univ, 1973; Columbia Univ, 1975; Haskins Medal Med Acad of Amer 1953; Lewis Prize Am Philos Soc 1967; Morey Award Coll Art Assoc 1969, 1976; ADAA Award 1974; Stella della Solidarietà (Italy) 1948; Grand Officer 1968; Member Am Philos Soc; Fellow Med Acad of Amer; Fellow AAAS; Phi Beta Kappa 1926; Hon Trustee Metropolitan Museum of Art; Hon Member Accad Arti del Disegno, Florence; Corr Member: Accad Senese degli Intronati; Soc des Antiquaires de France; Accad Clementina, Bologna; Accad Toscana Colombaria; Brit Acad; Accad Naz dei Lincei.

Appointments: Ed, *The Art Bulletin*, 1940-1942; Ed Bd, 1942-1975; Chmn, Amer Comm Restoration

Italian Monuments, 1946-1951; Chmn, Adv Comm to Rescue Italian Art, 1966-1975.

Memberships: Coll Art Assoc, Dir, Exec Comm, 1940-1947, 1952-1957; Sec, 1943; Vice Pres, 1954-1956, Hon Trustee, 1974-1975; Founder and first Pres Alumni Assoc NYU, Institute of Fine Arts, 1951-1956; Com Internatl d'hist de l'art, Pres, Vice-Pres, 1961-1964, 1964-1975.

Selected publications: *Painting in Florence and Siena After the Black Death*. Princeton: 1951; *Andrea Mantegna as Illuminator. An Episode in Renaissance Art, Humanism and Diplomacy*. New York and Hamburg: 1957; *Giotto and Assisi*. New York: 1960; with L. Tintori, *The Painting of the Life of St. Francis in Assisi*. New York: 1962; *Giovanni Bellini's St. Francis in the Frick Collection*. Princeton: 1964; *French Painting in the Time of Jean de Berry. The Late Fourteenth Century and the Patronage of the Duke*. 2 vols. London: Phaidon, 1967; *French Painting in the Time of Jean de Berry. The Boucicaut Master*. London: Phaidon, 1968; P. Brieger and C. Singleton *Illuminated Manuscripts of the Divine Comedy*. 2 vols. New York: Bollingen Foundation, 1969; with J. Longnon and R. Cazelles, *The "Très Riches Heures" of Jean, Duke of Berry*. New York and London: 1969; *The Great Age of Fresco: Discoveries, Recoveries and Survivals*. New York and London: 1970; *The Master of the Breviary of Jean sans Peur and the Limbourgs*. Lecture on Aspects of Art, British Academy. London: 1971; *La sacra conversazione di Piero della Francesca*. Florence: 1971; *The "De Lévis Hours" and the Bedford Workshop*. Yale Lectures on Medieval Illumination. New Haven: 1972; with E.W. Kirsch, *The Visconti Hours*. New York, London, Paris and Utrecht: 1972; with M. Thomas, *The Rohan Master. A Book of Hours*. New York, London, and Paris: 1973; with E.H. Beatson, *The "Belles Heures" of Jean, Duke of Berry*. New York, London, Munich, and Utrecht: 1974; *French Painting in the Time of Jean de Berry. The Limbourgs and Their Contemporaries*. 2 vols. New York and London: 1974; *The Painter's Choice. Problems in the Interpretation of Renaissance Art*. New York and Toronto: 1976; with E.H. Beatson, *La vie de Nostre Benoit Sauveur Ihesuscrist and La sainte vie de Nostre Dame*. New York: 1977; *Ed De Artibus Opuscula XL. Essays in Honor of Erwin Panofsky*. New York: 1961; *Ed Studies in Western Art. Acts of the Twentieth International Congress of the History of Art*. 4 vols. Princeton: 1963; Ugolino Lorenzetti. *Art Bull* 13 (1931) 376-397; The Problem of Francesco Traini. *Art Bull* 15 (1933) 97-173; Un dessin par le Maître des Grandes Heures de Rohan. *Gazette des Beaux-Arts* 77, 1 (1935) 65-75; Bartolommeo Bulgarini altrimenti detto "Ugolino Lorenzetti?" *Rivista d'arte* 18(1936) 113-136; The Earliest Work of Giovanni di Paolo: Venus and the Three Graces. *Art in America* 24 (1936) 137-143; The Madonna of Humility. *Art Bull* 18 (1936) 435-464; A Dugento Altarpiece at Antwerp. *Burlington Mag* 71 (1937) 14-25; Fresques italiennes, cavallinesques et autres, à Béziers. *Gazette des Beaux-Arts* 18 (1937) 275-286; An Austrian Panel in the Huntington Library.

Art in America 28 (1940) 30-43; A Documented Altarpiece by Piero della Francesca. *Art Bull* 23 (1941) 53-68; Italian Style in Catalonia and a Fourteenth-Century Catalan Workshop. *J of the Walters Art Gallery* 4 (1941) 45-87; A Statement on the Place of the History of Art in the Liberal Arts Curriculum. *Coll Art J* 3 (1944) 82-87; Light as Form and Symbol in Some Fifteenth-Century Paintings. *Art Bull* 27 (1945) 175-181; Italian Primitives at Konopiště. *Art Bull* 28 (1946) 1-16; Nicholas Albergati and the Chronology of Jan van Eyck's Portraits. *Burlington Mag* 94 (1952) 137-144; *Ovum Struthionis*; Symbol and Allusion in Piero della Francesca's Montefeltro Altarpiece. in *Studies in Art and Literature for B. da Costa Greene* 92-101. Princeton: 1954; Nuovi dipinti e vecchi problemi. *Rivista d'arte* 30 (1956) 107-145; Four Panels by Lorenzo Monaco. *Burlington Mag* 100 (1958) 190-198; Toward a More Comprehensive Renaissance Palaeography. *Art Bull* 42 (1960) 97-112; "Highlands" in the Lowlands: Jan van Eyck, The Master of Flémalle and the Franco-Italian Tradition. *Gazette des Beaux-Arts* 57 (1961) 273-314; Reflections of Assisi: A Tabernacle and the Cesi Master. in *Scritti di storia dell'arte in onore di Mario Salmi* 2: 75-111. Rome: 1962; French and Italian Variations on an Early Fifteenth-Century Theme: St. Jerome and His Study (Es-sai en l'honneur de Jean Porcher). *Gazette des Beaux-Arts* 62 (1963) 147-170; Masaccio and the Early Renaissance: The Circular Plan. in *Studies in Western Art. Acts of the Twentieth International Congress of the History of Art* 2:123-145. Princeton: 1963; The Altered Program of the S. M. Maggiore Altarpiece. in *Studien zur toskanischen Kunst, Festschrift Heydenreich* 169-190. Munich: 1964; Sleep in Venice. Ancient Myths and Renaissance Proclivities. *Proc Amer Philos Soc* 110 (1966) 348-382; Some Remarkable Early Shadows in a Rare Type of Threnos. in *Festschrift Ulrich Middeldorf* 112- 18. Berlin: 1968; Florence and Venice a Year Later. *Renaissance Q* 21 (1968) 103-118; *Atropos-Mors*: Observations on a Rare Early Humanist Image, in *"Florilegium Historiale" : Essays Presented to Wallace K. Ferguson* 151-159. Toronto: 1971; Notable Disturbances in the Classification of Tuscan Trecento Paintings. *Burlington Mag* 113 (1971) 178-187; Alesso di Andrea. in *Giotto e il suo tempo. Atti del Congresso Internazionale per la celebrazione del VII centenario dell'401-418*. Rome: 1971; A New Monumental Painting by Filippino Lippi. *Art Bull* 55 (1973) 479-493; Once Again Filippino's Panels from San Ponziano, Lucca. *Art Bull* 56 (1974) 10 ff; Raphael's Mechanized Seashell: Notes on a Myth, Technology and Iconographic Tradition. in *Gatherings in Honor of Dorothy E. Miner* 317-332. Baltimore: 1974; Scholarship and Penitence in the Early Renaissance: The Image of St. Jerome. *Pantheon* 32 (1974) 134-140.

Mitrany, David HS(EP), International Relations

Born 1888 Bucharest, Rumania. PhD Univ of London. Professor 1933-53. Deceased.

Honors: DSc(hc) Univ of London.

Selected publications: *The Progress of International Government*. New Haven: Yale Univ Press, 1933; *The Effect of the War in Southeastern Europe*. New Haven: Yale Univ Press, 1936; *A Working Peace System; an Argument for the Functional Development of International Organization*. New York: Oxford Univ Press, 1943; *The Road to Security*. London: National Peace Council, 1944; *American Interpretations, Four Political Essays*. London: Contact Publications, 1946; *Marx Against the Peasant; a Study in Social Dogmatism*. Chapel Hill: Univ of North Carolina Press, 1951; *Food and Freedom*. London: Batchworth Press, 1954; The Political Consequences of Economic Planning. *Yale R* 23 (1934) 685-705; The Problem of Peaceful Change and Article 19 of the Covenant. in *Toward Peace and Justice* 31-47. Philadelphia: Friends' Peace Committee, 1937; The U.S.A. Neutrality Act of May 1st, 1937. *New Commonwealth* Q 3 (1937) 101-115; The American Continent. in *Survey of International Affairs, 1938* 1: 574-689. London, New York: 1941; Large Scale and Peasant Farming in Eastern Europe. *Adv of Sci* 2 (1942) 139-140; The New Deal, an Interpretation of Its Origin and Nature. *Agenda* 1 (1942) 296-310; with A. G. B. Fisher, Some Notes on the Transfer of Populations. *Political Q* 14 (1943) 363-371; The General Background of the Peasant Problem. in *Agrarian Problems from the Baltic to the Aegean* 38-44. London: Royal Institute of International Affairs, 1944; The U.S.S.R. and South-Eastern Europe; Permanent Factors. *Int Affairs* 20 (1944) 347-354; Problems of International Administration. *Public Admin* 23 (1945) 2-12; The Functional Approach to World Organization. *Int Affairs* 24 (1948) 350-363; Human Rights and International Organization. *Études Internationales* 1 (1948) 289-310; International Consequences of National Planning. *Yale R* 37 (1948) 18-31; Should Christianity Count in International Relations?. *Hibbert J* 46 (1948) 160-163; Evolution of the Middle Zone. *Ann Am Acad* 271 (1950) 1-10; Functional Federalism. *Common Cause* 4 (1950) 196-199; Reflections on UNESCO Exchange of Persons Programme. *Internat Soc Sci Bull* 2 (1950) 256-261; Communism and the Peasants. *Ann Am Acad* 276 (1951) 99-104; Functional Co-Operation in the Commonwealth. in *The British Commonwealth*, ed. by Shiels, Sir D., 315-323. London: 1952; The Peasant Movement. in *Encyclopaedia Britannica* 17: 425-427. 1952; The International Technical Assistance Program. *Acad Pol Sci Proc* 25 (1953) 145-155.

Morse, Marston M. Calculus of Variations in the Large, Analysis, Topology

Born 1892 Waterville, ME. PhD 1917 Math Harvard Univ. Professor 1935-62. Professor Emeritus 1962-77. Deceased.

Honors: Croix de Guerre with silver star 1918; Meritorious Svce Awd US Army Ordnance 1944; Army-Navy certificate of Merit 1948; National Medal of Sci 1964; Chevalier, Legion of Honor 1952; Twenty

hon doctorates from univs including Paris 1946; Pisa 1948; Vienna 1952; Rennes 1953; Maryland 1955; Notre Dame 1956; Colby 1935; Harvard 1965; Modena 1975; Yeshiva 1962; Joint winner Bôcher Prize 1933.

Appointments: Consultant Chief of Ordnance WW II; Chmn US Natl Comm for Math 1943-46; VPres IMU 1958; NSF Board 1950-54; NRC.

Memberships: AMS (Pres 1940-42); NAS; Am Philos Soc; AAAS; French Acad Sci, Assoc member; Corr member Ital Natl Acad Lincei; Corr member of the Polish, Romanian, Heidelberg, and Bologna Acads.

Selected publications: *Calculus of Variations in the Large*. AMS Colloquium Series. Providence, RI: 1934; *Functional Topology and Abstract Variational Theory*. Mémorial des Sci Math 92. Paris: Gauthier-Villars, 1939; *Topological Methods in the Theory of Functions of a Complex Variable*. Princeton Univ Press, 1947; *Symbolic Dynamics*. Lectures of 1938 with New Preface. Ann Arbor, Mich: University Microfilms, 1966; with S. S. Cairns, *Critical Point Theory in Global Analysis and Differential Topology*. New York: Academic Press, 1969; *Variational Analysis: Critical Extremals and Sturmian Extensions*. New York: Wiley, 1973; *Global Variational Analysis: Weierstrass Integrals on a Riemannian Manifold*. Princeton University Press, 1976; Functional Analysis in The Large. *Compte Rendus du Congrès International des Mathématiciens Oslo 1936* 2 (1937) 47; The index theorem in the calculus of variations. *Duke Math J* 4 (1938) 231-246; with G.A. Hedlund, Symbolic dynamics I, II. *Amer J Math* 60, 61 (1938, 1940) 815-866, 1-42; Rank and span in functional topology. *Ann Math* 41 (1940) 419-454; Twentieth century mathematics. *Amer Scholar* 9 (1940) 499-504; What is analysis in the large? *Amer Math Monthly* 49 (1942) 358-364; with G.A. Hedlund, Manifolds without conjugate points. *Trans AMS* 51 (1942) 362-386; with George Ewing, Variational theory in the large including the nonregular case—First paper. *Ann Math* 44 (1943) 339-353; with George Ewing, second paper. *Ann Math* 44 (1943) 354-374; Functional topology. *Bull AMS* 49(1943) 144-149; with G. A. Hedlund, Unending chess, symbolic dynamics and a problem in semi-groups. *Duke Math J* 11 (1944) 1-7; with M. Heins, Topological methods in the theory of functions of a single complex variable: I. Deformation types of locally simple plane curves. *Ann Math* 46 (1945) 600-624; II. Boundary values and integral characteristics of interior transformations and pseudoharmonic functions. *Ann Math* 46 (1945) 625-666; III. Causal isomorphisms in the theory of pseudo-harmonic functions. *Ann Math* 47 (1946) 233-273; George David Birkhoff and his mathematical work. *Bull AMS* 52 (1946) 357-391; Functions on a metric space and a setting for isoperimetric problems. in *Studies and essays presented to R. Courant on his 60th birthday* 253-263. NY: Interscience Publishers, 1948; L-S-homotopy classes of locally simple curves. *Ann Soc Polonaise Math* 21 (1948) 236-256; Equilibria in nature, stable and unstable. *Proc Amer Phil Soc* (1949) 222-225; with W. Transue, The

Fréchet variation and the convergence of multiple Fourier series. *Proc NAS* 35 (1949) 395-399; with J. Jenkins, Topological methods on Riemann surfaces. Pseudoharmonic functions. *Ann Math Studies* 30 (1953) 111-139; with W. Transue, The representation of a C-bimeasure on a general rectangle. *Proc NAS* 42 (1956) 89-95; La construction topologique d'un réseau isotherme sur une surface ouverte. *J Math Pures Appl* 35 (1956) 67-75; with W. Transue, Products of a C-measure and a locally integrable mapping. *Canad J Math* 9 (1957) 475-486; Differentiable mappings in the Schoenflies problem. *Proc NAS* 44 (1958) 1068-1072; with W. Transue, The local characterization of vector function spaces with duals of integral type. *J Analyse Math* 6 (1958) 225-260; Mathematics and the arts. *Bull of Atomic Scientists* 15 (1959) 55-59; Mathematics, the arts and freedom. *Thought (Fordham University Quarterly)* 34 (1959) 16-24; Topologically non-degenerate functions on a compact n -manifold M . *J Analyse Math* 7 (1959) 189-208; The existence of polar non-degenerate functions on differentiable manifolds. *Ann Math* 71 (1960) 352-383; Recurrent geodesics on a surface of negative curvature. *Trans AMS* 22 (1921) 84-110; On elevating manifold differentiability. *J Indian Math Soc* 24 (1960) 379-400; with W. Huebsch, The dependence of the Schoenflies extension on an accessory parameter. *J Analyse Math* 8 (1960-61) 209-271; Boundary values of partial derivatives of Poisson integral. *An Acad Brasil Ci* 33 (1961) 131-139; with W. Huebsch, Conical singular points of diffeomorphisms. *Bull AMS* 67 (1961) 490-493; with W. Huebsch, Schoenflies extensions of analytic families of diffeomorphisms. *Math Ann* 144 (1961) 162-174; Schoenflies extensions and differentiable isotopies. *J Math Pures Appl* 42 (1963) 29-41; The elimination of critical points of a non-degenerate function on a differentiable manifold. *J Analyse Math* 13 (1964) 257-316; Quadratic forms θ and θ -fibre-bundles. *Ann Math* 81 (1965) 303-340; Projective methods (in photogrammetry). *Photogrammetric Engineering* (September 1966) 849-855; Nondegenerate functions on abstract differentiable manifolds M . *J Analyse Math* 19 (1967) 231-272; with S. S. Cairns, Singular homology over Zon topological manifolds. *J Diff Geometry* 3 (1969) 257-288; with S. S. Cairns, A setting for a theorem of Bott. *Proc NAS* 65 (1970) 8-9; Mathematics in our culture. in *The Spirit and the Uses of the Mathematical Sciences*, ed. by T. L. Saaty and F. J. Weyl, 105-120. New York: McGraw-Hill, 1969; Equilibrium points of harmonic potentials. *J Analyse Math* 23 (1970) 281-296; with S. S. Cairns, Singular homology on an untriangulated manifold. *J Diff Geometry* 7 (1972) 1-17; Topologically nondegenerate functions. *Fund Math* 88(1975) 17-52; Nondegenerate point pairs in global variational analysis. *J Diff Geometry* 11 (1976) 617-632; Uses of the Fréchet numbers $R_i(M_n)$ of a smooth manifold. *Houston J Math* 3 (1977) 503-513; The Fréchet numbers of the differentiable product of two compact, connected, smooth manifolds. *Bull Math Inst Acad Sinica* 2, 2 (Oct 1978) 215-246.

Oppenheimer, J. Robert see Directors.

Panofsky, Erwin HS, History of Art

Born 1892 Hannover, Germany. PhD 1914 Univ of Freiburg. Professor 1935-62. Professor Emeritus 1962-68. Deceased.

Honors: Hon Degrees: 1936 Univ of Utrecht; 1947 Princeton Univ; 1950 Oberlin Coll; 1953 Uppsala Univ; 1954 Rutgers Univ; 1956 Bard Coll; 1957 Harvard Univ; 1962 Free Univ of Berlin; 1962 New York Univ; 1963 Univ di Roma; 1965 Philadelphia Coll of Art; 1965 Columbia Univ; 1967 Univ of Bonn; 1967 Univ of Freiburg; Mediaeval Acad Amer 1937; Am Phil Soc 1943; AAAS 1948; Koninklijke Nederlandse Akad Wetenschapen 1954; Brit Acad 1955; (corr member) Deut Akad für Sprache und Dichtung 1957; Deut Archäol Inst 1958; Acad Royale Scis Lett et Beaux-Arts de Belgique 1960; Kungl. Vitterhets Hist Antikvitets Akad, Stockholm 1962; Accad delle Arti del Disegno 1963; hon dir College Art Assoc of Amer 1963; Accad Naz Lincei 1967; Acad Royale d'Archeol de Belgique 1968; Preis der Grimm-Stiftung, Friedrich-Wilhelms Univ, Berlin 1913; Joachim Jungius-Medaille der Joachim Jungius Gesellschaft, Hamburg 1959; Charles Rufus Morey Book-Award (for *Renaissance and Renascences*) 1960; Haskins Medal (for *Renaissance and Renascences*) 1962; Medaglia d'Oro della Rep-pubblica Italiana 1963; Medal for Distinguished Service to Education in Art National Gallery, Washington, D.C. 1966; Charles Rufus Morey Book-Award (for *Tomb Sculpture*) 1966; *Pour le Mérite* für Wissenschaften und Künste, Munich 1967.

Selected publications: *Die theoretische Kunstlehre Albrecht Dürers (Dürers Ästhetik)*. Berlin: 1914; Über das Zeichnen mit farbiger Feder: Bemerkungen zu einigen Blättern des Virgilius Solis und zu den Randzeichnungen im Gebetbuch Maximilians I. *Monatshefte für Kunstwissenschaft* 8 (1915) 166-169; Die Scala Regia im Vatikan und die Kunstanstaltungen Berninis. *Jahrbuch der Preussischen Kunstsammlungen* 40 (1919) 241-278; Der Begriff des Kunstwillens. *Zeit Ästhetik und Allgemeine Kunstwissenschaft* 14 (1920) 321-339; Der Westbau des Doms zu Min-den. *Repertorium für Kunstwissenschaft* 42 (1920) 51-77; *Die Sixtinische Decke*. Bibliothek der Kunst-geschichte, 8. Leipzig: 1921; Die Entwicklung der Pro-portionslehre als Abbild der Stilentwicklung. *Monatshefte für Kunstwissenschaft* 14 (1921) 188-219; *Handzeichnungen Michelangelos*. Bibliothek der Kunstgeschichte, 34. Leipzig: 1922; Die Treppe der Libreria di S. Lorenzo: Bemerkungen zu einer unveröffentlichten Skizze Michelangelos. *Monatshefte für Kunstwissenschaft* 15 (1922) 262-274; with Fritz Saxl, *Dürers "Melencolia I", eine quellen- und typengeschichtliche Untersuchung*. Studien der Bibliothek Warburg, 2. Leipzig, Berlin: 1923; *Die deutsche Plastik des elften bis dreizehnten Jahrhunderts*. München: 1924; *"Idea" :ein Beitrag zur Begriffsgeschichte der älteren Kunsttheorie*. Studien der Bibliothek Warburg, 5. Leipzig, Berlin: 1924;

"Imago Pietatis" :ein Beitrag zur Typenges-chichte des "Schmerzensmannes" und der "Maria Mediatrix" . in *Festschrift für Max J. Friedländer zum 60. Geburtstag* 261-308. Leipzig: 1927; Die Perspektive als "symbolische Form" . in *Vorträge der Bibliothek Warburg, 1924/25* 258-330. Leipzig, Berlin: 1927; Über die Reihenfolge der vier Meister von Reims. *Jahrbuch für Kunstwissenschaft* (1927) 55-82; *Hercules am Scheidewege und andere antike Bildstoffe in der neueren Kunst*. Studien der Bibliothek Warburg, 18. Leipzig, Berlin: 1930; A. Warburg, *Repertorium für Kunstwissenschaft* 51 (1930) 1-4; Das erste Blatt aus dem, Libro Giorgio Vasaris: eine Studie über die Beurteilung der Gotik in der italienischen Renaissance, mit einem Exkurs über zwei Fassadenprojekte Domenico Beccafumis. *Städel-Jahrbuch* 6 (1930) 25-72; Sokrates in Hamburg (published under the pseudonym A.F. Synkop). *Der Querschnitt* 11 (1931) 593-599; Zum Problem der Beschreibung und Inhaltsdeutung von Werken der bildenden Kunst. *Logos* 21 (1932) 103-119; with Fritz Saxl, Classical Mythology in Mediaeval Art. *Metropolitan Museum Studies* 4 (1933) 228-280; Der gefesselte Eros (zur Genealogie von Rembrandts Danae). *Oud Holland* 50 (1933) 193-217; Jan van Eyck's Arnolfini Portrait. *Burlington Mag* 64 (1934) 117-127; Et in Arcadia ego: on the Conception of Transience in Poussin and Watteau. in *Philosophy and History, Essays Presented to Ernst Cassirer* 223-254. Oxford: 1936; On Movies. *Princeton Univ Dept of Art and Archaeology, Bulletin* (1936) 5-15; The Early History of Man in a Cycle of Paintings by Piero di Cosimo. *Warburg Jour* 1 (1938) 12-30; "Et in Arcadia ego" et le tombeau parlant. *Gazette des Beaux-Arts*, (6) 19 (1938) 305-306; *Studies in Iconology: Humanistic Themes in the Art of the Renaissance*. Mary Flexner Lectures on the Humanities, 1937. New York: 1939; *The Codex Huygens and Leonardo da Vinci's Art Theory: The Pierpont Morgan Library, Codex M. A. 1139*. Studies of the Warburg Inst, 13. London: 1940; *Albrecht Dürer*. Princeton: 1943; Renaissance and Renascences. *Kenyon Rev* 6 (1944) 201-236; ed, trans *Abbot Suger on the Abbey Church of St.-Denis and Its Art Treasures*. Princeton: 1946; Who is Jan van Eyck's "Tymotheos" ? *Warburg Jour* 12 (1949) 80-90; Dürer's St. Eustace. *Princeton Univ, Record of the Art Museum* 9, 1 (1950) 1-10; *Gothic Architecture and Scholasticism*. Latrobe: 1951; Meaning in the Visual Arts. *Mag of Art* 44 (1951) 45-50; "Nebulae in pariete" : Notes on Erasmus' Eulogy on Dürer. *Warburg Jour* 14(1951)34-41; *Early Netherlandish Painting, Its Origins and Character*. Cambridge: 1953; Artist, Scientist, Genius: Notes on the "Renaissance-Dämmerung" . in *Metropolitan Museum of Art, The Renaissance, a Symposium, 1952* 77-93. New York: 1953; In Defense of the Ivory Tower. *Assoc Princeton Grad Alumni, Report of Third Conf* (1953) 77-84; *Galileo as a Critic of the Arts*. The Hague: 1954; with Dora Panofsky, *Pandora's Box: the Changing Aspects of a Mythical Symbol*. Bollingen Series, 52. New York: 1956; Galileo as a Critic of the Arts: Aesthetic Attitude and Scientific Thought. *Isis* 47

(1956) 3-15; with Dora Panofsky, The Iconography of the Galerie François I^{er} at Fontainebleau. *Gazette des Beaux-Arts*, (6) 52 (1958) 113-190; Introducing Benignus Campus, with an Excursus on Three Allegorical Drawings Probably Copied after Antoine Caron. *Gazette des Beaux-Arts* (6) 53 (1959) 257-270; Rezension von: Guy de Tervarent, *Attributs et symboles dans l'art profane, 1450-1600*, I. *Art Bull* 41 (1959) 107-108; *A Mythological Painting by Poussin in the National-museum Stockholm*. Nationalmusei Skriftserie, 5. Stockholm: 1960; *Renaissance and Renascences in Western Art*. Stockholm: 1960; *Canopus Deus*. The Iconography of a Non-existent God. *Gazette des Beaux Arts* 42 (1961) 193-216; *The Iconography of Correggio's Camera di San Paolo*. Studies of Warburg Inst, 26. London: 1961; Homage to Francastoro in a Germano Flemish Composition of about 1590?. *Nederlands Kunsthist Jaarboek* 12(1961)1-33; "Virgo and Victrix" ; A note on Dürer's Nemesis. *Prints* 50 (1962) 13-38; Goldschmidt's Humor. in *Adolph Goldschmidt zum Gedächtnis* 25-32. Hamburg: 1963; The Ideological Antecedents of the Rolls-Royce Radiator. *Proc Am Philos Soc* 107 (1963) 273-288; with R. Klibansky and F. Saxl, *Saturn and Melancholy; Studies in the History of Natural Philosophy, Religion and Art*. London, New York: 1964; The Mouse that Michelangelo Failed to Carve. in *Studies in the History of Art, Supp I: Essays in Memory of Karl Lehmann*, ed. by Marsyas, 242-251. New York: 1964; Sol Aequinoctialis Fuit Creatus; Notes on a Composition by Lelio Orsi and Its Possible Connection with the Gregorian Calendar Reform, in *Mélanges Alexandre Koyré* 360-380. Paris: 1964; Homage à Paul Coremans: The Promoter of a New Co-Operation between the Natural Sciences and the History of Art. *Bull Inst Royal du Patrimoine Artistique* 8 (1965) 62-67; with Gerda Panofsky, The "Tomb in Arcady" at the Fin-de-Siècle. *Wallraf-Richartz-Jahrbuch* 30 (1968) 287-304; Erasmus and the Visual Arts (Lecture at ACLS annual meeting, Baltimore, 1967). *J Warburg and Courtauld Insts* 32 (1969) 200-227; *Problems in Titian, Mostly Iconographic*. The Wrightsman Lectures, II, NYU Inst of Fine Arts. London: Phaidon, 1969; with Gerda Panofsky, Rembrandt und das Judentum (1920). *Jahrbuch der Hamburger Kunstsammlungen* 18 (1974) 75-108.

Riefler, Winfield W. HS(EP), Economics

Born 1897 Buffalo, NY. PhD 1927 Brookings Grad Schl. Professor 1935-49. Deceased.

Honors: D Hum Litt(hc) Amherst Coll 1944; Croix de Guerre.

Appointments: Member League of Nations: delegation for study of economic depression 1937-46; subcomm on financial statistics 1938-46; finance comm 1937-46; Dir For Policy Assoc 1938-40; Dir Fed Reserve Bank Philadelphia 1941-42.

Selected publications: *Money Rates and Money Markets in the US*. 1930; The Dilemma of Central Banking as Illustrated by Recent Literature. *Quart J Econ* 50 (1936) 706-718; Government and the

Statistician. *Amer Stat Assoc J* 37 (1942) 1-11; A Proposal for an International Buffer-Stock Agency. *J Pol Econ* 54 (1946) 538-546; Our Economic Contribution to Victory. *For Affairs* 26 (1947) 90-103.

Stewart, Walter W. HS(EP), Economics

Born 1885 Manhattan, KS. AB 1909 Univ of Missouri. Professor 1938-50. Professor Emeritus 1950-58. Deceased.

Honors: LLD Univ of Missouri 1932; Dartmouth Coll 1933; Amherst Coll 1944; Columbia Univ 1951; DLitt Princeton Univ 1951; Officer Legion of Honor; Hon For Member Polit Econ Club, London; Am Philos Soc; Phi Beta Kappa.

Appointments: Econ Adv to Bank of England 1928-30; Trustee IAS 1933-41; Trustee Bennington Coll 1932-38; Trustee, Genl Educ Bd 1933-50; Trustee, Rockefeller Found 1931-50; Member, President's Council of Econ Advisers 1953-1955.

Memberships: Am Econ Assoc; Am Statistical Assoc; Econ Hist Assoc.

Veblen, Oswald M. Foundations of Geometry

Born 1880 Decorah, IA. PhD 1903 Univ of Chicago. Professor 1932-50. Professor Emeritus 1950-1960. Deceased.

Selected publications: Hilbert's foundations of geometry. *Monist* 13 (1903) 303-309; The Heine-Borel theorem. *Bull AMS* 10(1904) 436-439; Polar coordinate proofs of trigonometric formulas. *AMM* 11 (1904) 6-12; The transcendence of π and e . *AMM* 11 (1904) 219-223; A system of axioms for geometry. *Trans AMS* 5 (1904) 343-384; Theory of plane curves in non-metrical analysis situs. *Trans AMS* 6 (1905) 83-98; Definition in terms of order alone in the linear continuum and in well-ordered sets. *Trans AMS* 6 (1905) 165-171; Euclid's parallel postulate. *Open Court* 19 (1905) 752-755; The foundations of geometry. *Pop Sci Mo* (1906) 21-28; The square root and the relations of order. *Trans AMS* 7 (1906) 197-199; with W. H. Bussey, Finite projective geometries. *Trans AMS* 7 (1906) 241-259; Collineations in a finite projective geometry. *Trans AMS* 8 (1907) 366-368; with J. H. M. Wedderburn, Non-desarguesian and non-pascalian geometries. *Trans AMS* 8 (1907) 379-388; On magic squares. *MM* 37 (1907) 116-118; with N. J. Lennes, *Introduction to Infinitesimal Analysis, Functions of One Real Variable*. New York: Wiley, 1907; Continuous increasing functions of finite and transfinite ordinals. *Trans AMS* 9 (1908) 280-292; On the well-ordered subsets of the continuum. *CMP Rend* 25 (1908) 235-236, 397; with J. W. Young, A set of assumptions for projective geometry. *AJM* 30 (1908) 347-380; with J.W. Young, *Projective Geometry*. 1, 2. Boston: 1910-18; Letter to the editor of the *Jahresbericht*. *DMV Jahr* 19 (1910) 263; The foundations of geometry. in *Monographs on Topics of Modern Mathematics*, ed. by J. W. A. Young, 1-51. New York: 1911; On the definition of multiplication of irrational numbers. *AJM* 34 (1912) 211-214; Jules Henri Poincaré. *APS Proc* 51 (1912) 3-9; An

application of modular equations in analysis situs. *AM(2)* 14 (1912) 86-94; Decomposition of an n -space by a polyhedron. *Trans AMS* 14 (1913) 65-72, 506; with J. W. Alexander, Manifolds of n dimensions. *AM(2)* 14 (1913) 163-178; On the deformation of an n -cell. *Proc NAS* 3 (1917) 654-656; with P. L. Alger, Rotating bands. *Journ US Artillery* 51 (1919) 355-390; with P. Franklin, On matrices whose elements are integers. *AM(2)* 23 (1921) 1-15; *Analysis Situs*. Colloq Pub, 5, 2. AMS, 1922; with L. P. Eisenhart, The Riemann geometry and its generalization. *Proc NAS* 8 (1922) 19-23; Normal coordinates for the geometry of paths. *Proc NAS* 8 (1922) 192-197; Projective and affine geometry of paths. *Proc NAS* 8 (1922) 347-350; Equiaffine geometry of paths. *Proc NAS* 9 (1923) 3-4; Geometry and physics. *Science* 57 (1923) 129-139; The intersection numbers. *Trans AMS* 25 (1923) 540-550; with T. Y. Thomas, The geometry of paths. *Trans AMS* 25 (1923) 551-608; with T. Y. Thomas, Extensions of relative tensors. *Trans AMS* 26 (1924) 373-377; Invariance of the Poincaré numbers of a discrete group. *Bull AMS* 30 (1924) 405-406; Remarks on the foundations of geometry. *Bull AMS* 31 (1925) 121-141; with J. M. Thomas, Projective normal coordinates for the geometry of paths. *Proc NAS* 11 (1925) 204-207; with J. M. Thomas, Projective invariants of affine geometry of paths. *AM(2)* 27 (1926) 279-296; *Invariants of Quadratic Differential Forms*. Cambridge Tracts in Math and Math Phys, no 24. Cambridge: 1927; Projective tensors and connections. *Proc NAS* 14 (1928) 154-166; Conformal tensors and connections. *Proc NAS* 14 (1928) 735-745; Differential invariants and geometry. *Intern Congress Math, Bologna* 1 (1929) 181-189; Generalized projective geometry. *LMS Journ* 4 (1929) 140-160; "Differential forms" ; "Projection in mathematics" ; "Projective geometry" ; in *Encycl Brit* 7, 18: 365-366; 572-576. London and New York: 1929; Henry Burchard Fine—in memoriam. *Bull AMS* 35 (1929) 726-730; A generalization of the quadratic differential form. *QJMO* 1 (1930) 60-76; with B. Hoffmann, Projective relativity. *Phys Rev* 36 (1930) 810-822; The Department of Mathematics. Princeton *Alumni Weekly* 31 (1931) 633; The Significance of Fine Hall. *Princeton Alumni Weekly* 32 (1931) 112-113; with J. H. C. Whitehead, A set of axioms for differential geometry. *Proc NAS* 17 (1931) 551-561; with J. H. C. Whitehead, *The Foundations of Differential Geometry*. Cambridge Tracts in Math and Math Phys, no 29. Cambridge: 1932; *Projektive Relativitätstheorie*. Erge der Math und ihrer Grenzgebiete, 2, 1. Berlin: 1933; Geometry of two-component spinors. *Proc NAS* 19 (1933) 462-474; Geometry of four-component spinors. *Proc NAS* 19 (1933) 503-517; Spinors in projective relativity. *Proc NAS* 19 (1933) 979-989; with A. H. Taub, Projective differentiation of spinors. *Proc NAS* 20 (1934) 85-92; with A. H. Taub and J. von Neumann, The Dirac equation in projective relativity. *Proc NAS* 20 (1934) 383-388; Certain aspects of modern geometry — A course of three lectures... I. The modern approach to elementary geometry; II. Analysis situs; III. Modern

differential geometry. *RI pamphlets* 21 (1934) 207-255; Spinors. *Wash Acad Sci* 24 (1934) 281-290; Formalism for conformal geometry. *Proc NAS* 21 (1935) 168-173; A conformal wave equation. *Proc NAS* 21 (1935) 484-487; Spinors and projective geometry. *Intern Congress Mathems, Oslo* 1 (1937) 111-127; George David Birkhoff (1884-1944). *Am Philos Soc Year Book* (1946, 1947) 279-285; Opening Address. *Proc of Internat Cong of Math, Cambridge, Mass, 1950* 1 (1952) 124-125; with Deane Montgomery, Nels Johann Lennes. *Bull AMS* 60 (1954) 264-265.

von Neumann, John M

Born 1903 Budapest, Hungary. PhD 1926 Univ of Budapest. Professor 1933-57. Deceased.

Honors: AAAS; Am Philos Soc.

Selected publications: *Charakterisierung des Spektrums eines Integraloperators*. Paris: Hermann, 1935; with Oskar Morgenstern, *Theory of Gamed and Economic Behavior*. Princeton: Princeton Univ Press, 1944; Functional Operators. *Ann Math Studies*, 21-22. Princeton: Princeton Univ Press, 1950; Die Einführung Analytischer Parameter in Topologischen Gruppen. *Ann Math (2)* 34 (1933) 170-190; A Koordináta-Mérés Pontosságának Határai az Elektron Dirac-féle El-méletében. *Matematikai és Természettudományi Értesítő* 50 (1933) 366-385; Almost Periodic Functions in a Group, I. *Trans AMS* 36 (1934) 445-492; with A. H. Taub and O. Veblen, The Dirac Equation in Projective Relativity. *Proc NAS* 20 (1934) 383-388; with P. Jordan and E. Wigner, On an Algebraic Generalization of the Quantum Mechanical Formalism. *Ann Math (2)* 35 (1934) 29-64; Zum Haarschen Maass in Topologischen Gruppen. *Compositio Math* 1 (1934) 106-114; with S. Bochner, Almost Periodic Functions in Groups, II. *Trans AMS* 37 (1935) 21-50; with M. H. Stone, The Determination of Representative Elements in the Residual Classes of a Boolean Algebra. *Fund Math* 25 (1935) 353-378; with S. Bochner, On Compact Solutions of Operational-Differential Equations, I. *Ann Math (2)* 36 (1935) 255-291; On Complete Topological Spaces. *Trans AMS* 37 (1935) 1-20; with P. Jordan, On Inner Products in Linear, Metric Spaces. *Ann Math (2)* 36 (1935) 719-723; On Normal Operators. *Proc NAS* 21 (1935) 366-369; Continuous Geometry. *Proc NAS* 22 (1936) 92-100; Examples of Continuous Geometries. *Proc NAS* 22 (1936) 101-108; with Garrett Birkhoff, The Logic of Quantum Mechanics. *Ann Math (2)* 37 (1936) 823-843; On a Certain Topology for Rings of Operators. *Ann Math (2)* 37 (1936) 111-115; On an Algebraic Generalization of the Quantum Mechanical Formalism (Part 1). *Recueil Mathématique [Matematicheskii Sbornik]* (NS), 1 (1936) 415-484; On Regular Rings. *Proc NAS* 22 (1936) 707-713; with F. J. Murray, On Rings of Operators. *Ann Math (2)* 37 (1936) 116-229; The Uniqueness of Haar's Measure. *Recueil Mathématique [Matematicheskii Sbornik]* (NS), 1 (1936) 721-734; Algebraic Theory of Continuous

Geometries. *Proc NAS* 23 (1937) 16-22; Continuous Rings and Their Arithmetics. *Proc NAS* 23 (1937) 341-349; with F. J. Murray, On Rings of Operators, II. *Trans AMS* 41 (1937) 208-248; with C. Kuratowski, On Some Analytic Sets Defined by Transfinite Induction. *Ann Math (2)* 38 (1937) 521-525; Some Matrix-Inequalities and Metrization of Matric-Space. *Bull de l'Inst de Math et Mécanique Univ de Tomsk* 1 (1937) 286-300; Über ein Ökonomisches Gleichungssystem und eine Verallgemeinerung des Brouwerschen Fixpunktsatzes. *Ergeb eines Math Kolloquiums* 8 (1935-1936) (1937) 73-83; On Infinite Direct Products. *Comp Math* 6 (1938) 1-77; with E. Wigner, Minimally Almost Periodic Groups. *Ann Math (2)* 41 (1940) 746-750; On Rings of Operators, III. *Ann Math (2)* 41 (1940) 94-161; with I. Halperin, On the Transitivity of Perspective Mappings. *Ann Math (2)* 41 (1940) 87-93; Distribution of the Ratio of the Mean Square Successive Difference to the Variance. *Ann Math Statistics* 12 (1941) 367-395; with I. J. Schoenberg, Fourier Integrals and Metric Geometry. *Trans AMS* 50 (1941) 226-251; with R. H. Kent, H. R. Bellinson and B. I. Hart, The Mean Square Successive Difference. *Ann Math Statistics* 12 (1941) 153-162; Approximative Properties of Matrices of High Finite Order. *Portugaliae Math* 3 (1942) 1-62; A Further Remark Concerning the Distribution of the Ratio of the Mean Square Successive Difference to the Variance. *Ann Math Statistics* 13 (1942) 86-88; with P. R. Halmos, Operator Methods in Classical Mechanics, II. *Ann Math (2)* 43 (1942) 332-350; with S. Chandrasekhar, The Statistics of the Gravitational Field Arising from a Random Distribution of Stars. I: The Speed of Fluctuations. *Astrophys J* 95 (1942) 489-531; Tabulation of the Probabilities for the Ratio of the Mean Square Successive Difference to the Variance, by B. I. Hart, with a Note by J. von Neumann. *Ann Math Statistics* 13 (1942) 207-214; with F. J. Murray, On Rings of Operators, IV. *Ann Math (2)* 44 (1943) 716-808; On Some Algebraical Properties of Operator Rings. *Ann Math (2)* 44 (1943) 709-715; with S. Chandrasekhar, The Statistics of the Gravitational Field Arising from a Random Distribution of Stars. II: The Speed of Fluctuations; Dynamical Friction; Spatial Correlations. *Astrophys J* 97 (1943) 1-27; A Model of General Economic Equilibrium. *Rev Econ Studies* 13 (1945/46) 1-9; The Mathematician, in *The Works of the Mind* 180-196. Chicago: Univ of Chicago Comm on Social Thought, 1947; with H. H. Goldstine, Numerical Inverting of Matrices of High Order. *Bull AMS* 53 (1947) 1021-1099; On Rings of Operators. Reduction Theory. *Ann Math (2)* 50 (1949) 401-485; with R. D. Richtmyer, A Method for the Numerical Calculation of Hydrodynamic Shocks. *J Appl Phys* 21 (1950) 232-237; with J. G. Charney and R. Fjörtoft, Numerical Intégration of the Barotropic Vorticity Equation. *Tellus* 2 (1950) 237-254; with G. W. Brown. Solutions of Games by Differential Equations, in *Contributions to the Theory of Games, I*, ed. by Kuhn, H. W., *Ann Math Studies*, 24: 73-79. Princeton: 1950; Eine Spektraltheorie für Allgemeine Operatoren eines Unitären Raumes. *Math Nachr* 4

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Warren, Robert B. HS(EP), Economics

Born 1891 Plattsburg, NY. AM 1916 Harvard Univ. Professor 1939-50. Deceased.

Appointments: Consultant, US Treasury 1942-45.

Selected publications: *The Search for Financial Security*. New York: Columbia Univ Press, 1940; *The State in Society*. A Series of Public Lectures Delivered under the Auspices of McGill University, Montreal, January 23, 1939-February 10, 1939, London, New York. Oxford Univ Press: 1940, ; War Financing and Its Economic Effects. *Acad Pol Sci Proc* 18 (1940) 447-454; The Capitalist and the Social Structure. *Proc Amer Philos Soc* 88 (1944) 1-9; Money and Sovereignty. *Proc Amer Philos Soc* 87 (1944) 147-151; Europe's Financial Needs. *Acad Pol Sci Proc* 21 (1946) 533-538; Twenty-Five Years of Monetary Controls. in *Economic Research and the Development of Economic Science and Public Policy* 87-100. New York: Natl Bur Econ Res, 1946; An Attempt at Perspective. *Proc Amer Philos Soc* 92 (1948) 271-281; The British White Paper. *Pol Sci Q* 64 (1949) 161-167.

Weyl, Hermann M

Born 1885 Elmshorn, Germany. PhD 1908 Univ of Göttingen. Professor 1933-1951. Professor Emeritus 1951-1955. Deceased.

Selected publications: *Mind and Nature*. Philadelphia: Univ of Pennsylvania Press, 1934; *The Classical Groups, Their Invariants and Representations*. Princeton Math Series, I. Princeton: Princeton Univ Press, 1939; *Algebraic Theory of Numbers*. *Ann Math Studies*, I. Princeton: Princeton Univ Press, 1940; with F. Joachim Weyl, *Meromorphic Functions and Analytic Curves*. *Ann Math Studies*, 12. Princeton: Princeton Univ Press, 1943; *Philosophy of Mathematics and Natural Science*. Revised and Augmented English Ed. Princeton: Princeton Univ Press, 1949; *Symmetry*. Princeton: Princeton Univ Press, 1952; Harmonics on Homogeneous Manifolds. *Ann Math (2)* 35 (1934) 486-499; Observations on Hilbert's Independence Theorem and Born's Quantization of Field Equations. *Phys Rev (2)* 46 (1934) 505-508; On Generalized Riemann Matrices. *Ann Math (2)* 35 (1934) 714-729; Universum und Atom. *Naturwissenschaften* 22 (1934) 145-149; Elementare Theorie der Konvexen Polyeder. *Comment Math Helv* 7 (1934/35) 290-306; Emmy Noether. *Scripta Math* 3 (1935) 201-220; Geodesic Fields in the Calculus of Variation for Multiple Integrals. *Ann Math (2)* 36 (1935) 607-629; with Richard Brauer, Spinors in n Dimensions. *Amer J Math* 57 (1935) 425-449; Über das Pick-Nevanlinna'sche Inter-polationsproblem und Sein Infinitesimales Analogon. *Ann Math (2)* 36 (1935) 230-254; Generalized Riemann Matrices and Factor Sets. *Ann Math (2)* 37 (1936) 709-745; Riemannsche Matrizen und Faktorensysteme. *Comptes Rendus du Cong Internatl Math, Oslo, 1936* 2 (1937) 3; Commutator Algebra of a Finite Group of Collineations. *Duke Math J* 3 (1937) 200-212; Note on Matric Algebras. *Ann Math (2)* 38 (1937) 477-483; Mean Motion. *Amer J Math* 60 (1938) 889-896; with Joachim Weyl, Meromorphic Curves. *Ann Math (2)*

39(1938) 516-538; Symmetry. *Washington Acad Scis* 28 (1938) 253-271; Invariants. *Duke Math J* 5 (1939) 489-502; Mean Motion, II. *Amer J Math* 61 (1939) 143-148; On the Volume of Tubes. *Amer J Math* 61 (1939) 461-472; On Unitary Metrics in Projective Space. *Ann Math* (2) 40 (1939) 141-148; The Ghost of Modality, in *Philosophical Essays in Memory of Edmund Husserl* 278-303. Cambridge, Mass: 1940; The Method of Orthogonal Projection in Potential Theory. *Duke Math J* 7 (1940) 411-444; Theory of Reduction for Arithmetical Equivalence. *TAMS* 48 (1940) 126-164; Concerning the Differential Equations of Some Boundary Layer Problems I, II. *Proc NAS* 27, 28 (1941, 1942); The Mathematical Way of Thinking, in *Pennsylvania Univ Bicentennial Conf, Studies in the History of Science* 103-123. Philadelphia: 1941; On the Use of Indeterminates in the Theory of the Orthogonal and Symplectic Groups. *Amer J Math* 63 (1941) 777-784; with R. D. James, Elementary Note on Prime Number Problems of Vinogradoff's Type. *Amer J Math* 64 (1942) 539-552; On Geometry of Numbers. *Proc London Math Soc* (2) 47 (1942) 268-289; On the Differential Equations of the Simplest Boundary-Layer Problems. *Ann Math* (2) 43 (1942) 381-407; with Joachim Weyl, On the Theory of Analytic Curves. *Proc NAS* 28 (1942) 417-421; Theory of Reduction for Arithmetical Equivalence, II. *TAMS* 51 (1942) 203-231; On Hodge's Theory of Harmonic Integrals. *Ann Math* (2) 44 (1943) 1-6; Comparison of a Degenerate Form of Einstein's with Birkhoff's Theory of Gravitation. *Proc NAS* 30 (1944) 205-210; Concerning a Classical Problem in the Theory of Singular Points of Ordinary Differential Equations. *Actas Acad Ci Lima* 7 (1944) 21-60; David Hilbert 1862-1943. *Am Philos Soc Year Book* 1943 (1944) 387-395; David Hilbert and His Mathematical Work. *Bull AMS* 50 (1944) 612-654; How Far Can One Get with a Linear Field Theory of Gravitation in Flat Space-Time? *Amer J Math* 66 (1944) 591-604; Fundamental Domains for Lattice Groups in Division Algebras, I. in *Festschrift zum 60. Geburtstag von Prof. Dr. Andreas Speiser* 218-232. Zürich: 1945; Fundamental Domains for Lattice Groups in Division Algebras, II. *Comment Math Helv* 17 (1944/45) 283-306; Mathematics and Logic. *Amer Math Monthly* 53 (1946) 2-13; A Remark on the Coupling of Gravitation and Electron. *Actas Acad Ci Lima* 11 (1948) 1-17; Almost Periodic Invariant Vector Sets in a Metric Vector Space. *Amer J Math* 71 (1949) 178-205; Elementary Algebraic Treatment of the Quantum Mechanical Symmetry Problem. *Canadian J Math* 1 (1949) 57-68; Inequalities between the Two Kinds of Eigenvalues of a Linear Transformation. *Proc NAS* 35(1949)408-411; Relativity Theory as a Stimulus in Mathematical Research. *Proc Amer Philos Soc* 93 (1949) 535-541; Shock Waves in Arbitrary Fluids. *Comm Pure Appl Math* 2 (1949) 103-122; Wissenschaft als Symbolische Konstruktion des Menschen. *Eranos-Jahrbuch* 1948 (1949) 375-431; Elementary Proof of a Minimax Theorem Due to Von Neumann. in *Contributions to the Theory of Games, I*, ed. by Kuhn, H. W., *Ann Mathematics Studies*, 24: 12-

25. Princeton: 1950; Ramifications, Old and New, of the Eigenvalue Problem. *Bull AMS* 56 (1950) 115-139; A Half-Century of Mathematics. *Amer Math Monthly* 58 (1951) 523-553; Radiation Capacity. *Proc NAS* 37 (1951) 832-836; Kapazität von Strahlungsfeldern. *Math Z* 55 (1952) 187-198; Die Natürlichen Randwertaufgaben im Aussenraum für Strahlungsfelder Beliebiger Dimension und Beliebigen Ranges. *Math Z* 56 (1952) 105-119; A Simple Example for the Legitimate Passage from Complex Numbers to Numbers of an Arbitrary Field. in *Scientific Papers Presented to Max Born* 75-79. New York: 1953; Ueber den Symbolismus der Mathematik und Mathematischen Physik. *Studium Generale* 6 (1953) 219-228; Ueber die Kombinatorische und Kontinuumsmäßige Definition der Ueberschneidungszahl Zweier Geschlossener Kurven auf einer Fläche. *Z Angew Math Phys* 4 (1953) 471-492; Universities and Science in Germany. *Math Student* 21 (1953) 1-26.

Woodward, Sir (Ernest) Llewellyn HS, Modern History, International Relations

Born 1890 London, England. MA(Oxon.) 1914 . Member IAS 1946f, 1950f, Professor 1951-60. Professor Emeritus 1961-71. Deceased.

Honors: LittD(hc) Princeton Univ 1946; Knighted 1952; FBA; Am Philos Soc; Hon Fellow Corpus Christi and Worcester Colleges.

Appointments: Staff member, Foreign Office London WWII.

Selected publications: Ed with Rohan Butler, *Documents on British Foreign Policy, 1919-1939*. London: HMSO, 1951-54; *The Age of Reform, 1818-1870*. Oxford History of England, 13. Oxford: Clarendon Press, 1938; The Place of Diplomatic History in the Study of International Relations during the Twentieth Century. *Proc Amer Philos Soc* 97 (1953) 151-158; *Great Britain and the War, 1914-1918*. New York: Barnes and Noble, 1967; *British Foreign Policy in the Second World War*. 1, 2, 3. London: HMSO, 1962, 1971, 1972; *Prelude to Modern Europe*. London: Methuen, 1972.

Resigned Faculty

Atiyah, Michael Francis M

Born 1929 London, England. PhD 1955 Math Cambridge Univ. Member IAS 1955-56, 1956f, 1959f, 1976f, Professor 1969-72. Royal Soc Research Prof, Math, Oxford Univ, Shotover Mound, Headington, Oxford, England.

Honors: FRS 1962; Fields Medal 1966.; Royal Medal of Royal Soc 1960; Hon DSc: Warwick Univ 1969; Univ of Bonn 1970; Univ of Durham 1977; Foreign Member: US NAS 1978; Leopoldina Acad 1977; French Acad 1978; AAAS 1968; Swedish Royal Acad 1975.

Appointments: Science Board (Science Research Council); Govt Ctee of Enquiry in Math Teaching.

Memberships: London Math Soc (Pres 74-76); Exec Ctee IMU 66-74.

Selected publications: with F. Hirzebruch, Vector bundles and homogeneous spaces. *Proc of Symposia in Pure Math* 3 (1961); Characters and cohomology of finite groups. *Publ Math IHES Paris* (1961) 247-289; with I. M. Singer, G. B. Segal, The index of elliptic operators I, II, III, IV, V. *Ann Math* 87, 93 (1968, 1971); with R. Bott & V. K. Patodi, On the heat equation and the index theorem. *Invent Math* 19 (1973) 279-330; with V. K. Patodi & I. M. Singer, Spectral asymmetry and Riemannian geometry, I, II, III. *Math Proc Camb Phil Soc* 77, 78, 79 (1975, 1976); with W. Schmid, A geometric construction of the discrete series for semisimple Lie groups. *Invent Math* 42 (1977) 1-62; with R. Bott, A Lefschetz fixed-point formula for elliptic complexes I, II. *Ann of Math* 86, 88 (1967, 1968) 374-407, 451-491; Elliptic operators, discrete groups and von Neumann algebras. *Asterisque* 32-33 (1976) 43-72; with N. J. Hitchin & I. M. Singer, Self-duality in four-dimensional Riemannian geometry. *Proc Roy Soc Lond A* 362 (1978) 425-461; The Grothendieck ring in geometry and topology. in *Proceedings of International Congress of Mathematicians* 442-446. 1962; with R. Bott, On the periodicity theorem for complex vector bundles. *Acta Math* 112 (1964) 229-247; 1967 *K-theory*. New York, Benjamin.

Hörmander, Lars Valter M, Analysis

Born 1931 Mjällby, Blekinge län, Sweden. PhD 1955 Univ of Lund. Member IAS 1960-61, 1971s, 1977-78, Professor 1964-68. Prof, Department of Math, Univ of Lund, Box 725, S-220 07 Lund, Sweden.

Selected publications: Hypoelliptic convolution equations. *Math Scand* 9 (1961) 178-184; Hypoelliptic differential operators. *Ann Inst Fourier* 11 (1961) 477-492; Weak and strong extensions of differential operators. *Comm Pure Appl Math* 14(1961)371-379; On the range of convolution operators. *Ann Math* 76 (1962) 148-170; *Linear partial differential operators*. Berlin: Springer Verlag, 1963; Pseudo-differential operators. *Comm Pure Appl Math* 18(1965) 501-517; Pseudo-differential operators and non-elliptic boundary problems. *Ann Math* 83 (1966) 129-209; *An introduction to complex analysis in several variables*. Princeton, NJ: van Nostrand Co., 1966; Pseudo-differential operators and hypoelliptic equations. *AMS Symp Singular integral operators, April 1966* : 138-183; On the Riesz means of spectral functions and eigenfunction expansions for elliptic differential operators, in *Belfer Grad Schl Sci Conf Nov 1966* 155-202. New York: 1969; L^p estimates for (pluri)subharmonic functions. *Math Scand* 20 (1967) 65-78; Generators for some rings of analytic functions. *Bull AMS* 73 (1967) 943-949; Hypoelliptic second order differential equations. *Acta Math* 119(1967)147-171; Convolution equations in convex domains. *Inv Math* 4 (1968) 306-318; with John Wermer, Uniform approximation on compact sets in C^n . *Math Scand* 23 (1968) 5-21; On the characteristic Cauchy problem. *Ann Math* 88 (1968) 341-370; The Cauchy problem for differential

equations with constant coefficients. *Springer Lecture Notes in Math* 103: 60-71; The spectral function of an elliptic operator. *Acta Math* 121 (1968) 193-218; A remark on Holmgren's uniqueness theorem. *J Diff Geom* 6 (1971) 129-134; On the existence and the regularity of solutions of linear pseudo-differential equations. *L'Ens Math* 17 (1971) 99-163; with J. J. Duistermaat, Fourier integral operators II. *Acta Math* 128 (1972) 183-269; Propagation of singularities and semiglobal existence theorems for (pseudo-) differential operators of principal type. *Ann Math* 108 (1978); The spectral analysis of singularities, in *Seminar on the singularities of solutions of differential equations* 3-49. Princeton, NJ: Princeton Univ Press, 1979; The Weyl calculus of pseudo-differential operators. *Comm Pure Appl Math* (in press); Subelliptic operators, in *Seminar on the singularities of solutions of differential equations* 127-208. Princeton, NJ: Princeton Univ Press, 1979.

Kaysen, Carl see Directors.

Lee, Tsung Dao M(NS), Theoretical Physics

Born 1926 , China. PhD 1950 Univ of Chicago. Member IAS 1951-53, 1957-58, Professor 1960-62. Prof, Physics Dept, Columbia Univ, New York, NY 10027.

Honors: Nobel Prize for Physics 1957.

Selected publications: with C. N. Yang, Statistical Theory of Equations of State and Phase Transitions. I: Theory of Condensation. *Phys Rev (2)* 87 (1952) 404-409; with C. N. Yang, Statistical Theory of Equations of State and Phase Transitions. II: Lattice Gas and Ising Model. *Phys Rev (2)* 87 (1952) 410-419; with R. Christian, Intermediate Coupling Method for Meson-Nucleon Scattering. *Phys Rev (2)* 94 (1954) 1760-1767.

Pais, Abraham M(NS), Physics

Born 1918 Amsterdam, Netherlands. PhD 1941 Univ of Utrecht. Member IAS 1946-50, Professor 1950-63. Prof, Physics, Rockefeller Univ, New York, NY 10024.

Honors: J R Oppenheimer Memorial Prize 1979.

Appointments: Sci Policy Comms at Brookhaven Lab, SLAC, Fermilab.

Memberships: NAS; AAAS; Royal Dutch Acad Sci (Corr.); Fellow Am Phys Soc.

Selected publications: with Uhlenbeck, G. E., On Field Theories with Non-Localized Action. *Phys Rev* 79, 1 (1950) 145-165; with Case, K. M., On High Energy Nucleon-Nucleon Scattering. *Phys Rev* 79, 1 (1950) 185; Some Remarks on the V-Particles. *Phys Rev* 86, 5 (1952) 663-672; with Jost, R., Selection Rules Imposed by Charge Conjugation and Charge Symmetry. *Phys Rev* 87, 5 (1952) 871-875; Isotopic Spin and Mass Quantization. *Physica* 19 (1953) 869-887; with Piccioni, O., Note on the Decay and Absorption of the Θ^0 . *Phys Rev* 100, 5 (1955) 1487-1489; with Treiman, S., Angular Correlations in K^0 -Decay. *Phys Rev* 105, 5 (1957) 1616-1619; with Uhlenbeck, G., On the Quantum Theory of the Third

Virial Coefficient. *Phys Rev* 116, 2 (1959) 250-269; with Goldhaber, G., Goldhaber, S., and Lee, Wonyong, Influence of Bose-Einstein Statistics on the Antiproton-Proton Annihilation Process. *Phys Rev* 120, 1 (1960) 300-312; Remark on the Algebra of Interactions. *Phys Rev Lett* 7, 7 (1961) 291-93; Theorem on Local Action of Lepton Currents. *Phys Rev Lett* 9, 3 (1962) 117-130; Spinors in n Dimensions. *J Math Phys* 3, 6 (1962) 1135-1139; On a Plane Ising Lattice with First and Second Interactions. *Proc NAS* 49, 1 (1963) 34-38.

Siegel, Carl Ludwig M, Analysis

Born 1896, Germany. DrPhil 1920 Univ of Göttingen. Member IAS 1935s, 1940-45, 1960f, Professor 1945-51. Prof Emer, Mathematisches Institut, Universität Göttingen, Bunsenstr. 3-5, Göttingen, Germany.

Selected publications: *Transcendental Numbers*. Annals of Math Studies, 16. Princeton: Princeton Univ Press, 1949; Über Gitterpunkte in Konvexen Körpern und ein damit Zusammenhängendes Extremalproblem. *Acta Math* 65 (1935) 307-323; Mittelwerte Analytischer Funktionen in Zahlkörpern. *TAMS* 39 (1936) 219-224; Über Algebraischen Integrale des Restringierten Dreikörperproblems. *TAMS* 39 (1936) 225-233; Über die Analytische Theorie der Quadratischen Formen, II. *Ann Math (2)* 37 (1936) 230-263; The Volume of the Fundamental Domain for Some Infinite Groups. *TAMS* 39 (1936) 209-218; Der Dreierstoss. *Ann Math (2)* 42 (1941) 127-168; Equivalence of Quadratic Forms. *Amer J Math* 63 (1941) 658-680; On the Integrals of Canonical Systems. *Ann Math (2)* 42 (1941) 806-822; On the Modern Development of Celestial Mechanics. *Amer Math Monthly* 48 (1941) 430-435; Some Remarks Concerning the Stability of Analytic Mappings. *Univ Nac Tucumán Revista (A)* 2 (1941) 151-157; Iteration of Analytic Functions. *Ann Math (2)* (1942) 607-612; Note on the Automorphic Functions of Several Variables. *Ann Math (2)* 43 (1942) 613-616; Contributions to the Theory of the Dirichlet L-Series and the Epstein Zeta-Functions. *Ann Math (2)* (1943) 143-172; Discontinuous Groups. *Ann Math (2)* 44 (1943) 674-689; Symplectic Geometry. *Amer J Math* 65 (1943) 1-86; Algebraic Integers Whose Conjugates Lie in the Unit Circle. *Duke Math J* 11 (1944) 597-602; The Average Measure of Quadratic Forms with Given Determinant and Signature. *Ann Math (2)* 45 (1944) 667-685; Generalization of Waring's Problem to Algebraic Number Fields. *Amer J Math* 66 (1944) 122-136; On the Theory of Indefinite Quadratic Forms. *Ann Math (2)* 45 (1944) 577-622; A Mean Value Theorem in Geometry of Numbers. *Ann Math (2)* 46 (1945) 340-347; Note on Differential Equations on the Torus. *Ann Math (2)* 46 (1945) 423-428; On the Zeros of the Dirichlet L-Functions. *Ann Math (2)* 46 (1945) 409-422; Some Remarks on Discontinuous Groups. *Ann Math (2)* 46 (1945) 708-718; Sums of m^{th} Powers of Algebraic Integers. *Ann Math (2)* 46 (1945) 313-339; The Trace of Totally

Positive and Real Algebraic Integers. *Ann Math (2)* 46 (1945) 302-312; with V. Brun, E. Jacobsthal and A. Selberg, En Brevveksling om et Polynom som Er i Slekt med Riemanns Zetafunksjon. *Norsk Matematisk Tidsskrift* 28 (1946) 65-71; Indefinite Quadratische Formen und Modulfunktionen. in *Studies and Essays Presented to R. Courant on His 60th Birthday* 395-406. New York: 1948; Introduction to "Réduction de Formes Quadratiques dans un Corps Algébrique Fini," par Pierre Humbert. *Comment Math Helv* 23 (1949) 50-51; Bemerkungen zu einem Satze von Jakob Nielsen. *Matematisk Tidsskrift (B)* (1950) 66-70; Über eine Periodische Lösung im Ebenen Dreikörperproblem. *Mathematische Nachrichten* 4 (1951) 28-35.

Strömgen, Bengt G. D. M(NS), Astrophysics

Born 1908 Gothenburg, Sweden. PhD 1929 Copenhagen Univ. Professor 1957-67. Prof, Dept of Astronomy, Univ of Copenhagen, Frue Plads, 1168 Copenhagen K, Denmark.

Honors: For member NAS 1971-; Augustinius Prize Royal Soc.

Appointments: Gen Sec, IAU 1948-52; Exec Comm, Internat Council of Scientific Unions 1948-52; Pres Amer Astron Soc; Pres Danish Acad Sci & Letters.

Memberships: Royal Danish Acad; Danish Acad of Tech Sci; Royal Swedish Acad of Scis; Soc Royale des Sci de Liège; Acad Coimbra; Physiographic Soc Lund; Koninklijke Nederlandse Akad van Wetenschappen; Royal Acad Sci, Uppsala; AAAS.

Yang, Chen Ning M(NS), Theoretical Physics

Born 1922 Hofei, China. PhD 1948 Physics Univ of Chicago. Member IAS 1949-54, Professor 1955-66. Dir Inst for Theoret Phys. Prof, Physics Department, State University of New York, Stony Brook, NY 11794.

Honors: Einstein Commemorative Awd 1957; Nobel Prize for Physics 1957; Hon DSc Princeton Univ 1958; Brooklyn Polytechnic Inst 1965; Univ Wroclaw, Poland 1974; Gustavus Adolphus Coll, Minn 1975.

Appointments: Pres Natl Assoc of Chinese Americans 1977-; Chm Panel of Theoret Phys, Phys Survey Comm NAS, 1965; Chm Div of Particles and Fields of the Internatl Union of Pure and Applied Phys, 1972-76.

Memberships: NAS; Am Phys Soc; Am Philos Soc; Sigma Xi; Brazilian Acad Sci; Venezuelan Acad Sci; Royal Spanish Acad Sci.

Selected publications: Possible Experimental Determination of Whether the Neutral Meson is Scalar or Pseudoscalar. *Phys Rev* 77 (1950) 722; with J. Tiomno, Reflection Properties of Spin 1/2 Fields and a Universal Fermi-Type Interaction. *Phys Rev* 79 (1950) 495; with D. Feldman, The S Matrix in the Heisenberg Representation. *Phys Rev* 79 (1950) 972; with Chew, Goldberger and Steinberger, A Theoretical Analysis of the Process $\pi + d \rightarrow p + p$. *Phys Rev* 84 (1951) 581; Actual Path Length of Electrons in Foils. *Phys Rev* 84 (1951) 599; The Spontaneous Magnetization of a

- Two-Dimensional Ising Model. *Phys Rev* 84 (1952) 808; with T. D. Lee, Statistical Theory of Equations of State and Phase Transitions I, II. *Phys Rev* 87 (1952) 404; with G. A. Snow and R. M. Sternheimer, Polarization of Nucleons Elastically Scattered from Nuclei. *Phys Rev* 94 (1954) 1073; with R. Mills, Isotopic Spin Conservation and Generalized Gauge Invariance. *Phys Rev* 95 (1954) 631; with R. L. Mills, Conservation of Isotopic Spin and Isotopic Gauge Invariance. *Phys Rev* 96 (1954) 191; with T. D. Lee, Conservation of Heavy Particles and Generalized Gauge Transformations. *Phys Rev* 98 (1955) 1501; with K. M. Case and R. Karplus, Strange Particles and the Conservation of Isotopic Spin. *Phys Rev* 101 (1956) 874; with K. M. Case and R. Karplus, Experiments with Slow K Mesons in Deuterium and Hydrogen. *Phys Rev* 101 (1956) 3581; with T. D. Lee, Mass Degeneracy of the Heavy Mesons. *Phys Rev* 102 (1956) 290; with T. D. Lee, Charge Conjugation, a New Quantum Number G, and Selection Rules Concerning a Nucleon-Antinucleon System. *Nuovo Cimento* X3 (1956) 749; with K. Huang, Quantum Mechanical Many-Body Problem with Hard Core Interaction. *Bull Am Phys Soc* 2 1 (1956) 222; with T. D. Lee, Question of Parity Conservation in Weak Interactions. *Phys Rev* 104 (1956) 254; with T. D. Lee, Possible Interference Phenomena Between Parity Doublets. *Phys Rev* 104 (1956) 822; with K. Huang, Quantum Mechanical Many-Body Problem with Hard Sphere Interaction. *Phys Rev* 105 (1957) 767; with K. Huang and J. M. Luttinger, Imperfect Bose Gas with Hard Sphere Interaction. *Phys Rev* 105 (1957) 776; with T. D. Lee, Many-Body Problem in Quantum Mechanics and Quantum Statistical Mechanics. *Phys Rev* 105 (1957) 1671; with T. D. Lee, Parity Nonconservation and a Two-Component Theory of the Neutrino. *Phys Rev* 105 (1957) 1671; with K. M. Case and L. Karplus, A Reply to a Criticism by Mr. A. Gamba. *Nuovo Cimento* 5 (1957) 1004; Present Knowledge About the New Particles. *Rev Mod Phys* 29 (1957) 231; with T. D. Lee and Reinhard Oehme, Remarks on Possible Noninvariance Under Time Reversal and Charge Conjugation. *Phys Rev* 106 (1957) 340; with T. D. Lee and K. Huang, Eigenvalues and Eigenfunctions of a Bose System of Hard Spheres and Its Low-Temperature Properties. *Phys Rev* 106 (1957) 1135; with T. D. Lee, J. Steinberger, G. Feinberg and P. K. Kabir, Possible Detection of Parity Nonconservation in Hyperon Decay. *Phys Rev* 106 (1957) 1367; with K. Huang and T. D. Lee, Capture of π Mesons by Protons. *Phys Rev* 108 (1957) 1340; with T. D. Lee, Possible Nonlocal Effects in Decay. *Phys Rev* 108 (1957) 1611; with T. D. Lee, General Partial Wave Analysis of the Decay of a Hyperon of Spin 1/2. *Phys Rev* 108 (1957) 1645; Quantum Mechanical Many-Body Problem and the Low Temperature Properties of a Bose System of Hard Spheres, in *Stevens Conf on "The Many-Body Problem," January 1957*, ed. by J. K. Percus, 165. Interscience Publishers, 1963; Law of Parity Conservation and Other Symmetry Laws. *Science* 127 (1958) 565; with T. D. Lee, Possible Determination of the Spin of Λ from its Large Decay Angular Asymmetry. *Phys Rev* 109 (1958) 1755; with J. Bernstein, T. D. Lee and H. Primakoff, Effects of the Hyperfine Splitting of a μ -Mesonic Atom on Its Lifetime. *Phys Rev* 111 (1958) 313; with M. Goldhaber and T. D. Lee, Decay Modes of a $(\theta + \theta)$ System. *Phys Rev* 112 (1958) 1796; with T. D. Lee, Low-Temperature Behavior of a Dilute Bose System of Hard Spheres, I, II. *Phys Rev* 112, 113 (1958, 1959) 1419, 1406; with T. D. Lee, Many-Body Problem in Quantum Statistical Mechanics. I, II, III, IV, V. *Phys Rev* 113, 116, 117 (1959, 1960); with T. D. Lee, Theoretical Discussions on Possible High-Energy Neutrino Experiments. *Phys Rev Lett* 4 (1960) 307; with T. D. Lee, Implications of the Intermediate Boson Basis of the Weak Interactions: Existence of a Quartet of Intermediate Bosons and their Dual Isotopic Spin Transformation Properties. *Phys Rev* 119 (1960) 1410; Imperfect Bose System. *Physica* 26 (1960) S 49; with T. D. Lee, Some Considerations on Global Symmetry. *Phys Rev* 122 (1961) 1954; with N. Byers, Theoretical Considerations Concerning Quantized Magnetic Flux in Superconducting Cylinders. *Phys Rev Lett* 7 (1961) 46; "Applied Mathematics: What is needed in Research and Education". *SIAM Review* A (1962) 297; with T. D. Lee, R. Serber and G. C. Wick, Some Theoretical Considerations on the Desirability of a 300 to 1000 BeV Proton Accelerator, in *Experimental Program Requirements For a 300-1000 BeV Accelerator* Brookhaven National Lab, Aug 1961; with T. D. Lee and P. Markstein, Production Cross Section of Intermediate Bosons by Neutrinos in the Coulomb Field of Protons and Iron. *Phys Rev Lett* 7 (1961) 429; with S. B. Treiman, Tests of the Single-Pion Exchange Model. *Phys Rev Lett* 8 (1962) 140; *Elementary Particles*. Princeton University Press, 1962; with T. D. Lee, High Energy Neutrino Reactions Without Production of Intermediate Bosons. *Phys Rev* 126 (1962) 2239; with M. E. Rose, Eigenvalues and Eigenvectors of a Symmetric Matrix of 6j Symbols. *J Math Phys* 3 (1962) 106; with T. F. Hoang, A Possible Method of Measuring the Fraction of $\Delta Q/\Delta S = -1$ Decay in the $K_1 - j_2$ Complex. *CERN Internal Report*, 4010/Th.276 (May 28, 1962); with T. D. Lee, Theory of Charged Vector Mesons Interacting with the Electromagnetic Field. *Phys Rev* 128 (1962) 885; Concept of Off-Diagonal Long-Range Order and the Quantum Phases of Liquid He and of Superconductors. *Rev Mod Phys* 34 (1962) 694; Mathematical Deductions from Some Rules Concerning High-Energy Total Cross Sections. *J Math Phys* 4 (1963) 52; Some Properties of the Reduced Density Matrix. *J Math Phys* 4 (1963) 418; Remarks on Weak Interactions, in *Proc of Eastern-Theoret Phys Conf, Charlottesville, Virginia, Oct. 1962*, ed. by M. E. Rose, 293. Gordon and Breach Science Publishers, 1963; with R. J. Oakes, Meson-Baryon Resonances and the Mass Formula. *Phys Rev Lett* 11 (1963) 174; with N. Byers, Physical Regions in Invariance Variables for n Particles and Phase-Space Volume Element. *Rev Mod Phys* 36

16B Permanent Members

(1964) 595; with N. Byers, Phenomenological Analysis of Reactions such as $K + p \rightarrow \Lambda + \omega$. *Phys Rev* 135 (1964) B796; with C. P. Yang, Critical Point in Liquid-Gas Transitions. *Phys Rev Lett* 13 (1964) 303; Phenomenological Analysis of Violation of CP Invariance in Decay of K^0 and K^{\pm} . *Phys Rev Lett* 13 (1964) 380; with T. T. Wu, Some Speculations Concerning High-Energy Large Momentum Transfer Processes. *Phys Rev* 137 (1965) B708; with N. Byers and S. W. MacDowell. CP Violation in K Decay, in

High Energy Physics and Elementary Particles Vienna: International Atomic Energy Agency, 1965; with N. Byers, πp Charge-Exchange Scattering and a "Coherent Droplet" Model of High-Energy Exchange Processes. *Phys Rev* 142 (1966) 976; with C. P. Yang, Ground State Energy of a Heisenberg-Ising Lattice. *Phys Rev* 147 (1966) 303; with C. P. Yang, One-Dimensional Chain of Anisotropic Spin-Spin Interactions I, II, III. *Phys Rev* 150, 151 (1966) 321, 327, 258.

Permanent Members

Bigelow, Julian Himely NS, Computer Science, Applied Mathematics

Born 1913 Nutley, NJ. MSc 1936 Electronic Engineering MIT. Permanent Member 1951—

Honors: Guggenheim Fellow 1952; Bell Labs Coop Student Award 1934; Hon Fellow Brit Soc, Cybernetics 1976.

Appointments: NAS/NRC Panel on Weather and Climate Modification 1964-71; Adv Panel NCAR Computing Facility, Natl Cntr for Atmospheric Res, Colo, 1968-72; NRC/NAS/NAR Adv Comm on Emergency Planning-Member Steering Grp, Subcomm Automation 1965-67; Adv Comm 1968-69; NIH Adv Comm Computers in Medic Res, 1955-59; 1960-64; NSF Off Sci Info Services (OSIS) Comm on Machine Info Retrieval and Lit Search, Member 1954-58; Chmn 1958-62; Brookes Comm to Mechanize the US Patent Off 1962-64; Evaluation Panel, Inst Computer Scis and Tech, Natl Bur Standards, 1968-72; Chmn 1972-76; Assoc Ed, *Math Tables and Aids to Computation* 1955-58; Ed Adv Bd, *J Cybernetics*, 1970-; Assoc "*Brain and Behavioral Sciences*" *J of Current Research*; Occasional Tech Adv to "Project Skywater", US Dept of Interior; Occasional Tech Adv to Dr. Thomas Bates, Sci Adv to US Secy of Interior.

Memberships: Founding Member, Member Bd Govs, Acad of Scis Phila; AMS; Am Phys Soc; IEEE; Assoc Computing Machinery; Soc for Cybernetics.

Goldstine, Herman Heine HS/NS, History of Mathematics, Computer Science

Born 1913 Chicago, IL. PhD 1936 Univ of Chicago. Permanent Member 1946-57. Member with Long-Term Appointment, Inst for Advanced Study.

Honors: Finalist, National Book Award in Science 1973; PhD (hc) Univ of Lund (Sweden) 1974; DSc (hc) Amherst College and Adelphi Univ 1978; NAS 1974; Science Award PBK 1973; Prof Achievement Award Univ of Chicago 1974.

Appointments: Chmn, Adv Comm on Phys Sci & Math, NSF; Member, Army Math Steering Comm Report Review Comm, NAS; Advisory Councils: Math Dept Princeton Univ (Past); (Present) E.E. & Comp Sci Dept Princeton Univ; Phys Scis, Univ of Chicago.

Selected publications: Conditions for a Minimum of a Functional, in *Contributions to the Calculus of Variations, 1933-37* Univ of Chicago Press, 1937; with A. K. Goldstine, The Electronic Numerical Integrator and Computer (ENIAC). *Math Tables and Other Aids to Computation* 11, 5 (1946) 97-110; with A. W. Burks and J. von Neumann, Preliminary Discussions of the Logical Design of an Electronic Computing Instrument. *IAS Report* 1, pt 1 (1946) 1-41; with J. von Neumann, Planning and Coding of Problems for an Electronic Computing Instrument. *IAS Reports* 1, 2, 3 (1947, 1948); with J. von Neumann, Numerical Inverting of Matrices of High Order. *AMS Bull* 53 (1947) 1021-1099; with F. J. Murray, The Jacobi Method for Real Symmetric Matrices. *Assn Comp Mach J* 6, no 1 (1959) 59-96; with L. P. Horwitz, R. M. Karp, and R. E. Miller, On the Parallel Execution of Macroinstructions. *IBM Research Report* RC-1262 (1964); *The Computer from Pascal to von Neumann*. Princeton Univ Press, 1972; *A History of Numerical Analysis from the 16th through the 19th Century*. Studies in the Hist of Math and Phys Scis. Springer-Verlag, 1977.

Mayer, Walther M

Born 1887, Austria. PhD 1914 Univ of Vienna. Permanent Member 1933-48. Deceased.

Selected publications: Die Differentialgeometrie der Untermannigfaltigkeiten des R_n Konstanter Krümmung. *TAMS* 38 (1935) 267-309; with T. Y. Thomas, Foundations of the Theory of Lie Groups. *Ann Math* (2) 36 (1935) 770-822; with T. Y. Thomas, Vollständig Integrierte Systeme Totaler Differentialgleichungen. *Math Z* 40 (1936) 658-661; with T. Y. Thomas, Fields of Parallel Vectors in Non-Analytic Manifolds in the Large. *Compositio Math* 5 (1938) 198-207; Topologische Gruppensysteme. *Monatsh Math* 47 (1938) 40-86; Charaktersysteme und Dualitätstheoreme. *J Math Physics* 18 (1939) 1-27; with A. D. Campbell, Generalized Homology Groups. *Proc NAS* 26 (1940) 655-656; A New Approach to the Critical Value Theory. *Bull AMS* 46 (1940) 838-847; with H. Busemann, On the Foundations of Calculus of Variations. *TAMS* 49 (1941) 173-198; Variationsnoe Ischislenie. *Uspekhi Matematicheskikh Nauk* 9 (1941) 254-312; with A. D.

Campbell, Generalized Homology Groups. *Univ Nac Tucumán Revista (A)* 3 (1942) 155-194; A New Homology Theory. *Ann Math (2)* 43 (1942) 370-380; A New Homology Theory, II. *Ann Math (2)* 43 (1942) 594-605; The Duality Theory and the Basic Isomorphisms of Group Systems and Nets and Co-Nets of Group Systems. *Ann Math (2)* 46 (1945) 1-28; On Products in Topology. *Ann Math (2)* 46 (1945) 29-57; Duality Theorems. *Fund Math* 35 (1948) 188-202.

Placzek, George M(NS), Theoretical Physics

Born 1905 Bruno, Czechoslovakia. PhD 1928 Univ of Vienna. Permanent Member 1948-55. Deceased.
Memberships: Am Phys Soc.

Selected publications: with K. M. Case, F. de Hoffmann, *Introduction to the Theory of Neutron Diffusion*. 1. Los Alamos: Los Alamos Sci Lab, 1953; Correlation of Position for the Ideal Quantum Gas. *Proc of Second Berkeley Symp on Math Statistics and Probability*, 1950 (1951) 581-588; with B. R. A. Nijboer and L. C. P. Van Hove, Effect of Short Wavelength Interference on Neutron Scattering by Dense Systems of Heavy Nuclei. *Phys Rev (2)* 82 (1951) 392-403; The Scattering of Neutrons by Systems of Heavy Nuclei. *Phys Rev (2)* 86 (1952) 377-388; Scattering of X-Rays by Atoms. *Phys Rev (2)* 86 (1952) 588; with L. C. P. Van Hove, Crystal Dynamics and Inelastic Scattering of Neutrons. *Phys Rev (2)* 93(1954) 1207-1214; Incoherent Neutron Scattering by Polycrystals. *Phys Rev (2)* 93 (1954) 895-896.

Viner, Jacob HS, Economics

Born 1892 Montreal, Canada. PhD 1922 Harvard Univ. Member 1947-48, Permanent Member 1950-1970. Deceased.

Honors: Hon degree McGill Univ; Univ of Chicago; Univ of Penn; Harvard Univ; Glasgow Univ; Princeton Univ; ACLS Spec Awd 1958; AAAS; British Acad; Swedish Royal Acad; Accad dei Lincei; Francis A. Walker Medal of Am Econ Assoc 1962; Am Philos Soc 1942; delivered Jayne Lectures 1966.

Appointments: Ed. *J of Polit Economy*; US Tariff Comm & US Shipping Board during WWI; Spec Asst 1934, 1939, 1942 to US Sec of Treasury; Consultant US State Dept 1943-1952; Pres Am Econ Assoc 1939.

Selected publications: Price Policies: The Determination of Market Price, in *Business Admin*, ed. by L. C. Marshall, 343-347. Chicago: U of Chicago Press, 1921; The Relation between Economics and Ethics (Discussion). *Amer Econ Rev, Supp* 12 (Mar 1922) 198-200; Taxation and Changes in Price Levels. *J Polit Econ* 31 (Aug 1923) 494-520; *Dumping: A Problem in International Trade*. Chicago: U of Chicago Press, 1923; *Canada's Balance of International Indebtedness, 1900-1913*. Cambridge: Harvard Univ Press, 1924; Objective Tests of Competitive Price Applied to the Cement Industry. *J Polit Econ* 33 (Feb 1925) 107-111; Rev of John R. Commons, "Legal Foundations of Capitalism". *Ill Law*

Rev 19 (Apr 1925) 710-712; Adam Smith and Laissez Faire. *J Polit Econ* 35 (Apr 1927) 198-232; The Present Status and Future Prospects of Quantitative Economics (Discussion). *Amer Econ Rev, Supp* 18 (Mar 1928) 30-36; Rev of Raymond Sachot "Les Prix de Monopole d'après les Doctrines et dans les Faits". *J Polit Econ* 36 (June 1928) 411-412; Rev of Edgar Salin and Artur Sommer "Friedrich List, Schriften, Reden, Briefe," volume 4, "Das Natürliche System der politischen Ökonomie". *J Polit Econ* 37 (June 1929) 364-366; Rev of Merrill K. Bennett "Farm Cost Studies in the US". *J Amer Stat Assoc* 25 (Mar 1930) 111-113; Rev of Edwin Cannan "A Review of Economic Theory". *Economica* 28 (Mar 1930) 74-84; Cost Curves and Supply Curves. *Zeitschrift für Nationalökonomie* 3 (1931-I) 23-46; Rev of Robert Livingston Schuyler, editor, "Josiah Tucker: A Selection from His Economic and Political Writings". *J Polit Econ* 40 (June 1932) 416-418; Rev of Eli F. Heckscher "Mercantilism". *Econ Hist Rev* 6 (Oct 1935) 99-101; Rev of Henry Higgs "Bibliography of Economics, 1751-1775". *J Polit Econ* 43 (Dec 1935) 817-820; Mr. Keynes on the Causes of Unemployment. *Q J Econ* 51 (Nov 1936) 147-167; *Studies in the Theory of International Trade*. New York: Harper, 1937; Rev of Marian Bowley "Nassau Senior and Classical Economics". *Econ J* 48 (June 1938) 283-285; Rev of W. H. Hutt "Economists and the Public: A Study of Competition and Opinion". *J Polit Econ* 46 (Aug 1938) 571-575; The Short View and the Long in Economic Policy. *Amer Econ Rev* 30 (Mar 1940) 1-15; Marshall's Economics, in Relation to the Man and to His Times. *Amer Econ Rev* 31 (June 1941) 223-235; Rev of Harvard Grad Schl of Bus Admin "Catalogue Covering Materials Published through 1776". *J Polit Econ* 49 (Aug 1941) 629-631; Rev of "Bibliography of the Published Writings of John Stuart Mill". *Modern Philology* 43 (Nov 1945) 149-150; Clapham on the Bank of England. *Economica* NS 12 (May 1945) 61-68; The Role of Costs in a System of Economic Liberalism, in *Econ Inst on Wage Determination and the Econs of Liberalism* 15-33. Washington: US Chamber of Commerce, 1947; Rev of Etienne Mantoux "The Carthaginian Peace - Or the Economic Consequences of Mr. Keynes". *J Mod Hist* 19 (Mar 1947) 69-70; Power versus Plenty as Objectives of Foreign Policy in the Seventeenth and Eighteenth Centuries. *World Politics* 1 (Oct 1948) 1-29; Bentham and J. S. Mill: The Utilitarian Background. *Amer Econ Rev* 39 (Mar 1949) 360-382; Tension between Government and Business. *Commercial & Financial Chronicle* (Sept 29, 1949) 1252, 1273; Full Employment at Whatever Cost. *Q J Econ* 64 (Aug 1950) 385-407; *The Customs Union Issue*. New York: Carnegie Endowment for International Peace, 1950; *International Economics*. Glencoe, Ill: Free Press, 1951; Rev of "The Works and Correspondence of David Ricardo" ed. by Piero Sraffa. *NY Times Book Rev* (Oct 14, 1951); *Introduction to Bernard Mandeville, "A Letter to Dion (1732)"*. Berkeley: U Cal Clark Mem Library, 1953; *International Trade and Economic Development*.

16B Permanent Members

Glencoe, Ill: Free Press, 1953; *A Modest Proposal for Some Stress on Scholarship in Graduate Training*. Princeton: Princeton Univ Press, 1953; Schumpeter's "History of Economic Analysis" . *Amer Econ Rev* 44 (Dec 1954) 894-910; The Utility Concept in Value Theory and Its Critics. *J Polit Econ* 44 (Aug 1955) 369-387; *The Long View and the Short: Studies in Economic Theory and Policy*. Collection of author's essays and book reviews. Glencoe, Ill: Free Press, 1958; *Problems of Monetary Control*. International Finance Section, Essays in International Finance, 45. Princeton: Princeton University, 1964; *Guide to John Rae's Life of Adam Smith*. New York: Kelley, 1965; *The Role of Providence in the Social Order*. Philadelphia: Amer Phil Soc, 1972; Jacques Melitz and Donald Winch *Religious Thought and Economic Society: Four Chapters of an Unfinished Work*. Chapel Hill: Duke Univ Press, 1978.

Weitzmann, Kurt HS, Archaeology

Born 1904 , Germany. PhD 1929 Univ of Berlin. Permanent Member 1935-72. Dept of Art & Archaeology, Princeton Univ, McCormick Hall, Princeton, NJ 08540.

Honors: Fellow Med Acad of Amer 1945; Member Am Philos Soc 1964; Corr Member Akad Göttingen 1965; Corr Fellow Brit Acad 1965; Corr Member Akad Heidelberg 1970; Soc Corr Pontificia Accademia Romana di Archeologia 1974; Member AAAS 1978;

D(hc) Univ of Heidelberg 1967; LHD Univ of Chicago 1968; Prix Gustave Schlumberger Acad Inscip et Belles Lett 1969; Haskins Medal Med Acad of Amer 1974; Charles Rufus Morey Book Award Coll Art Assoc 1976; Hon Trustee Metropolitan Museum of Art 1970; Hon Fellow Pierpont Morgan Library 1976.

Selected publications: *Illustrations in Roll and Codex*. Princeton Univ Press, 1947; *The Joshua Roll*. Princeton Univ Press, 1948; *Greek Mythology in Byzantine Art*. Princeton Univ Press, 1951; *The Fresco Cycle of S. Maria de Castelseprio*. Princeton Univ Press, 1951; Der Illustration der Septuaginta. *Münchner Jahrbuch der Bildenden Kunst* (3) 3/4 (1952-1953) 96-120; Ed *Late Classical and Mediaeval Studies in Honor of Albert Mathias Friend, Jr.*. Princeton Univ Press, 1955; *Ancient Book Illumination*. Martin Classical Lectures, 16. Cambridge, Mass: Harvard Univ Press, 1959; *Geistige Grundlagen und Wesen der Makedonischen Renaissance*. Cologne, Opladen: Westdeut Verlag, 1963; Ed *Studies in Classical and Byzantine Manuscript Illumination*. Chicago, London: 1971; with George H. Forsyth, *The Monastery of St. Catherine at Mount Sinai. The Church and Fortress of Justinian*. Ann Arbor: Univ of Mich Press, 1973; *The Monastery of St. Catherine at Mount Sinai. The Icons. From the Sixth to the Tenth Century*. Princeton: 1976.

Members

Explanatory Notes

Listed here are members who were in residence at the Institute for a semester, a full year or more. Information is taken from the members' own statements, except for non-respondents who are identified with an asterisk (*) at the end of the biographical data. The length of the entry is of course not necessarily an indication or measure of the relative importance of the person's worth. An editorial judgment was sometimes made to include only the material most likely to prove useful to the reader, and some members provided limited information. Book titles were kept in the original language insofar as possible, or were transliterated into the roman alphabet where necessary. Because of space limitations, the list of publications was sometimes reduced by the editor. Papers submitted or in preparation were not listed, nor were speeches and book reviews as a rule.

Throughout the book the word-by-word style of alphabetizing is used, considering all letters in sequence up to the first space or punctuation mark. For example, Van Wyck precedes Vance, and D'Arcy precedes Dabrowski. The prefixes De, Van, Von, etc., are alphabetized under the connective for British and American names but are inverted for Germanic nationalities and in the Romance Languages unless usage dictates otherwise. Names beginning with Mac and Mc are arranged letter-by-letter, not all under Mac.

Biographical Data.

Name, dates and IAS school of membership, field of study Terms as visitors or research assistants are omitted. Residence for one term only is designated by "s" or "f" for spring and fall terms.

IAS schools are abbreviated: M for Mathematics, NS for Natural Sciences, HS for Historical Studies, Soc for Social Science. M(NS) is used for those in the natural sciences who came to the Institute before the School of Natural Sciences started in 1966. HS(H)

and HS(EP) designate the School of Humanistic Studies and the School of Economics and Politics which merged in 1949 to become the School of Historical Studies. Joint memberships are designated by HS/M, HS/Soc, and HS/NS.

If the member's field of interest changed after his IAS membership, the original field is shown in parentheses.

Date and place of birth. Official zip code abbreviations of the Post Office are used for US state names. Foreign place names are anglicized.

Highest earned degree(s); year, field and granting institution.

Honors: included are academic honors, scholarships, fellowships, lectureships, honorary degrees, prizes, awards, memberships in societies, etc.

Appointments: included are academic and federal appointments, service on national commissions, advisory boards or professional committees, editorial appointments, etc.

Memberships in professional associations or organizations.

Current academic position and/or administrative post, institution where serving or connected, mailing address.

Bibliography.

Citations are separated by semicolons. The order of information is as follows: biographee is editor or translator; name of coauthor or coeditor; book title (in italics) or title of journal article; author of translated or edited work; title of periodical (in italics); series and/or edition of book; volume/ issue number; year of issue of journal (in parentheses) and page reference; city, publisher and date of publication of book.

Members

Abarbanel, Henry Don Isaac 71f NS

Born 1943 Washington, DC. PhD 1966 Princeton Univ. Honors: Sloan Fellow 1969-72. Appointments: JASON 1974-. Memberships: Am Phys Soc. Physicist, Fermi National Accelerator Lab, Fermilab CL3E, Box 500, Batavia, IL 60510.

Abdellatif, Refat Ahmed 75 76 NS

Born 1940 Egypt. PhD 1970 U of Washington. 81 Mohammadia Street, Victoria, Alexandria, Egypt. *

Accola, Robert Daniel Mize 68-69 M, Riemann Surfaces, Algebraic Geometry

Born 1929 New Rochelle, NY. PhD 1958 Math Harvard Univ. Memberships: AMS. Prof, Department of Mathematics, Brown University, Providence, RI 02912.

Publications Related to IAS Residence: Riemann surfaces, theta functions, and abelian automorphism groups. *Springer Lecture Notes in Mathematics* 483(1975); Some Loci of Teichmüller space for genus five defined by vanishing theta-nulls. In *Contributions to Analysis*. Academic Press, 1974; Two theorems on Riemann surfaces with noncyclic automorphism groups. *Proc of the Am Math Soc* 25(1970) 598-602.

Ackerman, Robert A. 75-76 HS, Intellectual History

Born 1935 New York, NY. PhD 1969 Columbia Univ. Honors: PBK 1956; NEH Fship 1975-76; Columbia Council on Humanities Fship 1970, 72, 74. Dean, Humanities, Yeshiva Univ, 500 W. 185th St, New York, NY 10033.

Publications Related to IAS Residence: J.G. Frazer Revisited. *American Scholar* 47 (Spring 1978) 232-6.

Other Publications: Sir J.G. Frazer & A.E. Housman: A Relationship in Letters. *Greek, Roman & Byzantine Studies* 15(1974) 339-64; Jane Ellen Harrison: The Early Work. *Greek, Roman & Byzantine Studies* 13(1972) 209-30.

Ackrill, John Lloyd 50-51,61-62 HS, Ancient Philosophy

Born 1921 Reading, Berkshire, England. MA (Oxon.) 1945. Prof, History of Philosophy, Oxford Univ, Brasenose College, Oxford, England.

Publications Related to IAS Residence: *Aristotle's "Categories" and "De Interpretatione"*. Oxford: Clarendon Press, 1963.

Other Publications: *Aristotle's "Ethics"*. London: Faber and Faber, 1973.

Adams, John Frank 57-58, 61 f M, Algebraic Topology

Born 1930 London, England. PhD (Cantab.) 1955 Maths. Honors: FRS 1964. Appointments: Chairman of Sectional Committee 1 (Mathematics) of the Royal Society, 1976-1978; Consultative Comm Internatl Congress of Mathematicians, Helsinki, 1978. Memberships: Royal Society; London Math Soc; AMS; Assoc of Univ Teachers. Lowndean Prof, Maths, Cambridge Univ, D.P.M.M.S., 16 Mill Ln, Cambridge CB2 1SB, England.

Publications Related to IAS Residence: On the non-existence of elements of Hopf invariant one. *Ann Math* 72(1960) 20-104; Vector fields on spheres. *Ann Math* 75(1962) 603-632; Infinite loop spaces. In *Annals of Math Studies*, 90. Princeton U P, 1978.

Other Publications: On the groups $J(X)$ I, II, III, IV. *Topology* 2(1963) 181-195; 3(1965) 137-171; 3(1965) 193-222; 5(1966) 21-71; Maps between classifying spaces I, II. *Invent Math* 35(1976) 1-41; 49(1978) 1-65.

Adams, William Wells 66-67 M, Number Theory

Born 1937 Redlands, CA. PhD 1964 Math Columbia Univ. Honors: NSF Post Doc Fellow 1966-67; Washington Acad of Scis Math Award 1970. Memberships: AMS; MAA; AAUP. Prof, Dept of Math, University of Maryland, College Park, MD 20742.

Publications Related to IAS Residence: Simultaneous asymptotic diophantine approximations. *Mathematika* 14(1967) 173-180; Asymptotic diophantine approximations and equivalent numbers. *Proc AMS* 19(1968) 231-235; A lower bound in asymptotic diophantine approximations. *Duke Math J* 35(1968) 21-35; Simultaneous diophantine approximations and cubic irrationals. *Pacific J* 30(1969) 1-14.

Other Publications: Asymptotic diophantine approximations and hurwitz numbers. *Am J Math* 89(1967) 1083-1108; Transcendental numbers in the p-adic domain. *Am J Math* 88(1966) 279-308; Simultaneous a-symptotic diophantine approximations to a basis of a real cubic number field. *Journal of Number Theory* 1(1969) 179-194; Simultaneous Asymptotic Diophantine Approximations to a Basis of a Real Number Field. *Nagoya Math Journal* 42(1971) 79-97; With J. L. Davison. A remarkable class of continued fractions. *Proc AMS* 65(1977) 194-198.

Addison, John West, Jr. 56f M, Foundations of Mathematics

Members

Born 1930 Washington, DC. PhD 1955 Univ of Wisc. Dept of Mathematics, Univ of Calif, Berkeley, CA 94720. *

Adkins, William A. 76-77 M, Ideals of Differentiable Functions

Born 1950 Livermore, KY. PhD 1976 Univ of Oregon. Vai Sant' Andrea, 56100 Pisa, Italy. *

Adler, Allan Russell 77-78 M

Born 1947 New York, NY. PhD 1973 SUNY, Stony Brook. Department of Mathematics, Brandeis University, Waltham, MA 02154. *

Adler, Felix T. 41s, 41-42 M(NS), Neutron Physics

Born 1911 Switzerland. PhD 1938 Physics Univ of Zürich. *

Publications Related to IAS Residence: On the Slowing Down of Neutrons by Elastic Collisions. *Phys Rev* 2 60(1941) 279-280.

Adler, Ronald J. 73-74 NS, Relativity Theory

Born 1937 Pittsburgh, PA. PhD 1965 Stanford Univ. Univ Federal de Pernambuco, Inst de Fisica, Cidade Universitaria, 5000-Recife-Pe, Brazil. *

Adler, Stephen L. see Present Faculty

Adolphson, Alan Carl 78-79 M, Number Theory

Born 1951 Bellingham, WA. PhD 1974 Mathematics Princeton Univ. Memberships: AMS. Asst Prof, Dept of Mathematics, University of Washington, Seattle, WA 98195.

Ahern, Patrick Robert 63-65 M, Number Theory

Born 1936 Mankato, MN. PhD 1963 Univ of Minnesota. Univ of Wisc, Madison, WI 53706. *

Ahlfors, Lars Valerian 66f M

Born 1907 Helsingfors, Finland. PhD 1932 Univ of Helsinki. Honors: Fields Medal 1936; NAS; LLD(hc) Boston College; PhD(hc) Åbo Akademi, Finland; PhD(hc) Univ of Zürich 1977; ScD London Univ 1978. Memberships: AMS; Swedish Royal Soc; Danish Royal Soc; Acad Sci Fenn. Prof Emer, Mathematics, Science Center, Harvard University, Cambridge, MA 02138.

Publications: *Complex Analysis*. New York: McGraw-Hill, 1953; *Conformal Invariants*. New York: McGraw-Hill, 1973; *Quasiconformal Mappings*. Princeton NJ: Van Nostrand, 1966.

Ahner, John Franklin 73-74 M, Analysis

Born 1945 Wilmington, DE. PhD 1972 Mathematics Univ of Del. Honors: Presidential Intern Nav Res Lab 1972-73; PBK; Phi Kappa Phi; Sigma Pi Sigma; Sigma Xi. Memberships: AMS; MAA; SIAM. Asst Prof, Mathematics, Vanderbilt Univ, Box 1685, Station B, Nashville, TN 37235.

Publications Related to IAS Residence: The Exterior Dirichlet Problem for the Helmholtz Equation. *J Math Anal Appl* 52(1975) 415-429; With G. C. Hsiao. On the Two-Dimensional Exterior Boundary-Value Problems of Elasticity. *SIAM J Appl Math* 31(1976) 677-685; Scattering by a Hard Obstacle in a Piecewise Homogeneous Medium. *Z Angew Math Phys* 25(1974) 541-546; The Exterior Time Harmonic Elasticity Problem with Prescribed Displacement Vector on the Boundary. *Arch der Math* 27(1976) 106-111.

Other Publications: The Exterior Robin Problem for the Helmholtz Equation. *J Math Anal Appl* 66(1978) 37-54; Scattering by an Inhomogeneous Medium. *J Inst Math Appl* 19, No. 4(1977) 425-439; With R. E. Kleinman. The Exterior Neumann Problem for the Helmholtz Equation. *Arch Rational Mech Anal* 52(1973) 26-43; With C. S. Kahane. A Note on an Inverse Scattering Problem. *Proc Amer Math Soc* 73(1979) 88-91.

Akagawa, Yasumasa 69-71 M, Number Theory

Born 1931 Okayama, Japan. DSc 1960 Osaka Univ. Memberships: Math Soc Japan. Prof, Department of Mathematics, Nara Women's University, Nara 630, Japan.

Publications: On the construction of Galois extensions. *Sugaku* 14(1962-63) 209-219.

Akbulut, Selman 75-76 M, Topology

Born 1949 Balıkesir, Turkey. PhD Univ of Calif, Berkeley. Memberships: AMS. Asst Prof, Math Dept., Rutgers University, New Brunswick, NJ 08903.

Publications Related to IAS Residence: Real Algebraic Equations for a Class of P.L. Spaces. *Math Ann* 231(1977) 19-31; With H. King. Real Algebraic Variety Structures on P.L. Manifolds. *BAMS* 83(1977) 2; On 2-dimensional Homology Classes of 4-Manifolds. *Math Proc Camb Phil Soc* 82(1977) 99; A note on Homology surgery and the Casson-Gordon Invariant. *Math Proc Camb Phil Soc* in press; On Representing Homology Classes of 4-Manifolds. *Inventiones Math* in press; With R. Kirby. Mazur Manifolds. *Mich Math Journal* in press; With R. Kirby. An Exotic Involution on S^4 . *Topology* in press.

Akeley, Edward S. 37s M(NS), Relativity

Born 1894 Vermillion, SD. PhD 1927 Univ of Chicago. *

Åkerström, Åke Bertil 56-57 HS, Mycenaean Archaeology, Archaic Greek Art

Born 1902 Örebro, Sweden. DPhil 1934 Etruscan Archaeology Uppsala University. Honors: Member Royal Acad of Letters Hist and Antiquities; Royal Soc Arts and Sci Uppsala; Royal Soc Letters and Sci Göteborg; Deut Archäolog Inst; Ist Studi Etruschi ed Italic, Florence; Öst Archäolog Inst; Archaeolog Soc Athens; Hon Stud Brit School of Archaeol Athens; Knight cmdr Order of Phoenix (Greece); Order of Pole Star (Sweden). Appointments: Swed Archaeolog Inst

Rome and Athens 1957-1969; Dir Athens 1949-56, 1970-72; Nat Council of Humanistics, 1957-1969; Staff, Swedish excavations at Dendra 1927, Berbati 1937, Labranda 1949; leader 1938, 1953, 1959. Prof Emer, Class Archaeol & Ancient History, Göteborg Univ, Eklandaga-tan 10, 412 55 Göteborg, Sweden.

Publications Related to IAS Residence: *Die Architek-tonischen Terrakotten Kleinasiens*. Lund: Gleerup, 1966.

Other Publications: *Stud über die Etruskischen Gräber*. Uppsala: Almqvist & Wiksell, 1934; *Der Geometrische Stil in Italien*. Lund: Gleerup, 1943; ed, *Larisa am Her-mos II*. Berlin: de Gruyter, 1940.

Akutowicz, Edwin James 48-49, 69f M, Analysis

Born 1922 Rocky Hill, CT. PhD 1947 Mathematics Harvard Univ. Memberships: Soc Math France. Prof, U of Montpellier, Institut de Mathématiques, Place E Batail-Ion, 34060 Montpellier, France.

Publications Related to IAS Residence: On Mean-periodicity II. *TAMS* 157(1971).

Other Publications: Sur l'approximation par certaines fonctions entières. *Ann Sci École Norm Sup* (3) 77(1960) 281-301.

Albada, Gale Bruno van 63-64 M(NS), Astrophysics

Born 1912 Netherlands. PhD 1945 Univ of Amsterdam.*

Albert, Abraham Adrian 33-34 M, Algebra, Geometry

Born 1905 . PhD 1928 Univ of Chicago. Deceased.

Publications Related to IAS Residence: Cyclic Fields of Degree p^n over F of Characteristic p . *Bull AMS* 40(1934) 625-631; Normal Division Algebras over a Modular Field. *TAMS* 36(1934) 388-394; On a Certain Algebra of Quantum Mechanics. *Ann Math* 235(1934) 65-73; On Normal Kummer Fields over a Non-Modular Field. *TAMS* 36(1934) 885-892; A Solution of the Principal Problem in the Theory of Riemann Matrices. *Ann Math* 2 35(1934) 500-515; A Note on the Poincaré Theorem on Impure Riemann Matrices. *Ann Math* 2 36(1935) 151-156; On the Construction of Riemann Matrices II. *Ann Math* 2 36(1935) 376-394.

Albrecht, Felix Robert 67-68 M, Geometry, Global Analysis

Born 1926 Cernauti, Rumania. Diploma in Math 1951 Univ of Bucharest. Appointments: AMS Cttee on Translations. Memberships: AMS. Prof, Dept of Math, Univ of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: *Topics in Control Theory*. Lect Notes in Math, 63. Springer-Verlag, 1968.

Albritton, James R. 75-76 NS, Plasma Physics

Born 1945 Montgomery, AL. PhD 1973 Engineering & Applied Science Yale Univ. Scientist, Laboratory for

Laser Energetics, University of Rochester, Rochester, NY 14627.

Publications Related to IAS Residence: *Phys Fluids* 22(1979) 139.

Alcock, Charles Roger 77-80 NS, Astrophysics

Born 1951 Windsor, England. PhD 1978 Cal Tech. Member with Long-Term Appointment, IAS, 60 Einstein Dr, Princeton, NJ 08540. *

Alef, Gustave 61-62 HS, Medieval History

Born 1922 New York, NY. PhD Russian History Princeton University. Honors: Exchange Fellow Academy of Sciences (Moscow) 1968-69; Guggenheim Fellowship 1973-74. Memberships: Medieval Acad of Amer; Amer Assoc for Advancement of Slavic Studies. Prof, Department of History, University of Oregon, Eugene, OR 97403.

Publications Related to IAS Residence: Das Erlöschen des Abzugsrechts der Moskauer Bojaren. *Forschungen zOG* 10(1965) 7-74; The Adoption of the Muscovite Two-Headed Eagle: A Discordant View. *Speculum* 41(1966) 1-20.

Other Publications: The Crisis of the Muscovite Aristocracy: A Factor in the Growth of Monarchical Power. *Forschungen zOG* 15(1970) 15-58; Muscovite Military Reforms in the second half of the Fifteenth Century. *Forschungen zOG* 18(1973) 74-108; Reflections on the Boyar Duma in the Reign of Ivan III. *Slavonic and East European Review* 45(1967) 76-123 .

Alexander, John Ralph 67-68 M

Born 1935 Anniston, AL. PhD 1963 Purdue Univ. Deceased.

Alexander, Paul Julius 51-52, 70-71 HS, Byzantine History

Born 1910 Berlin, Germany. PhD 1940 Harvard Univ. Deceased.

Publications Related to IAS Residence: Hypatius of Ephesus; a Note on Image Worship in the Sixth Century. *Harvard Theological Rev* 45(1952) 177-184; The Iconoclastic Council of St. Sophia (815) and Its Definition (Horos). *Dumbarton Oaks Papers* 7(1953) 35-66.

Alfaro, Vittorio de 63-64, 64f, 77f M(NS), Theoretical Physics

Born 1933 Palermo, Italy. Laurea 1955 Physics Univ of Torino. Memberships: Soc Ital di Fisica; European Phys Soc. Prof, Theor Physics, Univ of Torino, Direttore, Istituto di Fisica Teorica, Corso D'Azeglio 46, 10125 Torino, Italy.

Publications Related to IAS Residence: With T. Regge. *Potential Scattering*. Amsterdam: North-Holland Publ Co, 1965; With S. Fubini, and G. Furlan. Properties of $O(4) \times O(2)$ Symmetric Solutions of the Yang-Mills Field Equations. *Physics Letters* 72(1977) 203; With S. Fubini and G. Furlan. Classical Solutions

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of Generally Invariant Theories. *Physics Letters* 73(1978) 463; With Y. Tomozawa. Decay of Decuplet Baryon Resonances. *Phys Rev* 138(1965) 1193.

Other Publications: With S. Fubini, G. Furlan, C. Rossetti. *Currents in Hadron Physics*. Amsterdam: North-Holland, 1973.

Alföldy, Géza 72-73 HS, Ancient History

Born 1935 Budapest, Hungary. DrHabil 1966 Ancient History Univ of Bonn. Honors: Member, Real Academia de la Historia, Madrid 1971; Member, Heidelberg Akademie der Wissenschaften 1978. Memberships: Mommsen-Gesellschaft; Verband Deutscher Historiker; Society for the Promotion of Roman Studies; Real Sociedad de la Archaeologia. Prof, Ancient History, Univ of Heidelberg, Seminar für Alte Geschichte, Marstallhof 4, D-6900 Heidelberg, Germany.

Publications Related to IAS Residence: *Konsulat und Senatorenstand unter den Antoninen*. Bonn: Habelt, 1977; The Crisis of the Third Century as Seen by Contemporaries. *Greek, Roman and Byzantine Studies* 15(1974) 89-111; P. Helvius Pertinax und M. Valerius Maximianus. *Situla* 14/15(1974) 199-215; Das neue saeculum des Pescennius Niger. In *Bonner Historia-Augusta-Colloquium*, 1-10. Bonn: 1976; Zwei Schimpfnamen des Kaisers Elagabal: Tiberinus und Tractatitius. In *Bonner Historia-Augusta-Colloquium*, 11-21. Bonn: 1976.

Other Publications: *Fasti Hispanienses*. Wiesbaden: F. Steiner, 1969; *Die Personennamen in der römischen Provinz Dalmatia*. Heidelberg: C. Winter, 1969; *Noricum*. London: Routledge and K. Paul, 1974; *Römische Sozialgeschichte*. 1975; *Die römischen Inschriften von Tarraco*. Berlin: W. de Gruyter, 1975.

Alisbah, Orhan H. 53s, 53f, 54s M, Theory of Functions of a Complex Variable

Born 1910 Turkey. PhD 1936 Univ of Berlin. Univ of Ankara, Ankara, Turkey. *

Allen, Harry Cranbrook 59f HS, International History

Born 1917 Watford, Herts, England. MA (Oxon.) 1941. Honors: Fellow of the Royal Historical Society 1955-. Appointments: Royal Naval Dartmouth Review Committee 1958; Naval Education Advisory Committee 1960-6; Academic Planning Board, Essex University 1962. Memberships: British Assoc for Am Studies (Chairman 1974-7); European Assoc for Am Studies (President 1976 to date). Prof, American Studies, Univ of East Anglia, 13 Riverside Close, Lower Hellesdon, Norwich NR65AU, England.

Publications Related to IAS Residence: *The Anglo-American Predicament: The British Commonwealth, the United States and European Unity*. London, New York: Macmillan and St. Martin's Press, 1960.

Other Publications: *Great Britain and the United States: A History of Anglo-American Relations, 1783-1952*. London: Odhams Press, 1954; *Bush and Backwoods: A Comparison of the Frontier in Australia*

and the United States. Michigan State Univ Press, 1959.

Allen, Reginald E. 66-67, 74-75 HS, Ancient Philosophy

Born 1931 Philadelphia, PA. PhD 1958 Yale Univ. Prof, Dept of Philosophy, Northwestern University, Evans-ton, IL 60201.

Publications Related to IAS Residence: *Plato's Euthy-phro and the Earlier Theory of Forms*. London: 1970; *Ideas and Participation in Plato's Parmenides*. forthcoming.

Allendoerfer, Carl B. 48-49, 57-58, 61f M, Differential Geometry

Born 1911 Kansas City, MO. PhD 1937 Princeton Univ. Deceased.

Publications Related to IAS Residence: Characteristic Cohomology Classes in a Riemann Manifold. *Ann Math* 2 51(1951) 551-570.

Almgren, Frederick Justin, Jr. 63-65, 69f, 74-75, 78s M

Born 1933 Birmingham, AL. PhD 1962 Mathematics Brown Univ. Appointments: Mem Joint Projects Comm for Math; Chmn Selection Panel for AMS-MAA-SIAM Congressional Sci Fellowship. Memberships: AMS; MAA; SIAM; AAAS. Prof, Mathematics, Fine Hall, Princeton University, Princeton, NJ 08540.

Publications Related to IAS Residence: *Existence and regularity almost everywhere of solutions to elliptic variational problems with constraints*. AMS Memoirs, 165. Providence, RI: AMS, 1976; Some interior regularity theorems for minimal surfaces and an extension of Bernstein's theorem. *Ann Math* 84(1966) 277-292; With L. Simon. Existence of embedded solutions of Plateau's Problem. *Ann Scuola Norm Sup Pisa* in press; Three theorems on manifolds with bounded mean curvature. *Bull AMS* 16(1965) 1291-1294; Mass continuous cochains are differential forms. *Proc AMS* 71(1965) 755-756.

Other Publications: Existence and regularity almost everywhere of solutions to elliptic variational problems among surfaces of varying topological type and singularity structure. *Ann Math* 87(1968) 321-391; With R. Schoen and L. Simon. Regularity and singularity estimates on hypersurfaces minimizing parametric elliptic variational integrals. *Acta Math* 139(1977) 217-265; The structure of limit varifolds associated with minimizing sequences of mappings. *Symposia Math* 14(1974) 413-428; With W. K. Allard. The structure of stationary one dimensional varifolds with positive density. *Invent Math* 34(1976) 83-97; With W. P. Thurston. Examples of unknotted curves which bound only surfaces of high genus within their convex hulls. *Ann Math* 105(1977) 527-538; With J. Taylor. The geometry of soap films and soap bubbles. *Scientific American* July(1976) 82-93.

Alperin, Jonathan L. 68s, 79f M

Born 1937 Boston, MA. PhD 1961 Math Princeton Univ. Honors: Guggenheim Fellow 1974-75. Prof, Dept of Mathematics, University of Chicago, 5734 University Ave, Chicago, IL 60637.

Publications Related to IAS Residence: With R. Brauer and D. Gorenstein. Finite Groups with Quasi-Dihedral and Wreathed Sylow 2-sub groups. *Trans of the Amer Math Soc* 151(1970) 1-261.

Other Publications: Sylow Intersections and Fusion. *J of Algebra* 6(1967) 222-241.

Alpers, Svetlana Leontief 79-80 Soc, History of Art

Born 1936 Cambridge, MA. PhD 1965 Fine Arts Harvard Univ. Honors: PBK; Woodrow Wilson Fellow 1957-58; Kathryn McHale Fellow (AAUW) 1961-62; Guggenheim Fellow 1972-3; Fellow Center for Adv Study in Behav Scis 1975-76; ACLS Fellow 1979; Visiting Fellow Netherlands Inst for Adv Study, Wassenaar 1979. Appointments: Bd Dirs, Coll Art Assoc, 1971-76; Adv Bd, Women's Caucus for Art, 1974-77; US Natl Comm on the Hist of Art, 1975—Museums and Hist Organizations Panel, NEH, 1976—Memberships: Coll Art Assoc; Renaissance Soc of Amer. Prof, History of Art, University of California, 405 Doe Library, Berkeley, CA 94720.

Publications: *The Decoration of the Torre de la Parada*. Corpus Rubenianum Ludwig Burchard. Brussels-London: 1971; Ekphrasis and Aesthetic Attitudes in Vasari's Lives. *J of Warburg and Courtauld Insts* 23(1960) 190-215; Bruegel's Festive Peasants. *Simiolus* 6(1972-73) 163-176; Is Art History? *Daedalus* 106, 3(1977) 1-13.

Amado, Ralph David 77s NS, Theoretical Physics

Born 1932 Los Angeles, CA. DPhil (Oxon.) 1957 Physics. Memberships: Am Phys Soc; Amer Assoc for Advance of Sci. Prof, Dept of Physics, University of Pennsylvania, Philadelphia, PA 19104.

Publications Related to IAS Residence: Constraints on the high momentum behavior of inelastic scattering amplitudes. *Physics Letters* 69B(1977) 400-402.

Amandry, Pierre 54-55, 60f, 66f HS, Greek Archaeology

Born 1912 Troyes, France. DèSL 1950. Honors: Mem Acad Inscip et Belles-Lettres 1972; Corr Fellow Brit Acad 1978. Dir, French Archaeological School, Athens, 54 blvd St. Jacques, 75014 Paris, France.

Publications Related to IAS Residence: A propos de Polyclète: statuettes d'Olympioniques et carrière de sculpteurs Charites. *Studien zur Altertumswissenschaft* (1957) 63-87; A Greek Gold Medallion. *Museum Notes, RI Schl of Design* 12, 3(Spring 1955) 7-12; Médaille en or du Musée de Providence. *Amer J Archaeol* 59(1955) 219-22; Thémistocle: un décret et un portrait. *Bull Fac des Lett Univ Strasbourg* 39(1960-61) 413-35; Chaudrons à protomes de taureau en Orient et en Grèce. In *The Aegean and the Near East; Studies presented to Hetty Goldman on the occasion of her seventy-fifth birthday*, ed. by Saul S. Weinberg. Locust Valley, NY:

Augustin, 1956; Thémistocle à Méliité. *Charisterion Orlandos* 4(1967) 265-79; La Grèce d'Asie et l'Anatolie du 8e au 6e siècle avant J-C. *Anatolica* 2(1968) 87-102; The Near East. *French Bibliographical Digest* 2(1957); Greece. *French Bibliographical Digest* 3(1957).

Other Publications: *La mantique apollinienne à Delphes*. Paris: E. de Boccard, 1950; *Fouilles de Delphes, II: La colonne du Sphinx des Naxiens et le Portique des Athéniens*. Paris: E. de Boccard, 1953; *Collection Hélène Stathatos, I: Les bijoux antiques*. Strasbourg: 1953.

Ambrose, Alice, see Lazerowitz, Alice Ambrose

Ambrose, Warren 39-41, 48-49, 59f M, Topological Groups

Born 1914 Verdun, IL. PhD 1939 Univ of Ill. Honors: Guggenheim Fellow 1948. Dept of Math, MIT, Cambridge, MA 02139. *

Publications Related to IAS Residence: With J. L. Doob. On Two Formulations of the Theory of Stochastic Processes Depending upon a Continuous Parameter. *Ann Math (2)* 41(1940) 737-745; Change of Velocities in a Continuous Ergodic Flow. *Duke Math J* 8(1941) 425-440; Representation of Ergodic Flows. *Ann Math (2)* 42(1941) 723-739; With P. R. Halmos and S. Kakutani. The Decomposition of Measures, II. *Duke Math J* 9(1942) 43-47; With S. Kakutani. Structure and Continuity of Measurable Flows. *Duke Math J* 9(1942) 25-42.

Ames, Susan 72-74 NS, Astrophysics

Born 1945 Biloxi, MS. PhD 1972 Astronomy Univ of Calif, Berkeley. Scientific Assoc, Astrophysics, Max-Planck-Inst für Kernphysik, Postfach 103980, 69 Heidelberg, Germany.

Amirà, Binyamin A. 55s M, Mathematical Analysis

Born 1896 USSR. DSc 1924 Univ of Geneva. Deceased.

Amitsur, Shimshon A. 52-54 M

Born 1921 Jerusalem, Israel. PhD 1949 Math Hebrew Univ. Honors: Israel prize of exact sciences (with Prof J Levitzki) 1953; Rothschild Prize for Science 1969. Appointments: Israel Natl Comm for HS Math. Memberships: Israel Acad of Scis. Prof, Dept of Mathematics, Hebrew University, Jerusalem, Israel.

Publications Related to IAS Residence: Differential polynomials and division algebras. *Ann Math* 59(1954) 245-278; Generic splitting fields of central simple algebras. *Ann Math* 62(1955) 8-43; Some results on central simple algebras. *Ann Math* 63(1956) 285-293.

Other Publications: A general theory of Radicals I-II-III. *Am J Math* 74, 75(1952, 1954) 774-786, 100-136; Finite subgroups of division algebras. *Trans Am Math Soc* 80(1955) 361-386; Rational identities and applications to algebra and geometry. *J Alg* 3(1960)

Members

304-359; On central division algebras. *Israel J Math* 12(1972) 408-420.

Andersen, Henning Haahr 78-79 M, Algebraic Geometry

Born 1950 Saedding, Denmark. PhD 1977 Math M.I.T.. Assoc Prof, Matematisk Institut, Aarhus Univ, 8000 Aarhus C, Denmark.

Publications: Cohomology of line bundles on G/B. *Ann Sci Ec Norm Sup* (1979); The first cohomology group of a line bundle on G/B. *Invent Math* (1979).

Anderson, Barbara A. 74s Soc, Social Change

Born 1948 Ames, IA. PhD 1974 Sociology Princeton Univ. Honors: MA (hc) Brown Univ 1978. Appointments: Population Research Committee, NIH. Memberships: Am Sociolog Assoc; AHA; Council on Foreign Relations; Am Assoc for Advancement of Slavic Studies; Population Assoc of Am. Assoc Prof, Dept of Sociology, Brown University, Box 1916, Providence, RI 02912.

Publications Related to IAS Residence: With Ansley J. Coale and Erna Härm. *Human Fertility in Russia Since the Nineteenth Century*. Princeton: Princeton University Press, 1979; *Migration During Modernization: European Russia in the Late Nineteenth Century*. Princeton: Princeton University Press, forthcoming.

Other Publications: With James L. McCabe. Nutrition and the Fertility of Younger Women in Kinshasa, Zaire. *J of Devel Econ* (December 1977).

Anderson, Frank W. 63-64 M, Algebra

Born 1928 Omaha, NE. PhD 1954 Mathematics Univ of Iowa. Memberships: MAA; AMS. Prof, Department of Mathematics, University of Oregon, Eugene, OR 97403.

Publications Related to IAS Residence: Endomorphism rings of projective modules. *Math Zeit* 111(1969) 322-332; Lattice ordered rings of quotients. *Canad J Math* 17(1965) 434; Simple injective modules. *Math Scand* 43(1978).

Anderson, Michael P. 73-74 M, Algebraic Geometry

Born 1946 San Francisco, CA. PhD 1973 Princeton U. Dept of Math, Brown Univ, Providence, RI 02912. *

Anderson, Richard Davis 51-52, 55-56 M, Topology

Born 1922 Hamden, CT. PhD 1948 Univ of Texas. Honors: Sloan Fellow 1960-1963; MAA Awd for Disting Svce 1978. Appointments: AMS VPres 1972-73; MAA Board of Governors 1963-65; CBMS Trustee 1975-77, Chairman 1979-80; ETS GRE Panel, 1975-1980, Chmn 1979-80; NRC/NAS Off of Math Scis, Adv Comm 1976-1979; Comm on Postdoctorals 1977-1980; NSF Math Sci Adv Panel 1967-1970, Chmn 1969-70; Adv Comm on Sci Ed 1974-76; Adv Comm on Minority Progs 1977-78. Memberships: MAA, (Finance Cttee 1974-78); AMS, (Vice Pres

1972-73); AAAS. Boyd Prof, Dept of Mathematics, Louisiana State University, Baton Rouge, LA 70803.

Publications Related to IAS Residence: Open Mappings of Compact Continua. *Proc NAS* 42, 6(1956) 347-349; One Dimensional Continuous Curves. *Proc NAS* 42(1956) 700-762; A Characterization of the Universal Curve and a Proof of its Homogeneity. *Ann Math* 67(1958) 313-324.

Other Publications: Hilbert Space in Homeomorphic to the Countable Infinite Product of Lines. *Bull AMS* 72(1966) 515-519; On Topological Infinite Deficiency. *Mich Math J* 14(1967) 365-383.

Andreotti, Aldo 51s, 57-59 M, Complex Analysis

Born 1924 Florence, Italy. Laurea 1947 Univ of Pisa. Honors: Honorary Degree University of Nice 1966; Feltrinelli Prize Accad Dei Lincei 1971. Memberships: Ital Math Union; Soc Math De France; AMS. Prof, Mathematics, Scuola Normale Superiore, Piazza Dei Cavalieri, 56100 Pisa, Italy.

Publications Related to IAS Residence: On a theorem of Torelli. *Am J Math* 80(1957) 97-142; With T. Frankel. The Schetz theorem on hyperplane sections. *Ann Math* 69(1959) 713-717.

Other Publications: With H. Grauert. Théorèmes de finitude pour le cohomologie des espaces complexes. *Bull Soc Math France* 90(1962) 193-259.

Andrewes, Antony 49-50, 60f HS, Ancient Greek History

Born 1910 Tavistock, Devon, England. MA(Oxon.) 1936. Honors: MBE 1944; Fellow Brit Acad 1957; Commander Order of the Phoenix (Greece) 1978. Memberships: Soc for Prom of Hellenic Studies (Pres, 1962-5); Classical Assoc of Gr Brit. 13 Manor Place, Oxford OX1 3UN, England.

Publications Related to IAS Residence: The Generals in the Hellespont. 410-407 B.C. *J Hellenic Studies* 73(1953) 2-9; With B.D. Meritt Athens and Neapolis. *Annual of the British School at Athens* 46(1951) 200-209; With K. J. Dover. In *A Historical Commentary on Thucydides*, ed. by A. W. Gomme, 4. Oxford: Clarendon Press, 1970; 5. forthcoming.

Other Publications: With R. Meiggs. *Sources for Greek History between the Persian and Peloponnesian Wars*. Oxford: 1951; *The Greek Tyrants*. London: Hutchinson's Univ Library, 1956; The Greeks. In *The History of Human Society*. Knopf: New York, 1967.

Andrews, James Joseph 63-64 M

Born 1930 Seneca Falls, NY. PhD 1957 Univ of Georgia. Florida State University, Tallahassee, FL 32306. *

Andrianov, Anatolii N. 74f M

Born 1936 USSR. PhD 1969 Leningrad Univ. Mathematical Institute (AOMU), Fontanka 25, Leningrad D-11, USSR. *

Anes Alvarez, Gonzalo 75-76 HS

Born 1934 Spain. PhD 1966 U of Madrid. Infantas 31, Madrid 4, Spain. *

Anh, Nguyen Huu 69-71 M, Theory of Group Representations

Born 1945 Ho Chi Minh City, Vietnam. PhD 1969 Mathematics UCLA. Honors: Alumni Assocs Awd for Acad Distinction UCLA 1969. Memberships: Vietnam Math Soc; Interntl Cong of Math, 1978. Faculty Member, Dept of Math, Univ of Ho Chi Minh City, Khoa Toan, Dai Hoc Tong Hop, Thanh Pho Ho Chi Minh, Vietnam.

Publications Related to IAS Residence: Restriction of the principal series of $SL(n, C)$ to some reductive subgroups. *Pac J Math* 38(1971).

Other Publications: Algebraic groups with square integrable representations. *Bull AMS* 80(1974); Prehomogeneous vector spaces defined by a semi simple algebraic group. *Bull AMS* 81(1975); Lie groups with square integrable representations. *Ann Math* 104(1976); Classification of unimodular algebraic groups with square integrable representations. *Acta Mathematica Vietnamica* 1978; Classification of unimodular Lie groups with square integrable representations. In *Proceedings of the International Congress of Mathematicians, Helsinki, 1978*.

Ankeny, Nesmith Cornett 51-52 M, Number Theory

Born 1926 Walla Walla, WA. PhD 1951 Princeton Univ. MIT, Cambridge, MA 02139. *

Publications Related to IAS Residence: A Generalization of a Theorem of Suetuna on Dirichlet Series. *Proc Japan Acad* 28(1952) 389-395; The Insolubility of Sets of Diophantine Equations in the Rational Numbers. *Proc NAS* 38(1952) 880-884; Representations of Primes by Quadratic Forms. *Amer J Math* 74(1952) 913-919.

Antonelli, Peter Louis 68-70 M

Born 1941 Syracuse, NY. PhD 1967 Syracuse Univ. Appointments: Ottawa Conf on Role of Math in Biol Sci. Memberships: AMS; Can Math Cong. Assoc Prof, Math Dept, Univ of Alberta, Edmonton, Alta, Canada.

Publications Related to IAS Residence: With D. Burghelena & P. J. Kahn. The Concordance-Homotopy Groups of Geometric Automorphism Groups. *Springer Lect Notes in Math* 215.

Other Publications: The Geometry of Random Drift I-V. *AdD in App Prob* (1976-1979).

Anzai, Hirotada 53-54, 54f M, Harmonic Analysis

Born 1919 Japan. PhD 1952 Osaka Univ. Deceased.

Appelquist, Thomas W. 75s NS, Physics

Born 1941 Emmetsburg, IA. PhD 1968 Cornell Univ. Honors: Sloan Fellowship. Appointments: Exec Comm Amer Phys Soc; Prog Advisory Comm Stanford Linear Acc Ctr. Memberships: Amer Phys

Soc. Prof, J. W. Gibbs Lab, Dept of Physics, Yale University, New Haven, CT 06520.

Publications Related to IAS Residence: With H. D. Politzer. Orthocharmonium and $e^+ e^-$ Annihilation. *Phys Rev Lett* 34(1975) 43; With H. D. Politzer. Heavy Quarks and Long Lived Hadrons. *Phys Rev D* 12(1975) 1404; Heavy Quarks and Their Experimental Consequences. *Proceedings of the Argonne Conference on New Directions in Hadron Spectroscopy* Argonne National Laboratory(July 9, 1975); Gauge Fields and Strong Interactions. *Proceedings of the 1975 Cargèse Summer Institute on Weak and Electromagnetic Interactions at High Energies* Institut d'Etudes Scientifique de Cargèse, Cargèse, France(June 30-July 21, 1975); With J. Carazzone. Physical Processes and the Infrared Problem in Gauge Theories. *Nuclear Physics B* 120(1977) 77.

Apter, David E. 73s, 74f Soc

Born 1924 New York, NY. PhD 1954 Political Science Princeton Univ. Honors: MA (hc) Yale Univ 1970; MA (hc) (Oxon.) 1967; APSA Woodrow Wilson Award for best book 1972; SSRC Aux Res Award 1957; Rockefeller, Ford, Fulbright, SSRC Awards. Appointments: US Natl Comm for UNESCO; Peace Corps Trng Prog; NAS Bd of Internatl Progs. Memberships: APSA; African Studies Assoc; Amer Sociol Assoc; AAAS; ISPA. Prof, Political Science & Sociology, Yale Univ, Director Social Science Division Yale Univ, 2800 Ridge Rd, North Haven, CT 06473.

Publications Related to IAS Residence: *An Introduction to Political Analysis*. Cambridge: Winthrop, 1977; *The Mythic Factor in Developmental Ideologies*. forthcoming.

Araki, Shôrô 58-60 M, Algebraic Topology

Born 1930 Enzan, Yamanasi, Japan. DSc 1958 Math Kyushu Univ. Prof, Mathematics, Osaka City Univ, 3-1-2 Momoyama-dai, Suita, Osaka 565, Japan.

Publications Related to IAS Residence: With I. M. James and E. Thomas. Homotopy abelian Lie groups. *Bull Amer Math Soc* 66(1960) 324-326; On the non-commutativity of Pontrjagin rings mod 3 of some compact exceptional Lie groups. *Nagoya Math J* 17(1960) 225-260; Differential Hopf algebras and the cohomology mod 3 of the compact exceptional groups E_7 and E_8 . *Ann of Math* 73(1961) 404-436.

Other Publications: Multiplicative structures in mod q cohomology theories I and II. *Osaka J Math* 2(1965) 71-115; 3(1966) 81-120.

Arce, J. Javier 79s HS, Ancient History

Born 1945 Zaragoza, Spain. Dr 1975 Classical Philology Univ of Granada. Appointments: Member Spanish Committee for the LIMC. Investigador, Ancient History, Instituto de Arqueologia, c/ Medinaceli, 4.30, Madrid, Spain.

Publications: With others. *Historia de Hispania Romana*. Madrid: 1978; *Caesaraugusta, Ciudad Romana*. Zaragoza: 1979; Ed missonum de Teodosio

Members

I: precisiones, observaciones. *AEspA* (1977) 45-47; Algunos problemas de la numismática del Emperador Juliano. *AEspA* (1972-1974) 477-96; Reconstrucciones de Templos paganos en época del Emperador Juliano 361-363 dc. *Rivista storica dell' Antichità* 5(1975) 201-15; On Festus Sources for Julian's Persian Expedition. *Athenaeum* 52(1974) 340-3; La educación del Emperador Constancio II. *L'Antiquité Classique* 48(1979); Retratos imperiales tardo-romanos de Hispania: La evidencia epigráfica. *AEspA* (1978).

Arens, Richard F. 45-47, 53-54 M

Born 1919 Iserlohn, Germany. PhD 1945 Mathematics Harvard Univ. Honors: Wm Lowell Putnam Prize 1941. Appointments: Nom Comm: Sect A: AAAS 1977-78 Chm in 1978. Memberships: AMS; AAAS; PBK; Sigma Xi. Prof, Mathematics, UCLA, Managing Editor *Pacific Journal of Mathematics*, 12436 Deerbrook Ln, Los Angeles, CA 90049.

Publications Related to IAS Residence: With A. P. Calderón. Analytic functions of several Banach algebra elements. *Ann Math* 62(1955) 204-216; Duality in linear spaces. *Duke Math J* 14(1947) 787-794; Representation of \ast -algebras. *Duke Math J* 14(1947) 269-282.

Arf, Cahit 64-66 M, Algebra

Born 1910 Turkey. Dr rer nat 1938 Univ of Göttingen. Middle East Univ, Ankara, Turkey. *

Aritürk, Haluk 75-76 M, Automorphic Forms

Born 1949 Istanbul, Turkey. PhD 1975 Mathematics Johns Hopkins Univ. Asst Prof, Math, Bogazici University, P.K.2, Bebek, Istanbul, Turkey.

Publications Related to IAS Residence: On the Composition Series of Principal Series Representations of a three-fold Covering Group. *Nagoya Math J* 77(1980).

Armentrout, Steve 64-65, 69f M, Topology

Born 1930. PhD 1956 Univ of Texas. Department of Math, University of Texas, Austin, TX 78712. *

Armstrong, Mark Anthony 67-68 M, Topology

Born 1943 Workington, Cumberland, England. PhD Mathematics Univ of Warwick England. Memberships: AMS; London Math Soc. Lect, Department of Mathematics, Univ of Durham, Durham, England.

Publications: Transversality for Polyhedra. *Annals of Math* 86(1967) 172-191; *Basic Topology*. New York: McGraw Hill, 1979.

Arnold, Herbert Eli 38f M, Mathematical Statistics

Born 1896. PhD 1928 Yale Univ. Deceased.

Arnott, William Geoffrey 73s HS, Ancient Greek Literature

Born 1930 Bury, Lancashire, England. PhD(Cantab.) 1960 Classics. Appointments: Classical Journals Bd,

1970-; Council, Soc for the Promotion of Hellenic Studies, 1965-68, 1978-; Council, Classical Assoc, 1971-74; Council, Joint Assoc of Classical Teachers, 1971-74; Governor of St. Peter's School, York, 1970- to date. Prof, Greek, School of Classics, University, Leeds LS2 9JT, England.

Publications Related to IAS Residence: ed, *Menander*. Loeb Classical Series, 1. Cambridge, Mass: Harvard Univ Press, forthcoming; Imitation, Variation, Exploitation: a Study in Aristaenetus. *Greek, Roman and Byzantine Studies* 14(1973) 197-211; Quibus rationibus usus imitatur Plautus Menandrum in fabula Stichus nominata? *Acta Conventus Latinis Litteris Linguaeque Fovendis, Malta* (1976) 306-10.

Other Publications: Trans. "*Menander's Dyskolos*" London: Athlone Press, 1960; *Menander, Plautus, Terence*. Greece and Rome's New Surveys in the Classics, 9. Oxford: Oxford Univ Press, 1975; Euripides and the Unexpected. *Greece and Rome* 20(1973) 49-64; Targets, Techniques and Tradition in Plautus' Stichus. *Bull of the Inst of Class Stud* 19(1972) 54-79; Annotations to Aristaenetus. *Museum Philologum Londiniense* 1(1975) 9-31; The Modernity of Menander. *Greece and Rome* 22(1975) 140-55; Textual Notes on Menander's Aspis and Dyskolos; Four Notes on Menander's Epitrepontes. *Zeitschrift für Papyrologie und Epigraphik* 24(1977) 13-20; Swan Songs. *Greece and Rome* 24(1977) 149-53; Some Peripatetic Birds: Treecreepers, Partridges, Woodpeckers. *Classical Quarterly* 27(1977) 335-37; Plautus the Entertainer. *Lampas* 10(1977) 306-15; Coscinomancy in Theocritus and Kazantzakis. *Mnemosyne* 31(1978) 27-32; Notes on Eight Plays of Menander. *Zeitschrift für Papyrologie und Epigraphik* 31(1978) 1-32.

Arnowitz, Richard Lewis 54-56 M(NS), Physics

Born 1928 New York, NY. PhD 1953 Physics Harvard Univ. Honors: Guggenheim Fellow 1975-76. Appointments: NSF Postdoc Fellows/Select Comm 1970; Chmn, Publications Comm, Division Particles Fields Am Phys Soc 1970-1973. Memberships: Am Phys Soc (Fellow). Prof, Dept of Physics, Northeastern University, Boston, MA 02115.

Publications Related to IAS Residence: With S. Deser. *Phys Rev* 100(1955) 349; With W. B. Teutsch. *Phys Rev* 105(1957) 285; With G. Feldman. *Phys Rev* 108(1957) 144; *Phys Rev* 105(1957) 735.

Other Publications: *Phys Rev* 92(1953) 1002; With S. Deser & C. W. Misner. *Phys Rev* 117(1960) 1595; With M. H. Friedman & P. Nath. *Phys Rev Lett* 19(1967) 1085; With P. Nath. *Phys Lett* 56B(1978) 177.

Arons, Jonathan 71-72 NS, Astrophysics

Born 1943 Philadelphia, PA. PhD 1970 Astronomy Harvard Univ. Honors: Univ of Calif Regents' Summer Faculty Fellow 1973; Guggenheim Fellowship 1979-81. Assoc Prof, Dept of Astronomy, University of California, 601 Campbell Hall, Berkeley, CA 94720.

Arthur, James Greig 76-77 M, Representations of Lie Groups

Born 1944 Hamilton, Ont., Canada. PhD 1970 Yale Univ. Honors: Sloan Fship 1976-1977; Yale Univ Jr Fac Fship 1974-1975. Memberships: AMS. Prof, Math Dept, Duke University, Durham, NC 27705.

Publications Related to IAS Residence: Eisenstein Series and the trace formula. In *Proc AMS Summer Inst, Corvallis 1977*. Providence, RI: AMS, in press.

Other Publications: The characters of discrete series as orbital integrals. *Inv Math* 32(1976) 205-261.

Arthur, Marylin Bentley 77-78 HS, Ancient History, Greek

Born 1942 New Orleans, LA. PhD 1975 Classics Yale U. Honors: ACLS Fship 1978. Appointments: NEH Div of Res Grants Scholarly Pub Prog Panel 1978. Memberships: Am Philolog Assn; AHA. Asst Prof, Dept of Classics, Wesleyan Univ, Middletown, CT 06457.

Publications Related to IAS Residence: The Tortoise and the Mirror: Erinna PSI 1090. *Classical World* in press.

Other Publications: The Choral Odes of the Bacchae of Euripides. *Yale Class Studies* 22(1972); The Curse of Civilization: The Choral Odes of the Phoenissae of Euripides. *Harvard Studies in Class Philology* 81(1977); Review Essay: Classics and Women's Studies. *Signs: J of Women in Culture and Soc* 2(1976).

Asano, Taro 71-72 NS

Born 1935 Japan. PhD 1969 Univ of Tokyo. Deceased.

Asch, Solomon E. 59-60, 69-70 Soc, Cognitive Processes

Born 1907 Warsaw, Poland. PhD 1932 Columbia Univ. 72 Gulick Rd, Princeton, NJ 08540. *

Aschbacher, Michael George 78-79 M, Finite Group Theory

Born 1944 Little Rock, AR. PhD 1969 Mathematics Univ of Wisc. Honors: Sloan Fellowship 1972-74. Memberships: AMS. Prof, Math Department, Caltech, Pasadena, CA 91125.

Publications: On finite groups of component type. *III J Math* 19(1975) 87-113; A characterization of Chevalley groups over fields of odd order. *Annals Math* 106(1977) 353-467; Thin finite groups. *J Alg* 54(1978) 50-152.

Ash, Avner Dolnick 75-76 M, Automorphic Forms

Born 1949 Chicago, IL. PhD 1975 Math Harvard Univ. Honors: Sheldon Travelling Fship Harvard Univ 1975. Memberships: AMS. Asst Prof, Math Dept, Columbia Univ, New York, NY 10028.

Publications Related to IAS Residence: Deformation Retracts with Lowest Possible

Dimension of Arithmetic Quotients of Self-Adjoint Homogeneous Cones. *Math Ann* 225(1977) 69-76.

Other Publications: With Mumford, Rapoport, Tai. *Smooth Compactification of Locally Symmetric Varieties*. Brookline, Mass: Math Sci Press, 1975.

Asimov, Daniel Alan 75-76 M, Topology, Geometry

Born 1947 Brooklyn, NY. PhD 1972 Univ of Calif, Berkeley. Memberships: AMS. Asst Prof, Dept of Math, Smith College, Northampton, MA 01060.

Publications Related to IAS Residence: Average Gaussian Curvature of Leaves of Foliations. *BAMS* Jan(1978); Flaccidity of Geometric Index of Vector Fields. *Comm Math Helv* 52(1977); Homotopy to Divergence-Free Vector Fields. *Topology* 15(1976).

Other Publications: Round Handles and Non-Singular Morse-Smale Flows. *Ann of Math* 102(1975); Homotopy of Non-Singular Vector Fields to Structurally Stable Ones. *Ann of Math* 102(1975).

Askew, Pamela 76-77 HS, History of Art

Born 1925 Poughkeepsie, NY. PhD 1954 Univ of London. Prof, Art Dept, Vassar College, Box 86, Poughkeepsie, NY 12601. *

Asmuth, Charles A. 76-77 M, Harmonic Analysis on p-adic Groups

Born 1949 Baraboo, WI. PhD 1976 Univ of Chicago. Memberships: AMS. Asst Prof, Dept of Math, Texas A&M Univ, College Station, TX 77843.

Publications Related to IAS Residence: Weil Representations of Symplectic p-adic groups. *Am J Math* in press.

Asplund, O. Edgar 58-60 M, Functional Analysis

Born 1931 Sweden. Licentiat 1957 Royal Inst of Technology, Stockholm. Deceased.

Assadi, Amir Hossein 78-79 M, Topology

Born 1953 Arak, Iran. PhD 1979 Math Princeton Univ. Honors: Univ of Calif Regents Scholarship 1972-74; Dorothea Klumpke Roberts Prize in Math 1974; PBK 1973. Memberships: AMS. Asst Prof, Math, Univ of Va, 40 Neisarian St, Arak, Iran.

Publications Related to IAS Residence: Some Example of Finite Group Actions. In *Proc of Waterloo Topology Conf*, Springer Lect Notes. 1978.

Astey, Luis 79-80 M, Algebraic Topology

Born 1951 Monterrey, Mexico. PhD 1978 Centro de Investigación del IPN. Prof, Univ Autonoma Metropolitana-Iztapalapa, Dept de Matematico, CIEA del IPN, Apdo 14-740, México 14, DF, Mexico. *

Astin, Alan Edgar 64-65, 75 HS, Roman History

Born 1930 Surbiton, Surrey, England. MA (Oxon.). Honors: Member Royal Irish Academy (MRIA) 1973. Appointments: Chmn, Working Party on School Management in No Ireland 1977-79. Memberships: Soc for the Promotion of Roman Studies, VP 1977-;

Members

Soc for the Promotion of Hellenic Studies. Prof, Ancient History, Queen's University, 9 Maryville Park, Lisburn Rd, Belfast, Northern Ireland.

Publications Related to IAS Residence: *Scipio Aemilianus*. Oxford: Clarendon Press, 1967; *Cato The Censor*. Oxford: Clarendon Press, 1978.

Other Publications: *Lex Annalis Before Sulla*. Brussels: Latomus, 1958.

Atiya, Aziz S. 58-59 HS, History

Born 1898 Egypt. PhD 1933 Univ of London; DLitt 1938 Univ of Liverpool. Honors: DHumLitt Baldwin-Wallace Coll 1963; DHumLitt Univ of Utah 1968; LLD Brigham Young Univ 1968. Appointments: Gov, Amer Res Cntr in Egypt, 1968-78. Distinguished Prof, History, Univ of Utah, 1335 Perry Ave, Salt Lake City, UT 84103.

Publications Related to IAS Residence: *History of Eastern Christianity*. London & Notre Dame U Press, 1968; *Crusade, Commerce & Culture*. Ind U Press, 1962; *Crusade Historiography and Bibliography*. Oxford U Press, 1962.

Other Publications: *Crusade in the Later Middle Ages*. London: 1938; *The Sinai Arabic Manuscripts*. Johns Hopkins U Press; *The Copts & Christian Civilization*. Salt Lake City: Univ of Utah Press.

Atiyah, Michael see Past Faculty/Resigned

Aubert, Karl Egil 58-60 M, Algebra

Born 1924 Oslo, Norway. D sS 1957 Math Univ of Paris. Honors: Member Norwegian Acad of Scis 1962. Memberships: Pres Norwegian Math Soc 1960-1967. Department of Mathematics, University of Oslo, Blindern, Oslo 3, Norway.

Publications Related to IAS Residence: Theory of x-Ideals. *Acta Math* 107(1962) 1-52.

Aubin, Thierry Emilien 79f M, Differential Geometry

Born 1942 Beziers, France. D sS 1969 Univ of Paris. Prof, Mathematics, University of Paris 6, 78 Avenue de Suffren, Paris 15, France.

Audley, Robert John 70f Soc, Mathematical Psychology

Born 1928 London, England. PhD 1957 London Univ. Appointments: Univ Grants Comm, UK; Various Govt Research Comms. Memberships: British Psych Soc (Pres 1968); Exper Psych Soc (Pres 1975; 76). Prof, and Head, Dept of Psychology, University College London, Gower St, London WC1E6BT, England.

Publications Related to IAS Residence: Some observations on theories of choice reaction time. In *Attention & Performance IV*, ed. by S. Kornblum. Academic Press, 1973; With Candrey, Howell and Powell. Reaction time exchange functions in choice tasks. In *Attention & Performance V*, ed. by Rabbitt. Academic Press, 1975.

Other Publications: A stochastic model of choice behavior. *Psychological Review* (1960).

Auerbach, Erich 49f HS, Mediaeval Literature

Born 1892 LLD 1913 Heidelberg Univ. Deceased.

Publications Related to IAS Residence: The Esthetic Dignity of the "Fleurs du Mal" *Hopkins Review* 4, 1(1950) 29-45; Baudelaire's "Fleurs du Mal" und das Erhabene. In *Vier Untersuchungen zur Geschichte der Franz sischen Bildung*, 107-127. Bern: 1951; Dante's Prayer to the Virgin. *Romance Philology* 4(1951) 1-26; Nathan and Johannes Chrysostomus (Dante, Par XII, 136/37). *Zeitschrift f r Romanische Philologie* 67(1951) 118-123; Die Verzauberte Dulcinea. *Deutsche Vierteljahrsschrift f r Literaturwissenschaft und Geistesgeschichte* 25(1951) 294-316; Sermo Humilis. *Romanische Forschungen* 64(1952) 304-364; Rev of Curtius, E.R., *Europ ische Literatur und Lateinisches Mittelalter*. *Romanische Forschungen* 62(1950) 237-245; Rev of Singleton, C. S., An Essay on the "Vita Nova". *Comparative Literature* 2(1950) 373-375.

Aufhauser, R. Keith 75-76 Soc, Political Economy

Born 1945 Noblesville, IN. PhD 1972 Economics Harvard Univ. Assoc Prof, Dept of Economics, Queens College, CUNY, Flushing, NY 11367.

Publications Related to IAS Residence: The Joyless Economy. *Economic Journal* (Summer 1976). **Other Publications:** Slavery and Scientific Management. *J of Econ Hist* (December 1973).

Auluck, Faqir Chand 51s M(NS), Theoretical Physics

Born 1912 Jullundur, Panjab, India. DSc 1946 Physics Panjab Univ. Honors: Krishna Memorial Lecture N.P.L., Delhi 1973. Appointments: National Comm for the Compilation of Hist of Sci in India 1969-76, Vice Chmn 1975-. Memberships: IAU; London Phys Soc; Am Phys Soc; Am Astro Soc; Indian Phys Soc; Indian Math Soc; Fellow, Indian Nat Sci Acad; Editor, Indian Nat Sci Acad 1971-74; Indian J of Pure & Applied Math; Chairman, Nat Comm for Hist of Sci, 1969-74. Retired Prof, Physics Department, University of Delhi, Delhi 110007, India.

Publications Related to IAS Residence: The theory of pressure ionization and the constitution of the white dwarf stars. *Monthly Notices of R.A.S.* 99(1939) 239; White Dwarf and harmonic oscillator. *Proc. Nat. Inst. Sc. India* 8(1942) 147; With S. Chowla and H. Gupta. On the maximum value of the number of partitions of n into k parts. *Jour. Ind. Math. Soc.* 6(1942) 113; With D. S. Kothari. The quantum mechanics of a bounded linear harmonic oscillator. *Proc. Camb. Phil. Soc.* 41(1945) 175; With D. S. Kothari. Effect of electromagnetic radiation on the lamb shift. *Proc Roy Soc (London) A* 214(1952) 137-42; With D. S. Kothari. Random Fragmentations. *Nature* 174(1954) 565-67; With D. S. Kothari. Distance correlations for photons. *Current Science* 26(1957) 169; With D. S. Kothari. On the possibility of superconductivity in stellar matter. *Proc Nat Inst Sciences (India)* 28(1962) 228; With A. Jain and Satish Kumar. Periodic features of the

statistical atom with exchange and correlations. *Canad. J. Physics* 46(1968) 1.

Aumann, Georg 34-35 M, Topology

Born 1906 Munich, Germany. Honors: DPhil Univ of Munich 1931; Bavarian Acad of Sci 1958; DrRerNat(hc) Univ of Erlangen 1977. Memberships: AMS; DMV. Prof Emer, Mathematics and Analytic Mechanics, Tech Univ of Munich, Luisenstr. 60 all, 8 Munich 40, West Germany.

Publications Related to IAS Residence: Über den mischalgorithmus bei analytischen mittelwerten. *Math Zeit* 39(1935) 625-629; Über die stetigen konvexen und die bikonvexen funktionen. *Math Annal* 3(1935) 197-208; Aufbau von Mittelwerten mehrerer argumente. II. Analytische Mittelwerte. *Math Annal* 3(1935) 713-730; On a topological characterization of compact convex point sets. *Ann Math* 37(1936) 443-447.

Other Publications: *Reelle Funktionen*. 2. Berlin: 1969; *Einführung in die reele Analysis*. 3, 1. Berlin: de Gruyter, 1974; *Ad artem ultimam: eine Einf in d. Gedankenwelt d. Mathematik*. Munich: Oldenbourg, 1974.

Auslander, Louis 55-57, 71-72 M

Born 1928 Brooklyn, NY. PhD 1954 Univ of Chicago. Honors: NSF Postdoc Fellow 1955-1957; Guggenheim Fellow 1971-1972. Appointments: Ed *Illinois J of Math*; Ed *Geometriae Dedicata*. Distinguished Prof, Mathematics, Graduate Center, City University of New York, 33 W 42 St, New York, NY 10036.

Publications Related to IAS Residence: An exposition of the structure of solvmanifolds Parts I & II. *Bull AMS* 79(1973); With M. Kuranishi. On the holonomy group of locally Euclidean spaces. *Ann Math* 65(1957).

Other Publications: With B. Kostant. Polarizations and unitary representatives of solvable Lie groups. *Inventiones Math* 14(1971); With L. Green & F. Hahn. *Flows on Homogeneous Spaces*. Ann Math Studies, 53. Princeton, NJ: Princeton U Press, 1963; On a problem of Philips Hall. *Ann Math* 86(1967) 112-116; Automorphisms of polycyclic groups. *Ann Math* 89(1969) 314-322; With R. Tolimieri. Splitting Theorems and the structure of Polymanifolds. *Ann Math* 92(1970) 164-173.

Auslander, Maurice 56-57 M, Algebra

Born 1926 Brooklyn, NY. PhD 1954 Columbia Univ. Prof, Brandeis Univ, 16 Everett St, Newton Centre, MA 02159. *

Austin, George Allen 52s M

Born 1923 Detroit, MI. MA 1949 Univ of Michigan. Loma Linda Univ School of Medicine, Loma Linda, CA 92354. *

Avni, Yoram 72-74, 76-77 NS, Astrophysics

Born 1944 Tel-Aviv, Israel. PhD 1972 Physics Weizmann Inst. Honors: Lubell Memorial Award, 1977. Memberships: IAU. Assoc Prof, Weizmann Inst, Chmn Board of Studies in Physics Feinberg Grad Schl, Department of Nuclear Physics, The Weizmann Institute of Science, Rehovot, Israel.

Publications Related to IAS Residence: With J. N. Bahcall. Ellipsoidal Light Variations and Masses of X-Ray Binaries. *Ap J* 197(1975) 675; Energy Spectra of X-Ray Clusters of Galaxies. *Ap J* 210(1976) 642; Mass Limits for the Centaurus X-3 System. *Ap J* 209(1976) 574; With J.N. Bahcall. Mass Limits for the Centaurus X-3 System. *Ap J Letters* 192(1974) 139; With J.N. Bahcall. Status of the Study of Ellipsoidal Light Variations in 3U0900-40 and Other X-Ray Binaries. In *Symposium on X-Ray Binaries, Goddard Space Flight Center*, ed. by E. Boldt and Y. Kondo, Pub No Sp-389: 615. NASA, 1976; With D.Q. Lamb, F.K. Lamb & M. Milgrom. Periodic Timing Residuals in Pulsating Binary X-Ray Sources and Orbital Precession in Hercules X-1. *Ap J Letters* 222(1978) 113; With P.C. Joss & S. Rappaport. Accreting Neutron Stars in Highly Compact Binary Systems and the Nature of 3U1626-67. *Ap J* 221 (1978) 645; With N.A. Bahcall. Statistical Simulations of Clusters of Galaxies. *Ap J* 209(1976) 16; With J.N. Bahcall. Short-Time Optical Variability of X-Ray Sources. *Ap J* 191(1974) 221; With J.N. Bahcall, P.C. Joss, D.Q. Lamb, E. Schreier & H. Tananbaum. Upper Limit on 2.5-Second Pulsations from Hercules X-1. *Ap J Letters* 188(1974) 35; With J.N. Bahcall & P.C. Joss. Optical Properties of HZ Herculis. *Ap J* 191(1974) 211; With P.C. Joss & J.N. Bahcall. A Model for the Light Curve of HZ Herculis. *Ap J* 186(1973) 767; With J.N. Bahcall, P.C. Joss, N.A. Bahcall, F. Lamb, C. Pethick & D. Pines. A Steady Energy Source in Her X-1? *Nature Phys Sci* 246(1973) 36.

Other Publications: Masses of Compact X-Ray Sources. *Highlights of Astronomy* 4(1977) 137; Mass Estimates from Optical Light Curves for Binary X-Ray Sources. In *Physics and Astrophysics of Neutron Stars and Black Holes*, 65. Bologna, Italy: Soc Italiana di Fisica, 1978; On the Contribution of Active Galactic Nuclei to the Diffuse X-Ray Background. *Astr and Ap* 63(1978) 13; With H. Tananbaum, G. Peters, W. Forman, R. Giacconi, & C. Jones. Uhuru Observations of X-Ray Emission from Seyfert Galaxies. *Ap J* 223(1978) 74.

Avril, François 70f HS, History of Art

Born 1938 Toulon, France. Librarian. 35-37, rue de Seine, 75006 Paris, France.

Publications Related to IAS Residence: Un manuscrit de Beauvais et le Maître des évangiles de Corbie (Manuscrit Amiens 24). *Cahiers Archéol* 21(1971) 181-190; Un chef-d'oeuvre de l'enlumineur sous le règne de Jean le Bon: La Bible moralisée, manuscrit français 167 de la Bibliothèque nationale. In *Monuments et Mémoires*, 58: 91-125. Paris: Acad des In-script et Belles Lett, 1972; Un manuscrit d'auteurs classiques et ses illustrations. In *The year 1200: a symposium*, 261-282. New York: Metropolitan

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Museum of Art, 1975; Un enlumineur ornemaniste parisien de la première moitié du XIV^e siècle: Jacobus Mathey. *Bull Monumental* 129(1971) 249-264.

Ayalon, David 76-77 HS, Mediaeval History

Born 1914 Haifa, Israel. PhD 1946 Islamic History Hebrew Univ. Honors: Rockefeller Grants 1952-59; Israel Prize in the Humanities 1972; Rothschild Prize in the Humanities 1976. Memberships: Israel Acad of Scis & Humanities. Prof, Islamic History, The Hebrew University, Jerusalem, Israel.

Publications Related to IAS Residence: *Studies on the Mamluks of Egypt 1250-1517*. London: Variorum Reprints, 1977; *Gunpowder and Firearms in the Mamluk Kingdom-A Challenge to a Mediaeval Society*. London: Vallentine, Mitchell, 1978; Aspects of the Mamluk Phenomenon. *Der Islam* 54(1922) 1-32; On the Eunuchs In Islam. *Jerusalem Studies in Arabic and Islam* 1(1979) 67-124.

Other Publications: *L 'Esclavage du Mamelouk*. Oriental Notes and Studies 1. Jerusalem: 1951; The Great Yasa of Chingiz Khan A Reexamination. *Studia Islamica* 33(1971) 97-140; 33(1971)151-180; 36(1972) 113-158; 38(1973)107-156

Aydelotte, William Osgood 45 47 HS(EP), The Nature of Political Behavior

Born 1910 Bloomington, IN. PhD (Cantab.) 1934 History. Honors: Hon. O.B.E. 1961; NAS 1974. Memberships: Fellow, Royal Hist Soc; Pres-elect, Soc Sci Hist Assoc. Carver Prof Emer, Department of History, University of Iowa, Iowa City, IA 52242.

Publications Related to IAS Residence: The England of Marx and Mill as Reflected in Fiction. *J of Econ Hist Supplement* 8(1948) 42-58 ; The Detective Story as a Historical Source. *Yale Review* 39(1949-50).

Other Publications: *Quantification in History*. Reading, MA: Addison-Wesley, 1971; Co-ed and contributor, *The Dimensions of Quantitative Research in History*. London: Oxford U Press, 1972; ed and contributor, *The History of Parliamentary Behavior*. Princeton Univ Press, 1977.

Aylmer, Gerald Edward 75s HS, Modern History

Born 1926 Ludlow, Shrops, England. DPhil(Oxon.) 1955. Honors: FBA 1976. Appointments: Ed Bd Hist of Parliament Royal Comm on Hist Manuscripts. Memberships: Hist Assoc; Econ Hist Soc; Royal Hist Soc; Past & Present Soc. Master, St. Peter's Coll, Member Oxford History Faculty, St. Peter's College, Oxford OX1 2D2, England.

Publications Related to IAS Residence: Ed, *A History of York Minster*. Oxford: Clarendon Press, 1977; Unbelief in 17th century England. In *Puritans & Revolutionaries*, ed. by D. H. Pennington and K. V. Thomas. Oxford Univ Press, 1978.

Other Publications: Bureaucracy. In *New Cambridge Modern History*, ed. by P. Burke, 13, Companion Volume. Cambridge Univ Press, 1979.

Ayoub, Christine Williams 47f M, Algebra, Group Theory

Born 1922 Cincinnati, OH. PhD 1947 Yale Univ. Honors: Sci Fac Fship NSF 1966-67. Memberships: AMS; MAA. Prof, Math, Penna State Univ, McAllister Bldg, University Park, PA 16802.

Publications: On Diagrams for Abelian Groups. *J Number Theory* (1970) 442-58; On Group of Units of Certain Rings. *J Number Theory* (1972) 383-403.

Baan, Willem Adrianus 77-79 NS, Astrophysics

Born 1947 Bleskensgraaf (Z.H.), Netherlands. PhD 1977 Physics MIT. Honors: NASA Internat Univ Fship 1971-73. Memberships: Am Astron Soc. Asst Prof, Dept of Astronomy, Penn State Univ, 525 Davey Lab, University Park, PA 16802.

Publications Related to IAS Residence: Neutron Stars as X-ray Burst Sources II Burst Energy Histograms and why They Burst. *Ap.J.* 227(1979) 987; Luminosity Enhancement Following X-ray Bursts. *Ap.J. Letters* 220(1978) 5; Neutral Hydrogen in Clusters of Galaxies. *Ap.J.* 225(1978) 339.

Baas, Nils Andreas 72-74, 74f M, Topology

Born 1946 Arendal, Norway. Cand real 1969 Univ of Oslo. Appointments: Norwegian Math Council. Memberships: Norwegian Math Soc; AMS. Prof, Dept of Mathematics, University of Trondheim, NTH, N-7034 Trondheim, Norway.

Publications Related to IAS Residence: On the models of Thorn in biology and morphogenesis. *Math Bio-sciences* 17(1973) 173-187.

Babalola, Victor A. 73-74 M, Partial Differential Equations

Born 1941 Nigeria. PhD 1971 Univ of Ibadan. Dept of Math, University of Ibadan, Ibadan, Nigeria. *

Babbitt, Donald G. 70-71 M, Analysis

Born 1936 Detroit, MI. PhD 1962 Math Univ of Michigan. Prof, Department of Mathematics, UCLA, Los Angeles, CA 90024.

Publications Related to IAS Residence: With E. Balslev. Dilation-Analyticity and Decay Properties of Interactions. *Comm Math Phys* 35(1974); Rigged Hilbert Spaces and One-Particle Schrödinger Operators. *Reports on Math Phys* 3(1972).

Babcock, Barbara A. 79-80 Soc, Symbolic Anthropology

Born 1943 Danville, PA. PhD Comparative Literature Univ of Chicago. Honors: PBK 1965; Woodrow Wilson Fellow 1965-6; University of Chicago Fellow 1966-8; Weatherhead Fellow 1977-78. Memberships: Amer Anthro Assoc; Amer Folklore Soc; Amer Comp Lit Assoc; Soc for Folk Narrative Research. Assoc Prof, Folklore, Dept of English, Univ of Arizona, Tucson, AZ 85721.

Publications: ed, *The Reversible World*. Cornell University Press, 1978; *The Novel and the Carnival*

World. *Modern Language Notes* 89: 6(1974); The Story in the Story: Metanarration in Folk Narrative. In *Verbal Art as Performance*, ed. by Bauman. Newbury House Press, 1978.

Bachiller, Tomas Rodriques 55s M, Topology

Born 1899 Spain. DSc Univ of Madrid. Univ of Puerto Rico, Mayaguez, Puerto Rico. 00708. *

Bacry, Henri 66-67 NS, Mathematical Physics

Born 1928 Algiers, Algeria. Dr 1962 Theoretical Physics University of Marseille. Memberships: Société Française de Physique; Société Européenne de Physique; AMR. Prof, Univ of Aix-Marseille II, CNRS, Centre de Physique Theorique, Case 907, 13288 Marseille, CNRS, Cedex 2, France.

Publications Related to IAS Residence: Space-Time and Degrees of Freedom of the Elementary Particle. *Comm Math Phys* 5(1967) 97; With J. Nuyts. Mass-Spin relation in a Lagrangian Model. *Phys Rev* 157(1967) 1471; With J. M. Lévy-Ledond. Possible Kinematics. *J Math Phys* 9(1968) 1605.

Other Publications: With J. Nuyts. Sur des groupes de symétrie pour des multiplets de particules de masses Différents. *Ann Inst M Poincaré* A7(1967) 333; With J. L. Richard. Partial group-theoretical treatment for the relativistic hydrogenation. *J Math Phys* 8(1967) 2230.

Baer, Reinhold 35-37 M, Pure Mathematics

Born 1902 Berlin, Germany. DPhil 1925 Univ of Göttingen. Honors: Dr rer nat (hc) Giessen 1974; Dr rer nat (hc) Kiel 1976; DSc(hc) Birmingham 1978. Prof Emer, Math, Univ of Frankfurt Neuhausstr 10, 8044 Zürich, Switzerland.

Publications Related to IAS Residence: With F. Levi. Freie Produkte und Ihre Untergruppen. *Compositio Math* 3(1936) 391-398; The Subgroup of the Elements of Finite Order of an Abelian Group. *Ann Math* 2 37(1936) 766-781; Abelian Groups without Elements of Finite Order. *Duke Math J* 3(1937) 68-122; Dualism in Abelian Groups. *Bull AMS* 43(1937) 121-124; Equivalence of Algebraic Extensions. *Bull AMS* 43(1937) 432-437; Gruppen mit vom Zentrum Wesentlich Verschiedenem Kern und Abelscher Faktorgruppe nach dem Kern. *Compositio Math* 4(1937) 1-77; Primary Abelian Groups and Their Automorphisms. *Amer J Math* 59(1937) 99-117.

Bagby, S. Thomas, Jr. 66-67 M, Quasiconformal Mappings

Born 1940 Calvert City, KY. PhD 1966 Harvard Univ. Asst Prof, Department of Mathematics, Indiana University, Bloomington, IN 47401. *

Bagemihl, Frederick 53-55 M, Set Theory, Complex Analysis

Born 1920 New York, NY. MA 1941 Mathematics Columbia Univ. Prof, Department of Mathematics,

University of Wisconsin-Milwaukee, Milwaukee, WI 53201.

Publications Related to IAS Residence: Curvilinear cluster sets of arbitrary functions. *Proc NAS* 41(1955) 379-382; A conjecture concerning neighboring tetrahedra. *Amer Math Monthly* 63(1956) 328-329; With W. Seidel. Some boundary properties of analytic functions. *Math Z* 61(1954) 186-199; The Baire category of independent sets. *Compositio Math* 13(1956) 71-75; With P. Erdős. Rearrangements of C_1 -summable series. *Acta Math* 92(1954) 35-53; A note on Scheeffer's theorem. *Mich Math J* 2(1953-54) 149-150; With W. Seidel. A general principle involving Baire category, with applications to function theory and other fields. *Proc NAS* 39(1953) 1068-1075; Congruous and incongruous one-to-one correspondences. *Math Scand* 1(1953) 256-260; With P. Erdős. Intersections of prescribed power, type, or measure. *Fund Math* 41 (1954) 57-67; With W. Seidel. Spiral and other asymptotic paths, and paths of complete indetermination, of analytic and meromorphic functions. *Proc NAS* 39(1953) 1251-1258; With L. Gillman. Generalized dissimilarity of ordered sets. *Fund Math* 42(1955) 141-165; With H. D. Sprinkle. On a proposition of Sierpiński's which is equivalent to the continuum hypothesis. *Proc AMS* 5(1954) 726-728; With W. Seidel. Some remarks on boundary behavior of analytic and meromorphic functions. *Nagoya Math J* 9(1955) 79-85; With W. Seidel. Regular functions with prescribed measurable boundary values almost everywhere. *Proc NAS* 41(1955) 740-743; With L. Gillman. Some cofinality theorems on ordered sets. *Fund Math* 43(1956) 178-184; With W. Seidel. Valeurs évitées, mais non asymptotiques, pour les fonctions holomorphes dans le cercle-unité. *Comptes Rendus Hebdomadaires des Séances de l'Acad Sci (Paris)* 241(1955) 1195-1196; With W. Seidel. A problem concerning cluster sets of analytic functions. *Math Z* 62(1955) 99-110; Translation. *Infinite Sequences and Series*, by Konrad Knopp. New York: Dover Publications, 1956.

Other Publications: Some theorems on powers of cardinal numbers. *Ann Math* 49(1948) 341-346; On the partial products of infinite products of alephs. *Am J Math* 70(1948) 207-211; A theorem on infinite products of transfinite cardinal numbers. *Quar J Math (Oxford)* 19(1948) 200-203; On indecomposable polyhedra. *Amer Math Monthly* 55 (1948) 411-413; An extension of Sperner's lemma, with applications to closed-set coverings and fixed points. *Fund Math* 40(1953) 3-12; Transfinitely endless chess. *Z für Math Logik und Grundlagen der Math* 2(1956) 215-217; Ambiguous points of a function harmonic inside a sphere. *Mich Math J* 4(1957) 153-154; A proposition of elementary plane geometry that implies the continuum hypothesis. *Z für Math Logik und Grundlagen der Math* 7(1961) 77-79; Some approximation theorems for normal functions. *Ann Acad Scientiarum Fennicae, A /* 335(1963) 1-5; Some theorems on powers of cardinal numbers. *Ann Math* 49(1948) 341-346; With J. R. McLaughlin. Generalization of some classical theorems concerning

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triples of consecutive convergents to simple continued fractions. *J Reine Angew Math* 221(1966) 146-149; Ambiguous points of arbitrary planar sets and functions. *Z für Math Logik and Grundlagen der Math* 12(1966) 205-217; Horocyclic boundary properties of meromorphic functions. *Ann Acad Sci Fennicae, A / 385(1966)* 1-18; Some results and problems concerning chordal principal cluster sets. *Nagoya Math J* 29(1967) 7-18; Decompositions of the plane into sets, and coverings of the plane with curves. *Czech Math J* 18(1968) 616-621; A condition for analytic continuability. *Indag Math* 30 (1968) 24-26; A property of the function $\Phi(\alpha)$ defined by $2\alpha = \alpha + \Phi(\alpha)$. *Z für Math Logik und Grundlagen der Math* 17(1971) 23-24; The existence of an everywhere dense independent set. *Mich Math J* 20(1973) 1-2; The three-separated-arc property of the modular function. *Nagoya Math J* 61(1976) 203-204; A curvilinear cluster set uniqueness theorem for meromorphic functions. *Math Z* 149(1976) 247-248.

Bahcall, John N. see Present Faculty

Baiada, Emilio 50-51 M, Analysis

Born 1914 Tunis, Tunisia. Doctorate Dugue 1937 Pisa Univ. Memberships: BUMI; Acc Palermo, Ace Modena. Prof, Istituto di Matematica, Università di Modena, via Campi 181, Modena, Italia.

Bailey, Thomas A. 39-40 HS(EP), American Diplomatic History

Born 1902 San Jose, CA. PhD 1927 Stanford Univ. Memberships: Pres, Pacific Coast Branch, AHA; Pres, Organization of Am Historians, 1968; Pres, Soc for Historians of Am Foreign Relations, 1968. Byrne Prof Emer, History Dept., Stanford University, Stanford, CA 94305.

Publications Related to IAS Residence: *A Diplomatic History of the American People*. New York: Crofts & Co, 1940; *The Policy of the United States toward the Neutrals, 1917-1918*. Baltimore: Johns Hopkins Press, 1942.

Other Publications: *Woodrow Wilson and the Lost Peace*. New York: Macmillan, 1944; *Woodrow Wilson and the Great Betrayal*. New York: Macmillan, 1945; *The Man in the Street*. New York: Macmillan, 1948; *Presidential Greatness*. New York: Appleton-Century, 1966; *America Faces Russia*. Ithaca: Cornell U Press, 1950.

Baily, Walter Lewis, Jr. 65-66 M

Born 1930 Waynesburg, PA. PhD 1955 Princeton Univ. Memberships: AMS; Math Soc of Japan. Prof, Mathematics Department, University of Chicago, 5734 S University Ave, Chicago, IL 60637.

Publications Related to IAS Residence: With A. Borel. Compactification of arithmetic quotients of bounded symmetric domains. *Ann Math* 84(1966); An exceptional arithmetic group and its Eisenstein series. *Ann Math* 91 (1970).

Other Publications: On the imbedding of V -manifolds in projective space. *Am J Math* 79(1957); On Satake's compactification of V_n . *Am J Math* 80(1958); On the theory of Θ -functions etc. *Ann Math* 75(1962); On the Fourier coefficients of certain Eisenstein series on the adèle group. In *Number Theory, Algebraic Geometry and Commutative Algebra*, ed. by Y. Kusunoki et al, 23-44. Tokyo: Kinokuniya Ltd, 1973; *Introductory Lectures on Automorphic Forms*. Tokyo and Princeton: Iwanami Shoten and Princeton Univ Press, 1973.

Bak, Anthony 69-70 M, Algebraic K-Theory and Topology

Born 1943 Boston, MA. PhD 1969 Mathematics Columbia Univ. Honors: Fship NSF 1964-67. Prof, University of Bielefeld, Mathematisches Fakultät Der Universität, 48 Bielefeld, West Germany.

Publications Related to IAS Residence: The computation of surgery groups of odd torsion groups. *Bull AMS* 80(1974) 1113-1116; Odd dimension surgery groups of odd torsion groups vanish. *Topology* 14(1975) 367-374.

Other Publications: On modules with quadratic forms. *Lect Notes in Math* 108: 55-66. Berlin: Springer-Verlag, 1969; With W. Scharlau. Grothendieck and Witt groups of orders and finite groups. *Invent Math* 23(1974) 207-240; The computation of surgery groups of finite groups with abelian 2-hyerelementary subgroups. In *Algebraic K-Theory, Proc of 1976 Conf at Northwestern U*, ed. by M.R. Stein, *Lect Notes in Math* 551: 384-409. Berlin: Springer-Verlag, 1976; The computation of even dimension surgery groups of odd torsion groups. *Comm in Alg* 6, 14(1978) 1393-1458; *K-Theory of Forms*. *Ann Math Studies*. Princeton: Princeton Univ Press, forthcoming.

Bakalakis, Georgios Michael 64-65 HS, Archaeology

Born 1908 Constantinople, Turkey. PhD 1942 Philosophy, Archaeology Univ of Athens. Honors: Greek decorations: of Taxiarches and of Phoenix. Appointments: Greek Archaeol Council 1960-1970. Memberships: M Greek Archaeol Soc; German Archaeol Inst; Austrian Archaeol Inst. Prof Emer, Univ of Athens, 42 Mystakidoustr, Charilaou, Thessaloniki, Greece.

Publications Related to IAS Residence: Notes Cycladiques. *BCH* 88(1964) 539-558; Excavations at Strym. *Thessaloniki* 1-28(1967) 3-n, 1-153.

Baker, Alan 70f M, Number Theory

Born 1939 London, England. PhD 1965 Math Cambridge Univ. Honors: Fields Medal ICM, Nice 1970; Adams Prize Camb Univ 1972; FRS 1973. Prof, Pure Mathematics, and Fellow, Trinity College, Cambridge CB2 1TQ, England.

Publications Related to IAS Residence: Imaginary quadratic fields with class number 2. *Ann Math* 94(1971) 139-52; With H. M. Stark. On a fundamental

inequality in number theory. *Ann Math* 94(1971) 190-9; On the class number of imaginary quadratic fields. *Bull AMS* 77(1971) 678-84; A sharpening of the bounds for linear forms in logarithms. *Acta Arith* 21(1972) 117-129; With B. J. Birch and E. A. Wirsing. On a problem of Chowla. *J Number Theory* 5(1973) 224-36.

Other Publications: *Transcendental Number Theory*. Camb Univ Press, 1975; Ed. with D.W. Masser. *Transcendence Theory: Advances and Applications*. New York: Academic Press, 1977.

Baker, Keith Michael 79-80 Soc

Born 1938 Swindon, Wilts, England. PhD 1964 Univ of London. Honors: NEH Fellow 1967-68; ACLS Study Fship 1972-73; Guggenheim Fellow 1979. Memberships: AHA; Society for French Hist Studies; Am Soc for 18th C Studies. Prof, Dept of History, Univ of Chicago, 1126 E 59th St, Chicago, IL 60637.

Publications: *Condorcet: From Natural Philosophy to Social Mathematics*. Chicago: 1975.

Baker, Norman Hodgson, Jr. 62-63 M(NS), Astrophysics

Born 1931 Fergus Falls, MN. PhD 1959 Physics Cornell Univ. Memberships: Amer Phys Soc; Amer Astron Soc; Royal Astron Soc; Intl Astron Union. Prof, Dept of Astronomy, Columbia University, New York, NY 10027.

Balachandran, Aiyalam Parameswaran 66-67 NS, Physics

Born 1938 Salem, India. PhD 1962 Theoretical Physics Madras Univ. Memberships: Am Phys Soc. Prof, Physics Dept, Syracuse University, Syracuse, NY 13210.

Publications Related to IAS Residence: With J. Nuyts. Simultaneous Partial-Wave Expansion in the Mandelstam Variables, Crossing Symmetry for Partial Waves. *Phys Rev* 172(1968) 1821-27; With W. Case and M. Modjtahedzadeh. Two Variable Expansion of the Scattering Amplitude for any Mass and Spin and Crossing Symmetry for Partial Waves. *Phys Rev D* 1(1970) 1773-78; With W.J. Meggs, J. Nuyts and P. Ramond. Two Variable Expansion of the Scattering Amplitude for any Mass and Crossing Symmetry for Partial Waves. *Phys Rev* 187(1969) 2080-87; With W.J. Meggs, J. Nuyts and P. Ramond. Simultaneous Partial-Wave Analysis in the Mandelstam Variables, The Group SU(3). *Phys Rev* 176(1968) 1700-05; With J. Nuyts. Group Analysis of Scattering Amplitudes and the Group SU(1,1). *Nuclear Phys* B9(1969) 81-88; With W.J. Meggs and P. Ramond. Eigenvectors for the Partial-Wave Crossing Matrices. *Phys Rev* 175(1968) 1974-77; With M.G. Gundzik and F. Nicodemi. Current Commutators and Mass Extrapolations, Theory and Applications. *Nuclear Phys* B6(1968) 557-84; With J.J. Loeffel. Some Consequences of the Wu-Yang Asymptotic Behaviour of Form Factors. *Phys Rev* 167(1968) 1322-34; With M.G. Gundzik, P. Narayanaswami and F. Nicodemi.

Photopion Production from Nucleons. *Ann Phys* 45(1967) 339-64.

Other Publications: With M.G. Gundzik and F. Nicodemi. *Nuovo Cimento* 44(1966) 1257; With S. Bor-chardt and A. Stern. *Phys Rev D* 17(1978) 3247; With H.S. Mani, R. Ramachandran and Pankaj Sharan. *Phys Rev Lett* 40(1978) 988; With T.R. Govindarajan and B. Vijayalakshmi. *Phys Rev D* 18(1978) 1950.

Balachandran, Vadekke Kurupath 70-71 M, Number Theory

Born 1926 Madras, India. PhD 1951 Mathematics Univ of Madras. Appointments: Univ Grants Commission; SSB Prize Cttee Central Scientific and Industrial Research; Chmn Bd of Studies in Math Univ of Madras. Memberships: Indian Math Soc; AMS. Prof, Mathematics, Ramanujan Institute, University of Madras, Madras 600 005, India.

Publications Related to IAS Residence: Simple system of roots in L*-algebras. *Trans AMS* 130(1968) 513-526; On the uniqueness of the inner product topology in a semi simple L*-algebra. *Topology* 7(1968) 305-09; Real L*-algebras. *Ind J Pure & Appl Math* 3(1972) 1224-1246.

Balázs, Louis Attila Peter 62-63 M(NS), Physics, Elementary Particles, Theory

Born 1937 Tsing-Tao, China. PhD 1962 Physics Univ of Calif, Berkeley. Honors: Sloan Fellow 1967-1969. Memberships: Am Phys Soc. Prof, Physics Dept, Purdue University, West Lafayette, IN 47907.

Publications Related to IAS Residence: *Phys Rev Lett* 10(1963) 170; *Phys Rev* 132(1963) 867.

Other Publications: *Phys Rev* 128(1962) 1939; *Phys Rev* 137(1965) 1510; With J. M. Cornwall. *Phys Rev* 160(1967) 1313; *Phys Lett* 29B(1969) 228; *Phys Rev D* 2(1970) 999; *Phys Rev D* 11(1975) 1071; *Phys Lett* 71B(1977) 216.

Bald, Robert Cecil 60-61 HS, English Literature

Born 1901 Melbourne, Australia. PhD (Cantab.) 1929. Honors: Guggenheim Fellow 1946-47. Deceased.

Publications Related to IAS Residence: *John Donne: a life*. NY & Oxford: 1970.

Balme, David Mowbray 76-77 HS, Greek Philosophy

Born 1912 Carlisle, England. MA (Cantab.) 1936 Classics. Prof Emer, Classics, Univ of London, Gumley, Market Harborough, Leicestershire, United Kingdom.

Publications: *Aristotle's De Partibus Animalium I and De Generatione Animalium I*. Oxford: Clarendon Press, 1972.

Baluni, Varouzhan 79f NS, Particle Physics

Born 1943 Cairo, Egypt. Cand 1969 Phys & Math Joint Inst for Nuclear Research Dubna (USSR). Honors: Laureate Joint Inst for Nuclear Research

Members

1968. School of Natural Sciences, Institute for Advanced Study, Princeton, NJ 08540.

Publications Related to IAS Residence: The Bose Form of Two Dimensional Quantum Chromodynamics. *Phys Lett B* (in press).

Other Publications: II-meson Radius and Analytical Properties of its Form-Factor. *Sov J Theor & Math Phys* 6(1971) 236; Quantum Chromodynamic Theory of Highly Condensed Matter. *Phys Rev D* 11(1978) 2092; *Cp* -nonconserving Effects in QCD. *Phys Rev D* 19(1979) 2227.

Bambah, Ram Prakash 52-54 M, Number Theory

Born 1925 Jammu, India. ScD 1970 Mathematics Cambridge Univ. Honors: Ramanujan Medal Ind Nat Sci Acad 1979. Appointments: Univ Grants Comm 1976-; UGC Rev Comm for Math; Convener, Indian Side Binatl Conf on Teaching & Research in Math 1973. Memberships: Ind Math Soc; AMS; Ind Nat Sci Acad; Ind Acad Sci; Nat Acad Sci, India. Prof, Mathematics Department, Punjab University, Sector 14, Chandigarh 160 014, India.

Publications Related to IAS Residence: On lattice coverings by spheres. *Proc Nat Inst Sc India* 20(1954) 25-52; Lattice coverings with four dimensional spheres. *Proc Camb Phil Soc* 50(1954) 203-208; Four squares and a k -th power. *Quar J Math Oxford* (2) 5(1954) 191-202; On polar reciprocal convex bodies. *Proc Camb Phil Soc* 51(1955) 377-378; With K. Rogers. Inhomogeneous minimum etc. *Canad J Math* 7(1955) 337-346; Divided Cells. *Res Bull East Punjab Univ* 81(1955) 173-174; On polar reciprocal convex domains. *Proc Nat Inst Sc India* 20(1954) 119-120; On polar reciprocal convex domains. *Addendum Proc Nat Inst Sc India* 20(1954) 324-325.

Other Publications: With S. Chowla. The residue of Ramanujan's function $\tau(n)$ to the modulus 2^8 . *J London Math Soc* 22(1947) 140-147; S. Chowla. On numbers which can be expressed as a sum of two squares. *Proc Nat Inst Sc India* 13(1947) 101-103; On the geometry of numbers of non-convex regions with hexagonal symmetry. *Phil Trans Royal Soc* 243(1951) 431-462; With H. Davenport. The coverings of n -dimensional space by spheres. *J London Math Soc* 27(1952) 224-229; With C. A. Rogers. Covering the plane with convex sets. *J London Math Soc* 27(1952) 304-314; With K. F. Roth. A note on lattice coverings. *J Indian Math Soc* 16(1952) 7-12; On lattice coverings. *Proc Nat Inst Sc India* 19(1953) 447-459; Some transference theorems in the geometry of numbers. *Monat-shefte fur Mathematik* 62(1958) 243-249; With C. A. Rogers and H. Zassenhaus. On coverings with convex domains. *Acta Arith* 9(1964) 191-207; With A. C. Woods and H. Zassenhaus. Three proofs of Minkow-ski's second inequality in the geometry of numbers. *J Austral Math Soc* 4(1965) 453-462; With A. C. Woods. On the minimal density of maximal packing of the plane by convex bodies. *Acta Math Acad Sc Hungaricae* 19(1968) 103-116; With A. C. Woods. Covering constants of convex cylinders. *Monat Math* 72(1968) 107-117; With A. C. Woods. On minimal density of plane coverings by circles. *Acta*

Math Acad Sc Hungaricae 19(1968); With A. C. Woods. On a problem of Danzer. *Pacific J of Math* 37(1971) 295-301; With A. C. Woods. On plane Coverings with convex domains. *Mathematika* 18(1971) 91-97; With A. C. Woods. A Theorem of Dyson. *J Number Theory* 6(1974) 422-433; With V. C. Dumir and R. J. Hans-Gill. Covering by Star Domains. *Indian Pure App Maths* 8(1977) 344-350; With A. C. Woods. On the product of three inhomogeneous linear forms. *Number Theory & Algebra* 1977(7-18).

Bamford, Paul Walden 66-67 HS, Modern European History

Born 1921 Denver, CO. PhD 1951 European History Columbia Univ. Honors: Ford Postdoc Fellow Columbia U 1951-52; E.C. Howald Fellow Ohio State Univ 1955-56; Fulbright Scholar and Research Prof France 1949-50, 1960-61; William Koren Jr. Prize, Soc French Hist Stud 1960. Memberships: AHA. Prof, Department of History, Univ of Minnesota, Minneapolis, MN 55455.

Publications Related to IAS Residence: *Fighting Ships and Prisons: The Mediterranean Gallys of Louis XIV*. Minneapolis, Minn: Univ of Minn Press, 1973.

Other Publications: *Forest and French Sea Power*. Toronto: Univ of Toronto Press, 1956.

Banks, Thomas I. 76-77, 78f NS, Particle Physics

Born 1949 New York, NY. PhD 1973 MIT. Honors: PBK. Memberships: Am Phys Soc. Senior Lect, Dept of Physics and Astronomy, Tel Aviv University, Tel Aviv, Israel.

Banti, Luisa 62-63 HS, Classical Archaeology

Born 1894 Florence, Italy. AB 1927 Univ of Florence, Italy. Deceased.

Banyaga, Augustin 77-78 M, Differential Topology

Born 1947 Rwanda. PhD 1976 Geneva. Dept of Math, Harvard U, Cambridge, MA 02138. *

Bar-Gadda, Uzi Y. 77s NS, Particle Physics Theory

Born 1949 Jerusalem, Israel. PhD 1979 Physics Stanford Univ. Honors: Kusaka Prize in Physics Princeton Univ 1971; Sigma Xi Princeton Univ 1971. Appointments: Committee on Professional Concerns APS Society. Memberships: Am Phys Soc; Am Assoc for the Advance of Sci. Res Assoc, Stanford Univ, Theory Group, Stanford Linear Accel Ctr, PO Box 4349, Stanford, CA 94305.

Publications Related to IAS Residence: Infrared Behavior of the effective coupling in Quantum Chromodynamics. *Phys Rev Lett* in press.

Barag, Dan Pinhas 75-76 HS, Classical Art & Archaeology

Born 1935 London, England. PhD 1971 Archaeology Hebrew Univ. Memberships: Fellow Soc of Antiquaries of London. Assoc Prof, and Chairman Div of Classical Archaeology, Institute of Archaeology,

The Hebrew University, Mount Scopus, Jerusalem, Israel.

Publications Related to IAS Residence: Rod-Formed Kohl-Tubes of the Mid-First Millennium B.C. *Journal of Glass Studies* 17(1975) 23-36; The Palestinian Judaea Capta Coins of Vespasian and Titus and the Era on the Coins of Agrippa II Minted under the Flavians. *Numismatic Chronicle* 18(1978) 14-23.

Other Publications: With A.L. Oppenheim, R.H. Brill, A.V. Saldern. Mesopotamian Core-Formed Glass Vessels. In *Glass and Glassmaking in Ancient Mesopotamia*, 131-199. Corning: 1970; Glass Pilgrim Vessels from Jerusalem. *Journal of Glass Studies* 12(1970) 35-63; 13(1971) 45-63; The Effects of the Tennes Rebellion on Palestine. *Bull Amer Schls Oriental Res* 183(1966) 6-12.

Barasch, Moshe 67-68 HS, History of Art

Born 1920 Czernowitz, Rumania. Appointments: Ed, Studies in Art & Art Hist, Masterworks of World Literature. Prof, Art History, Hebrew University, Visit Prof New York University, Hebrew University, Jerusalem, Israel.

Publications Related to IAS Residence: *Gestures of Despair in Medieval and Early Renaissance Art*. NY: NYU Press, 1976; *Light and Color in Renaissance Theory of Art*. NY: NYU Press, 1978.

Other Publications: *Crusader Figural Sculpture in the Holy Land*. New Brunswick, NJ: 1971; *Approaches to Art: 1750-1950*. Jerusalem: 1977.

Barbasch, Dan Mihai 78-79 M, Harmonic Analysis on Lie Groups

Born 1951 Bucharest, Rumania. PhD 1976 Math Univ of Illinois. Memberships: AMS. Asst Prof, Dept of Math, Rutgers Univ, New Brunswick, NJ 08903.

Publications: Fourier Inversion for Unipotent Orbits. *Trans AMS* in press.

Barber, Sherburne F. 34-35 M

Born 1907 Nunda, NY. PhD 1933 Algebraic Geometry Univ of Illinois. Memberships: AMS; MAA. Prof Emer, Mathematics, CCNY, 5 Yorkshire Ave, Stony Brook, NY 11790.

Publications: Planar Cremona Transformations. *Am J of Math* 56: 109-121; Deducible Exceptional Curves of the First Kind. *Am J of Math* 57: 119-141.

Bardakci, Korkut 63-65 M(NS), Physics

Born 1936 Turkey. PhD 1962 Univ of Rochester. Physics Dept, Univ of Calif, Berkeley, CA 94720. *

Bardeen, James M. 79-80 NS, Physics

Born 1939 Minneapolis, MN. PhD 1965 Cal Tech. Prof, Dept of Physics, U of Washington, Seattle, WA 98195. *

Bardeen, William A. 68-69 NS, Elementary Particle Theory, Field Theory

Born 1941 Washington, PA. PhD 1968 Univ of Minnesota. Honors: Sloan Fellow 1971-74; Alexander von Humboldt Award 1977. Memberships: Am Phys Soc. Physicist, Particle Theory, Theory Group CL-3E, Fer-milab, Batavia, IL 60510.

Publications Related to IAS Residence: Anomalous Ward Identities in Spinor Field Theories. *Phys Rev* 184(1969) 1848-1859 ; With Stephen L. Adler. Absence of Higher-Order Corrections in the Anomalous Axial-Vector Divergence Equation. *Phys Rev* 182(1969) 1517-1536

Bargmann, Valentine 37-46, 54-55 M(NS), Theoretical Physics

Born 1908 Berlin, Germany. PhD 1936 Physics Univ of Zurich. Honors: Wigner Medal (Group Theory and Fund Phys Fnd)1978; NAS 1979. Memberships: Am Phys Soc; AMS. Prof Emer, Dept of Physics, Jadwin Hall, Princeton University, Princeton, NJ 08540.

Publications Related to IAS Residence: With A. Einstein and P. G. Bergmann. Five-dimensional representation of gravitation and electricity. In *Von Kármán Anniversary Volume*, 212. Pasadena: CalTech, 1941; With A. Einstein. Bivector fields. *Ann Math* 45(1944) 1.

Other Publications: Irreducible unitary representations of the Lorentz group. *Ann Math* 48(1947) 568.

Barkas, Walter H. 38-40 M(NS), Physics

Born 1912. PhD 1936 Univ of Washington. Deceased.

Publications Related to IAS Residence: The Analysis of Nuclear Binding Energies. *Phys Rev (2)* 55(1939) 691-698; With M.G. White. Disintegration of Deuterium by Protons and p-n Reactions in Light Gaseous Elements. *Phys Rev (2)* 56(1939) 288-289; Helium of Mass Three as an Agent in Nuclear Reactions. *Phys Rev (2)* 56(1939) 1242-1243; Some New Reactions in Light Nuclei with High Energy Protons. *Phys Rev (2)* 56(1939) 287; With E. C. Creutz, L. A. Delsasso, R. B. Sutton and M. G. White. The Beta-Radiation from Si^{27} and P^{30} . *Phys Rev (2)* 58(1940) 194, 383; With E. C. Creutz, L. A. Delsasso, J. G. Fox and M. G. White. The Carbon Isotopes of Mass Ten and Eleven. *Phys Rev (2)* 57(1940) 562; With L. A. Delsasso, M. G. White and E. C. Creutz. The Carbon Isotopes of Mass Ten and Eleven. *Phys Rev (2)* 58(1940) 586-590; With P. R. Carlson, J. E. Henderson and W. H. Moore. Concentration of Radioactive Bromine Produced by Gamma-Radiation. *Phys Rev (2)* 58(1940) 577; With E. C. Creutz, L. A. Delsasso and R. A. Sutton. Processes Induced in the Nuclei of Iodine and Bromine by High Energy Protons. *Phys Rev (2)* 57(1940) 1087; With E. C. Creutz and N. H. Furman. Gamma-Radiation from Rhenium. *Phys Rev (2)* 58(1940) 1008; With E. C. Creutz, L. A. Delsasso, R. B. Sutton and M. G. White. Radioactivity Produced by Proton Bombardment of Bromine and Iodine. *Phys Rev (2)* 58(1940) 481-486.

Barker, John Walton 78-79 HS, Byzantine History

Members

Born 1933 Brooklyn, NY. PhD 1961 Byzantine History Rutgers Univ. Honors: Guggenheim Fellowship 1974-75; PBK; Prize for Outstanding Literary Achievement Council for Wisconsin Writers 1967. Appointments: NEH Project Referee. Memberships: AHA; Byzantine Studies Conference (Pres 1976-77); Am Musicological Assoc; Midwest Medieval Conf (VP 1978-79, Pres 1979-); Modern Greek Studies Assoc; Dumbarton Oaks Alumni Assoc. Prof, Department of History, University of Wisconsin, Madison, WI 53706. **Publications:** *Justinian and the Later Roman Empire*. Madison: Univ of Wisc Press, 1966; *Manuel II Palaeologus*. New Brunswick: Rutgers Univ Press, 1969.

Barker, S. Ross 78-79 M, Analysis

Born 1955 Leeds, West Yorkshire, England. DPhil (Oxon.) 1978 Mathematics. Honors: Jr Math Prize Oxford Univ 1975; Sr Math Prize Oxford Univ 1977; Johnson Prize 1977. Junior Research Fellow, Mathematics, Merton College, Oxford, 25 Parkside Pl, Leeds, LS6 4NX, England.

Barnes, Jonathan 72f HS, History of Philosophy

Born 1942 Much Wenlock Shropshire, England. MA(Oxon.) 1968. Memberships: Aristotelian Soc; Mind Assoc; Soc for Promotion of Hellenic Studies. Fellow and Tutor, Philosophy, Balliol College, Oxford, England.

Publications Related to IAS Residence: *Aristotle's Posterior Analytics*. Oxford: Clarendon Press, 1975.

Other Publications: *The Ontological Argument*. London: Macmillan, 1972; *The Presocratics*. London: Routledge and Kegan Paul, 1978.

Barnes, Mabel Schmeiser 33-34 M, Analysis

Born 1905 Wapello, IA. PhD 1931 Mathematics Ohio State Univ. Memberships: AMS; MAA; Amer Assoc for the Adv of Sci. Prof Emer, Occidental Coll, 14710 Mul-holland Dr, Los Angeles, CA 90024.

Barnes, Stanley Barry 76-77 Soc

Born 1943 Leeds, England. MA 1967 Sociology Essex Univ. Lecturer, Edinburgh Univ, 34 Buccleuch Place, Edinburgh, UK.

Publications: *Scientific Knowledge and Sociological Theory*. London: 1974.

Barnes, Timothy David 76-77 HS, Ancient History

Born 1942 Ossett, Yorkshire, England. DPhil Oxford Univ. Honors: Conington Prize Oxford 1974. Memberships: Amer Philol Assoc; Class Assoc of Can; Soc of Roman Studies; Amer Soc of Papyrologists. Prof, Classics, Univ of Toronto, 239 Wanless Ave, Toronto, Ontario, M4N 1W5 Canada.

Publications: *Tertullian: a historical and literary study*. Oxford: Clarendon Press, 1971; *The Sources of the "Historic Augusta"*. Collection Latomus, 155. Brussels: Latomus Revue d' Etudes Latines, 1978.

Baron, Hans 45-48, 48f HS(H), Italian Renaissance Studies

Born 1900 Berlin, Germany. PhD 1922 Univ of Berlin. Honors: LHD Lawrence Univ 1957; Guggenheim Fellow 1942-43; Fellow AAAS; Brit Acad; Rockefeller Found Grant 1961-63; Prem Internaz Forte dei Marmi Ital Hist 1965. Memberships: Am Soc for Reformation Res, VP, Pres 55-57; AHA; Ren Soc Am; Dante Soc Am; Mediaeval Acad Am. Distinguished Research Fellow Emeritus, Newberry Library, Hilles Library 222, Harvard University, Cambridge, MA 02138.

Publications Related to IAS Residence: *The Crisis of the Early Italian Renaissance*. Princeton: Princeton U Press, 1955; *Humanistic and Political Literature in Florence and Venice*. Cambridge, Mass: Harvard U Press, 1955; *A Struggle for Liberty in the Renaissance*. *Am Hist Rev* 18(1952 and 1953).

Other Publications: *From Petrarch to Leonardo Bruni*. Chicago: Chicago U Press, 1968; Machiavelli: The Republican Citizen and the Author of "The Prince". *English Hist Rev* 76(1961); Leonardo Bruni . . . and Methods For Determining the Ages of Humanists Born in the Trecento. *Speculum* 52(1977).

Barricelli, Nils Aall 53s, 54s M, Bionumerical Experiments by the Computer

Born 1912 Italy. DSc 1936 Math Physical Sc U of Rome. Dept of Math, Univ of Oslo, Blindern-Oslo 3, Norway. *

Publications Related to IAS Residence: Esempi Numerici di Processi di Evoluzione. *Methodos* 6(1954) 45-68.

Other Publications: On the Origin and Evolution of the Genetic Code. I: Wobbling and its Potential Significance. *J Theor Biol* 67(1977) 85-109; On the Origin and Evolution of the Genetic Code.II:Origin of the Genetic Code as a Primordial Collector Language. The Pairing-Release Hypothesis. *Bio Systems* 11(1979) 19-28.

Barron, John Penrose 73f HS, Ancient History and Archaeology

Born 1934 Morley, Yorkshire, England. DPhil 1961 Greek History Oxford Univ. Honors: T.W. Greene Prize and Scholarship Oxford Univ 1955 and 1957; Barclay Head Prize for Numismatics Oxford Univ 1959; Cromer Prize Brit Acad 1965. Appointments: Trustee, Soc for Prom of Hellenic Studies. Memberships: Soc of Antiquaries. Prof, Greek Language and Literature, and Public Orator; Dean of Faculty of Arts Univ London, King's College, Strand, London WC2R 2LS, England.

Publications: *Greek Sculpture*. London: Studio Vista, 1965; *Silver Coins of Samos*. London: Athlone Press, 1966.

Bars, Itzhak 79s NS, Physics

Born 1943 Izmir, Turkey. PhD 1971 Physics Yale Univ. Honors: Fulbright Scholar 1964-67; Gibbs Fship 1967-1969; IBM Fship 1969-71; Sloan Fship 1976-1980; Jr Fac Fship Yale 1978; Gravity Research

Foundation Award. Memberships: Am Phys Soc. Asst Prof, J.W. Gibbs Lab, Dept of Physics, Yale University, New Haven, CT 06520.

Publications Related to IAS Residence: Gauge Hierarchies in Unified Theories. In *Proceedings of the Orbis Scientiae 1979*, forthcoming.

Other Publications: Ternary Algebras as Building Blocks of Lie Algebras and Lie Superalgebras. In *Proceedings of the 8th International Colloquium on Group Theoretical Methods in Physics*. Israel: Kiriath Anavion, March 1979.

Bartholomew, James Richard 77s HS, History of Science

Born 1941 Hot Springs, SD. PhD History Stanford Univ. Honors: NEH Fship 1976-77. Memberships: AHA; Assoc for Asian Studies; Am Assoc for the Advancement of Sci. Assoc Prof, Department of History, Ohio State University, 230 W 17th Ave, Columbus, OH 43210.

Publications Related to IAS Residence: Japanese Modernization and the Imperial Universities, 1876-1920. *J of Asian Studies* 37 No. 2(February 1978) 251-271.

Other Publications: Japanese Culture and the Problem of Modern Science. In *Science And Values*, ed. by E. Mendelsohn & A. Thackray, 109-155. N.Y.: Humanities Press, 1974; Why Was There No Scientific Revolution In Tokugawa Japan? *Japanese Studies In The History of Science* 15 (1976) 111-128.

Bartlett, James Holly 36-37,48-49 M(NS), Theoretical Physics

Born 1904 Brooklyn, NY. PhD Physics Harvard Univ. Memberships: Am Phys Soc; Am Astron Soc; Biophys Soc; Mem Marine Biol Lab (Woods Hole, Mass). Prof Emer, Physics & Astronomy, Univ of Alabama, PO Box 1921, University, AL 35486.

Publications: *Classical & Modern Mechanics*. University, Ala: U of Ala Press, 1975.

Barton, Gabriel 59-61 M(NS), Physics

Born 1934 Budapest, Hungary. DPhil 1959 Theoretical Nuclear Physics Oxford Univ. Memberships: Inst of Phys. Reader, Theoretical Physics, Physics Building, University of Sussex, Brighton, England.

Publications Related to IAS Residence: Lee Model with Single Boson Oscillator. *Nuovo Cimento* 17(1960) 864; Notes on the Static Parity Nonconservative Internucleon Potential. *Nuovo Cimento* 19(1961) 512; With C. Kacser. Some Analytic Properties of a Decay Amplitude with Final-State Interactions, I, II. *Nuovo Cimento* 21(1961) 593 & 988.

Other Publications: Proton-Neutron Mass Difference According to the Bound-State Model. *Phys Rev* 146(1966) 1149; What Needs Explaining in the Photo-disintegration of ^3He ? *Nuclear Physics A* 104(1967) 289; With A.C. Phillips. Neutron-Deuteron Scattering Near Threshold: On-Shell Two-Body Approach.

Nuclear Physics A 132(1969) 97; With E.D. White. Electric Dipole Moment of the Neutron: Expected Order of Magnitude. *Phys Rev* 184(1969) 1660; Quantum Electrodynamics Between Conducting Plates, I, II, III. *Proc Roy Soc London A* 320(1970) 251. With M.A. Moore. Some P-Wave Phases of Superfluid ^3He . *J Phys C* 7(1974) 4220; Quantum Mechanics of Charged Particles Near a Plasma Surface. *J Phys A* 10(1977) 601; Some Surface Effects in the Hydrodynamic Model of Metals. *Reports on Progress in Physics* in press; *Introduction to Advanced Field Theory*. Interscience, 1963; *Introduction to Dispersion Techniques in Field Theory*. Benjamin, 1965.

Bass, Hyman 65-66 M, Algebra

Born 1932 Houston, TX. PhD 1959 Univ of Chicago. Honors: van Ameringen Book Awd Columbia Univ; Cole Prize AMS. Appointments: Council, AMS; Adv Panel in Math, NSF. Prof, and Chairman, Dept Math, Columbia Univ, New York, NY 10027.

Publications Related to IAS Residence: *Algebraic K-Theory*. New York: W. A. Benjamin, 1968; With J. Milnor & J.P. Serre. Solution of the Congruence Subgroup Problem For SL_n ($n \geq 3$) and SP_{2n} ($n \geq 2$). *Publ IHES* 33(1967) 59-137.

Other Publications: Characters and Euler Characteristics of Discrete Groups. *Invent Math* 35(1976) 155-196.

Bassi, Achille 36s M

Born 1907 Italy. Deceased.

Publications Related to IAS Residence: On Some New Invariants of a Manifold. *Proc NAS* 22(1936) 698-699; Su di Alcune Formole di Geometria delle Varietà Algebriche. *Rend Circ Mat Palermo* 60(1936) 107-123; Su Alcuni Nuovi Invarianti delle Varietà Topologiche. *Ann Mat Pura Appl* 4 16(1937) 275-297; L'Università e la Scuola di Matematica di Princeton. In *Conferenze di Fisica e di Matematica Tenute negli Anni Accademici 1936-37 e 1937-38*, 65-88. Torino: Politecnico, 1938.

Basso, Keith Hamilton 75-76 Soc, Anthropology

Born 1940 Asheville, NC. PhD 1967 Stanford Univ. Honors: Woodrow Wilson Fship 1962; John Harvard Fship 1962; Knox Fship 1962; PBK 1962. Appointments: Bd of Dir, Assoc of Amer Indian Affairs; Councilor-at-Large, Amer Ethnological Soc; Chm, Nom Comm, Amer Anthropol Assoc. Memberships: Amer Anthropol Assoc; Amer Ethnological Assoc; Linguistic Soc of Amer; Amer Assoc for the Adv of Sci; Nat Humanities Faculty. Prof, Dept of Anthropology, Univ of Arizona, Tucson, AZ 85716.

Publications Related to IAS Residence: *Portraits of The Whiteman: An Essay in the Ethnography of Play*. Cambridge: Cambridge Univ Press, 1979.

Other Publications: *Meaning in Anthropology*. Albuquerque: Univ of NM Press, 1976.

Members

Bateman, Felice Davidson 49-50 M, Algebra

Born 1922 Springfield, MA. PhD 1950 Univ of Mich. Memberships: AMS; MAA. Asst Prof, Mathematics, University of Illinois. 108 Meadows, Urbana, IL 61801.

Bateman, Paul Trevier 48-50, 56-57, 71s M, Number Theory

Born 1919 Philadelphia, PA. PhD 1946 Univ of Penna. Appointments: Math Scis Adv Panel for NSF 1963-66; Bd Trustees AMS 1971-75; Ed Bd *Mathl Revs* 1977-1982; Conf Bd Mathl Scis 1977-79. Memberships: AMS; MAA; London Math Soc. Prof, and Head Dept of Math Univ Ill at Urbana-Champaign. 108 Meadows, Urbana, IL 61801.

Publications Related to IAS Residence: With P. Erdős and S. Chowla. Remarks on the size of $L(l, \chi)$. *Pubs Math Debrecen* 1(1950) 165-182; A remark on infinite groups. *Am Math Monthly* 57(1950) 623-624; With S. Chowla. Averages of character sums. *Proc AMS* 1(1950) 781-787; With P. Erdős. Geometrical extrema suggested by a lemma of Besicovitch. *Am Math Monthly* 58(1951) 306-314; On the representations of a number as the sum of three squares. *TAMS* 71(1951) 70-101; With E. Grosswald. On a theorem of Erdős and Szekeres. *Ill J Math* 2(1958) 88-98; Proof of a conjecture of Grosswald. *Duke Math J* 25(1958) 67-72; Remark on a recent note on linear forms. *Am Math Monthly* 65(1958) 517-518; Theorems implying the non-vanishing of $\sum_{\chi} (m)_{\chi}^{-1}$ for real residue-characters. *J Indian Math Soc* 23(1961) 101-115; The distribution of values of the Euler function. *Acta Arithmetica* 21(1972) 329-345.

Other Publications: With P. Erdős. Monotonicity of partition functions. *Mathematika London* 3(1956) 1-14; With R. M. Stemmler. Waring's problem for algebraic number fields and primes of the form $(p^f - 1)/(p^d - 1)$. *Ill J Math* 6(1962) 142-156; With A. L. Duquette. The analogue of the Pisot-Vijayaraghavan numbers in fields of formal power series. *Ill J Math* 6(1962) 594-606; With Emil Grosswald. On Epstein's zeta functions. *Acta Arithmetica* 9(1964) 365-373; With Harold G. Diamond. Asymptotic distribution of Beurling's generalized prime numbers. *MAA Studies in Math* 6(1969) 152-210; The Erdős-Fuchs theorem on the square of a power series. *J Number Theory* 9(1977) 330-337.

Batho, Edward H. 58-59 M, Algebra

Born 1925 West Hoboken, NJ. PhD 1955 Univ of Wisc. Assoc Prof, Dept of Mathematics, Univ of New Hampshire, Durham, NH 03824. *

Batschelet, Eduard 49s M

Born 1914 Biel, Berne, Switzerland. PhD 1942 Mathematics Univ of Basel. Appointments: Adv Cttee U.S. Cong on Environ Questions. Memberships: Inst Math Statistics; Amer Stat Assoc; Biometric Soc; AAAS. Prof, Institute of Mathematics, Univ of Zurich, Freiestrasse 46, Zurich 8032, Switzerland.

Publications: *Statistical Methods for the Analysis of Problems in Animal Orientation and Certain Biological Rhythms*. IBS Monograph. AIBS, 1965.

Bauer, George C. 75-76 HS, Art History

Born 1942 Chicago, IL. PhD 1974 Princeton Univ. School of Fine Arts, U of California Irvine, Irvine, CA 92717. *

Baum, Paul Frank 64-65, 76-77 M, Topology

Born 1936 New York, NY. PhD 1963 Mathematics Princeton Univ. Honors: PBK 1957. Memberships: AMS. Prof, Department of Mathematics, Brown University, Providence, RI 02912.

Publications Related to IAS Residence: With W. Fulton and G. Quart. Lefschetz-Riemann-Roch for Singular Varieties. *Acta Math* in press.

Other Publications: With W. Fulton and R. Macpherson. Riemann-Roch for Singular Varieties. *Publ Math Ihes, Paris* 45(1975) 101-145.

Baumslag, Gilbert 68-69 M, Algebra

Born 1933 Johannesburg, South Africa. PhD 1958 Manchester Univ.; DSc 1976 Math Witwatersrand, Johannesburg. Honors: Sloan Fellow 1964. Memberships: AMS. Distinguished Prof, Math, CCNY, 17 E 84 St, New York, NY 10028.

Publications Related to IAS Residence: Positive One-Relator Groups. *Trans AMS* 156(1971) 165-183.

Other Publications: On Generalized Free Products. *Math Z* 78(1962) 423-438; Some Two-Generator One-Relator Non-Hopfian Groups. *Bull Amer Math Soc* 68(1962) 199-201; Subgroups of Finitely Presented Metabelian Groups. *J Aust Math Soc* 16(1973) 98-110.

Baxendale, Peter Herbert 76-77 M, Analysis

Born 1948 Derby, England. PhD 1973 Mathematics Warwick Univ. Memberships: London Math Soc; AMS. Lecturer, University of Aberdeen, Mathematics Department, Kings College, Aberdeen, Scotland.

Publications Related to IAS Residence: Wiener Processes on Manifolds of Maps. *J Diff Geom* in press.

Other Publications: Gaussian Measures on Function Spaces. *Am J Math* 98(1976) 891-952.

Baylen, Joseph O. 66s, 66f HS, Modern European History

Born 1920 Chicago, IL. PhD 1949 Mod European History Univ of NMex. Honors: Phi Kappa Phi; Phi Alpha Theta; Guggenheim Fellow 1958-59; ACLS Res Grant 1960-61; Grant Amer Philos Soc 1965-66; Fulbright Lect 1961-62, 1972-73. Appointments: Consult, NEH 1968-; Member Fed Govt Regional Archives Comm 1970-74; Ed Bd, *Southern Humanities Review & Miss Quarterly*. Memberships: AHA Exec Council 1972-75; Pres Southern Conf on Brit Studies 1977-79; Member Exec Council Natl Conf on Brit Studies 1977-. Regents' Prof, History, Ga

State Univ, 916 Barton Woods Rd, NE, Atlanta, GA 30307.

Publications Related to IAS Residence: Cecil Rhodes, Marion Crawford, and the Idea of a Secret Society. *The American Oxonian* 54(1967) 1-4; With G. P. Walton. The Froude-Stead Correspondence, 1877-1891. *Huntington Library Quart* 30(1967) 167-83; W. T. Stead and the Russian Revolution of 1905. *Canad J of Hist* 2(1967) 45-66; Sleep and Some Late Victorian and Edwardian Men of Letters. *Eng Lit in Transition, 1880-1920* 8(1967) 201-203; Bishop Strossmayer and Mme Olga Novikov...1879. *Slavic Rev* 26(1967) 468-73; Swinburne and the "Pall Mall Gazette" *Research Studies* 27(1968) 325-34; *The Tsar's "Lecturer-General", W. T. Stead and the Russian Revolution of 1905*. Atlanta: Georgia St Univ Sch of Arts and Sci Research Paper No 23, 1969; With A. Conway. *Soldier-Surgeon: The Crimean War Letters of Dr. Douglas A. Reid, 1855-56*. Knoxville: Univ of Tenn Press, 1968; With P. G. Hogan, Jr. W. T. Stead's Interview with George Meredith: An Unpublished Version. In *Tennessee Studies in Literature*, 9: 99-116. Knoxville: Univ of Tenn Press, 1964; The Origins of World War I. In *Interpreting European History*, ed. by Brison D. Gooch, ed, 2: 274-304. Homewood, Ill: The Dorsey Press, 1967.

Bean, George Ewart 69-70 HS, Archaeology

Born 1903 Kent, Surry, England. MA(Cantab.) 1930. Deceased.

Publications Related to IAS Residence: With T.B. Mitford. *Journeys in Rough Cilicia, 1964-1968*. Vienna: 1970.

Beaumont, Ross Allen 54-55 M, Pure Mathematics, Algebra

Born 1914 Dallas, TX. PhD 1940 Mathematics Univ of Illinois. Honors: Ford Found Fellow 1954-55. Appointments: Rev panelist NSF Sci Fac Prof Devel Prog. Memberships: AMS; MAA. Prof, Department of Mathematics, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: With R.S. Pierce. Partly Transitive Modules and Modules with Proper Isomorphic Submodules and Partly Invariant Submodules of a Torsion Module. *Trans AMS* 91(1959) 209-219, 220-230.

Other Publications: With R.S. Pierce. Torsion Free Rings. *Ill Jour Math* 5(1961) 61-98; With R.S. Pierce. Torsion Free Groups of Rank Two. *Mem AMS* 38(1961) 1-41; With R.S. Pierce. *The Algebraic Foundations of Mathematics*. Reading, Mass: Addison-Wesley, 1963; *Linear Algebra*. New York: Harcourt Brace Jovanovich, Inc., 1965.

Becatti, Giovanni 63-64 HS, History of Roman Art

Born 1912 Italy. Libera Docenze 1940 Archaeology U of Rome. Instituto de Archeologia, Cettà Universitaria, Facoltà di Lettere, Rome, Italy. *

Beck, James H. 67s HS, Art History

Born 1930 New York, NY. PhD 1963 Columbia Univ. Honors: Guggenheim Fellow 1973-74; Fellow Villa I Tatti 1967-68. Memberships: Renaissance Soc; Coll Art Assn; Med Soc. Prof, Art History, Columbia Univ, 815 Schermerhorn Hall, New York, NY 10027.

Publications Related to IAS Residence: *Mariano di Jacopo detto il Taccola, 'Liber tertius de ingeneis ac edifiitiis non usitatis*. Milan: il Polifilo, 1969; The Historical "Taccola" and Emperor Sigismund in Siena. *Art Bulletin* 50(1968) 309-320.

Other Publications: With Gino Corti. *Masaccio, The Complete Documents*. Locust Valley: J. J. Augustin, 1978; *Raphael*. New York: Harry N. Abrams, 1976.

Beckenbach, Edwin Ford 51-52 M, Analysis

Born 1906 Dallas, TX. PhD 1931 Mathematics Rice Univ. Honors: Guggenheim Fellow 1958-59; NRC Fellow 1931-32. Appointments: Chm, Comm on Publ MAA, 1971. Memberships: AMS; MAA; SIAM; Nat Council of Teachers of Math. Prof Emer, Math, UCLA. 13478 Bayliss Rd, Los Angeles, CA 90049.

Publications Related to IAS Residence: A property of mean values of an analytic function. *Rend Cir Mat di Palermo* (1952) 433-439; On characteristic properties of harmonic functions. *Proc AMS* (1952) 765-769; Subfunctions of several variables. *Pacific J Math* 3(1953) 291-313.

Other Publications: *Concepts of Communication*. Krieger, 1971; *Inequalities*. Ergeb Math, 30. Springer-Verlag, 1971.

Becker, Marvin B. 68-69 HS

Born 1922 Philadelphia, PA. PhD 1950 Univ of Pa. Dept of History, U of Michigan, Ann Arbor, MI 48104. *

Bég, Mirza Abdul Baqi 62-64 M(NS), Theoretical Physics

Born 1934 Etawah, UP, India. PhD 1958 Theoretical Physics Univ of Pittsburgh. Appointments: High Energy Adv Comm, Brookhaven Nat Lab. Memberships: Am Phys Soc; NY Acad of Sci. Prof, Theoretical Physics, and Consultant Brookhaven National Lab, The Rockefeller University, 1230 York Avenue, New York, NY 10021.

Publications Related to IAS Residence: Electromagnetic Induction of Neutral Lepton Current. *Phys Rev* 132(1963) 426; On the Peratization Theory of Feinberg and Pais. *Ann Phys* 27(1964) 183; With J. M. Cornwall and C. H. Woo. 3-Pion Decay of the Intermediate Vector Boson. *Phys Rev Letters* 12(1964) 305; Contribution of Charged Vector Bosons to the Photon Propagator. *Phys Rev* 134(1964) 1386; With H. Ruegg. A Set of Harmonic Functions for the Group SU(3). *J Math Phys* 6(1965) 677; With V. Singh. Splitting of Spin-Unitary Spin Supermultiplets. *Phys Rev Letters* 13(1964) 418, 681E.

Begemann, Egbert Haverkamp 59s HS, History of Art

Members

Born 1923 Naarden, Netherlands. PhD 1957 Amsterdam Univ. *

Beguin, Sylvie M. 73f HS

Born 1919 France. PhD 1947 Ecole du Louvre. 41 Quai Branly, 75007 Paris, France. *

Behrends, Ralph Eugene 59-60 M(NS), Elementary Particle Theory

Born 1926 Chicago, IL. PhD 1956 UCLA. Memberships: Am Phys Soc; NY Acad of Sci. Prof, Physics Dept, Yeshiva Univ, New York, NY 10033.

Publications Related to IAS Residence: With A. Sirlin. *Phys Rev* 121 (1961) 324; With A. Sirlin. *Phys Rev Letters* 4(1960) 186.

Other Publications: With J. Dreitlein, C. Fronsdal and B. W. Lee. *Rev Mod Phys* 34(1962) 1.

Beldiceanu, Nicoară 78-79 HS, Turkic Languages and Literature

Born 1920 Bucharest, Rumania. D d'Etat ès L 1973 Univ Paris-Sorbonne. Dir de recherche, CNRS Paris, Chargé de conférences, Ecole Pratique des Hautes Etudes IVe section Paris, Parc de Lormoy (Gironde 1), 91240 Saint-Michel-sur-Orge, France.

Bellah, Robert N. 72-73 Soc, Islamic Religions

Born 1927 . PhD 1955 Harvard Univ. Center for Japanese & Korean Studies, Univ of Cal. 2420 Bowditch St, Berkeley, CA 94720. *

Bellinger, Alfred Raymond 59-60 HS, Classics

Born 1893 Durham, PA. PhD 1925 Yale Univ. Honors: Huntington Medal of Am Numismat Soc; Medal of Royal Numismat Soc of London. Deceased.

Publications Related to IAS Residence: *Essays on the coinage of Alexander the Great*. Numismatic studies, II. NY: 1963.

Beloff, Max 54f HS, Recent History

Born 1913 London, England. MA(Oxon.). Honors: DLitt Oxford; FBA 1973; FRHistS; FRSA; Hon LLD Pittsburgh University 1962; Hon DCL Bishop's University, Canada; Hon DLitt Bowdoin College; HonDr Univ Aix-Marseille III 1978. Principal, University College at Buckingham, Hunter Street, Buckingham MK 18 1EG, England.

Publications Related to IAS Residence: *Foreign Policy and the Democratic Process*. Baltimore: Johns Hopkins Univ Press, 1955.

Other Publications: Public Order and Popular Disturbances 1660-1714; *The Foreign Policy of Soviet Russia*. 1. London, NY: Oxford Univ Press, 1947; 2. 1949; *Thomas Jefferson and American Democracy*. London: 1948; *Soviet Policy in the Far East, 1944-1951*. London, NY: Oxford Univ Press, 1953; *The Age of Absolutism, 1660-1815*. London, New York: Hutchinson's Univ Library, 1954; *Europe and the Europeans*. London: Chatto & Windus, 1957; *The Great Powers*. London: Allen & Unwin, 1959; *The*

American Federal Government. New York: Oxford Univ Press, 1959; *New Dimensions in Foreign Policy*. London: Allen & Unwin, 1961; *The United States and the Unity of Europe*. Washington: Brookings Inst, 1963; *The Balance of Power*. Montreal: McGill Univ Press, 1967; *The Future of British Foreign Policy*. London: Seeker & Warburg, 1969; *Imperial Sunset*. 1. London: Methuen, 1969; *The Intellectual in Politics*. London: Weidenfeld & Nicolson, 1970; Ed., *The Federalist*. New York: Macmillan Co, 1948; Ed., *Mankind and his Story*. 1948; Ed., *The Debate on the American Revolution*. London: N. Kaye, 1949; Ed., *On the Track of Tyranny*. 1959; Ed. with V. Vale. *L'Europe du XIXe et XXe siècle*. Paris: 1960-1967; Ed., *American Political Institutions in the 1970's*. Totowa, NJ: Rowman & Littlefield, 1975.

Ben-David, Joseph 76f Soc, Sociology

Born 1920 Győr, Hungary. PhD 1955 Sociology Hebrew Univ. Honors: AAAS 1971-; Borden Prize of ACE 1972; Foreign Assoc National Acad of Ed (U.S.) 1973-. Appointments: Member, Bd of Governors & Exec Comm Hebrew University; Natl Bd on Grad Ed (U.S. 1972-75); Cttee of Inquiry on the Financing of Universities (Israel 1972-73); Temporary Adv, OECD, Paris, 1966-71. Memberships: Am Sociol Assoc; Israel Sociol Assoc (Pres 1971-74); Intl Sociol Assoc (member of Exec Cttee since 1974-). George Wise Prof, Department of Sociology, Hebrew University, Jerusalem, Israel.

Publications Related to IAS Residence: Emergence of National Traditions in the Sociology of Science: The United States and Great Britain. *Sociological Inquiry* 48: 3-4(1978) 197-218; The Structure and Function of Nineteenth Century Social Science. In *Human Implications of Scientific Advance*, ed. by E. G. Forbes, 20-77. Edinburgh: Edinburgh U P, 1978; Higher Education since 1945: America's Impact on the World. In *The American Experience in Historical Perspective*, ed. by S. Slonim, 253-71. Ramat Gan, Israel: 1979.

Other Publications: *The Scientist's Role in Society: A Comparative Study*. Englewood Cliffs: 1971; *Trends in American Higher Education*. Chicago: Chicago U P, 1974; *Centers of Learning: Britain, France, Germany and the United States*. New York: McGraw-Hill, 1977.

Bender, Carl Martin 69-70 NS, Physics

Born 1943 Brooklyn, NY. PhD 1969 Physics Harvard Univ. Honors: Sloan Fellowship. Memberships: Am Inst of Phys. Prof, Physics Department, Washington University, St. Louis, MO 63130.

Publications Related to IAS Residence: *Phys Rev Letters* 24(1970) 681; *Phys Rev D2*(1970) 317; *Phys Rev D1*(1970) 2335.

Other Publications: With S.A. Orszag. *Advanced Mathematical Methods for Scientists and Engineers*. New York: McGraw-Hill, 1978.

Bendix, Reinhard 71-72 Soc, Sociology, Political Science

Born 1916 Berlin, Germany. PhD 1947 Sociology Univ of Chicago. Honors: DLitt(hc) University of Leeds 1978; Member Am Philosoph Soc 1977. Appointments: 1970-71, Pres, Amer Soc Assn. Prof, Dept of Political Science, University of California, Berkeley, CA 94720.

Publications Related to IAS Residence: *Kings or People, Power and the Mandate to Rule*. Berkeley: Univ of Calif Press, 1978; *Science and the Purposes of Knowledge*. *Social Research* Summer(1975).

Other Publications: *Work and Authority in Industry*. NY: Wiley, 1956; *Max Weber, Intellectual Portrait*. Garden City: Doubleday, 1960; *Nation-Building and Citizenship*. NY: Wiley, 1964; *Embattled Reason*. NY: Oxford Univ Press, 1970.

Benedict, Michael Les 74s HS, American History

Born 1945 Chicago, IL. PhD 1971 Rice Univ. Honors: NEH Younger Humanist Award 1973-74; Guggenheim Fellow 1977-78; Wilson Internat'l Center for Scholars Visiting Mem 1979. Memberships: Org of Amer Hist; Soc Sci Hist Assn; South Hist Assn. Assoc Prof, History, Ohio State Univ, 2665 Howey Rd, Columbus, OH 43211.

Publications Related to IAS Residence: *Preserving the Constitution: Reconstruction and the Waite Court*. *Supreme Court Review* in press(1979); *Racism and Equality in America*. *Reviews in American History* 6(1978) 13-20; *Equality and Expediency in the Reconstruction Era: A Review Essay*. *Civil War History* 23(1977) 322-35; *Comment on Executive Privilege in Light of "United States v Nixon"* *Loyola of Los Angeles Law Review* 9(1975) 40-51; *Let Us Have Peace: Republicans and Reconstruction, 1869-1880*. NY: W.W. Norton & Co., forthcoming.

Other Publications: *A Compromise of Principle: Congressional Republicans and Reconstruction, 1863-1869*. NY: W.W. Norton & Co., 1975; *The Impeachment and Trial of Andrew Johnson*. NY: W.W. Norton & Co., 1973; *Preserving the Constitution: The Conservative Basis of Radical Reconstruction*. *Journal of American History* 61(1974) 65-90; *The Rout of Radicalism: Republicans and the Elections of 1867*. *Civil War History* 18(1972) 334-44.

Benesch, Otto 45-46 HS(H), Art History

Born 1896 Ebenfurth, Austria. DPhil 1921 Univ of Vienna. Honors: Guggenheim Fellow 1942-43, 1945-46; Chevalier de l'Order Leopold II, Belgium; Ridder van de Orde van Oranje-Nassau, Holland; Officier d'Académie Francaise; Corr Member Strossmayer Soc of Zagreb. Deceased.

Publications Related to IAS Residence: *A Catalogue of Rembrandt's Selected Drawings*. New York: Oxford Univ Press, 1947.

Benjamin, Anna Shaw 59f HS, Classical Archaeology

Born 1925 Philadelphia, PA. PhD 1955 Classics Univ of Penn. Appointments: Adv Panel: NEH 1978, 1979; National Coordinating Bd for Archaeol Socs; Exec Bd,

Amer Philol Assoc 1975-8. Memberships: Amer Philol Assoc; Archaeol Inst of Amer; Assoc of Field Archaeol; MLA. Prof, Classics/Archaeology, Rutgers Univ Douglass Coll, Chairperson & Dir Graduate Studies, 208 Cedar Ave, Highland Park, NJ 08904.

Publications Related to IAS Residence: *Altars of Hadrian in Athens and Hadrian's Panhellenic Program*. *Hesperia* 32(1963) 57-86; *Two Dedications in Athens to Athenian Archons*. *Hesperia* 37(1968) 338-344; *Loomweights: A Test Case in Computerized Research*. *J of Field Archaeol* 3(1976) 118.

Other Publications: translated with an introduction. *Xenophon: Recollections of Socrates and Socrates' Defense Before the Jury*. Indianapolis: Bobbs Merrill, 1965.

Bennett, Emmett L, Jr. 55-56 HS, Classical Studies, Archaeology

Born 1918 Minneapolis, MN. PhD 1947 Classics U of Cincinnati. Honors: Corr mem German Archaeol Inst; Hon Mem Archaeol Soc of Athens. Appointments: Member, Comité International Permanent pour les Etudes Mycéniennes. Memberships: Archaeol Inst Amer; Linguistic Soc of Amer; Class Assoc of the Midwest and South; Amer Philol Assoc. Moses S. Slaughter Prof, Classical Studies, and Member Inst for Research in the Humanities Univ of Wise, Old Observatory, University of Wisconsin-Madison, 1401 Observatory Dr, Madison, WI 53706.

Publications Related to IAS Residence: *The Pylos tablets; texts of the inscriptions found 1939-1954*. Princeton: Princeton Univ Press for Univ of Cincinnati, 1955; *Correspondences entre les textes des tablettes Pyliennes des séries Aa.Ab, et Ad and Rapport: La question d'un corpus mycénien et d'un index mycénien*. In *Etudes Mycéniennes, Actes du Colloque International sur les Textes Mycéniens*, 120-136, 209-218. Paris: CNRS, 1956; *The Mycenae Tablets II*. *Trans Amer Philos Soc* 48, 1(1958).

Other Publications: *Nestor*. 1-4. Madison: Institute for Research in the Humanities, University of Wisconsin, 1957-1977.

Benson, Jack Leonard 55f, 64-65, 70s HS, Classical Archaeology

Born 1920 Kansas City, MO. PhD 1952 Classical Archaeology Basle Univ. Appointments: Select Cttee for Sr Fulbrights, 1963-68. Memberships: Amer Inst of Archaeol; Assoc of Field Archaeologists; Vereinigung der Freunde Antiker Kunst; Class Assoc of New Eng. Prof, Department of Art, University of Massachusetts, Amherst, MA 01003.

Publications Related to IAS Residence: *Bamboula at Kourion: The Necropolis and the Finds*. Philadelphia: Univ of Penn Press, 1972; *The Necropolis of Kaloriziki*. *Studies in Mediterranean Archaeology*, 36. Göteborg: 1973; *Corinth XV, iii: The Pottery from the Potters' Quarter*. Athens: Amer School of Class Stud, 1978.

Other Publications: *Horse, Bird and Man: The Origins of Greek Painting*. Amherst, Mass: Univ of

Members

Mass Press, 1970; *Die Geschichte der korinthischen Vasen*. Basle: Benno Schwabe, 1953; *Bamboula at Kourion: The Stratification of the Settlement*. In *Report of the Department of Antiquities*, 1-74. Cyprus: 1969 and 1970.

Benson, Robert Louis 77-78 HS, Mediaeval History

Born 1925 Portland, OR. PhD 1958 Princeton Univ. Prof, Dept of History, UCLA, Los Angeles, CA 90024.*

Béranger, Jean 61-62 HS, Ancient History

Born 1903 Bière, Vaud, Switzerland. DèsL 1953 Univ Lausanne. Honors: Membre corr Acad Inscript et Belles-Lettres (Inst de France) 1976. Appointments: Mem conseil fond du Fonds national suisse de la recherche scientifique; Mem Comm électorate. Memberships: Prés Groupe romand Soc études latines 1956-1959. Prof, Université de Lausanne, chemin de la Lisière 3, CH 1018 Lausanne, Switzerland.

Publications Related to IAS Residence: *Der "Genius populi Romani" in der Kaiserpolitik*. *Bonner Jahrbücher* 165(1965) 72-87.

Other Publications: *Recherches sur l'aspect idéologique du Principat*. Basel: Reinhardt, 1953; With François Paschoud et Pierre Ducrey. *Principatus, Etudes de notions et d'histoire politiques dans l'Antiquité gréco-romaine*. In *Publications Faculté des lettres de l'Université de Lausanne*, 20. Genève: Droz, 1973.

Berchem, Denis van 65-66, 78-79 HS, Greek and Roman History

Born 1908 Geneva, Switzerland. DèsL 1939 U of Geneva. Honors: Docteur (hc) University of Lausanne 1976. Memberships: Acad Inscript et Belles Lettres; Deut Archaeolog Inst. Emer Prof, U of Lausanne, U of Geneva, CH-1253 Pressy-Vandoeuvres, Geneva, Switzerland.

Publications Related to IAS Residence: *Sanctuaires d'Hercule-Melgart*. *Syria* 44(1967) 73-109, 307-338.

Other Publications: *Les Distributions de blé et d'argent à la plébe romaine sous l'Empire*. Genève: 1939; *L'armée de Dioclétien et la réforme Constantinienne*. Bibliothèque archéologique et historique, 56. Paris: 1952; *Le martyre de la Légion Thébaine, Essai sur la formation d'une légende*. Schweiz Beiträge zur Altertumswiss, 8. Basel: 1956.

Berengo, Marino 79f HS, Early Modern History

Born 1928 Venice, Italy. Prof, Hist of Polit and Soc Insts, Univ of Venice, San Marco 5499, 30124 Venice Italy.

Publications: *Nobill e mercanti nella Lucca del Cinquecento*. Torino: Einaudi, 1965; *La società veneta alla fine del Settecento*. Firenze: Sansoni, 1956.

Berger, Melvyn S. 72-73, 77-78, 78f M, Non-linear Problems in Partial Differential Equations

Born 1939 Brooklyn, NY. PhD 1964 Yale U. Dept of Mathematics, U of Mass, Amherst, MA 01003. *

Berger, Robert William 77-78 HS, Art History

Born 1936 New York, NY. PhD 1965 Harvard Univ. Honors: Fulbright Scholar 1963-64. Memberships: Coll Art Assn; Soc of Arch Hists. 155 Sewall Ave, Brookline, MA 02146.

Publications Related to IAS Residence: *Rubens' "Queen Tomyris with the Head of Cyrus"*. *Boston Museum Bull* in press(1979).

Other Publications: *Antoine Le Pautre: A French Architect of the Era of Louis XIV*. New York: NYU Press, 1969.

Berkowitz, David Sandler 79-80 HS, History of Ideas

Born 1913 Pittsburgh, PA. PhD 1946 History Harvard Univ. Honors: Washburn Prize in Hist 1938; PBK 1938; Sr Fellow Folger Library 1971-72 and 1978; Amer Bar Found Legal Hist Res Fellow 1972-73; NEH Sr Fellow Huntington Library 1979. Appointments: Comm for the Bromsen Memorial Lect in Humanistic Bibliog, Boston Public Library; Adv Bd, Yale Ctr for Parliamentary Hist; Consultant, NEH Ref Materials and Fship Progs; Council, Ren Soc of Amer. Memberships: AHA; Ren Soc of Amer, Conf on Brit Studies; Oxford Bibliog Soc; Brit Records Assoc; Amer Soc for Legal Hist. Prof, History, Brandeis Univ, 93 Beaumont Ave, Newtonville, MA 02160.

Publications: *Inequality of Opportunity in Higher Education*. Albany: 1948; *Bibliotheca Bibliographica Britannica*. 1-7. Waltham: 1963-1969; *From Ptolemy to the Moon: Progress in the Art of Exploration and Navigation*. Waltham: 1965; *In Remembrance of Creation: Evolution of Art and Scholarship in the Medieval and Renaissance Bible*. Waltham: 1968; *Reason of State in England and the Petition of Right, 1603-1629*. In *Staatsräson. Studien zur Geschichte eines politischen Begriffs*, ed. by Roman Schnur. Berlin: 1975; *Humanist Scholarship and Public Order. Two Tracts Against the Pilgrimage of Grace by Sir Richard Morison, and a Collection of Related Contemporary Documents*. Washington, DC: 1979.

Berlin, Theodore H. 52-53 M(NS), Statistical Mechanics

Born 1917 New York, NY. PhD 1944 Univ of Michigan. Deceased.

Publications Related to IAS Residence: With L. Witten and H. A. Gersch. *The Imperfect Gas*. *Phys Rev* (2) 92(1953) 189-201.

Bernard, Paul 71-72 HS, Archaeology

Born 1929 Sainte Maxine (Var), France. Agrégation de Grammaire 1954 Paris. Honors: Prix Ambatielos Acad Incriptions et Belles Lettres 1975; Prix R Ghirshman Acad Incriptions et Belles Lettres 1978. Appointments: Council of The Corpus Inscriptionum Iranicarum. Memberships: Société Asiatique; Société des Etudes Iraniennes. Maître de Recherche, Langues et Civilisations Classiques, CNRS, Dir

French Archéol Delegat Afghan, 6 Impasse de La Rochelle, 78540 Vernouillet, France.

Publications Related to IAS Residence: *Fouilles d'a Khanoum I*. Paris: 1973.

Bernays, Paul 35-36, 59-60 M, Mathematical Logic

Born 1888 Switzerland. Deceased.

Berndt, Bruce Carl 73-74 M, Number Theory

Born 1939 St Joseph, MI. PhD 1966 Mathematics Univ of Wisconsin. Appointments: AMS; MAA. Prof, Dept of Mathematics, Univ of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: Classical theorems on quadratic residues. *L Enseign Math* 22(1976) 261-304; With L. Schoenfeld. Periodic analogues of the Euler-Maclaurin and Poisson summation formulas with applications to number theory. *Acta Arith* 28(1975) 23-68; Identities involving the coefficients of a class of Dirichlet series VII. *Trans Amer Math Soc* 201(1975) 247-261; With S. Chowla. The reckoning of certain quartic and octic Gauss sums. *Glasgow Math J* 18(1977) 153-155; On Eisenstein series with characters and the values of Dirichlet L-functions. *Acta Arith* 28(1975) 299-320; Elementary evaluation of $\zeta(2n)$. *Math Mag* 48(1975) 148-154; With S. Chowla. Zero sums of the Legendre symbol. *Nordisk Mat Tidskr* 22(1974) 5-8; *Ramanujan's formula for $\zeta(2n + 1)$* . Professor Srinivasa Ramanujan Commemoration Volume. Madras: Jupiter Press, 1974.

Other Publications: *Character transformation formulae similar to those for the Dedekind eta-function*. Proc Symp Pure Math. Providence: Amer Math Soc, 1973; Modular transformations and generalizations of several formulae of Ramanujan. *Rocky Mtn J Math* 7(1977) 147-189.

Bernhard, Marie Louise 71-72 HS, Greek Archaeology

Born 1908 Lodz, Poland. PhD 1939 Univ of Warsaw. Honors: Polish Acad of Sci. ul. Dluqa 36 m. 7,00.238 Warsaw, Poland.

Publications Related to IAS Residence: *Greek Art of the 5th cent BC*. 2nd ed. Warsaw: 1975; *Greek Art of the 4th cent BC*. Warsaw: 1974; With J.K. Kozłowski. *A Guide to the Problems of Archaeology*. Cracow: 1975; ed, *Archaeological Antiquities of the Mediterranean Archaeology Department at the Jagellonian University*. Cracow: 1975; *The Archaeology of Greece*. Cracow: 1977; Articles on the Black Sea coast sites in USSR. In *The Princeton Encyclopedia of Classical Sites*. Princeton: 1976; *Corpus Vasorum Antiquorum-Pologne 9*. Warsaw. 1979; *Hellenistic Art*. Warsaw: 1979; *Olimpia*. Warsaw: 1979; ed, *Ancient Alexandria in Polish research*. Warsaw: 1977.

Bernheimer, Richard Max 41s HS(H), Art and Archaeology

Born 1907 Munich, Germany. PhD 1930 Univ of Munich. Deceased.

Publications: *Wild Men in the Middle Ages: A Study in Art, Sentiment and Demonology*. Cambridge: Harvard Univ Press, 1952.

Bernstein, Dorothy Lewis 50-51 M

Born 1914 Chicago, IL. PhD 1939 Brown Univ. Appointments: Joint Projects Comm for Math 1971-1977; Pres-Elect Exec and Finance Comm of MAA. Memberships: AMS; MAA; SIAM. Prof, and Dept Chairman, Dept of Mathematics, Goucher College, Baltimore, MD 21204.

Publications Related to IAS Residence: With G. A. Coon. Properties of the Double Laplace Transformation. *Trans AMS* 74(1953) 135-176.

Other Publications: *Existence Theorem in Partial Differential Equations*. Princeton: Princeton Univ Press, 1950.

Bernstein, Herbert J. 67-69 NS, Theoretical Quantum Physics

Born 1943 Washington, DC. PhD 1967 Theoretical Physics Univ of Calif San Diego. Honors: Fac Trustee Hampshire Coll 1972-1974; NSF Grad Fellow 1964-1967. Appointments: Intl Sci Consultant-AAAS. Memberships: Amer Phys Soc. Assoc Prof, Physics, Hampshire Coll, 266 Shays St, Amherst, MA 01002.

Publications Related to IAS Residence: Spin Precession of Neutrons, Operationalism, & the Active View of Symmetry. In *International Conference Proceedings: Neutron Interferometry Grenoble, 1978*. Oxford Univ Press, in press; With A. Zeilinger. Exact Spin Precession During Neutron Interferometry. *Physics Letters* in press; Can 360° Rotations Be Detected? *Scientific Research* 4(1969); With R. Dashen and S. K. Ma. S-Matrix Formulation of Statistical Mechanics. *Phys Rev* 87(1969) 345; Erratum. *Phys Rev A*6(1972) 851.

Bernstein, Ira Borah 73s NS, Theoretical Plasma Physics

Born 1924 New York, NY. PhD Theoretical Physics NYU. Memberships: Amer Phys Soc. Prof, Applied Science, Mason Laboratory, Yale Univ, New Haven, CT 06520.

Publications Related to IAS Residence: Geometric Optics in Space and Time Varying Plasmas. *Phys Fluids* 18(1974) 320.

Bernstein, Jeremy 57-59 M(NS), Theoretical Physics

Born 1924 Rochester, NY. PhD 1955 Harvard Univ. Honors: Brandeis Creative Arts Medal 1979; Appointments: Bd Eds, *American Scholar*. Memberships: Am Phys Soc Benj Franklin Fellow; Royal Soc of The Arts. Prof, Physics, Stevens Inst of Tech. 2 Fifth Ave, New York, NY 10011.

Bers, Lipman 49-51 M, Analysis

Members

Born 1914 Riga, Latvia, USSR. Dr Rer Nat 1938 Math Univ of Prague. Honors: Steele Prize, AMS 1972; AAAS; NAS. Memberships: AMS. Prof, Dept of Math, Columbia U, New York, NY 10027.

Publications Related to IAS Residence: Singularities of minimal surfaces. In *Proc Intern Congress of Mathematicians at Cambridge Mass, 2*: 157-164. 1950; An outline of the Theory of pseudoanalytic functions. *Bull AMS* 62(1956) 291-331; Uniformization, moduli and Kleinian groups. *Bull London Math Soc* 4(1972) 257-300; Quasiconformal mappings, with applications to differential equations, function theory and topology. *Bull AMS* 83(1977) 1083-1100.

Bertelli, Sergio 70f HS, History

Born 1928 Bologna, Italy. PhD 1962 Hist Univ of Rome. Honors: Premio "Bonavera" Accad delle Scienze di Torino 1961; socio corr Deputazione St. Patria Prov Modenesi. Appointments: Mem adv bd Deputazione Toscana di Storia Patria. 8 via di Bellosguardo, 50124 Firenze, Italy.

Publications Related to IAS Residence: When Did Machiavelli Write 'Mandragola'? *Renaissance Quarterly* 24(1971); Constitutional Reforms in Renaissance Florence. *J Med & Renaissance Studies* 3, 2(1973).

Other Publications: *Erudizione e storia in L.A. Muratori*. Napoli: 1960; *Giannoniana*. Milano-Napoli: 1968; *Ribelli, libertini e ortodossi nella storiografia barocca*. Firenze: 1973; *Il potere oligarchico nello stato città" medievale*. Firenze: 1978; With P. Innocenti. *Bibliografia machiavelliana*. Verona: 1979.

Bertotti, Bruno 58-59 M(NS), Theoretical Physics

Born 1930 Italy. Laurea 1954 Univ of Pavia. *

Besicovitch, Abram S. 54f M

Born 1891 USSR. MA 1928 Cambridge Univ. Deceased.

Bettagno, Alessandro 64f HS, History of Art

Born 1919 Italy. PhD 1948 Univ of Padua. *

Beukers, Frits 79-80 M, Number Theory

Born 1953 Ankara, Turkey. PhD 1979 Univ of Leiden. Math Inst, Wassenaarseweg 80 Postbus 9512, 2300 RA Leiden, Netherlands. *

Beurling, Arne see Past Faculty/Professors Emeriti

Bhanu Murthy, Tyakel Subbiah 64-66 M, Harmonic Analysis on Semi-Simple Lie Groups

Born 1925 India. PhD 1961 Univ of Moscow. Appointments: Indian Math Soc; AMS. Sr Proof, Ramanujan Inst, Madras Univ, Madras 5, India.

Publications: *Doklady Akad Nauk SSSR* 133(1960) 503-506; *Doklady Akad Nauk SSSR* 135(1960) 1027-1030.

Bialostocki, Jan 73s HS, History of Art

Born 1921 Saratov, USSR. PhD 1950 Art History Univ of Warsaw. Honors: Hon PhD Groningen Univ 1969; Herder Prize Vienna Univ 1970; Polish Natl Prize 1st Class 1978; Member Belgium, Holland, Poland, Mayence, AcS Fernando, Madrid Acads. Appointments: Pres, Cttee for the Arts, Polish Acad of Sci 1972-; Pres Polish Assn of Art Hists 1963-; Vice-Pres Conseil International de la Philos et des Sci Humaines 1977-. Memberships: Comité Internatl d'Histoire de l'Art, member 1964-, Vice-Pres 1969-. Prof, Art History, Univ of Warsaw, Curator Gallery Foreign Paintings Natl Museum, Warsaw, Muzeum Narodowe w Warszawie, al Jerozo-limskie 3, PL 00-495 Warszawa, Poland.

Publications Related to IAS Residence: *The Art of the Renaissance in Eastern Europe*. Oxford: 1976; Man and Mirror in Painting: Reality and Transience. In *Studies in Late Medieval and Renaissance Painting in Honor of Millard Meiss*, 61-72. New York: 1978; Problem oryginalności kryteria wartościowania w studiach nad ikonografią. In *Interpretacja dzieła sztuki*, 5-21. Warszawa-Poznań: 1976.

Other Publications: *Stil und Ikonographie*. Dresden: 1966; *Musées de Pologne*. Corpus des Primitifs Flamands. Bruxelles: 1966; *Pięć' wieków myśli o sztuce*. Warszawa: 1959; *Vom heroischen Grabmal zum Bauernbegräbnis*. Mainz-Wiesbaden: 1977.

Bickerman, Elias Joseph 67-68 HS, History

Born 1897 USSR. PhD 1926 Univ of Berlin. Honors: Guggenheim Fellow 1949 & 59; Brit Acad; AAAS; R. Kreglinger Triennial Award U of Brussels 1935; Lucas Prize U of Tübingen 1976. Memberships: Fellow, Am Acad Jewish Res. 3080 Broadway, New York, NY 10027.

Bieler, Ludwig J. G. 54-55 HS, Palaeography

Born 1906 Vienna, Austria. DPhil Univ of Vienna. Honors: DLitt Trinity Coll Dublin 1970; PhD Univ of Munich 1972; DLitt Univ of Glasgow 1975. Appointments: Royal Irish Acad Council 1958-60, 1965-68; Secy Natl Comm for Grk and Latin Studies 1968-75. Memberships: Corr Fellow Med Acad Amer 1963-; Österreich Ak d W 1964-; Brit Acad 1971-. Prof Emer, University College Dublin, Rathgar, 22 Villiers Rd, Dublin 6, Ireland.

Publications Related to IAS Residence: Libri Epistolarum sancti Patricii episcopi. I. Introduction and text. *Classica et Mediaevalia* 11(1950) 1-150; Libri Epistolarum sancti Patricii episcopi. II. Commentary. *Classica et Mediaevalia* 12(1951) 79-214; Trans and annotated. *The works of St. Patrick. Hymn on St. Patrick by St. Secundinus*. Ancient Christian writers: the works of the Fathers in translation no. 17. Westminster, Md: Newman Press, 1953; *Ireland; Wegbereiter des Mittelalters*. Stätten des Geistes. Olten: Urs Graf-Verlag, 1961; *The Irish penitentials*. Scriptorum Latini Hiberniae, 5. Dublin: Dublin Inst for Adv Studies, 1963; *The Sources for the Early History of Ireland: I. Ecclesiastical*. New York: Octagon

Books, 1966; *St. Patrick and the coming of Christianity*. A history of Irish Catholicism, I, 1. Dublin: Gill & Son, 1967; with intro notes and indices, *Four Latin lives of St. Patrick; Colgan's Vita secunda, quarta, tertia and quinta*. Scriptores Latini Hiberniae, 8. Dublin: Dublin Inst for Adv Studies, 1971.

Other Publications: *Boethii Philosophiae Consolatio*. Corpus Christianorum: series latina, 94. Turnholti: Typographi Brepols, 1957; Translated, with intro and notes, with L. Krestan. *Eugippius, Life of St. Severin*. Fathers of the Church, 55. Washington: Catholic Univ Press, 1965; *Geschichte der römischen Literatur*. 3d ed. Berlin: de Gruyter, 1972; E.A. Lowe, editor, *Palaeographical Papers 1907-1965*. 2 vols. Oxford: Clarendon Press, 1972.

Bien, David Duckworth 72-73 HS

Born 1930 Baltimore, MD. PhD 1958 History Harvard University. Honors: William Koren Prize Society for French Historical Studies 1957-58, 1978; Fellowships: Fulbright, ACLS, SSRC, NEH, Guggenheim. Memberships: FHS; AHA. Prof, European History, University of Michigan, 513 Onondaga, Ann Arbor, MI 48104.

Publications Related to IAS Residence: La réaction aristocratique avant 1789; l'exemple de l'armée. *Annales ESC* (janvier-fevrier 1974) 23-48; (mars-avril 1974) 505-534; The "Secretaires du Roi": Absolutism, Corps, and Privilege under the Ancien Regime. *Proceedings University of Göttingen Conference on Origins of French Revolution* (in press)

Other Publications: *The Calas Affair: Persecution Toleration and Heresy in Eighteenth Century Toulouse*. Princeton: 1960; Catholic Magistrates and Protestant Marriage in the French Enlightenment. *French Historical Studies* (Fall 1962) 3-25; Military Education in 18th Century France: Technical and Non Technical Determinants. In *Science Technology and Warfare*, ed. by Monte D. Wright and Lawrence J. Paszek, Proceedings of the Third Military History Symposium USAF Academy: 51-59. Washington: 1971; The Army in the French Enlightenment: Reform, Reaction, and Revolution. *Past and Present* (in press).

Bier, Justus 53-54 HS

Born 1899 Nuremberg, Germany. PhD 1924 Art History Univ of Zurich. Honors: Traveling fellow Notgemeinschaft der Deut W 1928-30; Guggenheim fellow 1953-54 and 56-57; DFA (hc) Duke Univ 1970; DHL (hc) Univ of Louisville 1972; Kentucky Colonel on the Governor's staff 1972; Commanders Cross, Order of Merit Germany 1973. Appointments: Bd mem Deutscher Werkbund, Berlin, 1931-34; Adv Bd Art Ed, Univ of Ky, 1949; Bd mem & dir, Louisville Art Center Assoc, 1940-1960; Louisville Council, Hist Sites and Buildings, 1950-53; Ed Council, *J of Aesthetics & Art Criticism*, 1951-53. Memberships: Coll Art Assoc (Chm, Comm on Reg Socs 1951, 1952 Mem, Nom Comm, 1952). Prof Emer, Univ of

Louisville and Duke Univ, 201 Peartree Ln, PO Box 14182, Raleigh, NC 27610.

Publications Related to IAS Residence: Ein Magdeburger Riemenschneider-Schüler. In *Mainfränkisches Jahrbuch für Geschichte und Kunst*, 6: 129-140. 1954; Bartlmä Dills Malersignum *Der Schlern* 28(1954) 391-394; Ein Sebastiansfragment von Tilmann Riemenschneider: Ein Beitrag zur Typologie der Riemenschneiderschen Sebastiansdarstellung. In *Münchner Jahrbuch der bildenden Kunst*, 3rd series, 5: 102-110. 1954; Two Stone Reliefs from Riemenschneider's Workshop in Minneapolis. *Gazette des Beaux-Arts* sixth series, 93(1954) 165-178; Tilmann Riemenschneider als Zeichner. In *Der Windsheimer Zwölfbotenaltar von Tilmann Riemenschneider*, ed. by Georg Poensgen, 100-113 and 133-136. Heidelberg: 1955; Riemenschneider as a Goldsmith's Model-maker. *Art Bull* 37(1955) 103-112; Riemenschneiders Weihnachtsdarstellungen und das neuentdeckte Fragment im Aschaffener Museum. In *Aschaffener Jahrbuch für Geschichte, Landeskunde und Kunst des Untermaingebietes*, 2: 163-172. 1955; St. Andrew in the Work of Tilmann Riemenschneider. *Art Bull* 38(1956) 215-223; Eine Mutter Gottes von Hans Riemenschneider. *Mitteilungen des Vereins für Geschichte der Stadt Nürnberg* 47(1956) 452-457; Riemenschneider und die Schaumünzen des Lorenz von Bibra. *Münchner Jahrbuch der bildenden Kunst* third series, 7(1956) 95-110; Riemenschneider's Use of Graphic Sources. *Gazette des Beaux-Arts* Sixth series, 50(1957) 203-222; Eine Kreuzigung von Bartlmä Dill Riemenschneider in Sigmaringen. *Der Schlern* (1957) 451-452; Die Anfänge Tilmann Riemenschneiders. *Sitzungsberichte Oktober 1956 bis Mai 1957, Kunstgeschichtliche Gesellschaft zu Berlin* new series, 5(1957)9-12; Two Stone Reliefs from Riemenschneider's Workshop in Minneapolis. In *Essays in Honor of Hans Tietze, 1880-1954*, 209-222. New York: 1958; Review of "Tilmann Riemenschneider" In *Coll Art Jour*, ed. by Leo Bruhns, 18, 1: 92-93. Fall 1958; Eine unbekannte Kreuzigung von Bartlmä Dill Riemenschneider in Sigmaringen. *Mainfränkisches Jahrbuch für Geschichte und Kunst* 10(1958) 261-263; Riemenschneiders falsche Selbstbildnisse. *Die Weltkunst* 29, 7(April 1959) 9; A Virgin with the Christ Child by Tilmann Riemenschneider. In *Register of the Museum of Art*, 2, 2: 2-15 and 45. University of Kansas, June 1959; Review of "Staatliche Museen zu Berlin, Skulpturen-Sammlung, Deutsche Bildwerke aus Sieben Jahrhunderten" In *Art Bull*, ed. by H. Maedebach, 41, 3: 278-279. September 1959; Beiträge zur Riemenschneider-Forschung: I. Elisabeth oder Verena? Bemerkungen zu einer Figur aus der Schule Riemenschneiders im Atlanta; Museum II. Riemenschneiders gefälschte Selbstbildn. *Mainfränkisches Jahrbuch für Geschichte und Kunst* 11(1959) 110-120; Review of "Katalog der Bildwerke in der Niedersächsischen Landesgalerie Hannover" In *Art Bull*, ed. by Gert von der Osten, 41, 4: 342-344.

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December 1959; Ein Werk Riemenschneiders aus seiner Strassburger Zeit: Edwin Redslob zum 75. Geburtstag. *Jahrbuch der Berliner Museen* 1, 2(1959) 190-197; A Pietà by Tilman Riemenschneider. In *Bulletin*, 46, 3: 1-12. RI School of Design, March 1960; Two statues: St. Stephen and St. Lawrence by Riemenschneider in the Cleveland Museum of Art. *Art Quarterly* 23 (Autumn 1960) 214-227; Das Denkmal Martins von Redwitz auf der Altenburg. In *Bericht des Historischen Vereins für die Pflege der Geschichte des ehemaligen Fürstbistums Bamberg: Jahrbuch für 1959 und 1960*, 97: 173-179. Bamberg: 1961; Eine dritte Zeichnung Tilmann Riemenschneiders: Wilhelm Worringer zum 80. Geburtstag. *Niederdeutsche Beiträge zur Kunstgeschichte* 1(1961) 219-224; Hans Gottwalt of Lohr: A Pupil of Tilmann Riemenschneider at Saalfeld. In *De Artibus Opuscula XL, Essays in Honor of Erwin Panofsky*, ed. by Millard Meiss, 1-12. New York: 1961; Sculptures of Tilmann Riemenschneider. In *Catalogue Introduction*, 13-19. Raleigh: North Carolina Museum of Art, 1962; Riemenschneider's Helpers in Need. In *Bulletin*, 317-326. New York: Metropolitan Museum of Art, June 1963; *Tilmann Riemenschneider: Die Späten Werke in Stein*. 3. Vienna: Schroll, 1973; Riemenschneiders Marien-statuen und die Clemens-Madonna im Kölner Kunst-gewerbemuseum. *Wallraf-Richartz-Jahrbuch* in press; *Tilmann Riemenschneider, Die Späten Werke in Holz*. Vienna: Schroll, forthcoming.

Biermann, Ludwig Franz Benedikt 61f M(NS),
Origin of Cosmic Rays

Born 1907 Hamm (Westf), Germany. PhD 1932 Astrophys Göttingen Univ. Honors: Mem Bavarian Acad of Sci 1961-; Catherine Wolfe-Bruce Gold medal of the Astron Soc of the Pacific 1967; DSc(hc) Univ of Colo 1969; Gold medal of the Royal Astron Soc, London 1974; Foreign Assoc NAS 1976-. Appointments: Pres Rat Westdeutscher Stenwartan 1964-70; Mem and Chm European South Observatory (ESO) 1972-77; Pres Comm 15 of the IAU 1967-70. Memberships: IAU; Astron Gesellschaft; Physikalische Gesellschaft; Royal Astron Soc; Astron Soc of the Pacific. Honorar Prof, Astrophys, Astronomie, Univ of Munich, Dir emer Max-Planck-Inst f Astrophys, Max-Planck-Institut f Phys and Astrophysics, Föhringer Ring 6, 8000 Munich 40, Fed Rep of Germany.

Publications Related to IAS Residence: Origin and Propagation of Cosmic Rays. *Ann Rev of Nucl Sci* 2(1953) 335; With L. Davis. On the Origin of Cosmic Rays during the early Part of the Evolution of our Galaxy. *Z.f.Naturforschung* 13a(1958) 909; Considerations Bearing on the Structure of the Galaxy. *Z.f.Astrophysik* 51(1960) 19.

Other Publications: Dynamics of Interplanetary Material. In *Cosmic Gas Dynamics*, ed. by M. S. Uberoi. New York: Wiley-Interscience, 1974; Interaction of a Comet with the Solar Wind. In *Proc of the 3rd Solar Wind Conference, Asilomar*, 396. Pacific Grove, Calif: 1974.

Bierstone, Edward 73s M

Born 1946 Toronto, Ont, Canada. PhD 1973 Mathematics Brandeis Univ. Memberships: AMS. Assoc Prof, Dept of Mathematics, University of Toronto, Toronto, Ontario, Canada M5S 1A1.

Publications Related to IAS Residence: Equivariant Gromov Theory. *Topology* 13(1974) 327-345; Local Properties of Smooth Maps Equivariant with Respect to Finite Group Actions. *J Diff Geom* 10 (1975) 523-540.

Other Publications: Extension of Whitney Fields from Subanalytic Sets. *Inventiones Math* 46 (1978) 277-300; Generic Equivariant Maps. In *Real and Complex Singularities, Oslo 1976*, 127-161. Leyden: Sijthoff and Noordhoff, 1977; Lifting Isotopies from Orbit Spaces. *Topology* 14(1975) 245-252.

Biezuńska-Malowist, Izabela 80s HS, Social History
of the Hellenistic Period

Born 1917 Warsaw, Poland. PhD Habil 1952 Univ of Warsaw. Prof, Univ of Warsaw, Brzozowa 10/4, 00 286 Warsaw, Poland. *

Bing, R. H. 57-58, 62-63, 67f M, Topology

Born 1914 Oakwood, TX. PhD 1945 Univ of Tex. Honors: NAS 1965-; Awd for Disting Svce in Math NAS 1974. Appointments: Member Natl Sci Bd 1968-75; Pres Comm on Natl Medal of Sci 1966-67, 1974-76. Memberships: AMS (Pres 1977-78); MAA (Pres. 1963-64); AAAS Vice Pres & Chmn of Section A, 1959. Ashbell Smith Prof, Dept of Mathematics, The University of Texas at Austin, R.L. Moore Hall, Austin, TX 78712.

Publications Related to IAS Residence: An alternate proof that 3-manifolds can be triangulated. *Ann Math* 69(1959) 37-65; The Cartesian product of a certain non-manifold and a line is E^4 . *Bull AMS* 64(1958) 82-84; Conditions under which a surface in E^3 is tame. *Fund Math* 47 (1959) 105-139; The Cartesian product of a certain non-manifold and a line is E^4 . *Ann Math* 70(1959) 399-412; Pushing a 2-sphere into its complement. *Mich Math J* 11(1964) 33-45; Retractions onto spheres. *Amer Math Monthly* 71(1964) 481-484; Spheres in E^3 . *Amer Math Monthly* 71(1964) 353-364; Inequivalent families of periodic homeomorphisms. *Ann Math* 80(1964) 78-93; The simple connectivity of the sum of two discs. *Pac J of Math* 14(1964) 79-93; J. M. Kister, Taming complexes in hyperplanes. *Duke Math J* 31(1964) 491-512.

Birkhoff, Garrett 40s M

Born 1911 Princeton, NJ. AB 1932 Harvard Univ. Honors: Guggenheim Fellow 1948; G.D. Birkhoff Prize AMS 1978; Am Philos Soc; AAAS; NAS; Hon degrees Univ Nacional de Mexico, Univ of Lille, Case Inst of Tech. Appointments: Pres & Chmn Conf Bd of Math Scis SIAM; VP AMS, AAAS & MAA; Chmn Elect Sect A Am Assoc for Adv Sci. Putnam Prof, Pure & App Math, Dept of Math, Harvard Univ, One Oxford St, Cambridge, MA 02138.

Publications Related to IAS Residence: *Lattice Theory*. Providence, RI: AMS, 1940; Lattice-Ordered Groups. *Ann Math* 43(1942) 298-331.

Birnbaum, Norman 75-76 Soc, Sociology

Born 1926 New York, NY. PhD 1958 Sociology Harvard Univ. Honors: Guggenheim Fellow 1971-72. Appointments: Consultant, Nat Sec Council; Chm, Cttee on the Sociol of Religion, Intl Sociol Assn; Adv, Public Affairs, UAW. Memberships: Amer Sociol Assn. Prof, Sociology, and Ed Bd The Nation; Ed Consultant Partisan Rev, Amherst College, P.O. Box 93, Station 2, Amherst, MA 01002.

Publications Related to IAS Residence: *Beyond the Crisis*. New York: Oxford Univ Press, 1977; Detente and Democracy. *Society* (November-December, 1975); Where is the USA Going? *Massachusetts Review* 16, 4(1975); Western Europe, 1975. *Partisan Review* 4(1975); The New European Socialism. *The New York Times* (May 15, 1976); Foreign Policy Won't Wait. *The Nation* (May 29, 1976); Mr. Podhoretz' War. *Partisan Review* 2 (1976); The Left in France and Italy. *The Nation* (September 4, 1976); With Luciana Castellana. Conversation in Rome. *Partisan Review* 3(1976); What is a Liberal, Who is a Conservative? *Commentary* (September, 1976).

Other Publications: Ed with Gertrud Lenzer. *Sociology and Religion*. Englewood Cliffs: Prentice-Hall, 1968; *The Crisis of Industrial Society*. New York: Oxford Univ Press, 1969; *Toward a Critical Sociology*. New York: Oxford Univ Press, 1971.

Bischoff, Bernhard 59s HS, Latin Palaeography, Mediaeval Latin Philology

Born 1906 Altendorf, Thüringen, Germany. DPhil 1933 Mediaev Lat Philol Univ of Munich. Honors: D Litt Nat Univ Dublin 1962; Oxford Univ 1963; Univ Cattol, Milan 1975; Bayer Ak d Wiss 1956; Roy Ir Acad 1957; Mediaev Acad of Amer 1958; Brit Acad 1960; Osterr Akad 1967; Am Acad of Arts and Sciences 1968; Kgl Dansk Akad 1969; Kgl Vlaamse Acad 1971; Acad des Inscriptions et Belles-Lettres 1973. Prof Emer, Mediaev Lat Philol, University of Munich, Member Zentralkommission Monumenta Germaniae Historica, Ruf-fini-Allee 27, D-8033 Planegg bei München, Germany.

Publications Related to IAS Residence: Ein Brief Julians von Toledo über Rhythmus, metrische Dichtung und Prosa. *Hermes* 87(1959); With E. A. Lowe, ed. *Codices Latini Antiquiores X*. 1963.

Other Publications: *Die südostdeutschen Schreibschulen und Bibliotheken in der Karolingerzeit*. Leipzig: 1940; *Mittelalterliche Studien*. 1/2. Stuttgart: 1966-67; *Carmina Burana*. 3. Heidelberg: 1970; *Paläographie des römischen Altertums und des abendländ-ischen Mittelalters*. Berlin: 1979.

Bishop, Errett A. 61s, 61-62 M, Several Complex Variables

Born 1928 Newton, KS. PhD 1955 Univ of Chicago. Dept of Math, Univ of Calif, San Diego, La Jolla, CA 92093. *

Bisson, Thomas Noel 71-72 HS, Medieval History

Born 1931 New York, NY. PhD 1958 Medieval History Princeton Univ. Honors: PBK 1968; Amer Philos Soc 1975; Fellow Med Acad of Amer 1977. Memberships: AHA; Intl Comm for Hist of Rep and Parliamentary Instit; Med Acad of Amer; Med Assoc of the Pacific. Prof, History, Univ of Calif, Berkeley, 4 Indian Rock Path, Berkeley, CA 94707.

Publications Related to IAS Residence: *Conservation of Coinage: Monetary Exploitation and its Restraint in France, Catalonia, and Aragon (c AD 1000-c 1225)*. Oxford: Oxford Univ Press, 1978; An "Unknown Charter" for Catalonia (AD 1205). In *Album Elemér Mályusz*, ed. by 56, études Présentées à la Commission Internationale pour l'Histoire des Assemblées d'états: 1976. Sur les origines du monedatge: quelques textes inédits. *Annales du Midi* 85(1973) 91-104.

Other Publications: *Assemblies and Representation in Languedoc in the Thirteenth Century*. Princeton: Princeton Univ Press, 1964; The Organized Peace in Southern France and Catalonia, ca 1140-ca 1233. *Amer Hist Rev* 82(1977) 290-311.

Bitar, Khalil Michel 68-69, 71-72 NS, Theoretical Particle Physics

Born 1942 Beirut, Lebanon. PhD 1967 Physics Yale Univ. Prof, Physics Dept, American University of Beirut, Beirut, Lebanon.

Publications Related to IAS Residence: Daughters Conspiracies and Lorentz Symmetry II. *Phys Rev* 180(1969) 1477; Lorentz Pole Structure and Duality of Some Crossing Symmetric Amplitudes with Regge Behavior. *Phys Rev* 185(1969) 2032; Construction of Crossing Symmetric Amplitudes Satisfying Duality. *Phys Rev* 186(1969) 1424; Unified Light-Cone Treatment of Scaling and a Positivity Constraint on Short Distance Behavior. *Phys Rev D* 6(1972) 2250; Scaling in a Gluon Model in Three Dimensions. *Phys Rev D* 7(1973) 1184.

Other Publications: Algebra of Spin Currents and the Relativistic Formulation of SU (6). *Phys Rev* 164(1967) 1805; With G. L. Tindle. Daughters Conspiracies and Lorentz Symmetry. *Phys Rev* 175(1968) 1835; With N. N. Khuri. Bjorken Limit and the Jin Martin Lower Bound. *Phys Rev D* 3(1971) 462; With S. J. Chang. Vacuum Tunneling of Gauge Theory in Minkowski Space. *Phys Rev D* 17(1978) 486; With S. J. Chang. Vacuum Tunneling and Fluctuations Around a Most Probable Escape Path. *Phys Rev D* 18(1978) 435.

Bittel, Kurt 73f HS, Archaeology

Born 1907 Heidenheim, Germany. DPhil 1930 Archaeology Marburg Univ. Honors: DPhil(hc) University of Istanbul. Appointments: President of the German Archaeological Institute. Hon Prof, Univ of

Members

Tübingen, Carl-Zeiss-Strasse 54, D-7920 Heidenheim, Germany.

Publications Related to IAS Residence: Phrygisches Kultbild aus Boğazköy. *Antike Plastik* Lieferung 2 Teil 1(1963); *Les Hittites (L'univers des formes)*. Paris: Gallimard, 1976.

Bitterman, Morton E. 55-57 M, Psychology

Born 1921 New York, NY. PhD 1945 Psychology Cornell Univ. Memberships: AAAS; Am Psych Assoc; Psychonomic Soc. Prof, Psychology, Bekesy Laboratory of Neurobiology, Univ of Hawaii, 1993 East-West Rd, Honolulu, HI 96822.

Publications Related to IAS Residence: With J. Wodinsky, and D. W. Candland. Review of Spence's "Behavior Theory and Conditioning". *American Journal of Psychology* 70(1957) 141-145; Some comparative Psychology. *American Journal of Psychology* 71(1958) 94-110.

Other Publications: The comparative analysis of learning. *Science* 188(1975) 699-709.

Björck, Göran 57-58 M, Analysis

Born 1930 Stockholm, Sweden. PhD 1966 Math Univ of Stockholm. Memberships: Former Secy Swedish Math Soc; AMS. Assoc Prof, Dept of Math, Univ of Stockholm, Box 6701, S-113 85 Stockholm, Sweden.

Publications: Linear partial differential operators and generalized distributions. *Ark Mat* 6(1966) 351-407; Distributions of positive mass, which maximize a certain generalized energy integral. *Ark Mat* 3(1955) 255-269.

Bjorken, James Daniel 62f M(NS), Theoretical Physics

Born 1934 Chicago, IL. PhD 1959 Stanford Univ.*

Black, Bernice, see Durand, Bernice Black

Black, Matthew 76-77 HS

Born 1908 Kilmarnock, Ayr., Scotland. DLitt 1944 Biblical Criticism & Antiquities Glasgow Univ. Honors: DD Glasgow 1954; DD (Cantab.) 1965; DTheol Münster 1960; DD Queen's, Ont 1967; FBA 1955; Göttingen Akad Der Wiss (Corr); FRS Ed 1977. Prof Emer, 40 Buchanan Gardens, St Andrews, Fife, Scotland.

Black, Max 70-71 Soc, Philosophy and Linguistics

Born 1909 . PhD 1930 Cambridge U. Prof, Dept of Philosophy, Cornell Univ, Ithaca, NY *

Blackmur, Richard Palmer 44-46 HS(EP)

Born 1904 . MA 1961 Cambridge Univ. Deceased.

Blackwell, David 41-42 M

Born 1919 Centralia, IL. PhD 1941 Mathematics Univ of Ill. Honors: DSc (hon) Univ of Ill; DSc (hon) Mich St Univ; DSc (hon) South Ill Univ. Memberships: Inst of

Math Statistics; Amer Statistical Assn; AMS. Prof, Statistics, Univ of Calif, Berkeley, CA 94720.

Publications Related to IAS Residence: Idempotent Markoff Chains. *Ann of Math* 43(1942) 560-567; Finite Non-Homogeneous Chains. *Ann of Math* 46(1945) 594-599.

Other Publications: With M. A. Girshick. *Theory of Games & Statistical Decisions*. New York: Wiley, 1954; Infinite Games & Analytic Sets. *Proc Nat Acad Sci* 58(1967) 1836-1837.

Blanckenhagen, Peter H. von 58f, 60f HS, Classical Archaeology

Born 1909 Riga, Latvia, USSR. PhD 1936 Class Archaeology Univ Munich. Honors: Guggenheim Fellow 1967-68; AAAS. Memberships: Amer Inst Archaeol; German Archaeol Inst. Robert Lehman Prof Emer, Adj Prof, Inst of Fine Arts, NYU, 1 E 78th St, New York, NY 10021.

Publications Related to IAS Residence: The Paintings From Boscotrecase. *Roemische Mitteilungen* Supp 6(1962); The Odyssey Frieze. *Roem Mitt* 70(1963) 100-146.

Other Publications: *Flavische Architektur und ihre Dekoration*. Berlin: 1940; Daedalus and Icarus on Pompeian Walls. *Roem Mitt* 75(1968) 106-143.

Blandford, Roger D. 74-75 NS, Astrophysics

Born 1969 Grantham, England. PhD Astrophysics Cambridge Univ. Appointments: Advisory Panel Theoretical Astronomy for Field report. Memberships: AAS; RAS. Prof, Theoretical Astrophysics, Cal Tech, 130-33, Pasadena, CA 91125.

Blanton, John David 67-68 M, Topology

Born 1927 St. Louis, MO. PhD 1970 Mathematics Univ of Ill. Memberships: AMS; MAA; Sigma Xi. Assoc Prof, Mathematics, St. John Fisher College, Rochester, NY 14618.

Publications: With P. Schweitzer, S. J. Axioms for characteristic classes of manifolds. *Symposium in Pure Math* 27(1975) 436-443; With Clint McCrory. An axiomatic proof of Stiefel's conjecture. *Proc AMS* (in press).

Blatt, Franz 56f HS, Medieval Latin

Born 1903 Copenhagen, Denmark. DPhil 1930 Univ of Copenhagen. Honors: Hon LLD Univ of Glasgow 1953; Hon Degree Univ of Bordeaux. Appointments: Member Danish Nat Comm Res. Deceased.

Publications Related to IAS Residence: Edited, *The Latin Josephus*. København: Universitetsforlaget I Aarhus Ejnar Munksgaard, 1958.

Other Publications: *Indicem verborum conficiendum*. In *Saxonis Gesta Danorum*, 2. Hauniae: 1935.

Blattner, Robert James 64-65 M

Born 1931 Milwaukee, WI. PhD 1957 Univ of Chicago. Dept of Math, U of Massachusetts, Amherst, MA 01002.*

Bleick, Willard Evan 33-34, 35f M(NS), Applied Mathematics

Born 1907 Newark, NJ. PhD 1933 Johns Hopkins Univ. Appointments: Chief, Ballistics Branch, Bureau of Ordnance, Navy Dept, Wash, DC 1941-1946. Memberships: AMS. Prof Emer, Mathematics, Naval Postgraduate School, 3108 Valdez Rd, Pebble Beach, CA 93953.

Publications Related to IAS Residence: Lattice Energies of the Ammonium Halides and the Proton Affinity of Ammonia. *J Chem Phys* 2(1934) 160-163; Mutual Repulsive Potential of Closed Shells. *J Chem Phys* 2(1934) 252-259.

Bloch, Herbert C. 53-54 HS, Greek Historiography

Born 1911 Berlin, Germany. PhD 1935 Univ of Rome.*

Bloomfield, Morton Wilfred 72f HS, Literature and Languages

Born 1913 Montreal, Canada. PhD 1938 English U of Wisconsin. Honors: Fellow, AAAS 1963; Corr Fellow Brit Acad 1975; Fellow South African Med Soc 1972; Fellow Med Acad, Pres 1976-77 1967; Haskins Medal Med Acad 1965. Appointments: Chrmn, Bd of Trustees, Nat Humanities Center, Research Triangle, NC. Memberships: MLA; Med Acad of Amer; Linguistic Soc of Amer; Canadian Linguistic Assoc; Société pour l'étude de la philosophie medievale; Amer Dialect Soc; Dante Soc of Amer; Intl Assoc Univ Prof of Eng. A. Kingsley Porter Prof, English, Harvard U, 13 Kirkland Pl, Cambridge, MA 02138.

Publications Related to IAS Residence: With Einar Hauger. *Language as a Human Problem*. New York: Norton, 1974; Interpretation Fourfold Method. In *Princeton Encyclopedia of Poetry and Poetics*, ed. by Alex Preminger, et. al. Princeton: Princeton Univ Press, 1974; Elitism in the Humanities. *Daedalus* 103(Fall 1974) 128-37.

Other Publications: Joachim of Flora, A critical survey. *Traditio* 13(1957) 249-311; Sir Gawain and The Green Knight: An Appraisal. *PMLA* 76(1961) 7-19; *Piers Plowman as a Fourteenth-Century Apocalypse*. New Brunswick: Rutgers Univ Press, 1962; *A Linguistic Introduction to the History of English*. New York: Knopf, 1963.

Blu, Karen I. 76-77 Soc, The Study of Systems of Meaning

Born 1941 Oak Park, IL. PhD 1972 Social Anthropology Univ of Chicago. Honors: NEH Postdoc Fellow in Amer Indian Studies Smithsonian Inst 1971-72. Memberships: Amer Anthropol Assoc; Amer Ethnol Soc; Anthropol Soc of Wash; South Anthropol Assoc. Asst Prof, Anthropology, New York Univ, 1 Washington Square Village Apt M15, New York, NY 10012.

Publications Related to IAS Residence: *The Lumbee Problem: The Making of an American Indian People*. Cambridge: Cambridge Univ Press, 1979;

Problems Posed by Local Isolated Ethnic Groups. In *Harvard Encyclopedia of American Ethnic Groups*, ed. by Stephan Thernstrom. Cambridge: Harvard Univ Press, Forthcoming.

Other Publications: Affinity and the Role of the Father in the Trobriands. *Southwest Jour of Anthropol* 23, 1(1967) 90-109; Varieties of Ethnic Identity: Anglo-Saxons, Blacks, Indians, and Jews in a Southern County. *Ethnicity* 4(1977)263-286; The Uses of History for Ethnic Identity: The Lumbee Case. In *Currents in Anthropology: Essays in Honor of Sol Tax*, ed. by Robert Hinshaw. The Hague: Mouton, forthcoming.

Bluck, Richard Stanley Harold 57-58 HS, Classics

Born 1919 London, England. PhD 1949 Edinburgh Univ. Deceased.

Publications Related to IAS Residence: *Plato's Meno*. Cambridge Univ Press, 1961.

Bludman, Sidney Arnold 56-57 M(NS), Particle Physics; Astrophysics

Born 1927 New York, NY. PhD 1957 Yale Univ. Memberships: Amer Phys Soc; IAU. Prof, Dept of Physics, University of Pennsylvania, Philadelphia, PA 19146.

Publications Related to IAS Residence: On the Universal Fermi Interaction. *Nuovo Cimento* 9(1958) 433; Two-Neutrino Hypothesis. *Bull Am Phys Soc* 4(1959) 80; Two Neutrinos or One? *Il Nuovo Cimento Serie X* 27(1963) 751-760; Some Theoretical Consequences of a Particle having Mass Zero. *Phys Rev* 107(1957) 1163.

Other Publications: With A. Klein. Broken Symmetries and Massless Particles. *Phys Rev* 131, 5(1963) 2364-2372; Hidden Symmetries and the Question of Massless Particles. In *High-Energy Physics*, Tokyo Summer Lectures in Theoretical Physics, 2. W. A. Benjamin, 1966; With M. A. Ruderman. Possibility of the Speed of Sound Exceeding the Speed of Light in Ultradense Matter. *Phys Rev* 170(1968) 1176-1184; Non-causality and Instability in Ultradense Matter. *Phys Rev D* 1(1970) 3243-3246; Neutrino Cosmology. *General Relativity and Gravitation* 7(1975) 569; With M. A. Ruderman. Theoretical Limits on Interstellar Magnetic Poles Set by Nearby Magnetic Fields. *Phys Rev Lett* 36(1976) 840; Neutrino Transport in Collapsing Stars. In *Proc 1976 Intl Neutrino Conference*. Aachen: 1976.

Blumenthal, Leonard M. 33-34 M, Geometry, Topology

Born 1901 Athens, GA. PhD 1927 Johns Hopkins Univ. Honors: Natl Res Fellow (Math) Vienna 1934-35; Fulbright Prof U of Leyden, 1967 U of Buenos Aires 1954-55; Foreign Cor member Real Academia de Ciencias, Spain 1963. Appointments: Fellowship Com NRC, 1953-56; Visiting Prof MAA, 1960-68; AMS Symp Lect, Chicago, 1942. Memberships: MAA; AMS; AAUP. Defoe Distinguished Prof Emer, Math Dept, University of Mo, Columbia, MO 65201.

Members

Publications Related to IAS Residence: *Development of Abstract Metrics*. Columbia, Mo: U of Mo Press, 1938; *Theory and Applications of Distance Geometry*. Oxford: Clarendon Press, 1953.

Other Publications: *Modern View of Geometry*. San Francisco: W.H. Freeman & Co., 1961; *Studies in Geometry*. San Francisco: W.H. Freeman & Co., 1970.

Blumenthal, Robert M. 61-62 M

Born 1931 Chicago, IL. PhD 1956 Mathematics Cornell Univ. Honors: Fellow Inst of Math Stat. Memberships: AMS; Inst of Math Statistics. Prof, Dept of Math, Univ of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: With R. K. Getoor, H. P. McKean, Jr. Markov Processes with Identical Hitting Distributions. *Ill J Math* 6 No 3(1962).

Other Publications: With R. K. Getoor. *Markov Processes and Potential Theory*. New York: Academic Press, 1968.

Boals, Alfred John 67-68 M, Topology

Born 1938 Ludington, MI. PhD 1967 Michigan State Univ. Dept of Math, Univ of Iowa, Iowa City, IA 52240.*

Boas, George 56f HS, Philosophy

Born 1891 Providence, RI. PhD 1917 Univ of Calif, Berkeley. Honors: LLD U of New Mexico; LLD Wash and Lee Univ 1949; LHD Johns Hopkins; LHD Washington Coll. Memberships: Am Philos Assoc; Amer Soc for Aesthetics; Amer Phil Soc; Académie Royale de Belgique. Deceased.

Publications Related to IAS Residence: *The inquiring mind*. La Salle, Ill: Open Court, 1959.

Other Publications: *The adventures of human thought; the major traditions of European philosophy*. New York & London: Harper & Brothers, 1929; *The challenge of science*. Seattle: Univ of Washington Press, 1965; *The critic as philosopher*. Tucson: Univ of Arizona Press, 1962; *A critical analysis of the philosophy of Emile Meyerson*. Baltimore: Johns Hopkins Univ Press, 1930; *The Cult of childhood*. London: Warburg Institute, 1966; *Dominant themes of modern philosophy*. New York: Ronald Press, 1957; *Essays on primitivism and related ideas in the Middle Ages*. New York: Octagon Books, 1966; *French philosophies of the romantic period*. Baltimore: Johns Hopkins Univ Press, 1925; *The happy beast in French thought of the seventeenth century*. Baltimore: Johns Hopkins Univ Press, 1933; *The heaven of invention*. Baltimore: Johns Hopkins Univ Press, 1962; *The history of ideas; an introduction*. New York: Scribner, 1969; *The limits of reason*. New York: Harper, 1961; *Our new ways of thinking*. New York: Harper, 1930; *Philosophy and poetry*. Norton, Mass: Wheaton College Press, 1932; *A primer for critics*. Baltimore: Johns Hopkins Univ Press, 1937; With Arthur O. Lovejoy. *Primitivism and related ideas in antiquity*. New York: Octagon, 1965; *Rationalism in Greek philosophy*. Baltimore: Johns Hopkins Univ Press,

1961; *Vox populi: essays in the history of an idea*. Baltimore: Johns Hopkins Univ Press, 1969; *Wingless Pegasus: a handbook for critics*. Baltimore: Johns Hopkins Univ Press, 1955.

Bochner, Salomon 45-48 M, Electronic Computer Project

Born 1899 Cracow, Poland. DrPhil 1921 Univ Berlin. Honors: Steele Prize of the AMS 1979. Memberships: AMS; MAA; NAS. Edgar Odell Lovett Prof, Rice Univ, Henry Burchard Fine Prof Emer Princeton Univ. Math Dept, Rice University, P.O. Box 1892, Houston, TX 77001.

Publications Related to IAS Residence: With W.T. Martin. *Several Complex Variables*. Princeton: Princeton Univ Press, 1948; With K. Chandrasekharan. *Fourier Transforms*. Ann Math Studies, 19. Princeton: Princeton Univ Press, 1949; Formal Lie groups. *Ann Math* 47(1946) 192-201; Linear partial differential equations with constant coefficients. *Ann Math* 47(1946) 202-212; With D. Montgomery. Locally compact groups of differentiable transformations. *Ann Math* 47(1946) 639-653; Curvature in Hermitian metric. *Bull AMS* 53(1947) 179-195; On compact complex manifolds. *J Indian Math Soc* 11(1947) 1-21; With Ky Fan. Distributive order preserving operations in partially ordered vector sets. *Ann Math* 48(1947) 168-179; With D. Montgomery. Groups on analytic manifolds. *Ann Math* 48(1947) 659-669; Stochastic processes. *Ann Math* 48(1947) 1014-1061; With D.V. Widder. A homogeneous differential system of infinite order with non-vanishing solution. *Bull AMS* 54(1948) 409-415; On spherical partial sums of multiple Fourier series. *Rev Ci, Lima* 50(1948) 85-104; Curvature and Betti numbers. *Ann Math* 49(1948) 379-390; With K. Chandrasekharan. On the localization property for multiple Fourier series. *Ann Math* 49(1948) 966-978; With K. Chandrasekharan. Summations over lattice points in K-space. *Quart J Math* 19(1948) 238-248; Diffusion equation and stochastic processes. *Proc NAS* 35(1949) 368-370; With K. Chandrasekharan. Gauss summability of trigonometric integrals. *Amer J Math* 71(1949) 50-59; Curvature and Betti numbers, II. *Ann Math* 50(1949) 77-93; With K. Chandrasekharan. Fourier series of L_2 -functions. *Duke Math J* 16(1949) 579-583.

Bohr, Aage Niels 48s M(NS)

Born 1922 Copenhagen, Denmark. DrPhil 1954 Univ of Copenhagen. Honors: Dannie Heineman Prize Am Phys Soc 1960; Pius XI Medal 1963; Atoms for Peace Awd 1969; Rutherford Medal 1972; John Price Wetherill Medal 1974; Nobel Prize 1975; Ole Roemer medaljen 1976; H.C. Orsted medaljen 1970; Dr(hc) Univ Manchester 1961; Oslo 1969; Heidelberg 1971; Tronhjem 1972. Prof, Univ of Copenhagen, Dir Nordita, Niels Bohr Institute, Blegdamsvej 17, Copenhagen 2100, Denmark.

Publications: With Ben R. Mottelson. *Nuclear Structure*. 1, 2. 1969, 1975.

Bohr, Harald 48s M

Born 1887 Denmark. PhD 1910 Copenhagen Univ. Deceased.

Bohr, Niels H. D. 38-39, 48s, 50s, 54f, 58s M(NS), Physics

Born 1885 Denmark. PhD 1911 Univ of Copenhagen. Honors: Nobel Prize for Physics 1922. Deceased.

Publications Related to IAS Residence: With John A. Wheeler. Mechanism of Nuclear Fission. *Phys Rev* (2) 55(1939) 1124; Resonance in Uranium and Thorium Disintegration and the Phenomenon of Nuclear Fission. *Phys Rev* (2) 55(1939) 418-419.

Bollack, Jean 70-71 HS, Greek Philosophy

Born 1923 Strasbourg, France. D d'Etat ès L 1964 Greek Literature Sorbonne. Prof, Greek Literature, University of Lille, Directeur l'équipe de recherches associée au CNRS 531, 54, rue de Bourgogne, F-75 007 Paris, France.

Publications Related to IAS Residence: *La Pensée du Plaisir*. Paris: Editions de Minuit, 1975; With André Laks. Epicure à Pythoclès. In *Cahiers de Philologie*, 3. Lille: Presses Univ de Lille, 1978.

Other Publications: With Heinz Wismann. *Héraclite ou le séparation*. Paris: Editions de Minuit, 1972.

Bombieri, Enrico see Present Faculty**Bond, Godfrey William** 69-70 HS, Study of Greek Literature

Born 1925 Beckenham, Kent, England. MA(Oxon.) 1951. Honors: Foundation Scholar Dublin University (Trinity College) 1946; Berkeley Medallist 1948; Goldmedallist Classics 1949. Memberships: Hellenic Soc; Classical Assoc; Egypt Exploration Soc. Senior Fellow, Pembroke Coll, Oxford University, Oxford, England.

Publications Related to IAS Residence: Euripides Parody of Aeschylus. *Hermathena* 118(1974) 1-14; Ed, *Euripides "Heracles"*. Oxford: Clarendon Press, 1980.

Other Publications: Ed, *Euripides "Hypsipyle"*. Oxford University Press, 1963.

Bonfante, Larissa 80s HS, Classics

Born 1932 Naples, Italy. PhD 1966 Columbia Univ. Assoc Prof, Classics, NYU.*

Bonic, Robert Allen 60-61 M, Branch Algebras, Quantum Theory

Born 1932 Milwaukee, WI. PhD 1960 Yale Univ. Courant Inst., NYU, 251 Mercer St., New York, NY 10012.*

Boon, James Alexander 73-75 Soc

Born 1946 Sarasota, FL. PhD 1973 Anthropology Univ of Chicago. Memberships: Amer Anthrop Assoc; Assoc for Asian Studies. Assoc Prof, and Member Southeast Asia Program; Fellow Cornell Soc for

Humanities, Dept of Anthropology, Cornell University, McGraw Hall, Ithaca, NY

Publications Related to IAS Residence: *The Anthropological Romance of Bali, 1597-1972: Dynamic Perspectives in Marriage and Caste, Politics and Religion*. New York: Cambridge Univ Press, 1977.

Other Publications: *From Symbolism to Structuralism, Levi-Strauss in a Literary Tradition*. New York: Harper and Row, 1972.

Boone, William Werner 54-56, 64-66 M, Logic

Born 1920 Cincinnati, OH. PhD 1952 Princeton Univ. Honors: Fulbright Scholar Univ of Oslo 1956-57; Guggenheim Fellow 1958, 1977; Alexander von Humboldt Sr US Scientist Awd Bonn Univ 1978; Sr Visiting Fellow, Sci Res Council Oxford Univ 1978-79. Appointments: Evaluation Panel, NSF Sr Postdoc Fships, 1968-1970. Memberships: AMS; London Math Soc; Assn for Symbolic Logic. Prof, Department of Mathematics, University of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: The Word Problem. *Ann Math* 70(1959); Certain Simple Unsolvable Problems of Group Theory. *Ann Math* 3, 58(1955) 252-256; *Ann Math* 4, 58(1955) 571-577; *Ann Math* 5, 60(1957) 22-27; *Ann Math* 6, 60(1957) 227-232; Word Problems and Recursively Enumerable Degrees of Unsolvability. *Ann Math*; Decision Problems about Algebraic and Logical Systems as a Whole and Recursively Enumerable Degrees of Unsolvability. In *Contributions to Mathematical Logic*, Studies in Logic: 13-33. North Holland Pub Co, 1968.

Other Publications: The Hanns Neuman Memorial Volume. *Jour of the Australian Math Soc* 18(1974) 41-53.

Booth, Andrew Donald 47s M, Electronic Computation

Born 1918 East Molesey, Surrey, England. DSc 1951 Univ of London. Honors: Hon Fellow Inst of Linguists 1960; Centennial Medal (Canada) 1967. Appointments: Member NRC of Can; Chm, Adv Comm for Eng & Phys, Def Research Bd of Can; Commissioner for the Grand River Flood Disaster 1975. Memberships: F Inst P; FIERE; FRSA; P Eng; C Eng. (Retired) Pres & Vice Chancellor, Lakehead Univ, Thunder Bay, Canada, Prof Autonetics Case-Western Reserve Univ, Timberlane, 5317 Sooke Rd RR 1, Sooke, BC, Canada V0S1N0.

Publications Related to IAS Residence: *Automatic Digital Calculators*. New York: Academic Press, 1953; *Mechanical Resolution of Linguistic Problems*. New York: Academic Press, 1953.

Boothby, William M. 61-62 M

Born 1918 Detroit, MI. PhD 1949 Math Univ of Michigan. Honors: Postdoc Fellow Amer Swiss Found for Sci Exch ETH Zurich 1950-51; NSF Senior Postdoc Fellow 1961-62. Appointments: AMS Committees. Memberships: MAA; AMS; London Math

Members

Soc. Prof, Dept of Mathematics, Washington University, St. Louis, MO 63130.

Publications Related to IAS Residence: A note on homogeneous complex contact manifolds. *PAMS* 13(1962) 276-280; With S. Kobayashi and H. C. Wang. A note on mappings and automorphisms of almost complex manifolds. *Annals of Math* 77(1963) 329-334; With H. C. Wang. On finite subgroups of connected Lie groups. *Commentarii Helv* 39(1965) 281-294.

Other Publications: On Contact Manifolds. *Annals of Math* 68(1958) 721-734; A transitivity problem from control theory. *J Diff Eqns* 17(1975) 296-307; *Differentiable manifolds*. Pure and Applied Math Series. New York: Academic Press, 1975.

Borchers, Hans-Jürgen 61-63 M(NS), Physics

Born 1926 Germany. PhD 1956 Univ of Hamburg. Inst for Theo Physics, Univ of Göttingen, 34 Göttingen, West Germany.*

Borel, Armand see Present Faculty

Borgers, Alfons M.F. 47-49 M, Mathematical Logic

Born 1919 Herk-De-Stad, Belgium. Dr 1944 Mathematics Katholieke Univ, Leuven. Prof, Math, Katholieke Univ, Mg Ed *J Symbolic Logic*. Weldadigheidstraat 61, B-3000 Leuven, Belgium.

Publications Related to IAS Residence: Development of the Notion of Set and of the Axioms for Sets. *Syntese* 7(1949) 374-390.

Other Publications: *Arithmetische Theorie Van Cesàro's Sommatiemethode*. 8, 19. Brussels: Verh Konink Vlaamse Acad Wet, Lett Schone Kunst van België KI Wetensch, 1946.

Borsuk, Karol 46-47, 64s M, Topology

Born 1905 Warsaw, Poland. PhD 1930 Univ of Warsaw. Honors: Polish Acad Scis 1952; Bulgarian Acad of Scis 1953; Dr(hc) Univ of Zagreb 1976; Polish State Awd 1949, 1955, 1972; Alfred Jurzykowski Foundation Awd 1973. Appointments: Central Qualifying Commission; Ed *Dissertationes Mathematicae*; Deputy-Ed *Fundamenta Mathematicae*. Prof Emer, Inst of Mathematics Polish Acad of Sci, Filtrowa 63 m. 18, 02-056 Warsaw, Poland.

Publications Related to IAS Residence: On the topology of retracts. *Ann Math* 48(1947) 1082-1094; An example of a simple arc in space whose projection in every plane has interior points. *Fund Math* 34(1947) 272-277; *Theory of Retracts*. Monografie Matematyczne, 44. Warsaw: 1967.

Other Publications: Sur les rétractes. *Fund Math* 17(1931) 152-170; Über eine Klasse von lokal zusammenhängenden Räumen. *Fund Math* 19(1932) 220-241; Über Schnitte der n-dimensionalen Euklidischen Räume. *Math Ann* 106(1932) 239-248; Drei Sätze über die n-dimensionale euklidische Sphäre. *Fund Math* 20(1933) 177-190; Sur un continu acyclique qui se laisse transformer topologiquement en lui m me

sans points invariants. *Fund Math* 24(1934) 51-58; Quelques rétractes singuliers. *Fund Math* 24(1935) 249-258; Sur les groupes des classes de transformations continues. *C R Paris* 202(1936) 1400-1403; Sur les prolongements des transformations continues. *Fund Math* 28(1937) 99-110; Sur la décomposition des polyèdres en produits cartésiens. *Fund Math* 31(1938) 137-148; Sur un espace compact localement contractible qui n'est pas un rétracte absolu de voisinage. *Fund Math* 35(1948) 175-180; On an irreducible 2-dimensional absolute retract. *Fund Math* 37(1950) 137-160; Sur la notion de dépendance des transformations continues. *Bull Acad Pol Sci* 3(1955) 251-254; On the k-independent subsets of the euclidean space and of the Hilbert space. *Bull Acad Pol Sci* 5(1957) 351-356; Concerning homotopy properties of compacta. *Fund Math* 62(1968) 223-254; On movable compacta. *Fund Math* 66(1969) 137-146; A note on the theory of shape of compacta. *Fund Math* 67(1970) 265-278; *Theory of Shape*. Monografie Matematyczne, 59. Warsaw: 1975; On the Lefschetz-Hopf fixed point theorem for nearly extendable maps. *Bull Acad Pol Sci* 23(1975) 1273-1279.

Bosco, Bernardino 61-62 M(NS), Physics

Born 1928 Pralormo (TO), Italy. Laurea in Fisica 1953 Turin Univ. Honors: Della Riccia Award 1962. Appointments: Pres Della Riccia Foundation. Memberships: Eur Phys Soc; Italian Phys Soc. Prof, Theoretical Physics, and Director Nuclear Phys Florence Branch of Natl Inst, Istituto di Fisica Teorica, Università Largo Enrico Fermi, 2 Arcetri, Firenze, Italy.

Bose, Samir Kumar 62-63 M(NS), Theoretical Physics

Born 1934 Dacca, India. PhD 1962 Physics Univ of Rochester. Assoc Prof, Dept of Physics, University of Notre Dame, Notre Dame, IN 46556.

Publications Related to IAS Residence: Properties of Deuteron Regge Trajectory and Low Energy Neutron-proton Scattering. *Nuovo Cimento* 30(1963) 878.

Other Publications: Current Algebras and Non-Uptonic K-meson decays. *Phys Rev Letters* 16(1966) 330; Generalization of Okube's formula to four dimensional unitary groups. *Phys Rev D* 11(1975) 2272.

Boskovits, Miklós 78f HS, Art History

Born 1935 Budapest, Hungary. Dr Phil 1962 Univ of Budapest. Prof, State Univ at Calabria, Cosenza, Via Roma 373, 50012 Bagno a Ripoli, Firenze, Italy.

Publications: *Pittura fiorentina alla Vigilia del Rinascimento, 1370-1400*. Florence: 1975; *Pittura umbra e marchigiana fra Medioevo e Rinascimento*. Florence: 1973; *Cimabue e iprecursori di Giotto*. Florence: 1976.

Bossy, John Antony 76-77 HS

Born 1933 London, England. PhD(Cantab.) 1961 History. Memberships: Royal Hist Soc. Prof, Dept of History, University of York, Heslington, York, England.
Publications Related to IAS Residence: Padri e Madrine: Un Istituzione Sociale Della Christianità. *Quaderni Storici* (1979).
Other Publications: *The English Catholic Community, 1570-1850*. London: Darton, Longman & Todd, 1976.

Bosworth, Albert Brian 75s HS, Ancient History

Born 1942 Nottingham, England. BPhil 1967 Oxford. Assoc Prof, Dept of Classics & Ancient History, University of Western Australia, Nedlands, Western Australia 6009.

Publications Related to IAS Residence: *A Historical Commentary on Arrian's History of Alexander*. 1. New York: Oxford Univ Press, forthcoming; Arrian and the Alari. *Harvard Studies in Classical Philology* 72(1977) 217-55; Arrian and the Alexander Vulgate. *Entretiens sur l'Antiquité Classique* 22(1976) 1-46; Errors in Arrian. *Classical Quarterly* 26(1976) 117-39; Early Relations between Astolia and Macedon. *Amer Jour of Ancient Hist* 1(1977) 164-81; Arrian in Bastica. *Greek, Roman & Byzantine Studies* 17(1976) 55-64.

Bott, Raoul 49-51, 55-57, 71-72 M

Born 1923 Budapest, Hungary. DSci 1949 Carnegie Inst of Tech. Honors: NAS; Veblen Prize. Prof, Mathematics Department, Harvard University, 1 Oxford St., Cambridge, MA 02138.

Publications Related to IAS Residence: The Stable Homotopy of the Classical Groups. *Ann Math* 70, 2(1959); An Application of the Morse Theory to the Topology of Lie Groups. *Bull Soc Math France* 84(1956) 251-281; With H. Samelson. Applications of the Theory of Morse to Symmetric Spaces. *Am J Math* 80(1958) 964-1029.

Bouckaert, Louis P. 35-37 M

Born 1909 Belgium. PhD Louvain Univ. Maria-Thérésiastraat 105, 3000 Louvain, Belgium. *

Publications Related to IAS Residence: With R. Smoluchowski. Theory of Brillouin Zones and Symmetry Properties of Wave Functions in Crystals. *Phys Rev* (2) 49(1936) 875; With R. Smoluchowski and E. Wigner. Theory of Brillouin Zones and Symmetry Properties of Wave Functions in Crystals. *Phys Rev* (2) 50(1936) 58-67.

Bourdieu, Pierre 72-73 Soc, Sociology

Born 1930 Denguin, France. Agrég Sorbonne. Prof, Sociology, Ecole des hautes études sci soc, Head Centreze de Sociologie Européenne, C.S.E. 54 Boulevard Raspail, 75270 Paris Cedex 06, France.

Publications Related to IAS Residence: *Outline of a Theory of Practice*. New York: Cambridge University Press, 1977.

Other Publications: *Reproduction in Education Society and Culture*. Sage, 1977.

Bourgin, David Gordon 40-41, 48-49 M, Algebraic Topology and Analysis

Born 1900. PhD 1926 Mathematical Physics Harvard U. Appointments: Screening Committee for Senior Math Candidates, Fulbright Awards. Memberships: AMS; MAA; Sigma Xi. MD Anderson Prof, and Ed *Illinois Jour Math, Houston Jour Math*, Mathematics Dept, U of Houston, Houston, TX 77004.

Publications Related to IAS Residence: *Modern Algebraic Topology*. Macmillan, 1963; A class of sequences of functions. *Trans AMS* (1946); Two problems of mixed type for damped wave equations. *Quart Applied Math* 6(1948); Associated transforms and convolutions. *Revista de Ciencias* (1949).

Other Publications: Deformation and mapping theorems. *Fund Math* (1959); Multiplicities of solutions of the frame problem. *Ill J Math* (1965); Cones and vioris begle theorems. *Trans AMS* (1972).

Bourguignon, Jean-Pierre 80s M

Born 1947 Lyon, France. Thèse d'État 1974 Univ of Paris. Charge de Recherche, CNRS, Centre de Math, Ecole Polytechnique, F-91128 Palaiseau Cedex, France. *

Bourne, Samuel G. 50s, 51 -52 M, Algebra, Topological Algebra

Born 1916 Liverpool, England. PhD 1950 Johns Hopkins U. Honors: Bogart Prize; PBK; Sigma Xi; International Platform Assoc. Memberships: AMS; MAA; Am Assoc Adv Sci. Res Mathematician, Univ of Calif, Berkeley, PO Box 4583, Berkeley, CA 94704.

Publications Related to IAS Residence: The Jacobson Radical of a Semiring. *Proc NAS* 37(1951) 163-170; On the Homomorphism theorem for semirings. *Proc NAS* 38(1952) 118.

Other Publications: With Hans Zassenhaus. On the further characterizations of radical of a semiring. *Comms in Algebra* (1974).

Bowen, Rufus 77f M, Dynamical Systems

Born 1947 CA. PhD 1970 Univ of Calif, Berkeley. Deceased.

Bowman, Alan Keir 76f HS, Ancient History

Born 1944 Manchester, England. PhD Classics Univ of Toronto. Appointments: Mem Council of the Soc for Prom of Roman Studies. Memberships: Amer Soc of Papyrologists; Assoc Intl de Papyrologues. Student, Tutorial Fellow, Roman History, Christ Church, Oxford, Part-time Lect Magdalen Coll, Christ Church, Oxford OX1 1DP, England.

Publications Related to IAS Residence: With J. D. Thomas. P.Lond.inv. 2506; a reconsideration. *Bull of the Amer Soc of Papyrologists* 14(1977).

Other Publications: *The Town Councils of Roman Egypt*. 1971; *The Oxyrhynchus Papyri*. 44 & 45. London: Egypt Exp Fund, 1976-77.

Members

Bracher, Karl Dietrich 67-68, 74-75 HS, Contemporary History, History of Ideas

Born 1922 Stuttgart, Germany. DPhil 1948 History, Philosophy Univ of Tübingen. Honors: D Hum Litt (hc) Florida State Univ 1973; Foreign Hon mem AAAS 1971; Corr Fellow British Acad 1976; Amer Philos Soc 1978. Appointments: Adv Bd on Polit Ed Fed Govt of Germany, 1966-. Memberships: German Assoc of Polit Sci Chm 1965-67; Comm on Hist of Parliamentarism, Bonn Chm 1962-68; Bd, Inst of Contemporary Hist, Munich since 1962. Prof, Polit Science and Contemp History, Univ of Bonn, Stationsweg 17, 53 Bonn, West Germany.

Publications Related to IAS Residence: *The German Dictatorship*. New York: Praeger, 1970; *Zeitgesdrichtliche Kontroversen*. Munich: Piper, 1976; *Die Krise Europas 1917-1975*. Berlin: Propyläen, 1976.

Bradeen, Donald William 61s, 70-71 HS, Greek History

Born 1918 Bangor, ME. PhD 1947 Classics Univ of Cincinnati. Deceased.

Publications Related to IAS Residence: *Inscriptions; the funerary monuments*. The Athenian Agora, 17. Princeton: American School of Classical Studies at Athens, 1974; Fifth-century archon list. *Hesperia* 32(1963) 187-208; Athenian casualty lists. *Hesperia* 33(1964) 16-62.

Brahana, Thomas R. 57-58 M

Born 1926 Champaign, IL. PhD 1955 Univ of Michigan. Honors: Fulbright Lect Zagreb Univ, Yugoslavia 1970-71. Memberships: AMS. Prof, Dept of Mathematics, University of Georgia, Athens, GA 30602.

Publications Related to IAS Residence: Axioms for local homology. *Duke J of Math* 23(1958) 381-400.

Branges, Louis de 59-60 M, Analysis

Born 1932 Paris, France. PhD 1957 Cornell Univ. Honors: Sloan Fellow 1963-66; Guggenheim Fellow 1967-68. Memberships: AMS. Prof, Mathematics, Purdue Univ, 331 Hollowood Dr, West Lafayette, IN 47906.

Publications Related to IAS Residence: With J. Rovnyak. *Square Summable Power Series*. New York: Holt Rinehart & Winston, 1966; *Hilbert Spaces of Entire Functions*. New York: Prentice-Hall, 1968.

Other Publications: The Reimann mapping theorem. *J Math Anal Appl* in press; Vectorial topology. *J Math Anal Appl* in press.

Brann, Eva T. H. 58-59 HS, Archaeology

Born 1929 Berlin, Germany. PhD 1955 Yale Univ. Appointments: U.S. Comm for Intl Ed and Cultural Aff 1975-8. Tutor, St. John's Coll, 17 Wagner St, Annapolis, MD 21401.

Publications: *Paradoxes of Education in a Republic*. Chicago: Univ of Chicago Press, 1979.

Brascamp, Herm Jan 73-74 NS, Mathematical Physics

Born 1944 Olst, Netherlands. Dr 1970 Theor Phys Univ of Groningen. Teacher Math Praedinius Gymnasium, Korenblehnstraat 10, Vrier, Netherlands.

Publications Related to IAS Residence: With E. H. Lieb and J. M. Luttinger. A general rearrangement inequality for multiple integrals. *J Funct Anal* 17(1974) 227-237.

Other Publications: With C. van Winter. The N-body problem with spin-orbit or Coulomb interactions. *Commun Math Phys* 11(1968) 19-55; The Fredholm theory of integral equations for special types of compact operators on a separable Hilbert space. *Compositio Math* 21(1969) 59-80; Equilibrium states for a classical lattice gas. *Commun Math Phys* 18(1970) 82-96; With H. Kunz. Analyticity Properties of the Ising Model in the antiferromagnetic phase. *Commun Math Phys* 32(1973)93-106; With E. H. Lieb. On extensions of the Brunn-Minkowski and Prékopa-Leindler theorems. *J Funct Anal* 22(1976) 366-389; With E. H. Lieb. Best constants in Young's inequality, its converse, and its generalization to more than three functions. *Adv Math* 20(1976) 151-173.

Brauer, Richard 42s M

Born 1901 Berlin, Germany. PhD 1925 Univ of Berlin. Deceased.

Publications: With Hermann Weyl. Spinors in n Dimensions. *Amer J Math* 57(1935) 425-449; Sur les Invariants Intégraux des Variétés Représentatives des Groupes de Lie Simples Clos. *C R Acad Sci Paris* 201(1935) 419-421; A Characterization of Null Systems in Projective Space. *Bull AMS* 42(1936) 247-254; With A. Brauer. Über Irreduzibilitätskriterien von I. Schur und G. Polya. *Math Z* 40(1936) 242-265; On Algebras Which Are Connected with the Semisimple Continuous Groups. *Ann Math (2)* 38(1937) 857-872; On Permutation Groups of Prime Degree and Related Classes of Groups. *Ann Math (2)* 44(1943) 57-79; On the Arithmetic in a Group Ring. *Proc NAS* 30(1944) 109-114.

Braun, Hel 47-48 M

Born 1914 Frankfurt-Main, Germany. DrPhil nat 1937 University of Frankfurt-Main. Appointments: Mem Panel of Experts, Internat Fed of Univ Women. Memberships: AMS, DMV, ÖMG. Prof, Mathematics, University of Hamburg, Magdalenenstr 6, D2000 Hamburg 13, Germany.

Publications Related to IAS Residence: Hermitian Modular Functions Part I. *Ann Math* 50(1949) 827-855; II. 51(1950) 92-104.

Other Publications: III. 53(1951) 143-160.

Breasted, James Henry, Jr. 39-41 HS(H), Art and Archaeology

Born 1908 Chicago, IL. MA 1937 Univ of Chicago. Deceased.

Publications Related to IAS Residence: *Egyptian Servant Statues*. Bollingen Series, 13. New York: Pantheon, 1948.

Breckenridge, James D. 74-75 HS, Art History

Born 1926 New York, NY. PhD 1957 Art & Archaeology Princeton Univ. Memberships: Mediaeval Acad of Amer (Councilor 1976-78); College Art Assoc of Amer (Director 1967-71); Archaeol Inst of Amer; Soc of Architectural Historians; Royal Numismatic Soc; Royal Soc of Arts. Prof, Art History, Northwestern Univ, 2650 Broadway, Evanston, IL 60201.

Publications Related to IAS Residence: Contributions to catalogue of exhibition. In *Age of Spirituality*. Metropolitan Museum of Art, NY, in press.

Other Publications: *Likeness: A Conceptual History of Ancient Portraiture*. Evanston: 1969; *The Numismatic Iconography of Justinian II*. NY: 1959.

Bredon, Glen E. 58-60, 66-67 M, Transformation Groups

Born 1932 Fresno, CA. PhD 1958 Math Harvard Univ. Memberships: AMS; MAA; Σ Ξ . Prof, Math, Rutgers Univ, 521 State Rd, Princeton, NJ 08540.

Publications Related to IAS Residence: *Sheaf Theory*. New York: McGraw Hill, 1967; *Introduction to Transformation Groups*. New York: Acad Press, 1972.

Breen, Quirinius 64-65 HS, Humanism of the Northern Renaissance

Born 1896 Orange City, IA. PhD 1931 U of Chicago. Deceased.

Breen, Timothy Hall 79-80 HS, American Studies

Born 1942 Cincinnati, OH. PhD 1968 Yale Univ. Prof, History & American Culture, History Department, Northwestern University, Evanston, IL 60201.

Publications Related to IAS Residence: With S. Innes. *"Mine Owne Ground," Race and Freedom on the Virginia Eastern Shore*. New York: Oxford U Press, forthcoming; *Puritans and Adventurers, Change and Persistence in Early America*. New York: Oxford U Press, forthcoming.

Other Publications: *The Character of the Good Ruler: Puritan Political Ideas*. New Haven: 1970; *Shaping Southern Society: The Colonial Experience*. New York: 1975.

Bregel, Yuri 77-78 HS

Born 1925 Moscow, USSR. PhD 1961 History Inst of Oriental Studies of the Acad of Sci of the USSR. Assoc Prof, History of Islamic Countries, Institute of Asian and African Studies, The Hebrew University, Jerusalem, Israel.

Publications Related to IAS Residence: The Sarts in the Khanate of Khiva. *J of Asian Hist* 12, 2(1978) 720-751; The role of Central Asia in the history of the Muslim World. In *Afghanistan Council Occasional*

Papers. New York: forthcoming; Kosh-begi. In *Encyclopaedia of Islam*. forthcoming.

Other Publications: *The Khorezmian Turkmens in the 19th century*. Moscow: 1961; *Documents of the archives of the Khans of Khiva on the history and ethnography of the Karakalpaks*. Moscow: 1967; Transl into Russian, and revised, with additions and corrections. *Persian literature. A bio-bibliographical survey*, by C.A. Stroy. 1-3. Moscow: 1972.

Breit, Gregory 35-36 M(NS), Physics

Born 1899 USSR. PhD 1921 Johns Hopkins Univ. Honors: NAS 1939-; AAAS; DSc Univ of Wis 1954; LLD Johns Hopkins 1976; Franklin Medal Franklin Inst of Phila 1964; Nat Medal of Science 1967; T. I. Bonner Prize Amer Phys Soc 1969. Appointments: Mem at large of Div Phys Sci, Natl Res Council 1932-33; Rep Amer Phys Soc in Div of Phy Sci, Natl Res Council 1940-44; Mem of Comm of Nat Acad of Scis 1940-46; Chmn of Ref Comm on Nuclear Phys and Isotopes, Natl Res Council; Mem of Uranium Comm, Natl Res Comm and Section S, OSRD 1940-43; Consultant Exec Comm Section S, OSRD 1942-44; Assoc Ed Proc of Natl Acad of Sci 1951-60; Assoc Ed *Phys Rev* 1927-29, 1939-41, 1954-56, 1961-63. Memberships: Amer Phys Soc; Inst of Radio Eng; Geophys Union; London Phys Soc; PBK; Sigma Xi. Donner Prof Emer, Physics, Yale Univ, Distingd Serv Prof Emer Phys SUNY at Buffalo, 73 Allenhurst Rd, Buffalo, NY 14214.

Publications Related to IAS Residence: With E. P. Wigner. Capture of Slow Neutrons. *Phys Rev* 49(1936) 519; With E. U. Condon and R. D. Present. Theory of Scattering Protons by Protons. *Phys Rev* 50(1936) 825.

Other Publications: With M. A. Tuve. A Radio Method of Estimating the Height of the Conducting Layer. *Nature* 116(1925) 357; With M. A. Tuve. A Test of the Conducting Layer. *Phys Rev* 28(1925) 554; The Fine Structure of Helium, as a Test of the Spin Interaction of Two Electrons. *Phys Rev* 36(1930) 383; Quantum Theory of Dispersion. *Rev Mod Phys* 4, 5(1933) 504-575, 91-140; The Fine Structure of Helium as a Test of the Spin Interaction of Two Electrons. *Phys Rev* 36(1930) 383; With H. M. Thaxton and L. Eisenbud. Analysis of Scattering of Protons by Protons. *Phys Rev* 55(1939) 1018.

Bremermann, Hans Joachim 55-57, 58-59 M, Several Complex Variables, Quantum Field Theory

Born 1926 Bremen, Germany. Dr rer nat 1951 Math Univ of Münster. Appointments: NIH Training Grant Committee; NRC Ad hoc committee on undergrad training in Applied Math. Memberships: AMS; Biophys Soc; German Math Soc; Austrian Math Soc. Prof, Math and Biophysics, Dept of Math, Univ of Calif, Berkeley, CA 94720.

Brenner, Robert P. 73-74 Soc, Social History

Born 1943 New York, NY. PhD 1970 Princeton Univ. Honors: Guggenheim Fellow 1977-79; ACLS Res

Members

Fellow 1977-78. Assoc Prof, Dept of History, UCLA, Los Angeles, CA 90024.

Publications Related to IAS Residence: *Merchants and Revolution: Commercial Change and Political Conflict in London 1560-1660*. forthcoming; *Agrarian Class Structure and Economic Development in Pre-Industrial Europe*. *Past & Present* 70(1976); *From Feudalism to Capitalism: A Reply to Critics*. *Past & Present* in press(1979); Maurice Dobb on the Development of Capitalism. *Cambridge Journal of Economics* 2(June 1978).

Other Publications: Merchants and Politics in Civil War London. *Past & Present* 58(1973); The Social Basis of English Commercial Expansion, 1560-1660. *Journal of Economic History* 32(1972); The Origins of Capitalism: A Critique of New-Smithian Marxism. *New Left Review* 104(1977); Theory and Practice in the Puritan Movement. In *Society and Puritanism in Early Modern England*. Univ of Calif Press, in press.

Bressoud, David Marius 79-80 M, Number Theory

Born 1950 Bethlehem, PA. PhD 1977 Math Temple Univ. Memberships: AMS; MAA; Sigma Xi. Asst Prof, Math, Dept of Math, 215 McAllister Bldg, Pennsylvania State Univ, University Park, PA 16802.

Publications: A generalization of the Rogers-Ramanujan identities for all moduli. *J Comb Th, A* 27(1979) 64-68; On partitions, orthogonal polynomials, and the expansion of certain infinite products. *Proc London Math Soc* (in press).

Brevem, Maxim von 41f HS(EP), Political Science*

Brezin, Jonathan Paul 67-68, 72f M, Analysis

Born 1943 PA. PhD 1967 CUNY. Dept of Math, Univ of N Carolina, Chapel Hill, NC 27514. *

Brieger, Peter Henry 58-59, 63-64 HS, Art History

Born 1898 Breslau, Germany. Venia Legendi 1927 University of Breslau. Memberships: Royal Soc of Canada; Fellow of Soc of Antiquaries, London. Prof Emer, 51 Woodlawn Ave W, Toronto, Ont M4V 1G6, Canada.

Publications Related to IAS Residence: With M. Meiss & C. S. Singleton. *Illuminated manuscripts of the Divine Comedy*. Bollingen Series. Princeton Univ Press, 1969.

Other Publications: *The Trinity College Apocalypse*. London: Eugrammia Press, 1967; *English Art, 1216-1307*. Oxford Hist of Art, 4. Oxford: Clarendon Press, 1957; With Vickers & Winter. *Art and Man*. Toronto: Holt, Rinehart & Winston, 1964.

Briggs, Asa (Lord Briggs) 53-54 HS, Social and Economic History

Born 1921 Keighley, Yorkshire, England. BA(Cantab.) 1941 History.; BSc 1941 Economics London Univ Honors: AAAS 1970; Univ Hon Degrees: East Anglia 1966; Strathclyde 1973; Leeds 1974; Liverpool 1977; Sussex 1976; Bradford 1978; Florida Presbyterian

1966; York (Canada) 1968; Cincinnati 1977; Marconi Medal for Communications Hist 1975; Gerstenberg Fship Economics London Univ 1941. Appointments: 1972, Chm of Govt Cttee on Future of Nursing in the UK; OECD Consultant on Danish Higher Education, 1977; Pres, Euro Inst of Ed, 1975-. Memberships: Pres, Brit Social Hist Soc. Provost, Worcester Coll, and Chancellor The Open Univ, The Provost's Lodgings, Worcester College, Oxford, England.

Publications Related to IAS Residence: *Victorian People*. Rev ed. Univ Chicago Press, 1973; *Friends of the People*. London: B.T. Batsford, 1956; *The Age of Improvement*. London: Longmans, 1959; *Victorian Cities*. London: Odhams Books, 1963; *William Cobbett*. London: Oxford U Press, 1967; *How They Lived, 1700-1815*. Oxford: Blackwell, 1969.

Other Publications: The Birth of Broadcasting. 1. 1961; The Golden Age of Wireless. 2. 1965; The War of Words. 3. 1970; Sound and Vision. 4. 1979; In *The History of Broadcasting in the UK*. London: Oxford U Press.

Brink, Charles Oscar 60-61, 66s HS, Classical Studies

Born 1907 West Berlin, Germany. PhD 1933 Classics Univ of Berlin. Honors: Fellow Gonville & Caius College, Cambridge since 1955; Fellow of the British Acad since 1954; Corr Mem of Bayerische Akademie der Wissenschaften since 1973; Litt D Cambridge 1973. Appointments: Senior Bd since 1962, Cambridge Class Texts & Commentaries; Chm of Trustees since 1975 Robinson Coll, Cambridge; Mem Intl Comm for publication of the Thesaurus Linguae Latinae since 1965; Chm of first Classics Panel London Schools Council 1965-69. Memberships: Council of Class Assoc 1958-61; Council of Soc for the Promotion of Roman Stud 1956-9, 1963-6; Founding Mem of Joint Assoc of Classical Teachers, London, 1952, Pres 1969-71; Hon Member 1961. Kennedy Prof Emer, Latin, Univ of Cambridge, Gonville & Caius College, Cambridge, England.

Publications Related to IAS Residence: Horace on Poetry. In *Prolegomena*, 1. Cambridge Univ Press, 1963; The "Ars Poetica". 2. Cambridge Univ Press, 1971.

Brodie, Bernard 40-41 HS(EP), American Military Policy

Born 1910 Chicago, IL. PhD 1940 Univ of Chicago. Deceased.

Publications Related to IAS Residence: *Sea Power in the Machine Age*. Princeton: Princeton Univ Press, 1941; Defense and Technology. *Technology Rev* 43(1941) 107-110.

Brommer, Frank 57-58, 64-65 HS

Born 1911 Germany. MA 1944 Berlin Univ. Dijonstr 18, 65 Mainz, Germany. *

Broneer, Oscar Theodore 39-42, 53s HS, Classics

Born 1894 Bäckebo, Sweden. PhD 1931 Classics Univ of Calif at Berkeley. Honors: Cmdr Royal Order of Phoenix, Greece 1962; Mem Swedish Acad of Hist & Antiquities; Gold Medal for Dist Archaeol Achievement Archaeol Inst of Amer 1969. Appointments: Exec Vice Pres, Greek War Relief Assn, 1944-1946. Memberships: Archaeol Inst of Amer; German Archaeol Inst; Greek Archaeol Soc; Swedish Acad of Hist & Antiquities. Prof Emer, Univ of Chicago, Prof & Dir Archaeology Am Sch of Class Studies, American School Excavations, Ancient Corinth, Greece.

Publications Related to IAS Residence: *The Lion Monument at Amhipolis*. Cambridge, Mass: Harvard Univ Press, 1941; Hero Cults in the Corinthian Agora. *Hesperia* 11 (1942) 128-161; The Tent of Xerxes & The Greek Theater. *Univ Calif Publications in Classical Archaeology* 1, 12(1944).

Bros, Jacques M. E. 67-68 NS, Quantum Field Theory

Born 1934 France. PhD 1958 Saclay. *

Brothers, John Edwin 73-74 M, Geometric Measure Theory

Born 1937 Salt Lake City, UT. PhD 1964 Mathematics Brown Univ. Memberships: AMS. Assoc Prof, Department of Mathematics, Indiana University, Bloomington, IN 47401.

Publications Related to IAS Residence: The structure of solutions to Plateau's problem in the n-sphere. *J Diff Geom* 11(1976) 387-400.

Other Publications: Integral geometry in homogeneous spaces. *Trans AMS* 124(1966) 480-517; The (ϕ, k) rectifiable subsets of a homogeneous space. *Acta Math* 122(1969) 197-229; Stokes' theorem. *Am J Math* 92(1970) 657-670; Invariance of solutions to invariant parametric variational problems. *Trans AMS* in press.

Broughton, T. Robert S. 71-72 HS, Roman History

Born 1900 Corbetton, Ontario, Canada. PhD 1928 Classics Johns Hopkins Univ. Honors: LLD: Johns Hopkins Univ 1969; Univ of Toronto 1971; Univ of NC 1974; Goodwin Awd of Merit Am Philol Assoc 1953; Fulbright Res Fellow Italy 1951-52; Guggenheim Fellow 1945-46; AAAS; Am Philos Soc. Appointments: ACLS Cttee on Research Libraries; Consultant, NEH. Memberships: Am Philol Assoc, (Pres 1954); Archaeol Inst Am, (Hon Vice-Pres 1953-58); Intl Fed of Class Soc (Vice-Pres 1959-1969). Paddison Prof Emer, Dept of Classics, Univ of North Carolina, Murphey Hall, Chapel Hill, NC 27514.

Publications Related to IAS Residence: Trade and Traders in Roman Spain. In *Polis and Imperium. Studies in Honour of Edward Togo Salmon*, 11-30. U of Toronto Press: Toronto, 1974; Rev of P. A. Brunt, "Italian Manpower, 225 B.C.-A.D. 14". *Am Jour Philol* 95(1974) 194-199.

Other Publications: *Romanization of Africa Proconsularis*. Baltimore: 1929; Roman Asia Minor. In

Economic Survey of Ancient Rome, ed. by T. Frank, 4: 499-918. Baltimore, 1938; *The Magistrates of the Roman Republic*. Am Philol Assoc Monographs, 15. 1951-1952 & Suppl 1960.

Browder, Felix 53f, 63-64 M, Analysis

Born 1927 Moscow, USSR. PhD 1948 Mathematics Princeton Univ. Honors: AAAS 1959; NAS 1973; Guggenheim Fellow 1953-54, 1966-67; Sloan Fellow 1959-63; Sr Postdoc Fship NSF 1957-58. Memberships: AMS. Louis Block Prof, Mathematics, Univ of Chicago, 5505 S. Kimbark Ave, Chicago, IL 60637.

Browder, William 63-64, 75s M, Topology

Born 1934 New York, NY. PhD 1958 Math Princeton Univ. Appointments: Chmn Office of Math Sciences, NRC 1978; V Pres, AMS, 1977-78. Memberships: AMS. Prof, Math, Princeton Univ, Fine Hall, Box 37, Princeton, NJ 08540.

Publications Related to IAS Residence: With J Levine & G. R. Livesay. Finding a boundary for an open manifold. *Amer J Math* 87(1965) 1017-1028; With G. R. Livesay. Fixed point free involutions on homotopy spheres. *Bull AMS* 73(1967) 242-245.

Other Publications: Torsion in H spaces. *Ann Math* 74(1961) 24-51; Kervaire invariant of framed manifolds. *Ann Math* 90(1969) 157-186; *Surgery on Simply Connected Manifolds*. New York: Springer Verlag, 1972.

Brown, Edgar Henry, Jr. 62-63 M, Topology

Born 1926 Oak Park, IL. PhD 1954 Mathematics MIT. Honors: ONR Fship 1957-58; Senior NSF Fellow 1962-63; Guggenheim Fellow 1966-67; SRC (British) 1973-74. Appointments: NATO Fship panel; Math Delegation to Peoples Republic of China. Memberships: AMS; Amer Acad of Arts and Sci. Prof, Mathematics Dept, Brandeis U, Waltham, MA 02154.

Publications Related to IAS Residence: With F. Peterson. Relations among characteristic classes, I. *Topology* 3(1964) 39-52; With F. Peterson. Algebraic bordism groups. *Ann of Math* 79(1964) 616-622; White-head products and cohomology operations. *Quart J Math* 15(1964) 116-120; With B. Steer. A note on Stiefel manifolds. *Amer J Math* 85(1965) 215-217; Note on an invariant Kervaire. *Mich Math J* 12(1965) 23-24.

Other Publications: Representability of functors in abstract homotopy theory. *Trans AMS* 119(1965) 79-85; With F. Peterson. Kervaire invariant of $8k+2$ manifolds. *Amer J Math* 98(1966) 815-826; With F. Peterson. A spectrum whose mod p cohomology is the algebra of reduced p^{th} powers. *Quart J of Math* 17(1966); With F. Peterson and D. Anderson. Spin cobordism. *Bull AMS* 72(1966) 256-260; With S. Gitler. A spectrum whose cohomology is a certain cyclic module over the Steenrod algebra. *Topology* 12(1973) 283-295.

Brown, Jonathan 78-79 HS, History of Art

Members

Born 1939 Springfield, MA. PhD 1964 History of Art Princeton Univ. Honors: Arthur K Porter Prize College Art Assn 1971. Appointments: Museum Studies Cttee Amer Assoc of Museums; Adv Cttee European Paintings Dept Metropolitan Museum. Memberships: Coll Art Assoc of Amer; Corr Mem Hispanic Soc of Amer. Prof, Fine Arts, New York Univ. 71 Battle Rd, Princeton, NJ 08540.

Publications: *Francisco de Zurbarán*. New York: Abrams, 1974; *Images and ideas in seventeenth-century Spanish painting*. Princeton Univ Press, 1978; *Jusepe de Ribera: prints and drawings*. Princeton Univ Press, 1973; *Murillo and his drawings*. Princeton Univ Press, 1976.

Brown, Joseph E. 69-70 HS, History of Mediaeval Science

Born 1925 Madison, WI. PhD 1967 Hist of Science Univ Wisconsin, Madison. Memberships: Hist of Sci Soc; Amer Hist Assn; Soc for the Hist of Technology. Asst Prof, and Director Educational Programs Human Dimensions of Science Technology Center, Dept of History, Rensselaer Polytechnic Institute, Troy, NY 12181.

Publications Related to IAS Residence: The Science of Weights. In *Science in the Middle Ages*, ed. by D. C. Lindberg. 1978.

Brown, Laurie Mark 52-53 M(NS), Theoretical Physics

Born 1923 New York, NY. PhD 1951 Cornell Univ. Honors: Fulbright Res Scholar, Italy 1958-60; Intl Atomic Energy Agency Prof, Vienna 1966; PBK; Phi Kappa Phi; Sigma Xi. Appointments: NSF Panel Adv Sci Seminars, 1968 and 1969; Consultant, Argonne Nat Lab 1960-70; Mem, Accelerator Program Comm, Argonne 1965-66. Memberships: Amer Phys Soc (Fellow); Am Assn for Adv Sci (Fellow); Hist of Sci Soc; Amer Assoc of Physics Teachers. Prof, Dept of Physics and Astronomy, Northwestern University, Evanston, IL 60201.

Publications Related to IAS Residence: Grain Density in Nuclear Emulsions. *Phys Rev* 90(1953) 95-97.

Other Publications: With R. P. Feynman. Radiative Corrections to Compton Scattering. *Phys Rev* 85(1952) 231-244; Two-Component Fermion Theory. *Phys Rev* 111(1958) 957-964; With F. Calogero. Pion-Pion Interactions in Electromagnetic Processes. *Phys Rev* 120(1960) 653-658; With H. Munczek & P. Singer. Electromagnetic Mass Shifts in the Pseudoscalar Octet. *Phys Rev* 180(1969) 1474-7.

Brown, Lowell Severt 79-80 NS, Elementary Particle Theory

Born 1934 Visalia, CA. PhD 1961 Physics Harvard Univ. Honors: NSF Postdoc Fellow 1961-63; NSF Sr Postdoc Fellow 1971-72; Guggenheim Fellow 1979-80. Appointments: Ed Bd *Phys Rev* since 1977; Panel on Public Affairs, Am Phys Soc since 1979. Memberships: Am Phys Soc. Prof, Univ of

Washington, Physics Dept - FM-15, Seattle, WA 98195.

Publications Related to IAS Residence: Dimensional Regularization of Composite Operators in Scalar Field Theory. *Ann Phys* (in press).

Brown, Morton 60-62 M, Topology

Born 1931 New York, NY. PhD 1958 Wisc Univ. Honors: Veblen Prize 1965. Memberships: MAA. Prof, Dept of Math, Univ of Mich, Ann Arbor, MI 48104.

Publications Related to IAS Residence: Locally Flat Embeddings of Topological Manifolds. *Ann of Math* 75(1962) 333-341; With H. Gluck. Stable Structures on Manifolds, I, II, III. *Ann of Math* 69(1963) 1-56.

Other Publications: A proof of the generalized Schon-fliess Thm. *Bull AMS* 66(1960) 74-76.

Brown, Theodore M. 72-73 HS, History of Science

Born 1942 Brooklyn, NY. PhD History of Science Princeton Univ. Appointments: Chm Cttee on "Health & Society" & Member of Coord Cttee of the "Rochester Plan". Memberships: Hist of Sci Soc; Assoc for Hist of Med. Assoc Prof, History & Preventive Medicine, Univ of Rochester, 110 Tarrytown Rd, Rochester, NY 14618.

Publications Related to IAS Residence: *The Mechanical Philosophy and the "Animal Oeconomy"*. New York: Arno Press, forthcoming; From Mechanism to Vitalism in 18th Century English Physiology. *J Hist Biol* 7(1974) 179-216; Richard Lower. In *Dict Sci Biog*, 8: 523-527. New York: Charles Scribner, 1973; John Mayow. In *Dict Sci Biog*, 9: 242-246. New York: Charles Scribner, 1974.

Other Publications: Physiology and the Mechanical Philosophy in Mid-Seventeenth Century England. *Bull Hist of Med* 51(1977) 25-54; The Electric Current in Early Nineteenth Century French Physics. *Hist Stud in Phys Scis* 1(1969) 61-103; The College of Physicians and the Acceptance of Iatromechanism in England. *Bull Hist of Med* 44(1970) 12-30.

Brown, Thomas Julian 66-67 HS, Latin Palaeography

Born 1923 Westmorland, England. MA(Oxon.) 1948 Classics. Honors: Fellow King's Coll, London 1975; Visiting Fellow All Souls Coll, Oxford 1976-77. Memberships: Soc of Antiquaries of London, 1956; Roxburghe Club, 1978. Prof, Department of Palaeography, King's College, University of London, London WC2R 2LS, England.

Publications Related to IAS Residence: *The Stonyhurst Gospel of Saint John*. Oxford for the Roxburghe Club, 1969.

Other Publications: With R.L.S. Bruce-Mitford, A.S.C. Ross, E. G. Stanley and others. *Codex Lindisfonnensis*. Olten and Lausanne: 1956-60; Latin palaeography since Traube. *Trans Cambridge Biblio Soc* 3, 5(1963) 361-81; *The Durham Ritual*. Early English Manuscripts in Facsimile, 16. Copenhagen: 1969; Northumbria and the Book of Kells. *Anglo-Saxon England* 1(1972) 219-46; An historical

introduction to the use of classical Latin authors in the British Isles from the fifth to the eleventh century. In *Settimane di studio del Centro italiano di studi sull'alto medioevo*, 237-99. Spoleto: 1975.

Brownell, Frank H. 53-54 M

Born 1922 New York, NY. PhD 1949 Mathematics Princeton. Memberships: AMS; SIAM. Prof, Math Dept, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: With W. K. Ergen. A Theorem on Rearrangements and its Application to Certain Delay Differential Equations. *J Rat Mech & Anal* 3(1954) 565-579; An Extension of Weyl's Asymptotic Law for Eigenvalues. *Pac J Math* 5(1955) 483-499.

Other Publications: Perturbation Theory and an Atomic Transition Model. *Arch Rat Mech & Anal* 10(1962) 149-170; Second Quantization and Recalibration of the Dirac Hamiltonian of a Single Electron Atom without Radiation. *J d'Analyse Math* 16(1966) 1-422; *A Limbotic Reformulation of Quantum Electrodynamics and the Lamb Shift Basis*. Monograph LD00012. Ann Arbor, Mich: University Microfilms, 1973.

Bruchey, Stuart Weems 73-74 HS

Born 1917 Washington, DC. PhD 1956 History Johns Hopkins University. Honors: Guggenheim Fellow 1973-74; Fellow Center for Recent Am Hist, Johns Hopkins 1965; Fellow Center for Adv Study in Behav Scis 1975-76; Vice-Pres Econ Hist Assoc 1974-75. Memberships: AHA; Org of Am Historians. Allan Nevins Prof, American Economic Hist, Columbia University, 460 Riverside Dr, New York, NY 10027.

Publications Related to IAS Residence: *Growth of the Modern American Economy*. Harper & Row, 1975.

Other Publications: *Roots of American Economic Growth*. Harper & Row, 1965; *Robert Oliver, Merchant of Baltimore, 1783-1819*. Johns Hopkins Press, 1956.

Brucker, Gene A. 68-69 HS, Renaissance

Born 1924 Cropsey, IL. PhD 1954 Princeton Univ. Appointments: NEH panels for selecting scholars for fships, 1974-78. Memberships: AHA; Med Acad of Amer; Renaissance Soc of Amer. Prof, Dept of History, Univ of California, Berkeley, CA 94720.

Publications Related to IAS Residence: *The Civic World of Early Renaissance Florence*. Princeton: Princeton U P, 1977; *Renaissance Florence*. New York: John Wiley, 1971.

Other Publications: *Florentine Politics & Society, 1343-1378*. Princeton: Princeton UP, 1962.

Brueckner, Keith Allan 50-51 M(NS)

Born 1924 Minneapolis, MN. PhD 1950 Physics Univ of California. Honors: Dannie Heineman Prize 1963; NAS 1969; DSc(hc) Indiana University; AAAS. Appointments: Member, Sci Adv Comm, U.S. Army Ballistic Res Lab, 1972-1973; AEC Adviser 1968. Memberships: Am Phys Soc; Am Nuclear Soc. Prof,

and Chair, Department of Physics, B-019, University of California, San Diego, La Jolla, CA 92093.

Bruhat, François 61f, 69s M, Group Theory

Born 1929 Paris, France. DèsSc 1955 Univ of Paris. Prof, Math, and Vice Pres University of Paris, 80 Boulevard Pasteur, 75015 Paris, France.

Publications Related to IAS Residence: With J. Tits. Groupes Réductifs sur un Corps Local I. *Publ Math* 41(1972) 5-252.

Bruner, Jerome S. 51-52 M(NS), Experimental Psychology

Born 1915 New York, NY. PhD 1941 Harvard Univ. *

Bruno, Björn Arvid William 50f M(NS), Nuclear Physics

Born 1912 Sweden. *

Bruun, Patrick Magnus 78s HS, Late Roman History

Born 1920 Helsinki, Finland. PhD 1953 Philosophy Univ of Helsinki. Honors: Commander, Order of Finnish Lion 1974; Cross of Liberty, IV Class 1944; Corr member Am Num Society 1960; Corr Mem Finnish Num Society 1969; Corr Member Deut Arch Institut 1979; Gold Medal Soc Française de Numismatique 1974; Gold Medal Italian Ministry of Foreign Affairs 1968; Silver Medal Soc Internat Numismatics 1969. Prof, Head of History Dept, Åbo Akademi, Reader Roman Numismatics Helsinki University, Furuvaegen 32 B 2, 20540 Turku 54, Finland.

Publications Related to IAS Residence: Nummi e centenionales. Nuovi punti di partenza della numismatica Costantiniana. *Ann Ist Ital numismatica* 23-24(1979) 225-234; The Negotiations of the Conference of Carnuntum. *Numismatica e antichità classiche Quaderni ticinesi* (1979) 255-278; *The Successive Monetary Reforms of Diocletian*. Am Numis Soc Museum Notes 24. New York: 1979.

Other Publications: Studies in Constantinian Chronology. *ANS NNM* 146(1961); ed with others. *Studies in the Romanization of Etruria*. Helsinki, 1975.

Bryant, John L. 73s M, Topology

Born 1940 Corinth, MS. PhD 1965 Math Univ of Georgia. Memberships: AMS; MAA. Prof, Dept of Math, Florida State University, Tallahassee, FL 32306.

Publications Related to IAS Residence: With J. Hollingsworth. Manifold Factors that are Manifold Quotients. *Topology* 13(1974) 19-24.

Other Publications: With C.L. Seebeck, III. Locally Nice Embeddings of Polyhedra. *Quart J of Math, Oxford* 19(1968); With C.L. Seebeck, III. Locally Nice Embeddings in Codimension Three. *QJM, Oxford* 21(1970); Euclidean Space Modulo A Cell. *Fund Math* 63(1969); On Embeddings of Compacta in Euclidean Space. *Proc AMS* 23(1969); Approximating Embeddings of Polyhedra in Codimension Three.

Members

Trans AMS 170(1972); With R.C. Lacher. Embeddings with Mapping Cylinder Neighborhoods. *Topology* 14(1975); With R.C. Lacher. Mappings Between Odd Dimensional Manifolds. *Gen Top and its Appl* 8(1978); With J.W. Cannon and R.C. Lacher. The Structure of Generalized Manifolds with Singular Set in Trivial Dimension. In *Proc of the 1977 Univ of Georgia Topology Conference*.

Bryant, Robert Leamon 79-80 M, Geometry

Born 1953 Harnett County, NC. PhD 1979 Mathematics Univ of No Carolina, Chapel Hill. Honors: NSF Postdoc Fellow 1979; Sigma Xi Outstanding Dissertation at UNC 1979. Memberships: MAA; AMS. Rt 2, Box 103A, Fuquay-Varina, NC 27526.

Buchanan, Norman S. 45-46 HS(EP), Economics

Born 1905 . PhD 1931 Cornell Univ. Deceased.

Publications Related to IAS Residence: With Friedrich A. Lutz. *Rebuilding the World Economy: America's Role in Foreign Trade and Investment*. New York: Twentieth Century Fund, 1947.

Buchdahl, Hans Adolph 59s, 59-60 M(NS), Theoretical Physics

Born 1919 Mainz, Germany. DSc 1958 Theoretical Physics Univ of London. Honors: Fellow Australian Acad of Sci 1968; Thomas Ranken Lyle Medal 1972. Prof, Department of Theoretical Physics, Faculty of Science, Australian National University, Canberra 2600, Australia.

Publications Related to IAS Residence: The Concepts of Classical Thermodynamics. *Am J Phys* 28(1960) 196-201; General Relativistic Fluid Spheres. *Phys Rev* 116(1959) 1027-34; Non-Linear Lagrangians and Palantini's Device. *Proc Camb Philos Soc* 56(1960) 396-400; On the Nonexistence of a Class of Static Einstein Spaces Asymptotic at Infinity to a Space of Constant Curvature. *J Mathl Phys* 1 (1960) 537-41; Reciprocal Static Metrics and Scalar Fields in the General Theory of Relativity. *Phys Rev* 115(1959) 1325-28.

Bucher, François 62-63 HS, History of Art

Born 1927 Lausanne, Switzerland. PhD 1955 Univ of Bern. Honors: Guggenheim Fellow 1956,1966-67. Appointments: Ed *Gesta*, Jour of Intl Cent of Med Art; Mem NJ State Exec Council on the Arts. Prof, Art Dept, Florida State Univ, Tallahassee, FL 32306.

Publications Related to IAS Residence: *The Pamplona Bibles. A facsimile compiled from two Picture Bibles with Martyrologies: Amiens, Latin Ms. 108 and Harburg Ms. 1, 2(Latin)4^o15*. New Haven and London: Yale Univ Press, 1970; Der Pfeil im Gehirn. Das amerikanische Universitätsleben. *Schweizer Spiegel* (August 1963) 20-26; Las Biblias Ilustradas de Pamplona. *Humboldt* 18 (1964) 81-91; The Pamplona Bibles, 1197-1200 A.D. Reasons for Changes in Iconography. *Stil und Überlieferung in der*

Kunst des Abendlandes. Akten XXI Intern Kongress für Kunstgeschichte, Bonn: 131-139. Berlin: 1967.

Buchholz, Hans-Günther 80s HS, Archaeology

Born 1919 Fürstenwalde, Germany. DrHabil 1967 Univ of West Berlin. Ord Prof, Univ of Giessen, 10 Espenstr, 6306 Long-Göns, West Germany. *

Buchsbaum, David A. 60-61 M, Algebra

Born 1929 New York, NY. PhD 1954 Math Columbia Univ. Appointments: Alg Editor, *Trans Amer Math Soc* 1966-70; Editor, *J of Algebra* 1964. Memberships: AMS. Prof, Math Dept, Brandeis Univ, Waltham, MA 02154.

Publications Related to IAS Residence: With D. Eisenbud. Algebra Structures for Finite Free Resolutions, Etc. *Am J Math* 99, 3(1977); Complexes Associated with the Minors of a Matrix. *Symp Math* 4(1970); With D.S. Rim. A Generalized Kuszul Complex II. *Trans AMS* 3(1964).

Other Publications: With D. Eisenbud. Generic Free Resolutions and Ideals, Etc. *Adv Math* 18, 3(1975); Generic Free Resolutions II. *Can J Math* 30, 3(1978).

Buchthal, Hugo H. 59-60, 68f, 75-76 HS, History of Art, Archaeology, Cultural History

Born 1909 Berlin, Germany. PhD 1933 Art History Hamburg Univ. Honors: FBA; Corr Fellow Austrian Acad of Sci. Ailsa Mellon Bruce Prof Emer, Fine Arts, Inst of Fine Arts, NYU, Hon Fellow Warburg Institute, 22, Priory Gardens, Highgate, London N.6, England.

Publications Related to IAS Residence: *Miniature Painting in the Latin Kingdom of Jerusalem*. Oxford: Clarendon Press, 1957; *Historia Troiana*. London: Warburg Inst, 1971; *Patronage in 13th century Constantinople*. Dumbarton Oaks Studies No 16. 1978; *The Wolfenbuettel Musterbuch and its Relatives*. 1979.

Other Publications: *The Miniatures of the Paris Psalter*. London: Warburg Inst, 1938.

Buehrig, Edward H. 48f HS, History

Born 1910 Minier, IL. PhD 1942 Internat Rels Univ of Chicago. Honors: SSRC fellow 1947, 1965-66; Smith-Mundt 1957-58. Appointments: State Dept; Nat'l War Coll; Brookings Inst. Memberships: Amer Soc of Internat Law; Internat Studies Assn. Prof, Political Science, Woodburn Hall, Indiana University, Bloomington, IN 47405.

Publications Related to IAS Residence: *Woodrow Wilson and the Balance of Power*. Bloomington: Indiana Univ Press, 1955.

Other Publications: Ed and Contrib, *Wilson's Foreign Policy in Perspective*. Bloomington: Indiana Univ Press, 1957; *The UN and the Palestinian Refugees*. Bloomington: Indiana Univ Press, 1971.

Burgess, Alan 63f M(NS), Astrophysics

Born 1933 Oldham, Lancashire, England. PhD 1959 Mathematical Physics Univ of London. Honors: Fellow

Royal Astron Soc. Univ Lect, Univ of Cambridge, Fellow Wolfson College, Dept of Applied Math & Theoretical Physics, Silver St, Cambridge CB3 9EW, England.

Publications Related to IAS Residence: *Ap J* 139(1964) 776.

Burgess, C. Edmund 62-63 M, Topology

Born 1920 Happy, TX. PhD 1951 Mathematics Univ of Texas, Austin. Appointments: CUPM 1965-67. Memberships: AMS; MAA. Prof, Department of Mathematics, University of Utah, Salt Lake City, UT 84112.

Publications Related to IAS Residence: Properties of certain types of Wild Surfaces in E^3 . *Am J Math* 86(1964) 325-338; Characterizations of tame surfaces in E^3 . *Trans AMS* 114(1965) 80-97.

Other Publications: Embeddings of surfaces in E^3 . *Rocky Mtn J Math* 1 (1971) 259-344.

Burghlea, Dan 69-70 M, Topology, Geometry

Born 1943 Rumania. PhD 1968 Bucharest Univ. Dept of Mathematics, Ohio State University, Columbus, OH 43210. *

Burke, Kenneth 49s HS, Literary Criticism

Born 1887 Pittsburgh, PA.. Honors: Hon Degree Bennington Coll 1966; Rutgers U 1968; Fairfield U 1970; Dartmouth Coll 1970; Northwestern U 1972; Rochester U 1972; Indiana State U 1976; Kenyon Coll 1979; Dial Award for Disting Svce to Amer Letters 1928; Guggenheim Fellow 1935; Am Acad and Natl Inst of Arts and Letters grant 1946; Rockefeller Foundation Awd 1966; Creative Arts Awd Brandeis U 1967; NJ Assoc of Teachers of English, Poet of the Year 1968; Natl Endowment for the Arts Awd 1969; New School for Soc Research, Horace Gregory Awd 1970; Ingram Merrill Found Awd 1970; Gold Medal for Eminence in Belles-Letters and Criticism (Am Acad and Inst of Arts and Letters) 1975; AAAS 1977. Appointments: Ed Bd *Critical Inquiry*. Memberships: AAAS; Amer Acad and Inst of Arts and Letters; Fellow (1957-58) Center for Adv Study in the Behav Scis; Hon Member MLA. R.D. 2, Box 293, Andover, NJ 07821.

Publications Related to IAS Residence: *Rhetoric of Motives*. 1950.

Other Publications: *Counter-Statement*. 1931; *Permanence and Change*. 1935; *Attitudes Toward History*. 1937; *The Philosophy of Literary Form*. 1941; *A Grammar of Motives*. 1945; *Rhetoric of Religion*. 1961; *Language as Symbolic Action*. 1966; *The White Oxen, and Other Stories*. 1924; *Towards a Better Life: Being a Series of Epistles, or Declamations*. 1932; *Book of Moments*. 1935; *Collected Poems, 1915-1967*. 1968; *The Complete White Oxen*. 1968.

Burke, Peter 67s HS, History

Born 1937 London, England. MA (Oxon.) 1964 Modern Hist. Honors: FRHS. Lecturer, History, Univ

of Cambridge, Fellow of Emmanuel College. 19 Devonshire Place, Brighton, Sussex, England.

Publications Related to IAS Residence: *Culture & Society in Renaissance Italy*. London: Batsford, 1972.

Other Publications: *Venice and Amsterdam: a study of seventeenth-century élites*. London: Temple Smith, 1974; *Popular Culture in Early Modern Europe*. London: M. T. Smith, 1978.

Burke, William Lozier Munro 54-55 HS, Mediaeval Archaeology

Born 1906 Brooklyn, NY. MFA 1931 Princeton Univ. Deceased.

Burkill, John Charles 47s, 55f M

Born 1900 Holt, Norfolk, England. ScD(Cantab.) 1939 Mathematics. Honors: FRS 1953. Memberships: London Math Soc; AMS; Cambridge Philos Soc Pres 1977. Retired Master of Peterhouse, Cambridge Univ, 2 Archway Court, Barton Rd, Cambridge CB3 9LW, England.

Publications Related to IAS Residence: Young-Stieltjes Integrals. *J London Math Soc* 23(1948) 22-28; An Integral for Distributions. *Proc Cambridge Philos Soc* 53(1957) 821-824; *The Lebesgue Integral*. Camb Tracts in Math, 40. Cambridge U Press, 1951.

Other Publications: *A First Course in Mathematical Analysis*. Cambridge U Press, 1962; With H. Burkill. *A Second Course in Mathematical Analysis*. Cambridge U Press, 1970.

Burn, Andrew Robert 61-62 HS, Classical Greek History

Born Kynnersley, England. BA(Oxon.) 1925 Literae Humaniores. Honors: Silver Cross of the Phoenix Greece. Appointments: Soc for Prom of Hellenic Studies; Council, 1978-81. Memberships: Soc for Prom of Roman Studies; Brit Schl of Archaeol at Athens. 23 Ritchie Court, 380 Banbury Rd, Oxford, England OX2 7PW.

Publications Related to IAS Residence: *Persia and The Greeks: the Defense of the West, 546-479 BC*. London: E. Arnold, 1962; Persian War Battlefields Revisited. In *Studies presented to F. Schachermeyr*. Berlin & New York: de Gruyter, 1977; Persia and the Greeks, 546-334. In *Cambridge History of Iran*, 2. CUP, 1979.

Other Publications: *The World Of Hesiod*. London, New York: Routledge, Knopf, 1936; *The Lyric Age Of Greece*. London, New York: Arnold, Minerva Press, 1960; Critique of A.J. Toynbee's "Study of History". *Jour History* (1956) 1 ff.

Burns, Daniel Matthew 75-76 M, Analysis, Geometry

Born 1946 Brooklyn, NY. PhD 1972 Math MIT. Honors: Sloan Fellow 1978-. Memberships: AMS. Assoc Prof, Dept of Mathematics, Univ of Michigan, Ann Arbor, MI 48103.

Publications Related to IAS Residence: With S. Shnider. Geometry of Hypersurfaces and Mapping Theorems in C^n . *Comm Math Helv* (1979); With S.

Members

Shnider. Real Hypersurfaces in Complex Manifolds. In *Several Complex Variables*, Proc Symposia in Pure Math, 30, 2: 141-170. Providence, RI: AMS, 1977; With S. Shnider. Spherical Hypersurfaces in Complex Manifolds. *Inv Math* 33(1976).

Other Publications: With M. Rapoport. On the Forelli Problem for Kählerian K-3 surfaces. *Ann Sci ENS* 8(1975).

Burns, Robert I., S.J. 72s HS, Medieval History, Spanish Crusades

Born 1921 San Francisco, CA. PhD 1958 Johns Hopkins Univ. Honors: Hon doctorates Gonzaga U 1968; Marquette U 1977; Loyola-Chicago 1978; Guggenheim Fellow 1964; ACLS Fellow 1972; Haskins Medal Med Acad of Amer 1976; Elected Fellow Med Acad of Amer 1978. Appointments: AHA, western div, V-Pres 1978-9; Pres 1979-80; Amer Catholic Hist Assn, pres, 1976; Amer Acad of Res Hist on Medieval Spain, Pres, 1976-78; North Amer Catalan Soc, Bd of Governors, 1978-; Medieval Assn of the Pacific (various committees, exec council); Soc for Spanish and Portuguese Hist Studies (exec, council). Sr Prof, History, UCLA, Dir Inst of Medieval Mediterranean Spain, Jesuit Residence, 7101 W 80th St (Loyola), Los Angeles, CA 90045.

Publications Related to IAS Residence: *Islam under the Crusaders: Colonial Survival in Medieval Valencia*. Princeton: Princeton U Press, 1973; *Medieval Colonialism: Post-Crusade Exploitation of Islamic Valencia*. Princeton: Princeton U Press, 1975.

Other Publications: *The Crusader Kingdom of Valencia: Reconstruction on a Medieval Frontier*. Cambridge, Mass: Harvard U Press, 1967; *Moors and Crusaders in Medieval Spain*. Variorum Press, 1978; *Jesuits and the Indian Wars of the Northwest*. Yale Univ Press, 1966.

Bury, John Patrick Tuer 50f HS, Modern French History

Born 1908 Cambridge, England. Honors: DLitt Cambridge Univ 1974. Memberships: FRHistS; Acad Second Empire. Life Fellow, Corpus Christi College, Cambridge, England.

Publications: *France 1814-1940*. A.S. Barnes, 1962; *Gambetta and the Making of the Third Republic*, *Gambetta and the National Defence*. Fertig, 1970; editor and contributor, *New Cambridge Modern History*. 10. Cambridge Univ Press; *Napoleon III and the Second Empire*.

Busemann, Herbert 36-39 M, Geometry

Born 1905 Berlin, Germany. PhD 1931 Math Göttingen Univ. Honors: Royal Danish Acad 1964; Hon PhD USC. Appointments: Nat Sci Found. Memberships: AMS; MAA. Disting Prof Emer, Math, USC. 3839 Oak Trail Rd, Santa Ynez, CA 93460.

Publications Related to IAS Residence: *Introduction to Algebraic Manifolds*. Princeton Math Notes. Princeton: Princeton Univ Press, 1939; On Translations in General Plane Geometries. *Amer J*

Math 60(1938) 227-256; Lokale Eigenschaften der zu Variationsproblemen Gehörigen Metrischen Räume. *Fund Math* 32(1939) 265-287; Two-Dimensional Metric Spaces with Prescribed Geodesics. *Ann of Math* (2) 40(1939) 129-140.

Other Publications: *The Geometry of Geodesics*. New York: Academic Press, 1955; *Recent Synthetic Differential Geometry*. Berlin: Springer, 1970.

Bussac, Marie-Noelle 77-78 NS, Plasma Physics

Born 1946 France. PhD 1976 U of Paris. Centre de Physique Theorique, Ecole Polytechnique, 91120 Paleiseau, France. *

Butler, Stuart Thomas 56f M(NS)

Born 1926 Naracoorte, South Australia, Australia. DSc 1961 Australian National Univ. Honors: Thomas Ranken Lyle Medal Australian Acad Science 1966; Tom W. Bonner Prize Am Phys Soc 1977. Appointments: Australian Natl Energy Res Devel & Demonstration Council. Memberships: Australian Acad of Sci; Australian Inst of Phys. Director, Australian Atomic Energy Comm Res Establishment, Fellow of Senate Univ of Sydney, A.A.E.C. Research Establishment, Private Mail Bag, Sutherland 2232 N.S.W., Australia.

Publications Related to IAS Residence: Direct Nuclear Reactions. *Phys Rev* 106(1957) 272.

Other Publications: Angular Distributions from (d, p) & (d, n) Nuclear Reactions. *Proc Roy Soc London A* 208(1951) 559; With N. Austern & H. McManus. Angular Distributions from (n, p) Nuclear Reactions. *Phys Rev* 92(1953) 350.

Butow, Robert J. C. 62-63 HS, Modern Diplomatic History

Born 1924 San Mateo, CA. PhD 1953 Far Eastern Diplomatic History Stanford Univ. Honors: Postdoc Res Fship Cntr of Intl Stud, Princeton Univ 1953-1954; Grants for Res in Japan SSRC & Rockefeller Found 1956-1957; Guggenheim Fellow 1965-66, 1978-79; Res Grant Eleanor Roosevelt Inst 1977-1978. Memberships: Amer Cttee on the Hist of WWII; Assoc of Memb of the Inst for Adv Study; Soc for Hists of Amer For Rels. Prof, Diplomatic History and East Asian Studies, Univ of Washington, Thomson Hall, DR-05, Seattle, WA 98195.

Publications Related to IAS Residence: *The John Doe Associates: Backdoor Diplomacy for Peace, 1941*. Stanford: Stanford Univ Press, 1974; *Backdoor Diplomacy in the Pacific: The Proposal for a Konoye-Roosevelt Meeting, 1941*. *J of Amer Hist* 59, 1(1972) 48-72.

Other Publications: *Japan's Decision to Surrender*. Stanford: Stanford Univ Press, 1954; *Tojo and the Coming of the War*. Princeton: Princeton Univ Press, 1961; The Hull-Nomura Conversations: A Fundamental Misconception. *The Amer His Rev* 65, 4(1960) 822-36.

Butterfield, Sir Herbert 49f HS, Life of Charles James Fox

Born 1900 . MA 1925 Cambridge. The Masters Lodge, Peterhouse, Cambridge, England. *

Byers, Nina 64-65 M(NS), Physics

Born 1930 Los Angeles, CA. PhD 1956 Physics Univ of Chicago. Honors: Guggenheim Fellow 1963-64; Fellow Somerville Coll 1967-68; Janet Watson Visit Fellow Somerville Coll 1968-76; Sci Res Council Sr Visit Scientist Oxford 1973-74. Appointments: NAS Phys Adv Panel; Nat Council Fed of Amer Scientists (1972-76) and (1978-) Exec Comm (1974-76); Electorate Nominating Comm, Physics (B), AAAS (1976-); Councillor-at-Large Am Phys Soc (1977-). Prof, Physics Dept, UCLA, Los Angeles, CA 90024.

Publications Related to IAS Residence: With S. W. Mac-Dowell and C. N. Yang. CP Violation in K Decay. In *Seminar on High Energy Physics and Elementary Particles, Trieste, Italy*. Vienna: International Atomic Energy Agency, 1965; Lecture on Two Body Reactions at High Energies. In *Selected Topics in Solid State and Theoretical Physics*. Gordon and Breach, 1968; With C. N. Yang, $\pi\pi$ Charge-Exchange Scattering and a "Coherent Droplet" Model of High-Energy Exchange Processes. *Phys Rev* 142(1966) 976.

Other Publications: With R. E. Peierls. Two-State Model of Fermi Interactions. *Nuovo Cimento* 10(1958) 520; With C. N. Yang. Theoretical Considerations Concerning Quantized Magnetic Flux in Superconductors. *Phys Rev Lett* 7(1961) 46; With S. Fenster. Spin and Parity Determination of Decaying Fermion States. *Phys Rev Lett* 11(1963) 52; High Energy np Charge-Exchange Scattering and One-Pion Exchange. *Phys Rev* 156(1967) 1703; With S. Frautichi. Diffraction Dissociation in the Chou-Yang Model. In *Quanta: Essays in Theoretical Physics*, ed. by P.G.O. Freud, C. J. Goe-bel, and Y. Nambu. Chicago: Univ of Chicago Press, 1970.

Byrnes, Robert F. 50-51 HS, French History

Born 1917 Waterville, NY. PhD 1947 Modern French History Harvard Univ. Honors: Guggenheim Fellow 1953; LLD CoeColl 1964; DHL Amherst Coll 1964; D Litt Saint Mary's Coll 1967; Presidential Bicentennial Medallion Boston Coll 1976; Fellow Netherlands Center for Advanced Study 1976-1977. Appointments: CIA, 1951-1954; Consultant, State Dept, DOD, GAO. Memberships: AHA; Amer Catholic Hist Assoc, Pres, 1961-62; Amer Assoc for the Adv of Slavic Stud, Pres 1978-79. Distinguished Prof, History, Indiana Univ, 402 Reismer Drive, Bloomington, IN 47401.

Publications Related to IAS Residence: *Antisemitism in Modern France: The Prologue to the Dreyfus Affair*. New York: Fertig, 1969.

Other Publications: *Pobedovostsev: His Life and Thought*. Bloomington: Indiana Univ Press, 1968; *Soviet-American Academic Exchange, 1958-1975*. Bloomington: Indiana Univ Press, 1976.

Cabaniss, J. Allen 52-53 HS, Medieval History

Born 1911 Tuscumbia, AL. PhD 1939 Medieval history Univ of Chicago. Honors: F.R. Hist. S. 1950; Ordre des Palmes Académiques 1970 Chevalier, 1974 Officier. Memberships: Med Acad of Amer; Studiorum Novi Testamenti Societas; Am Soc of Church Hist. Res Prof Emer, History, Univ of Miss, Box 253, University, MS 38677.

Publications Related to IAS Residence: The Literary Style of Amalarius: A Note. *Philological Quarterly* 31(1952) 423-426; The Epistle of Saint James. *Journal of Bible and Religion* 22(1954) 27-29; Where Does the Missionary Begin? *Theology Today* 11(1954) 53-61; *Liturgy and Literature*. Univ of Alabama Press, 1970; *Judith Augusta and other essays*. NY: Vantage, 1974; *Amalarius of Metz*. Amsterdam: North Holland Publishing Co, 1954.

Other Publications: *Son of Charlemagne*. Syracuse: Syracuse Univ Press, 1961; *Charlemagne's Cousins*. Syracuse: Syracuse Univ Press, 1967; *Charlemagne*. NY: Twayne, 1972.

Cabibbo, Nicola 70s, 71f, 72f NS, Particle Physics

Born 1935 Italy. Laurea 1956 Fisica Univ of Rome. Viale DiVilla Massumo 36, 00161 Roma, Italia. *

Cagle, Fredric William, Jr. 47-48 M, Applied Mathematics

Born 1924 Metropolis, IL. PhD 1946 Chemistry Univ of Illinois. Memberships: Am Chem Soc; Am Crystallographic Assoc. Prof, Department of Chemistry, University of Utah, Salt Lake City, UT 84112.

Publications Related to IAS Residence: A Preliminary Examination of the Crystal Structure of 2,2' -Bipyridyl and Its Relation to Biphenyl. *Acta Crystallographica* 1(1948) 158-159; With J. S. Fritz and G. F. Smith. The Determination of the Decomposition Pressures of Certain 1, 10-Phenanthroline Hydrates. *J Am Chem Soc* 71(1949) 2480-2482.

Other Publications: With H. Eyring. An Examination Into the Origin, Possible Synthesis and Physical Properties of Diamonds. *Z Elektrochemie* 56(1952) 480-483; A Classification of Equations of State. *J Chem Ed* 49(1972) 345-346, 850; With S. R. Ernst. Mescaline Hydrobromide. *Acta Crystallographica* B29(1973) 1543-1546; With R. J. Neustadt. 2-Bromo-4, 6-dinitro-phenol. *Acta Crystallographica* B31(1975) 2727-2729; With R.J. Neustadt and J. Waser. Vector Algebra and the Relations Between Direct and Reciprocal Lattice Quantities. *Acta Crystallographica* A24(1968) 247-248.

Cairns, Stewart Scott 36-37, 59-60,62-63, 74-75 M, Differential Topology, Analysis

Born 1904 Franklin, NH. PhD 1931 Mathematics Harvard Univ. Honors: PBK; Rogers Traveling Fellow 1928-29; Fulbright 1954; Sr US Scientist Award 1976-77. Appointments: Exec Comm of Math Div of Nat'l Res Council; Scientific Manpower Comm Bd of

Members

Governors, MAA; Scientific Advisory Board, Nat'l Security Agency. Memberships: AMS; MAA; NY Acad of Scis; Sigma Xi; AAAS. Prof Emer, Mathematics, Univ of Ill, 607 W Michigan Ave, Urbana, IL 61801.

Publications Related to IAS Residence: Homeomorphisms between topological manifolds and analytic manifolds. *Ann Math* 41(1940) 796-808; Triangulated manifolds and differentiable manifolds. In *Lectures in Topology*, Univ of Mich Conf 1940: 143-157. Univ of Mich Press, 1941; Introduction of a Riemannian geometry on a triangulable 4-manifold. *Ann Math* 45(1944) 218-219; The manifold smoothing problem. *AMS Bull* 67(1961) 237-238; Isotopic deformations of geodesic complexes on the 2-sphere and on the plane. *Ann Math* 45(1944) 207-217; With Marston Morse. *Critical Point Theory in Global Analysis and Differential Topology*. NY: Academic Press, 1969; With Marston Morse. Fréchet numbers and geodesics on surfaces. *Bull Inst Math, Acad Sinica* 4(1976) 7-34; The triangulation problem and its role in analysis. *Bull AMS* 52(1946) 545-571; Triangulated manifolds which are not Brouwer manifolds. *Ann Math* 41(1940) 792-795; Normal coordinates for extremals transversal to a manifold. *Am J Math* 60(1938) 423-435; With Marston Morse. Singular homology over \mathbb{Z} on topological manifolds. *J Diff Geom* 3(1969) 1-32; With Marston Morse. Elementary quotients of abelian groups with singular homology on manifolds. *Nagoya Math J* 39(1970) 167-198; With Marston Morse. A setting for a theorem of Bott. *Proc NAS* 65(1970) 8-9; With Marston Morse. Orientation of differentiable manifolds. *J Diff Geom* 6(1971) 1-31; With Marston Morse. Singular homology on an untriangulated manifold. *J Diff Geom* 7(1972) 1-17.

Other Publications: On the cellular subdivision of n -dimensional regions. *Ann Math* 33(1932) 671-680; On the triangulation of regular loci. *Ann Math* 35(1934) 579-587; An axiomatic basis for plane geometry. *Trans AMS* 35(1933) 234-244; Triangulation of the manifold of class one. *Bull AMS* 41(1935) 549-552; Polyhedral approximations to regular loci. *Ann Math* 37(1936) 409-415; The generalized Theorem of Stokes. *Trans AMS* 40(1936) 167-174; An elementary proof of the Jordan-Schoenflies Theorem. *Proc AMS* 2(1951) 860-867; Umschreibende Würfel von konvexen Körpern in euklidischen Räumen. *J Reine Angew Math* 208(1961)91-101; Differentiable and polyhedral manifolds. In *Topology of 3-Manifolds and related topics*, 40-54. Prentice Hall, 1962; On isotopies of polyhedra including knots. *Tensor (new series)* 26(1972) 129-149; Canonical knot projections and double point structures. *Bull Inst Math, Acad Sinica* 6(1978) 479-510.

Calabi, Eugenio 58-59, 79f M, Geometry, Complex Manifolds

Born 1923 Milan, Italy. PhD 1950 Mathematics Princeton Univ. Prof, Univ of Penn, Dept of Math, Philadelphia, PA 19104.

Publications Related to IAS Residence: With E. Vesentini. On compact locally symmetric Kähler manifolds. *Ann Math* 71(1960) 472-507; On compact, Riemannian Manifolds with Constant Curvature. In *Differential Geometry, Proc Symp U Arizona 1960*, ed. by C. B. Allendoerfer, Proc Symp Pure Math 3:155-180. Providence, RI: AMS, 1961.

Other Publications: Improper Affine Hyperspheres. *Mich Math J* 5(1958) 105-126; On Kähler manifolds with vanishing canonical class. In *Algebraic Geometry and Topology, Symp in honor of S. Lefschetz*, ed. by R. H. Fox, D. C. Spencer, & A. W. Tucker, Princeton Math Series 12: 78-89. Princeton, NJ: Princeton U Press, 1957; On the group of automorphisms of a symplectic manifold. In *Problems in Analysis, Symp in honor of S. Bochner*, ed. by R. C. Gunning, Princeton Math Series 31: 1-26. Princeton, NJ: Princeton U Press, 1970; Minimal immersions of surfaces in euclidean spheres. *J Diff Geom* 1(1967) 111-125; Complete Affine Hyperspheres I. In *Symposia Math X*, Bologna Monograf: 19-38. 1972.

Calderón, Alberto Pedro 53-55 M, Mathematical Analysis

Born 1920 Mendoza, Argentina. PhD 1950 Mathematics Univ of Chicago. Honors: NAS 1968; AMS Bôcher Memorial Prize 1978. Memberships: AMS, Univ Prof, Department of Mathematics, Univ of Chicago, Chicago, IL 60637.

Publications Related to IAS Residence: With R. Arens. Analytic functions of several Banach Algebra elements. *Ann of Math* 2(1955) 204-216; The multiple expansion of radiation fields. *J of Rat Mechanics and Anal* 3(1954) 523-537.

Other Publications: With A. Zygmund. On the existence of certain singular integrals. *Acta Math* 88(1952) 85-139; On the uniqueness of the Cauchy problem in partial differential equations. *Amer J Math* 80(1958) 16-36; On the Cauchy integral on Lipschitz curves and related operators. *Proc Nat Acad Sc, USA* 74 No 4(1977) 1324-27.

Calkin, John Williams 42s M

Born 1909. PhD 1937 Harvard Univ. Deceased.

Publications: Abstract Symmetric Boundary Conditions. *TAMS* 45(1939) 369-442.

Callahan, Thomas H. 76-77 M, Representation Theory

Born 1947 Toronto, Canada. PhD 1973 Univ Toronto. Assoc Prof, Dept of Math, Univ of Toronto, Toronto, Canada.

Callan, Curtis G. 69-72, 75-77 NS, Particle Physics

Born 1942 North Adams, MA. PhD 1964 Princeton Univ. Prof, Physics Dept, Princeton Univ, Princeton, NJ 08540.

Callen, James D. 68s, 68-69 NS, Plasma Physics

Born 1941 Wichita, KS. PhD 1968 Nuclear Engineering M.I.T. Honors: NSF Postdoc Fellow 1968-9. Appointments: Member, Exec Cttee, Div Plasma Physics, APS 1974-76; Co-chair, Low-Beta(Tokamak) Review Panel that produced the WASH-1295 Document (early U.S. Tokamak Status Report), DCTR, AEC, Wash 1974. Memberships: Am Phys Soc; Am Nuclear Soc. Head, Plasma Theory Section, Fusion Energy Division, Oak Ridge Natl Lab, P.O. Box Y, Oak Ridge, TN 37830.

Publications Related to IAS Residence: With H.L. Berk, L.D. Pearlstein, C.W. Horton and M.N. Rosenbluth. De-stabilization of Negative Energy Waves in Inhomogeneous Mirror Geometry. *Phys Rev Lett* 22(1969) 876; With H.L. Berk, T.K. Fowler, L.D. Pearlstein, R.F. Post, W.C. Horton and M.N. Rosenbluth. Criteria for Stabilization of Electrostatic Modes in Mirror-Confined Plasmas. In *Third International Conference on Plasma Physics and Controlled Nuclear Fusion Research*, 2: 125. Vienna: IAEA, 1969; With C.W. Horton. Negative Mass Instabilities. *Phys Fluids* 13(1970) 154; With C.W. Horton, Jr. Stabilization of the Modified Negative Mass Instability. *Phys Fluids* 15(1972) 2306; With C.W. Horton, Jr. and M.N. Rosenbluth. Microinstabilities in Axisymmetric Mirror Machines. *Phys Fluids* 14(1971) 2019.

Calloway, Jean Mitchener 59s M, Number Theory

Born 1923 Indianola, MS. PhD 1952 Mathematics Univ of Penn. Memberships: AMS; MAA. Olney Prof, Mathematics, Kalamazoo Coll, 1341 Bunker Hill Dr, Kalamazoo, MI 49009.

Publications Related to IAS Residence: The Representation of Integers By Three Positive Squares. *Proc AMS* 10, 3(1959); Gaussian Integers. In *Twenty Eighth Yearbook*. NCTM, 1963.

Other Publications: *Fundamentals of Modern Mathematics*. Reading, Mass: Addison-Wesley, 1964.

Calogero, Guido 62-63 HS, History of Ancient Greek Philosophy

Born 1904 Rome, Italy. DLitt 1925 Univ of Rome.; DJuris 1934 Univ of Siena Honors: Dr(hc) Univ Brussels; Ital Govt Gold Medal 1977. Memberships: Internatl Inst of Philos, Hon Pres. Prof, Fac of Lett & Filos, 5 via S. Alberto Magno, 00153 Rome, Italy.

Publications Related to IAS Residence: *Storia della logica antica*. L'età arcaica, 1. Bari: Laterza, 1967.

Other Publications: *I fondamenti della logica aristotelica*. Firenze: Le Monnier, 1927.

Cameron, Averil Millicent 77-78 HS, Roman History

Born 1940 Leek, Staffordshire, England. PhD 1966 Ancient History London Univ. Appointments: British Natl Byzantine Comm. Memberships: Roman Soc; Class Assoc; Hellenic Soc. Prof, Ancient History, Dept. of Classics, King's College London, Strand, London W.C.2, UK.

Publications Related to IAS Residence: Images of Authority: élites and icons in late sixth-century

Byzantium. *Past and Presents* press; A Nativity Poem of the sixth century AD. *Classical Philology* in press; The Artistic Patronage of Justin II. *Byzantion* in press; The Virgin's Robe: an episode in the history of early seventh-century Constantinople. *Byzantion* in press.

Other Publications: *Procopius*. New York: 1967; *Agathias*. Oxford: 1970; *Corippus*. In laudem Iustini minoris libri quattuor. London: 1976.

Cameron, Robert Horton 34s, 34-35, 53-54 M, Analysis

Born 1908 New York, NY. PhD 1932 Mathematics. Memberships: AMS; MAA. Prof Emer, Math, Univ of Minn, 3519 Stinson Blvd NE, Minneapolis, MN 55418.

Publications Related to IAS Residence: A Family of Integrals Serving to Connect the Wiener and Feynman Integrals. *J Math Physics* 39, No 2(July 1960); Nonlinear Volterra Functional Equations and Linear Parabolic Differential Systems. *J d'Analyse Math* 5(1956/57); Linear Differential Equations with almost Periodic Coefficients. *Duke Math J* 1 No 3(1935); Linear Differential Equations with almost Periodic Coefficients. *Acta Math* 69(1936); Linear Differential Equations with almost Periodic Coefficients. *Ann Math* 37, No 1(1936).

Other Publications: With W. T. Martin. The Orthogonal Development of Nonlinear Functionals in Series of Fourier-Hermite Functionals. *Ann Math* 48(1947); With D. R. Storvick. An L_2 Analytic Fourier-Feynman Transform. *Mich Math J* 23(1976); With W. T. Martin. Fourier-Wiener Transforms of Functionals Belonging to L_2 Over the Space C . *Duke Math J* 14(1947); With D. A. Storvick. An Integral Equation Related to the Schroedinger Equation with an Application to Integration in Function Space. In *Problems in Analysis (A Symposium in Honor of Salomon Bochner)*, ed. by Robert C. Gunning. Princeton University Press, 1970; With D. A. Storvick. Linear Differential Equations with almost Periodic Coefficients. *Duke Math J* 18(1968); The Generalized Heat Flow Equation and a Corresponding Poisson Formula. *Ann Math* 59(1954); Analytic Functions of Generalized Trigonometric Sums. *Duke Math J* 3(1937); Some Introductory Exercises in the Manipulation of Fourier Transforms. *Natl Math Mag* 15(1941); With W. T. Martin. An Expression for the Solution of a Class of Nonlinear Integral Equations. *Am J of Math* 66(1944); Almost Periodic Transformations. *Trans Am Math Soc* 36(1934).

Campbell, Alan D. 40s M

Born 1891 . PhD 1923 Cornell Univ. Deceased.

Campbell, Alexander Elmslie 75f HS

Born 1929 New Haven, CT. PhD 1956 History Cambridge Univ. Memberships: AHA; Soc for Historians of Am For Rels; Assoc of Contemp Historians (Treasurer, 1972-75); British Assoc for Am Studies (Committee, 1968-1971); Royal Historical Soc (Council, 1978-); Royal Inst for Internat Affairs. Prof,

Members

American History, Birmingham Univ, 3 Belbroughton Rd, Oxford OX2 6UZ, England.

Publications Related to IAS Residence: Balance of Power. In *Encyclopedia of American Foreign Policy*, ed. by A DeConde. NY: Scribners, 1978.

Other Publications: *Great Britain and the United States, 1895-1903*. London: 1960.

Campbell, David Kelly 72-74 NS, Elementary Particle Physics

Born 1944 Long Beach, CA. PhD(Cantab.) 1970 Theoretical Physics. Honors: Sophia Freund Prize 1966; Marshall Scholarship 1966-68; J. R. Oppenheimer Fellowship 1974-77. Memberships: Amer Phys Soc, PBK. Staff Member, Theoretical Physics, Theory Division, T-8, MS 453, Los Alamos Sci Lab, PO Box 1663, Los Alamos, NM 87545.

Publications Related to IAS Residence: With R. F. Dashen, J. T. Manassah. Chiral Symmetry and Pion Condensation. I. Model Dependent Results. *Phys Rev D* 12(1975) 979-1009; With R. F. Dashen and J. T. Manassah. Chiral Symmetry and Pion Condensation. II. General Formalism. *Phys Rev D* 12(1975) 1010-1025; With S. J. Chang. Multiplicity Distributions in Multiperipheral Models with Isospin. *Phys Rev D* 8(1973) 2996-3008; Comments on Kinematic Models of Inclusive Spectra. *Phys Rev D* 7(1973) 2793-2799; With G. E. Brown, R. F. Dashen, J. T. Manassah & O. Maxwell. Beta Decay of Pion Condensates as a Cooling Mechanism for Neutron Stars. *Astrophys Journ* 216(1977) 77-85; With R. F. Dashen and J. T. Manassah. Reply to "Use of Chiral Symmetry in Pion Condensation Calculation". *Phys Rev D* 18(1978) 1343-1346.

Other Publications: With Y. T. Liao. Semiclassical Analysis of Bound States in the Two-Dimensional Sigma Model. *Phys Rev D* 14(1976) 2093-2116.

Campbell, William A. 36-43 HS, Archaeology *

Publications Related to IAS Residence: The Martyrion at Seleucia Pieria. In *Antioch-on-the-Orontes III*, 35-54. Princeton: 1941; Catalogue of Mosaics. In *Antioch-on-the-Orontes III*, 171-219. Princeton: 1941.

Camps, William Anthony 56-57 HS, Ancient Literature

Born 1910 Teddington, Middlesex, England. MA(Cantab.) 1936. Master, Pembroke College, Cambridge, England.

Publications Related to IAS Residence: *An introduction to Virgil's "Aeneid"*. Oxford Univ Press, 1969; editor, *Properties*. 1. Cambridge Univ Press, 1961; 2. 1967; 3. 1966; 4. 1965; Critical and Exegetical Notes on Latin poets. *Amer Jour of Philology* 94.2(1973) 131-146.

Candlin, David John 55-56 M(NS), High Energy Physics

Born 1928 Mitcham, Surrey, England. PhD(Cantab.) 1955 High Energy Physics. Senior Lect, Physics,

Edinburgh Univ, 9, Merchiston Ave, Edinburgh 10, Scotland.

Cannon, James W. 71-72 M

Born 1943 Bellefonte, PA. PhD 1969 Topology Univ of Utah. Memberships: AMS. Prof, Math Dept, Van Vleck Hall, Univ Wisconsin, Madison, WI 53706.

Canny, Nicholas P. 79-80 HS, Early Modern History

Born 1944 Clifden, Co Galway, Ireland. PhD 1971 Univ of Penn. Honors: Sr Fulbright-Hayes Fellow 1974-5; Postdoc Fellow in, Amer Studies Yale Univ Spring 1975; Irish Hist Research Prize 1977. Memberships: Irish Hist Soc; Past & Present Soc; Asst Sec, Irish Econ & Social Hist Soc. Prof, Department of History, University College Galway, Galway, Ireland.

Publications Related to IAS Residence: *The Upstart Earl: Social and intellectual studies on the career of Richard Boyle, first Earl of Cork, 1566-1643*. Brighton: Harvester Press, forthcoming.

Other Publications: *The Elizabethan Conquest of Ireland: A pattern established, 1565-76*. Brighton: Harvester Press, 1976; Why the Reformation failed in Ireland: une question mal posée. *J of Ecclesiastical Hist* 30(1979) 23-50.

Cantimori, Delio 66s HS, Modern Italian History

Born 1904 Italy. Phd 1936 Univ of Pisa. Deceased.

Cantor, Murray Robert 78f M, Differential Equations

Born 1947 Minneapolis, MN. PhD 1973 Math Univ of Calif, Berkeley. Honors: NSF Grad Fellow 1970-72. Memberships: AMS; Sigma Xi. Asst Prof, Department of Math, Univ of Tex, Austin, TX 78712.

Publications Related to IAS Residence: Boundary Value Problems for Second Order Asymptotically Homogeneous Elliptic Operators. *J Diff Eq* in press.

Other Publications: Some Problems of Global Analysis on Asymptotically Simple Manifolds. *Compositio Mathematica* in press.

Cantrell, James C. 66-67 M, Topology

Born 1931 Palmersville, TN. PhD 1961 Univ of Tenn. Honors: Sloan Fellow 1966-68. Appointments: Committee to select Hour Speakers-Southeastern Section AMS; Committee on Prizes, AMS. Memberships: AMS. Prof, Topology, Dept of Mathematics, University of Georgia, Athens, GA 30602.

Publications Related to IAS Residence: With R. C. Lacher. Flattening a submanifold in codimensions one and two. *Bull Amer Math Soc* 74(1968) 314-315; With R. C. Lacher. Local flattening of a submanifold. *Quar Jour Math* 29(1969) 1-10.

Other Publications: Almost locally flat embedding of S^{n-1} in S^n . *Bull Amer Math Soc* 69(1963) 716-718; Codimension one embeddings of manifolds with locally flat triangulations. *Pac Jour Math* 45(1973) 43-47.

Capps, Edward, Jr. 40-41 HS(H), Fine Arts

Born 1902 Chicago, IL. PhD 1931 Princeton Univ. Deceased.

Carazzone, James Joseph 76-78 NS, Field Theory

Born 1947 . PhD 1975 Harvard Univ. Exxon Production Research Company, P.O. Box 2189, Houston, TX 77001. *

Cardoso, Fernando 72-74 M, Partial Differential Equations

Born 1939 Olinda-Pernambuco, Brazil. PhD 1968 Mathematics New York Univ. Honors: Member Brazilian Academy of Sciences 1976; Founders Day Certificate New York Univ 1968; Guggenheim Fellow 1972-73. Appointments: Dir, Council of the Brazilian Math Soc; Mathematical Committee of the Nat Res Council of Brazil. Memberships: AMS; Sociedade Brasileira de Matematica. Prof, Mathematics, Univ Federal de Pernambuco, Researcher Nat Res Council of Brazil, Caixa Postal 207, 50000 Recife-Pernambuco, Brazil.

Publications Related to IAS Residence: With F. Trèves. A necessary condition of local solvability for pseudo-differential equations with double characteristics. *Ann Inst Fourier* 24(1974) 225-292; Locally solvable pseudo-differential operators with double characteristics. In *Functional Analysis*, Lecture notes in pure and applied math. New York: Marcel Dekker, 1976.

Other Publications: With J. Hounie. First-order linear pde's and uniqueness in the Cauchy problem. *J Diff Equations* in press; With J. Hounie. Global solvability of an abstract complex. *Proc Amer Math Soc* 65(1977) 117-124.

Cardoso, Fernando Henrique 75-76, 77-78 Soc, State and Civil Society in Brazil

Born 1931 Rio de Janeiro, Brazil. PhD 1961 Political Science São Paulo Univ. Honors: LLD (hc) Rutgers University 1978. Appointments: SSRC, Lat Amer Comm 1972-77; Bd Member Wilson Center, Lat Amer Prog. Memberships: 1978: VP Internatl Sociolog Assn. Dir CEBRAP (Centro Brasileiro de Análise e Planejamento), Al. Campinas, 463-13° and, 01404 São Paulo SP, Brazil.

Publications Related to IAS Residence: With E. Faletto. *Dependency and Development in Latin America*. California Univ Press, 1978.

Other Publications: The Consumption of Dependency Theory in the USA. *Lat Amer Res Rev* NC 12, 3(1977) 7-24; Latin America: Styles of Development and Their Limits. *J of Centre for Soc Studs* 1(1978) 97-115.

Carleson, Lennart A. E. 61-62 M, Analysis

Born 1928 Sweden. PhD 1950 Uppsala Univ. Inst Mittag-Leffler, Auravägen 17, S-182-62 Djorsholm, Sweden. *

Carlitz, Leonard 35-36 M

Born 1907 . PhD 1930 Univ of Penn. Prof, Dept of Math, Duke Univ, Durham, NC 27706. *

Publications Related to IAS Residence: On Certain Equations in Relative-Cyclic Fields. *Duke Math J* 2(1936) 650-659; On Factorable Polynomials in Several Indeterminates. *Duke Math J* 2(1936) 660-670; Criteria for Certain Higher Congruences. *Amer J Math* 59(1937) 618-628; Sums of Squares of Polynomials. *Duke Math J* 3(1937) 1-7; A Class of Polynomials. *TAMS* 43(1938) 167-182.

Carlitz, Robert D. 70-72 NS, Elementary Particle Physics

Born 1945 Durham, NC. PhD 1970 Cal Tech. Enrico Fermi Inst., 5630 S. Ellis Ave., Chicago, IL 60637. *

Carlson, John Franklin 34-36, 37s, 49f M(NS), Theoretical Physics

Born 1899 MN. PhD 1932 Univ of Calif. Deceased.

Carnap, Rudolf 52-54 M, Mathematical Logic

Born 1891 Germany. PhD 1921 Univ of Jena. Deceased.

Publications Related to IAS Residence: *Einführung in die Symbolische Logik, mit Besonderer Berücksichtigung Ihrer Anwendungen*. Wien: Springer, 1954; On the Comparative Concept of Confirmation. *British J for the Philosophy of Sci* 3(1952/53) 311-318; Inductive Logic and Science. *Proc of the Amer Acad of Arts and Scis* 80(1953) 189-197; What is Probability?. *Scientific American* 189, 3(September 1953) 128-138; With Y. Bar-Hillel. Semantic Information. *British J for the Philosophy of Sci* 4(1953/54) 147-157.

Carr, Edward Hallett 48s HS(EP), History

Born 1892 London, England. Fellow, (Retired), Trinity College, Cambridge, England.

Publications: *Dostoevsky: a new biography*. 1931; *The Romantic Exiles*. 1933; *Karl Marx*. 1934; *International Relations Since the Peace Treaties*. 1937; *Michael Ba-kunin*. 1937; *The Twenty Years' Crisis*. 1939; *Britain: A Study of Foreign Policy from Versailles to the Outbreak of War*. 1939; *Conditions of Peace*. 1942; *Nationalism and After*. 1945; *The Soviet Impact on the Western World*. 1946; *Studies in Revolution*. 1950; *The Bolshevik Revolution, 1917-1923*. 1. 1950; 2. 1952; 3. 1953; *The New Society*. 1951; *German-Soviet Relations Between the Two World Wars*. 1951; *Socialism in One Country 1924-26*. 1. 1958; 2. 1959; 3. 1964; *What is History?* The Trevelyan Lectures. 1961; *1917: Before and After*. 1969; With R.W. Davies. *Foundations of a Planned Economy*. 1. 1969; 2. 1971; 3. 1976.

Carreras, Benjamin A. 79-80 NS, Plasma Physics

Born 1943 Mahón, Balearic Islands, Spain. PhD 1968 Physics Valencia Univ. Memberships: Am Phys Soc; European Phys Soc; Real Soc Española De Fis y Quimica.

Members

Cartan, Henri Paul 66-67 M, Analytic Functions, Topology

Born 1904 Nancy, France. D ès Sc 1928 Univ of Paris. Honors: Foreign hon member Amer Acad 1950; London Math Soc 1959; Cambridge Phil Soc 1969; Foreign member Royal Soc London 1971; Foreign Associate of the NAS 1972; Member Acad Sci, Paris 1974; Member Royal Acad Denmark 1962; Corresp member Acad Sci Göttingen 1971; Bavarian Acad of Sci 1974; Acad of Sci Spain 1971; Hon degree ETH Zurich 1955; Münster 1952; Oslo 1961; Sussex 1969; Cambridge (UK) 1969; Stockholm 1978. Memberships: Soc Math France; AMS. Hon Prof (Ret'd), Univ Paris-Sud, 95 Blvd Jourdan, F-75014 Paris, France.

Publications: With S. Eilenberg. *Homological Algebra*. Princeton Univ Press, 1956; *Elementary theory of analytic functions of one or several complex variables*. Reading, Mass: Addison-Wesley, 1963; With R. Takahashi. *Théorie élémentaire des fonctions analytiques d'une ou plusieurs variables complexes*. Paris: Hermann, 1961; Idéaux de fonctions analytiques de n variables complexes. *Ann Sci École Norm Sup* (3) 61(1944) 149-197; Problèmes globaux dans la théorie des fonctions analytiques de plusieurs variables complexes. In *Proc Internal Cong Math, Cambridge, Mass 1950*, 1: 152-164. Providence, RI: AMS, 1952.

Carter, Roger William 69s M, Algebraic Groups and Related Finite Groups

Born 1934 Shipley, Yorkshire, England. PhD 1959 Cambridge University. Memberships: London Math Soc; Cambridge Philos Soc. Prof, Mathematics Institute, University of Warwick, Coventry, England.

Publications Related to IAS Residence: With Conjugacy Classes in the Weyl Group. Seminar on Algebraic Groups and Related Finite Groups. 131. Springer Lecture Note Series, 1970.

Other Publications: *Simple Groups of Lie Type*. NY: John Wiley, 1972.

Cartier, Pierre Emile 57-59, 65f, 73f M, Algebra

Born 1932 Sedan, France. PhD 1958 Math Paris Univ. Honors: Prix Peccot College of France 1960; Prix Ampère Académie des Sciences 1978. Appointments: Natl Comm of CNRS, Math Subcomm. Memberships: French Math Soc; AMS. Prof, Mathematics, IHES, 28 rue Ronsard, F-91470 Limours, France.

Publications Related to IAS Residence: Questions de rationalité des Diviseurs en géométrie algébrique. *Bull Soc Math France* 86(1958) 177-251; Isogenies and duality of abelian varieties. *Ann Math* 71(1960) 315-351; Quantum mechanical Commutation relations and Theta functions. In *Algebraic groups and discontinuous subgroups*, Proc Symp Pure Math 9: 361-386. Providence, RI: AMS, 1966.

Other Publications: *Problèmes combinatoires de commutation et réarrangements*. Lect Notes in Math, 85. Berlin: Springer-Verlag, 1969; Groupes

algébriques et groupes formels. In *Colloque sur la théorie des groupes algébriques, Brussels 1962*. Louvain: Librairie universitaire, 1962; Fonctions harmoniques sur un arbre. In *Calcolo delle Probabilità, Proc Symp Rome 1971*, Symposia Mathematica 9: 203-270. New York: Academic Press, 1972; With R. G. Azencott. Martin boundaries of random walks on locally compact groups. In *Sixth Berkeley Symposium on Math Stat and Prob (1970)*, Vol. III, ed. by L.M. LeCam, J. Neyman, & E.L. Scott, 87-130. Berkeley: U California Press, 1972.

Case, Kenneth Myron 48-50, 56-57 M(NS), Theoretical Physics

Born 1923. PhD 1948 Harvard Univ. 54 Hardy Drive, Princeton, NJ 08540. *

Publications Related to IAS Residence: Divergences in Field Theory. *Phys Rev* 2 (1949) 1440-1441; Equivalence Theorems for Meson-Nucleon Couplings. *Phys Rev* 2 76(1949) 14-17; On Nucleon Moments and the Neutron-Electron Interaction. *Phys Rev* 2 76(1949) 1-13; With A. Pais. On High Energy Nucleon-Nucleon Scattering. *Phys Rev* 2 79(1950) 185; Singular Potentials. *Phys Rev* 2 80(1950) 797-806; With A. Pais. On Spin-Orbit Interactions and Nucleon-Nucleon Scattering. *Phys Rev* 2 80(1951) 203-211.

Caskey, John L 61s, 65s HS

Born 1908 Boston, MA. PhD 1939 U of Cincinnati. Dept of Classics, University of Cincinnati, Cincinnati, OH 45221. *

Casselman, William Allen 74s M, Automorphic Forms

Born 1941 Glen Ridge, NJ. PhD Mathematics Princeton Univ. Prof, Mathematics Department, Univ of British Columbia, Vancouver, B.C., Canada.

Publications Related to IAS Residence: Continuous cohomology and a conjecture of Serre's. *Invent Math* 25: 199-211; On a p -adic vanishing theorem of Garland. *Bull AMS* 80(1974) 1001-1004; With J. Shalika. The unramified principal series of p -groups II. *Comp Math* in press.

Cassou-Nogues, Philippe 80s M, Algebraic Number Theory

Born 1944 Paris, France. DèsS 1977 Univ Bordeaux. 26 Cours Marc Novaux, 33000 Bordeaux, France. *

Cassou-Nogues, Pierrette 80s M, Number Theory

Born 1945 Rabat, Morocco. DèsS 1978 Univ Bordeaux. 26 Cours Marc Novaux, 33000 Bordeaux, France. *

Castro, Antonio Barros de 78-79 Soc, History

Born 1938 Rio de Janeiro, Brazil. PhD 1976 Political Economy Campinas Univ. Appointments: UN, ILPES. Prof, Campinas Univ, Rua Icatu 33, Rio de Janeiro, Brazil.

Catto, Peter James 71-73 NS, Plasma Physics

Born 1943 Boston, MA. PhD 1972 Engineering & Applied Science Yale Univ. Memberships: APS. Senior Scientist, Plasma Research Institute, Science Applications Inc, 934 Pearl St, Boulder, CO 80302.

Publications Related to IAS Residence: With A.-M.El-Nadi, C. S. Liu, & M.N. Rosenbluth. *Nucl Fus* 14(1974) 405; With M.N. Rosenbluth. *Nucl Fus* 15(1975) 573; With M.N. Rosenbluth & C.S. Liu. *Phys Fluids* 16(1973) 1719.

Other Publications: *Phys Fluids* 21(1978) 147; With K.T. Tsang, J.C. Whitson, and J. Smith. *Phys Rev Lett* 40(1978) 327; With K.T. Tsang. *Phys Rev Lett* 39(1977) 1664; With K.T. Tsang. *Phys Fluids* 21(1978) 1381; *Plasma Physics* 20(1978) 719.

Cavell, Stanley Louis 62-63 HS, Philosophy

Born 1926 Atlanta, GA. PhD 1961 Philosophy Harvard Univ. Honors: Cabot Humanities Prize Fellow Harvard Univ 1978-79; AAAS. Appointments: HEW Task Force on Alternative Educational Structures 1969. Memberships: Am Philos Assoc. Prof, Dept of Philosophy, Harvard University, Emerson Hall, Cambridge, MA 02138.

Publications Related to IAS Residence: "Aesthetic Problems of Modern Philosophy" and "Austin at Criticism". In *Must We Mean What We Say?* New York: Cambridge Univ Press, 1969 reprinted 1976.

Other Publications: *The World Viewed: Reflections on the Ontology of Film*. Cambridge, Mass: Harvard University Press, 1971; *The Senses of Walden*. New York: Viking, 1972; *The Claim of Reason*. New York: Oxford Univ Press, 1979.

Cayrel, Roger 66-67 NS, Astrophysics

Born 1925 Bordeaux, France. PhD 1957 Univ of Paris. Honors: Prix Deslandres Acad Sci Paris 1960. Appointments: Mem Conseil de Direction Inst Natl D'As-tronomie et de Geophysique. Memberships: Soc Franç de Physique; Am Astron Soc. Astronome Titulaire, Paris Observatory, Dir Canada-France-Hawaii Telescope project, 15 Rue Sarrette, 75016 Paris, France.

Publications Related to IAS Residence: Location of a Few Subdwarfs in the Theoretical H-R Diagram and the Helium Content of Population II. *Ap J* 151(1968) 997.

Other Publications: With G. Cayrel. *Ap J* 137: 431; With J. Jugaru. *Ann d'Ap* 26: 495.

Čech, Edvard 35 36 M

Born 1893 Czechoslovakia. PhD 1920 Charles Univ. Deceased.

Publications Related to IAS Residence: Multiplications on a Complex. *Ann Math (2)* 37(1936) 681-697; On General Manifolds. *Proc NAS* 22(1936) 110-111.

Cerf, Jean 68f M, Topology

Born 1928 Strasbourg, France. Doctorat 1960 Mathématiques Univ of Paris. Dir de Recherche, Mathématiques, CNRS, Centre D'Orsay, Mathématique, Université Paris-Sud, 91405 Orsay Cédex, France.

Publications Related to IAS Residence: La Stratification Naturelle des Espaces de Fonctions Différentielles Reelles et le Théorème de la Pseudo-Isotopie. *Publ Math, IHES* 39(1970).

Other Publications: Sur les Difféomorphismes de la Sphère de Dimension Trois. *Lect Notes in Math* 53(1968).

Cesari, Lamberto 48F M, Analysis

Born 1910 Bologna, Italy. PhD 1933 Univ of Pisa. Honors: Corresponding Member Acad of Sci, Bologna, Modena & Milan (1st Lombardo) 1940, 1960, 1978; DSc(hc) Univ of Perugia 1976; Russel Lectureship Univ of Mich 1976. Appointments: Member Ed Bd for *Rendiconti Circolo Matematico di Palermo*, 1960-; *J of Diff Equations*, 1970-; *J of Optimization Theory & Appl*, 1966-; *J of Nonlinear Anal*, 1976-; *Numerical Functional Anal & Optimization*, 1977-; *J of App Math*, 1970-. Memberships: AMS; MAA; SIAM; Unione Mat Ital. R. L. Wilder Prof, Dept of Mathematics, Univ of Mich, Ann Arbor, MI 48109.

Publications Related to IAS Residence: *Surface Area*. Princeton University Press, 1956.

Other Publications: *Asymptotic Behavior and Stability Problems in Ordinary Differential Equations*. Springer Verlag, 1959; An existence theorem of calculus of variations for integrals on parametric surfaces. *Am J Math* 74(1952) 265-295; Quasi additive set functions and the concept of integral over a variety. *Trans AMS* 102(1962) 94-113, 114-146; Functional Analysis and periodic solutions of nonlinear differential equations. In *Contributions to Differential Equations*, 1. John Wiley, 1963; A boundary value problem for quasi linear hyperbolic systems in Schauder's canonic form. *Ann Sc Norm Sup Pisa* 4, 1(1974) 311-358.

Chadam, John Martin 70-71 NS, Mathematical Physics

Born 1939 Hamilton, Ontario, Canada. PhD 1965 Mathematics MIT. Memberships: AMS. Prof, Mathematics Dept, Indiana Univ, Swain East 315, Bloomington, IN 47401.

Publications Related to IAS Residence: Asymptotic Behavior of equations arising in Quantum Field Theory. *J App Anal* 3(1973) 377; On the Cauchy Problem for the Coupled Maxwell-Dirac Equations. *J Math Physics* 13(1972) 597.

Chakravarty, Amiya 50-51 HS

Born 1901 Bengal, Pakistan. DPhil 1936 Oxford Univ.*

Publications Related to IAS Residence: World Faith for World Peace. In *Religious Faith and World Culture*, ed. by Loos, A. W., 247-257. New York: 1951.

Members

Chan, Hong-Mo 62-63 M(NS), Physics

Born 1933 Canton, China. PhD 1960 Univ of Birmingham. *

Chandrasekhar, Subrahmanyan 41f, 76s NS

Born 1910 Lahore, India. ScD(Cantab) 1942 Applied Mathematics. Honors: NAS; Royal Soc, London; Honorary Degree Univ of Oxford 1972; Nat Medal of Sci 1966; Royal Medal (Royal Soc, London) 1962; Draper Medal (NAS) 1971; Heineman Prize (Am Phys Soc) 1974. Morton D. Hull Distinguished Service Prof, Univ of Chicago, Lab for Astrophysics & Space Research, 933 E 56th St, Chicago, IL 60637.

Publications Related to IAS Residence: With J. von Neumann. *Ap J* 95(1942) 489-531; With J. von Neumann. *Ap J* 97(1943) 1-27; *Proc Roy Soc* 349(1976) 571-575.

Chandrasekharan, Komaravolu 46-49 M

Born 1920 India. PhD 1945 Madras Univ. ETH, 8006 Zürich, Switzerland. *

Publications Related to IAS Residence: With S. Bochner. *Fourier Transforms*. Princeton: Princeton Univ Press, 1949; With S. Minakshisundaram. Some Results on Double Fourier Series. *Duke Math J* 14(1947) 731-753; With R. P. Boas, Jr. Derivatives of Infinite Order. *Bull AMS* 54(1948) 523-526, 1191; With O. Szász. On Bessel Summation. *Amer J Math* 70(1948) 709-729; On Fourier Series in Several Variables. *Ann Math (2)* 49(1948) 991-1007; With S. Bochner. On the Localization Property for Multiple Fourier Series. *Ann Math (2)* 49(1948) 966-978; With S. Bochner. Summations over Lattice Points in K-Space. *Quart J Math, Oxford Ser* 19(1948) 238-248; With S. Bochner. Fourier Series of L_2 -Functions. *Duke Math J* 16(1949) 579-583; With S. Bochner. Gauss Summability of Trigonometric Integrals. *Amer J Math* 71(1949) 50-59; With S. Bochner. Lattice Points and Fourier Expansions. *Acta Sci Math Szeged* 12B(1950) 1-15.

Chang, Chen Chung 62-63 M, Logic

Born 1927 Tientsin, China. PhD 1955 Math U C Berkeley. Prof, Math Dept, UCLA, Los Angeles, CA 90024.

Publications Related to IAS Residence: Some new results in definability. *Bull AMS* 70(1964) 808-813; A note on the two-cardinal problem. *Proc AMS* 16(1965) 1148-1155; The axiom of comprehension in infinite valued logic. *Math Scand* 13(1963) 9-30.

Chang, Cheng Shu Wang 45-46, 48-49 M (N S), Statistical Physics

Born 1912 China. PhD 1945 Univ of Michigan. *

Chang, Ngee-Pong 63-64 M(NS), Physics

Born 1940 Singapore. PhD 1963 Columbia Univ. Honors: Fellow Am Phys Soc; Fellow Japan Soc for Prom of Sci 1974. Memberships: NY Acad of Sci.

Prof, Phys Dept, City College of New York, New York, NY 10031.

Publications Related to IAS Residence: Possible Effects of Strong Interactions on Feinberg-Pais Theory of Weak Interactions. *Phys Rev* 133(1964) 454; *Phys Rev* 133(1964) 896.

Other Publications: Eigenvalue Conditions & Asymptotic Freedom for Higgs Scalar Gauge Theories. *Phys Re D*10(1974) 2706.

Chang, Shau-Jin 67-69, 72-73 NS, Elementary Particle Physics

Born 1937 Kiangsu, China. PhD 1967 Physics Harvard Univ. Honors: Sloan Fellow 1972-74; Fellow, Am Phys Soc 1976. Prof, Physics Department, University of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: With j. G. Kuriyan and L. O'Raifeartaigh. SL (2,C) in an Infinite-Momentum E (2) Basis and the Calculation of Form Factors. *Phys Rev* 169(1968) 1275; With L. O'Raifeartaigh. Spacelike Solutions of Infinite-Component Wave Functions. *Phys Rev* 170(1968) 1316; With L. O'Raifeartaigh. Coupling of the Spacelike and Time-like Wave Functions at Infinite Momentum. *Phys Rev* 171(1968) 1587; With R. F. Dashen and L. O'Raifeartaigh. Saturation of the Isospin-Factored Current Algebra at Infinite-Momentum. *Phys Rev Letters* 21(1968) 1026; Solutions of the Gell-Mann-Dashen Angular Conditions. *Presented at the Theoretical Physics Institute, Univ of Colorado, summer 1968* 2(1969) 287; Generalized U (6) x U (6) Kinematical Transformations and Properties of 2+ Mesons. *Phys Rev* 178(1969) 2421; With R. Rajaraman. Long Range Corrections to the Coulomb Potential and Their Implications about Weak Interactions. *Phys Rev* 183(1969) 1442; With L. O'Raifeartaigh. Unitary Representations of SL (2,C) in an E (2) Basis. *J. Math Phys* 10(1969) 21; With R. Dashen and L. O'Raifeartaigh. Properties of Current Algebra at Infinite Momentum. *Phys Rev* 182(1969) 1805; With R. Dashen and L. O'Raifeartaigh. Momentum-Transfer-Independent Angular Relations and Solutions to the Isospin-Factored Current Algebra. *Phys Rev* 182(1969) 1819.

Chang, Shih-Hsun 49s M

Born 1900 Szechuan, China. PhD (Cantab.) 1948 Math. Memberships: Soc of Math, Szechuan, China. Prof, Department of Mathematics, Szechuan Univ, Chengdu Szechuan Province, People's Republic of China.

Publications Related to IAS Residence: A generalization of a theorem of Hille and Tamarkin with applications. *Proc London Math Soc* 3, 2(1952) 22-29; On a theorem of S Bernstein. *Proc Cambridge Philos Soc* 48(1952) 87-92; On the distribution of the characteristic values and singular values of linear integral equations. *Trans Amer Math Soc* 67(1949) 351-367; A generalization of a theorem of Lalesco. *Jour of London Math Soc* 22(1947) 185-189; A

Relation Between Characteristic Values and Singular Values of Linear Integral Equations. *Sci Sinica* 3(1954) 237-245; A class of Integro-Differential Equations. *Amer J Math* 71(1949) 563-673; Integral Equations with Normalizable kernels and a second kind of Normalizable Transformations in Hilbert Spaces. in press; Integral Equations with Normal Kernels. *Sci Sinica* 3(1954) 369-385; Impossibility of the Diophantine Equation: $x^p + y^q = z$, $(x, y, z) = 1$ p X xyz when p and q =6p +1 are both odd primes, in press; A Generalization of Buniakowsky's Inequality with applications to the theory of Integral Equations and Hilbert Spaces. *Acta Math Sinica* 7(1957) 200-228; Untersuchungen (Über Ungerade Vollkommen Zahlen. *Acta Sci Nat Univer-sitatis Szechuanensis* 2(1957) 173-188; A Generalization of a Theorem of Goursat and Heywood. *Science Record* 5(1952) 11-16; A Generalization of a Formula of Landsberg and a further Generalization of an Inequality of Buniakowsky. *Acta Math Sinica* 7(1957) 229-234; Some Properties of Vector-valued Analytic Functions of several complex variables I. *Acta Sci Nat Universitatis Szechuanensis* 6(1959) 11-30; Some properties of Vector-Valued Analytic Functions of Several Complex Variables II. *Acta Sci Nat Universitatis Szechuanensis* 1(1960) 37-50; On the Diopantine Equation $x^2 - 1 = y^p$. *Acta Sci Nat Universitatis Szechuanensis* 1(1962) 11-16.

Chang, Sun-Yung 76-77 M, Mathematics

Born 1948 China. PhD 1974 Math Univ of Calif Berkeley. Memberships: AMS. Asst Prof, Math, Univ of Md College Park, 10608 Woodsdale Dr, Silver Spring, MD 20901.

Publications Related to IAS Residence: Carleson measure on bi-disc. *Ann Math* (in press).

Other Publications: A Characterization of Douglas algebras. *Acta Math* 137(1976).

Chang, Tsung Sui 47f M

Born 1915 China. PhD 1938 Cambridge Univ. *

Channell, Paul Jackson 76-78 NS, Plasma Physics

Born 1947 Greensboro, GA. PhD Univ of Calif Berkeley. Memberships: APS; AAAS. Staff Member, Physics, MS 818, Los Alamos Sci Lab, Los Alamos, NM 87545.

Publications Related to IAS Residence: An Illustrative Example of The Chirikov Criterion for Stochastic Instability. In *AIP Conf Proc*, 46, Topics in Nonlinear Dynamics.

Other Publications: Strong Turbulence and The Anomalous Length of Stored Particle Beams. *Nucl Inst & Methods* 136(1976) 473-484; Exact Vlasov-Maxwell Equilibria with Sheared Magnetic Fields. *Phys of Fluids* 19, 10(1976) 1541.

Chapman, Guy Patterson 57f HS, Modern History

Born 1889 London, England. MA(Oxon.) 1911; BSc 1935 Economics London School of Economics. Deceased.

Publications Related to IAS Residence: *The Third Republic of France: The First Phase 1871-94*. NY & London: 1962.

Chapman, Thomas A. 73-74 M, Topology

Born 1940 Mt Hope, WV. PhD 1970 LSU. Asst prof, Dept of Math, Univ of Kentucky, Lexington, KY 40506.*

Charap, John Michael 62-63 M(NS), Theoretical Physics

Born 1935 London, England. PhD (Cantab) 1959. Memberships: Am Phys Soc; Assoc of Univ Teachers. Prof, Theoretical Physics, Univ of London, Queen Mary College, Mile End Rd, London E1 4NS, England.

Publications Related to IAS Residence: *Annals of Phys* 25(1963) 325; Analyticity Properties in Energy of the Complex J Partial Wave Amplitudes in the Scattering of Particles with Spin. *Ann Phys* 26: 44-54; On the Born Approximation in the Potential Scattering of Particles with Arbitrary Spin. *Ann Phys* 26: 55-71; Asymptomatic Behavior for Large Imaginary Values of Angular Momentum of the Amplitudes for the Scattering of a Dirac Particle on a Central Scalar Potential. *Nuovo Cimento* 32(1964) 1665.

Other Publications: *Nuovo Cimento* 14(1959) 540; *Proc Roy Soc A* 286(1965) 300; *Phys Rev D* 2(1970) 1554.

Charitonides, Seraphim J. 58-59 HS, Classical Archaeology

Born 1923 Athens, Greece. PhD 1956 Salonika Univ. Deceased.

Charlap, Leonard S. 62-64 M, Geometry

Born 1938 Wilmington, DE. PhD 1962 Math Columbia U. Memberships: AMS; Swiss Math Soc. Prof, Math, Dept of Math, SUNY, Stony Brook, NY 11794.

Publications Related to IAS Residence: With A. T. Vasquez. Cohomology of Group Extensions. *Trans AMS* 124(1966); With A. T. Vasquez. Characteristic Classes of Modules over Groups I. *Trans AMS* 137(1969).

Other Publications: Compact Flat Riemannian Manifolds I. *Ann Math* 81(1965); With A. T. Vasquez. Compact Flat Riemannian Manifolds II & III. *Am J of Math* 87, 95(1965, 1973).

Charney, Jule G. 48-50, 52-56 M, Applied Mathematics

Born 1917 San Francisco, CA. PhD Meteorology/Physics UCLA. Honors: DSc (hon) U Chicago 1970; Losey award Inst Aero Scis 1957; Symons Meml Gold Medal Roy Met Soc 1961; Fellow: AAAS 1957; Am Geophys Union 1963, Pres Meteor Sec 1970; Bowie Medal AGU 1976; Am Met Soc Meisinger award 1948, Rossby research medal 1964; Hodgkins medal Smithsonian Inst 1969; Int Met Org prize 1971; Member NAS 1964; For Mem Sweden Acad of Scis 1965; For

Members

Mem Norway Acad of Scis 1971; Symons Lect Roy Met Soc; von Neumann Lect SIAM 1974. Appointments: Mem NAS Comm Atm Scis, 1957-67; Chmn NAS Comm on Global Atm Research Prog, 1968-71; Member with Long-Term Appointment IAS 1952-56. Memberships: Am Meteorol Soc; Am Geophys Union; NAS; AAAS. Alfred P. Sloan Prof, Meteorology/ Oceanography, 54-1424, M.I.T., Cambridge, MA 02139.

Publications Related to IAS Residence: On a physical basis for numerical prediction of large-scale motions in the atmosphere. *J Meteorol* 6(1949) 371-385; With R. Fjörtoft and J. von Neumann. Numerical integration of the barotropic vorticity equation. *Tellus* 2(1950) 237-254; The Gulf Stream as an inertial boundary layer. *Proc AAS* 41(1955) 731-740; With A. Eliassen. A numerical method for predicting the perturbations of the middle latitude westerlies. *Tellus* 1(1949) 38-54; Numerical prediction of cyclogenesis. *Proc NAS* 40(1954) 99-110; The generation of ocean currents by wind. *J Marine Research* 14(1955) 477-498; On baro-clinic instability and the maintenance of the kinetic energy of the westerlies. In *Internat Union of Geodesy and Geophys, Assoc of Meteorol, Neuvième Assemblée Générale. Adresse Présidentielle et Compte Rendu*, 47-63. Bruxelles: 1951; The use of the primitive equations of motion in numerical prediction. *Tellus* 7(1955) 22-26.

Other Publications: Dynamics of long waves in a baro-clinic westerly current. *J Meteorol* 4(1947) 135-162; On the scale of atmospheric motions. *Geophys Pub-likasjoner* 17(1948) 1-17; *On the theory of the general circulation of the atmosphere*. Rossby Mem Vol, 178-193. New York: Rockefeller Inst Press, 1959; Non-linear theory of a wind-driven homogeneous layer near the equator. *Deep-Sea Research* 6(1959) 303-310; Integration of the primitive and balance equations. In *Proc Internat Symp on Numerical Weather Prediction, Tokyo, Japan, Nov 7-11, 1960*, 131-152. Meteorol Soc of Japan, 1962; With P. Drazin. Propagation of planetary-scale disturbances from the lower into the upper atmosphere. *J Geophys Research* 66(1961) 83-109; With M.E. Stern. On the stability of internal baroclinic jets in a rotating atmosphere. *J Atmos Scis* 19(1962) 159-172; With A. Eliassen. On the growth of the hurricane depression. *J Atmos Scis* 21(1964) 68-75; Geostrophic turbulence. *J Atmos Scis* 28(1971) 1087-1095; Dynamics of deserts and drought in the Sahel. *Q J Royal Meteorol Soc* 428(1975) 193-202; With J. DeVore. Multiple flow equilibria in the atmosphere and blocking. *J Atmos Scis* 36(1979); Planetary Fluid Dynamics. In *Dynamical Meteorology*, ed. by P. Morel, 97-351. Dordrecht, Holland: D. Reidel Publishing Company, 1973.

Charpentier, Marie 47f M

Born 1903 Poitiers, France. PhD 1931 Univ of Poitiers. 3 A rue des Artilbrie, Rennes, France. *

Chase, Stephen Urban 72s M, Algebra

Born 1932 Hamilton, OH. PhD 1960 Mathematics Univ of Chicago. Prof, Department of Mathematics, Cornell University, White Hall, Ithaca, NY 14853.

Publications Related to IAS Residence: Infinitesimal group Scheme actions on finite field extensions. *Amer J Math* 98(1976) 441-480; Group scheme actions by inner automorphisms. *Comm Alg* 4(1976) 403-434.

Other Publications: With M. E. Sweedler. Hopf algebras and Galois theory. *Springer Lecture Notes in Math* 97(1969).

Chastagnol, Andre 63f HS, Roman History

Born 1920 Paris, France. D ès L 1960 History Univ of Paris. Memberships: Pres Soc des Etudes Latines 1976; Pres Soc Française de Numismatique, 1977-1980. Prof, Roman History, Univ De Paris, Sorbonne, 17 Rue Beutreillis, 75004 Paris, France.

Publications Related to IAS Residence: *Le Sénat Romain sous le Règne d'Odoacre: Recherches sur l'épigraphie du Colisée au V^e Siècle*. Antiquitas, 3,3. Bonn: R. Habelt, 1966; Les Espagnols dans l'Aristocratie Gouvernementale à l'Epoque de Theodose. In *Les Empereurs Romains d'Espagne*, 269-290. Paris: CNRS, 1965.

Other Publications: *La Préfecture Urbaine à Rome sous le Bas-Empire*. Paris: PUF, 1960; *Les Fastes de la Prefecture de Rome au Bas-Empire*. Paris: Nouvelles Editions Latines, 1962; *Recherches sur l'Histoire Auguste*. Antiquitas, 4, 6. Bonn: 1970; *L'Album Municipal de Timgad*. Antiquitas, 4, 22. Bonn: 1978.

Chatzidakis, Emmanuel 65f HS, History of Art

Born 1909 Greece. PhD U of Athens. Director, Byzantine Museum, Korbari 1, Athens, Greece. *

Checkland, Sydney George 64f HS, History

Born 1916 Ottawa, Ontario, Canada. PhD 1953 Economic History Liverpool Univ. Honors: Fellow British Academy 1977; Pres Econ Hist Soc 1976-. Appointments: East Kilbride (New Town) Corp; Scottish Records Advisory Council; Chairman, Natl Register of Archives of Scotland; VP Business Archives Council of Scotland; Econo Hist Comm, SSRC. Memberships: Econ Hist Soc. Prof, and Chmn Dept Economic History Univ of Glasgow, 5 The University, Glasgow G128QG, Scotland.

Publications Related to IAS Residence: *The Rise of Industrial Society in England*. London: Longmans, 1964.

Other Publications: *The Gladstones, a family biography*. Cambridge University Press, 1971; *Scottish Banking. A History, 1895-1973*. Collins, 1975; *The Upas Tree: Glasgow 1875-1975*. Glasgow University Press, 1976.

Cheeger, Jeff 72f, 77-78 M, Differential Geometry

Born 1943 New York, NY. PhD 1967 Princeton Univ. Honors: NSF Postdoc Fship; Sloan Fship. Memberships: AMS. Prof, Dept of Math, SUNY, Stony Brook, NY

Publications Related to IAS Residence: Spectral Geometry of Spaces with Cone-like Singularities. *Proc NAS* in press; Analytic Torsion and the Heat Equation. *Ann Math* 109(1979) 259-322; With D. Gromoll. On the Injectivity Radius of 1/4-pinched Riemannian Manifolds. *J Diff Geo* in press.

Other Publications: With D. Gromoll. On the Structure of Complete Manifolds of Nonnegative Curvature. *Ann Math* 96(1972) 413-443; The Splitting Theorem for Manifolds of Nonnegative Ricci Curvature. *J Diff Geo* (1971); Finiteness Theorems for Riemannian Manifolds. *Am J Math* 92(1970) 61-74; A Lower Bound for the Smallest Eigenvalue of the Laplacian. In *Problems in Analysis, Symp in honor of S. Bochner*, ed. by R.C. Gunning, Princeton Math Series 31: 195-200. Princeton, NJ: Princeton U Press, 1970.

Chen, Joseph E. Z. 78-80 M, Number Theory

Born 1945 Taipei, Taiwan, China. PhD 1979 Penn State Univ. 80-28 165th St., Jamaica, NY 11432. *

Chen, Chiang-jun 79s M, Number Theory

Born 1933 Foochow, China. Prof, Academia Sinica, Inst of Math, Peking, People's Republic of China.

Chen, Hsing-Hen 73-75 NS, Astrophysics, Plasma Physics

Born 1947 Chekiang, China. PhD 1973 Physics Columbia Univ. Memberships: Am Phys Soc. Asst Prof, Dept of Physics, University of Maryland, College Park, MD 20742.

Publications Related to IAS Residence: General Derivation of Bäcklund Transformation from Inverse Scattering Problem. *Phys Rev Lett* 33(1974) 925; With C.S. Liu. Bäcklund Transformation Solutions of Toda Lattice Equation. *J Math Phys* 16(1975) 1428.

Other Publications: With Y.C. Lee and C.S. Liu. Integrability of Nonlinear Hamiltonian Systems. *Physica Scripta* (1979); Internal Wave Solitons and Integrable N-body Problem of Calogero-Moser-Sutherland. *Physics of Fluids* 22(1979) 187.

Chen, Kien-Kwong 47-48 M

Born 1893 China. PhD 1929 Tohoku Univ. *

Chen, Kuo-Tsai 60-61, 62s, 71f, 79s M

Born 1923 Chekiang, China. PhD 1950 Mathematics Columbia Univ. Memberships: AMS. Prof, Department of Math, University of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: Iterated path integrals. *Bull Amer Math Soc* 83(1977) 831-879; Iterated integrals of differential forms and loop space homology. *Ann Math* 97(1973) 1033-1035.

Other Publications: Integration of paths, a faithful representation of paths by noncommutative formal power series. *Trans Amer Math Soc* 89(1958) 395-407; Local diffeomorphisms - C^∞ realization of formal properties. *Amer J Math* 87(1965) 140-157.

Chen, Yu Why 49-50, 55f, 72s M, Analysis

Born 1910 Nantungchow, Kiangsu, China. PhD 1934 Differential Equations Univ of Göttingen. Honors: Member Academia Sinica 1964. Memberships: AMS; MAA; Soc for Industrial & Applied Math. Prof, Mathematics, Univ of Mass, 149 Pomeroy Lane, Amherst, MA 01002.

Publications Related to IAS Residence: Flows through Nozzles and Related Problems of Cylindrical and Spherical Waves. *Comm Pure Appl Math* 6(1953) 179-229.

Other Publications: Discontinuity and Representations of Minimal Surfaces. In *Proc Conf on Differential Equations, U. Maryland 1955*, ed. by J.B. Diaz & L.E. Payne, 115-138. College Park, Md.: U Maryland Book Store, 1956; Solution of the Wave Equation in \mathbf{R}^{n+1} with data on a characteristic cone. *J Math Anal and Appl* (1978) 223-248.

Cheng, Ta-Pei 69-71, 77-78 NS, Elementary Particle Theory

Born 1941 Shanghai, China. PhD 1969 Physics Rockefeller Univ. Chmn, Prof, Dept of Physics, University of Missouri, St. Louis, MO 63121.

Publications Related to IAS Residence: With W.K. Tung. Fixed Poles in Virtual Compton Amplitudes. *Phys Rev Letters* 24(1970) 851; With W.K. Tung. General Local Interactions and Test of V-A Theory in Neutrino Scattering Processes. *Phys Rev D* 3(1971) 733; E(1971) 2923; With R. Dashen. Is $SU(2) \times SU(2)$ a Better Symmetry than $SU(3)$? *Phys Rev Letters* 26(1971) 594; With R. Dashen. Low Energy Photoproduction and the Chiral Transformation Property of the Electromagnetic Current. *Phys Rev D* 4(1971) 156; With L.F. Li. Weak Interaction Induced Neutrino Masses and Neutrino Oscillations. *Phys Rev D* 17(1978) 2375; With J.D. Bowman, L. F. Li and H.S. Matis. New Upper Limit for $\mu \rightarrow e\gamma$. *Phys Rev Letters* 41(1978) 442.

Chern, Shiing-Shen 43-45, 49s, 54-55 M, Differential Geometry

Born 1911 China. PhD 1936 Univ of Hamburg. Dept of Math, Univ of California, Berkeley, CA 94720. *

Publications: Integral Formulas for the Characteristic Classes of Sphere Bundles. *Proc NAS* 30(1944) 269-273; Laplace Transforms of a Class of Higher Dimensional Varieties in a Projective Space of n Dimensions. *Proc NAS* 30(1944) 95-97; On a Theorem of Algebra and Its Geometrical Application. *J Indian Math Soc NS* 8(1944) 29-36; A Simple Intrinsic Proof of the Gauss-Bonnet Formula for Closed Riemannian Manifolds. *Ann Math* (2) 45(1944) 747-752; On Riemannian Manifolds of Four Dimensions. *Bull AMS* 51(1945) 964-971; On the Curvatura Integra in a Riemannian Manifold. *Ann Math* (2) 46(1945) 674-684; Some New Characterizations of the Euclidean Sphere. *Duke Math J* 12(1945) 279-290; Characteristic Classes of Hermitian Manifolds. *Ann Math* (2) 47(1946) 85-121; Some New Viewpoints in Differential Geometry in the

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Large. *Bull AMS* 52(1946) 1-30; On the Multiplication in the Characteristic Ring of a Sphere Bundle. *Ann Math* (2) 49(1948) 362-372; With N. H. Kuiper. Some Theorems on the Isometric Imbedding of Compact Riemannian Manifolds. *Ann Math* (2) 56(1952) 422-430.

Chernin, David Paul 76-78 NS, Plasma Physics

Born 1949 Newark, NJ. PhD 1976 Applied Mathematics Harvard Univ. Memberships: Am Phys Soc. Staff Scientist, Maxwell Laboratories, 9244 Balboa Ave, San Diego, CA 92123.

Publications Related to IAS Residence: Solution of a Linearly Unstable Non-Linear P.D.E. by the Inverse Scattering Method. *Controlled Fusion Theory Conference Proceedings* (1978).

Chevalley, Claude 38-39 M

Born 1909 France. PhD 1934 Univ of Paris. Prof, Univ of Paris, Univ of Paris-8, 1 Rue de Prony, 75017 Paris, France. *

Publications Related to IAS Residence: La Théorie du Corps de Classes. *Ann Math* 2 41(1940) 394-418.

Chevallier, Jean-Jacques 50f, 51f HS, Political Science, History of Ideas

Born 1900 Paris, France. Agrégé de Droit Public 1925. Honors: Officier Légion d' Honneur; Inst de France (Acad Sci Morales & Politiques); Croix de Guerre 1939-45. Appointments: Pres Concours Agreg de Droit Pub 1945-. Memberships: Pres Assoc Franc Sci Poli 1961-67. 45 rue des Cottages, Bourg la Reine 92340, France.

Publications: *Les Grandes Oeuvres Politiques*. 10th ed. Paris: Colin, 1949, 1970; *Histoire des Régimes Politiques de la France de 1789 à nos jours*. 6th ed. Paris: Dalloz, 1952, 1977; Ed, *L'Evolution de l'Empire Britannique, 1776-1930*. 2. Paris: Editions Internat, 1930; *La Société des Nations Britanniques*. Paris: Sirey, 1938.

Chew, Geoffrey Foucar 56f M(NS), Physics

Born 1924 Washington, DC. PhD 1948 Physics Univ of Chicago. Honors: E.O. Lawrence Award 1969; NAS; AAAS; Hughes Prize APS 1963. Memberships: Am Phys Soc. Prof, Physics, Univ of Calif, Berkeley, 10 Maybeck Twin Dr, Berkeley, CA 94708.

Publications: *The Analytic S Matrix*. Benjamin, 1965.

Chiang, Li-Fu 46-47 M

Born 1890 China. PhD 1919 Harvard Univ. Inst of Mathematics, Academia Sinica, Nanking, China. *

Chiang, Po-Chu 79s, 79f M, Topology

Born 1937 Tientsin, China. Graduated 1957 Dept of Math Peking Univ. Memberships: Chinese Math Soc. Assoc Prof, Univ of Calif, Dept of Math, Berkeley, CA 94720J.

Publications: Estimation of the Nielsen numbers. *Chinese Math—Acta* 5(1964) 330-339.

Chinard, Gilbert 50f HS, Modern France

PhD 1959 Princeton Univ. Honors: Legion of Honor. Deceased.

Publications: Exotisme et Primitivisme I. In *Rapports: International Congress of Historical Sciences, Paris, 1950*, 631-644. 1950; Exotisme et Primitivisme II. In *Actes: Int'l Cong Hist Sci, Paris, 1950*, 270-277. 1950; Journal de Guerre de Brisout de Barneville, Mai 1780-Octobre 1781. *French-American Rev* 3(1950) 217-278.

Chittenden, Edward Wilson 35-36 M

Born 1885. PhD 1912 Univ of Chicago. Deceased.

Chiu, Hong-Yee 59-61 M(NS), Physics-astrophysics

Born 1932 Shanghai, China. PhD 1959 Theoretical Physics Cornell Univ. Honors: NASA Medal for Exceptional Scientific Achievement. Memberships: Am Phys Soc; Am Astron Soc; Royal Astron Soc; Am Optical Soc; IEEE. Prof, Henry Krumb School of Mines, Columbia Univ, Res Dir Sunny Industrial Research Corp; VP Geophys & Environ Research, 71 Chestnut St, Englewood, NJ 07631.

Publications Related to IAS Residence: *Phys Rev Ltrs* 5(1960) 573; *Phys Rev* 122 4(1961) 1317; *Ann Phys* 15, 1(1961); *Ann Phys* 16(1961) 321; *Phys Rev* 123, 3(1961) 1040.

Other Publications: *Phys Rev Ltrs* 12(1964) 413; *Annals of Phys* 26(1964) 364; *Ann Phys* 39(1966) 280; *Phys Rev Ltrs* 17(1966) 712; *Phys Rev Ltrs* 218(1968) 110; *Ap J* 153(1968) 157.

Chojnacki, Stanley J. 71-72 HS, History, Renaissance

Born 1938 Milwaukee, WI. PhD 1968 History Univ of Calif, Berkeley. Honors: NEH Fellow 1972; ACLS Fellow 1975-76. Memberships: AMA; Renaissance Soc of Amer; Soc of Italian Hist Studies. Assoc Prof, and Asst Chmn, Department of History, Michigan State University, East Lansing, MI 48824.

Publications Related to IAS Residence: Dowries and Kinsmen in Early Renaissance Venice. *Journal of Interdisciplinary History* 5:4(Spring, 1975) 571-600; Patrician Women in Early Renaissance Venice. *Studies in the Renaissance* 21(1974) 176-203; In Search of the Venetian Patriciate. In *Renaissance Venice*, ed. by J. R. Hale, 47-90. London: 1973.

Chomsky, A. Noam 58-59 M(NS), Logic, Philosophy

Born 1928 Philadelphia, PA. PhD Linguistics Univ of Penn. Honors: DHumLitt(hc) Univ of Massachusetts, Amherst 1973; DLitt(hc) Delhi Univ, India 1972; DHum-Litt(hc) Loyola Univ 1970; DHumLitt(hc) Swarthmore Coll 1970; DHumLitt(hc) Univ of Chicago 1967; DLitt(hc) Univ of London 1967; NSF Postdoc Fellow 1958-59; Jr Fellow Harvard Univ Soc of Fellows 1951-55; AAAS; NAS; Corresponding Fellow Brit Acad; Deut Akad Naturforscher Leopoldina; Utrecht Soc of Arts and Scis; Assoc Univ Seminar on the Pol Econ of War & Peace, Columbia Univ.

Memberships: Amer Acad Polit and Soc Sci; Amer Philos Assoc; Aristotelian Soc; Assoc for Symbolic Logic; Bertrand Russell Peace Foundation; Internatl Confed for Disarmament and Peace; Linguistic Soc of Amer. Inst Prof, Linguistics & Philosophy, MIT, Dept of Linguistics, MIT, Room 20C-128, Cambridge, MA 02139.

Publications: *Aspects of the Theory of Syntax*. MIT, 1965; *Syntactic Structures*. Mouton, 1957; *Reflections on Language*. Pantheon, 1975; *Logical Structure of Linguistic Theory*. Plenum, 1975.

Choquet, Gustave 55f M, Mathematical Analysis

Born 1915 Solesmes, Nord, France. PhD 1946 Univ Paris. Honors: Member Académie des Sciences 1976. Appointments: Former Pres, Société Mathématique de France. Prof, Mathematics, Univ Paris, 16, ave d'Alem-bert, 92 Antony, France.

Publications Related to IAS Residence: With J. Deny. Modèles finis en théorie du potentiel. *J. d'Analyse Mathématique* (1956-57); With J. Deny. Ensembles semi-réticulés de fonctions continues. *J. de Maths pures et appl* (1956).

Choquet, Yvonne Bruhat 51-52, 52f, 55f M, Partial Differential Equations

Born 1923 Lille, France. DSc 1951 Math Paris Univ. Honors: Membre Correspondant de l'Académie des Sciences 1977; Chevalier de la légion d'honneur 1975. Appointments: Membre, Comité National CNRS; Membre, Comité Consultatif des Universités. Memberships: Soc Math de France; AMS. Prof, Mécanique, Univ of Paris, Institut de Mécanique tour 66, 4 Place Jussilii, Paris 5e, France.

Publications Related to IAS Residence: Résolution du problème de Cauchy pour des équations hyperboliques du second ordre non linéaires. *Bull Soc Math* 81(1953) 225-288; Distributions sur les multiplicités. *CR Acad Sci* 236(1953); With I.E. Segal. Causality and analyticity. *Trans AMS* 78, 78,2(1955) 385-405.

Other Publications: With C. DeWitt-Morette and M. Dil-lard-Bleick. *Analysis, Manifolds and Physics*. North Holland, 1977.

Chou, Péi-Yüan 36-37 M(NS), Physics

Born 1902 China. PhD 1928 Cal Tech. Vice Pres, Peking Univ, Peking, People's Republic of China. *

Publications Related to IAS Residence: Isotropic Static Solutions of the Field Equations in Einstein's Theory of Gravitation. *Amer J Math* 59(1937) 754-763.

Chover, Joshua 55-56 M, Analysis

Born 1928 Detroit, MI. PhD 1952 Math Univ of Michigan. Memberships: AMS. Prof, Math, Univ of Wisconsin, Madison. 202 DuRose Terr, Madison, WI 53705.

Publications Related to IAS Residence: Conditions on the Realization of Prediction by Measures. *Duke Math J* 25(1958) 305-310; With J. Feldman. On

Positive-Definite Integral Kernels and A Related Quadratic Form. *Trans AMS* 89(1958) 92-99.

Other Publications: Convergence of a Local Lattice Process. *J Stoch Processes & Applns* 1, 3(1975) 115-135; With Ney, Wainger. Functions of Probability Measures. *J D'Analyse* 26(1973) 255-302.

Chow, Wei-Liang 47-48, 54-55 M, Algebraic Geometry

Born 1911 Shanghai, China. DrPhil 1936 Mathematics Leipzig University. Prof Emer, Mathematics, Johns Hopkins University, 8821 Wolverton Road, Baltimore, MD 21234.

Publications Related to IAS Residence: On the geometry of algebraic homogeneous spaces. *Ann Math* 50(1949) 32-67; Abelian varieties over function fields. *Trans AMS* 78(1955) 253-275.

Chowla, Sarvadaman 48s, 48-49, 57-58, 70-71 M, Theory of Numbers

Born 1907 London, England. PhD (Cantab.) 1931 Math. Honors: Foundation Fellow Indian Acad of Scis 1934. Memberships: Life member London Math Soc; Life member Indian Math Soc. Res Prof Emer, Penn State Univ, c/o School of Mathematics, Inst for Advanced Study, Princeton, NJ 08540.

Publications Related to IAS Residence: With N. C. Ankeny and E. Artin. The Class-Number of Real Quadratic Number Fields. *Ann Math (2)* 56(1952) 479-493; With Atle Selberg. On Epstein's Zeta Function. *J Reine Angew Math* 227(1967) 86-110.

Other Publications: With N. C. Ankeny. The Class Number of the Cyclotomic Field. *Proc Nat Acad Sci, USA* 35(1949) 529-532; With John Todd. The Density of Reducible Integers. *Canadian J Math* 1(1949) 297-299; The Last Entry in Gauss's Diary. *Proc Nat Acad Sci USA* 35(1949) 244-246; On Difference Sets. *Proc Nat Acad Sci USA* 35(1949) 92-94; With A. Selberg. On Epstein's Zeta Function, I. *Proc Nat Acad Sci USA* 35(1949) 371-374; With P. T. Bateman. Averages of Character Sums. *Proc Amer Math Soc* 1(1950) 781-787; A New Proof of a Theorem of Siegel. *Ann of Math* 2, 51(1950) 120-122; With N. C. Ankeny. The Relation between the Class Number and the Distribution of Primes. *Proc Amer Math Soc* 1(1950) 775-776; With P. T. Bateman and P. Erdos. Remarks on the Size of $L(1, \chi)$. *Publ Math Debrecen* 1(1950) 165-182; With N. C. Ankeny. The Class Number of the Cyclotomic Field. *Canadian J Math* 3(1951) 486-494.

Christian, Richard Stuart 51-52 M(NS), Theoretical Physics

Born 1923. PhD 1951 Univ of Calif, Berkeley. *

Publications Related to IAS Residence: With T. D. Lee. Intermediate Coupling Method for Meson-Nucleon Scattering. *Phys Rev* 2 94(1954) 1760-1767.

Christian, Uirich Hans Richard Otto 58-61 M, Modular Functions

Members

Born 1932 Glesien, Kreis Delitzsch, Germany. Dr rer nat 1956 Univ of Göttingen. Memberships: Deutsche Math Verein. Prof, Math Inst, Univ of Göttingen, Bunsenstr 3, 5,3400 Göttingen, Germany.

Publications Related to IAS Residence: Ueber die Multiplikatorensysteme zur Gruppe der ganzen Modulusubstitutionen n -ten Grades. *Math Ann* 138(1959) 363-397; On the factors of automorphy for the group of integral modular substitutions of second degree. *Ann of Math* 73(1961) 134-153; On certain factors of auto-morphy for the modular group of degree n . *Monatshefte f Math* 65(82-87) 1961; Ueber die Multiplikatorensysteme gewisser Kongruenzgruppen ganzer Hilbert Siegelscher Modulusubstitutionen. *Math Ann* 144(1961) 422-459.

Other Publications: Berechnung des Ranges der Schar der Spitzenformen zur Modulgruppe zweiten Grades und Stufe $q > 2$. *J reine angew Math* 277(1975) 130-154; Zur Berechnung des Ranges der Schar der Spitzenformen zur Modulgruppe zweiten Grades und Stufe $q > 2$. *J reine angew Math* 296(1977) 108-118.

Christy, Robert Frederick 60-61 M(NS), Theoretical Physics

Born 1916 Vancouver, Canada. PhD Theoretical Physics Univ Calif Berkeley. Prof, Physics, and Vice President and Provost, California Institute of Technology, Pasadena, CA 91125.

Chu, Wan Li 65-66 HS, Chinese History

Born 1907 Yu-tai, Shantung, China. Honors: Chung-san Prize 1969. Appointments: Member Council Academia Sinica; Research Consultant Natl Sci Council, ROC; Exec Comm Academic Examination Council of the Ministry of Education, ROC. Memberships: Chinese Hist Assoc. Res Fellow, Hist, Academia Sinica, Prof Chinese Lit National Taiwan University, Inst of Hist and Phil, Academia Sinica Nan-kang, Taipei, Taiwan, Republic of China.

Publications Related to IAS Residence: *A Catalogue of the Chinese Rare Books in the Gest Collection of the Princeton University Library*. Taipei: Yee Wen Publishing Co, 1974.

Other Publications: *Commentaries on the Book of odes*. Taipei: Chinese Cultural Publishing Committee, 1952; Annotations to the oracle bone inscriptions. *Archaeologia Sinica* 2(1961); *Piecing and Annotation of the Remnant Characters of the Shang-shu (Book of Documents) Inscribed on the Stone Tablet of AD 175*. Inst of History and Philology, 1963; *Shu-yung Lun-hsueh Chi*. Essays of a Bibliophile, Containing 29 articles on various topics of Chinese philology. Taipei: Taiwan Kaiming Book Co, 1969.

Chuaqui, Rolando Basim 69-70 M, Logic and Foundations

Born 1935 Santiago, Chile. Honors: Member Acad of Sci Inst of Chile 1977-. Appointments: Committee of Exact Sciences 1969-72, of the Comisión Nacional de Investigaciones Cientificas y Technoló Chile.

Memberships: Assoc for Symbolic Logic; AMS; Sociedad Matemática de Chile. Prof, and Dir, Inst de Matemática, Universidad Católica de Chile, Casilla 114-D, Santiago, Chile.

Publications Related to IAS Residence: Forcing for the impredicative theory of classes. *J Symb Logic* 37(1972) 1-18; Cardinal algebras of functions and integration. *Fund Math* 71 (1971) 77-84; A representation theorem for linearly ordered cardinal algebras. *Fund Math* 71(1971) 85-91.

Other Publications: Ed with Arruda and da Costa. A semantical definition of Probability. In *Non-Classical logics, Model Theory and Computability*. Amsterdam: North Holland Pub Co, 1977; Internal and forcing models for the impredicative theory of classes. *Dissert Math* (in press); Measures invariant under a group of transformations. *Pac J of Math* 68(1977) 313-329.

Church, Alonzo 34-35 M

Born 1903 Washington, DC. PhD 1927 Math Princeton Univ. Honors: DSc (hc) Case Western Reserve Univ 1969; AAAS; NAS. Memberships: AMS; Am Philosoph Assoc; Assoc for Symbolic Logic; British Academy (corresponding member). Prof, Department of Philosophy, U.C.L.A., Los Angeles, CA 90024.

Publications: *Introduction to Mathematical Logic*. Princeton University Press, 1956.

Church, Philip Throop 62s, 65-66 M, Topology

Born 1931 Winsted, CT. PhD 1959 Mathematics Univ of Mich. Honors: NSF Postdoc Fellow 1965-66. Appointments: Editor for Topology, *Trans AMS & Mem AMS* 1974-77; Council, AMS 1974-77. Memberships: AMS; MAA; AAUP. Prof, Department of Mathematics, Syracuse University, 203 Carnegie, Syracuse, NY 13210.

Publications Related to IAS Residence: Differentiate open maps. *Bull Amer Math Soc* 68(1962) 468-469; Differentiable open maps on n -manifolds. *Trans Amer Math Soc* 109(1963) 87-100; On points of Jacobian rank. *Trans Amer Math Soc* 110(1964) 413-423; Factorization of differentiable maps with branch set dimension at most $n-3$. *Trans Amer Math Soc* 115(1965) 370-387; Differentiable monotone maps on manifolds. *Trans Amer Math Soc* 128(1967) 185-205; Differentiable maps with non-negative Jacobian. *J Math Mech* 16(1967) 703-708.

Other Publications: Boundary images of meromorphic functions. *Trans Amer Math Soc* 110(1964) 52-78; With J. G. Timourian. Differentiable maps with 0-dimensional critical set, 2. *Indiana U Math J* 24(1974) 17-28.

Ciriacy-Wantrup, Siegfried von 48 HS(EP), Economics

Born 1906 Langenberg, Germany. PhD 1931 Univ of Bonn. Honors: Rockefeller Foundation Fellow 1935 & 1937; Guggenheim Foundation Award 1947 & 1952; Am Assoc for Adv of Sci. Appointments: Commissioner, Calif Adv Comm on Marine & Coastal

Resources; Member, Comm on Internat Marine Sci Affairs Policy, NAS/NRC; Member, Marine Advisory Comm, Calif Dept of Fish & Game; Consultant to the Natl Water Comm, US Dept of Agric, US Army Corps of Engineers, US Dept of Interior, British Nature Conservancy, Resources for the Future, foreign universities and governments, and several American corporations. Prof Emer, Dept of Agri & Resource Econs, University of California, 207 Giannini Hall, Berkeley, CA 97420.

Publications Related to IAS Residence: *Resource Conservation: Economics and Policies*. Berkeley: University of California Press, 1952; Cost Allocation in Relation to Western Water Policies. *Journal of Farm Economics* 36 No 1(1954); Benefit-Cost Analysis and Public Resource Development. *Journal of Farm Economics* 37, No 4(1955) 676-689; Some Economic Issues in Water Rights. *Journal of Farm Economics* 37 No 5(1955) 875-885.

Civin, Paul 53-54 M, Fourier Analysis

Born 1919 Rochester, NY. PhD 1942 Duke Univ. Prof, Univ of Oregon, Eugene, OR 97403. *

Clagett, Marshall see Present Faculty

Clairmont, Victorine Von Gonzenbach 65-67 HS, Greek and Roman Archaeology

Born 1921 Zurich, Switzerland. DPhil 1957 Classical Archaeology Zurich Univ. Privatdozent, Zurich Univ. 138 Philip Drive, Princeton, NJ 08540.

Publications Related to IAS Residence: Tiberische Gürtel- und Schwertscheidenbleche mit figürlichen Reliefs. In *Helvetia Antiqua, Festschrift Emit Vogt*, 183-208. Basel: 1966; Schwertscheidenbleche aus Vindonissa aus der Leit der 13 Legion. *Jahresbericht der Gesellschaft Pro Vindonissa* (1965) 5-36; Genius Augusti. In *Theos Sebastos, Festschrift Karl Kerényi*, 81-117. Stockholm: 1968.

Other Publications: *Die Cortailodkultur in der Schweiz*. Basel: 1949; *Untersuchungen zu den Knabenweihen im Isiskult der römischen Kaiserzeit*. Bonn: 1957; *Die römischen Mosaiken der Schweiz*. Basel: 1961; *Die römischen Terracotten in der Schweiz*. forthcoming.

Clark, Allan H. 65-66 M, Topology

Born 1935 Cincinnati, OH. PhD 1961 Mathematics Princeton Univ. Honors: Trustee Universities Research Association, Inc. Memberships: Am Assoc for Adv of Sci; AAUP; Am Assoc for Higher Ed; AMS; Am Council on Ed. Dean, School of Science, Mathematical Sciences Building, Purdue Univ, W Lafayette, IN 47907.

Clark, Peter Alan 72-73 HS, Renaissance Studies

Born 1944 Maidstone, Kent, England. MA(Oxon.) 1971. Appointments: Member, History Panel, Council for National Academic Awards. Memberships: Econ Hist Soc (UK); Urban History Group (UK). Lect, Dept

of Economic and Social History, University of Leicester, Leicester, LE1 7RH, England.

Publications Related to IAS Residence: *English Provincial Society from the Reformation to the Revolution 1500-1640*. Hassocks: Harvester Press, 1977; *The Ownership of Books in England 1560-1640*. In *Schooling and Society: Studies in the History of Education*, ed. by L. Stone. Baltimore: Johns Hopkins Univ Press, 1976.

Other Publications: With P. Slack. *Crisis and Order in English Towns 1500-1700*. London: Routledge and Kegan Paul, 1972; With P. Slack. *English Towns in Transition 1500-1700*. NY and London: Oxford Univ Press, 1976; *The Early Modern Town*. New York: Longman, 1976.

Clark, Timothy James 79-80 Soc

Born 1943 Bristol, England. PhD 1973 Art History London Univ. Prof, Fine Art, Leeds Univ, 7 Victoria Terrace, Leeds L564BE, England.

Publications: *The Absolute Bourgeois: Artists & Politics in France 1848-51*. 1973; *Image of the People: Gustave Courbet & The 1848 Revolution*. 1973.

Clarke, Graeme Wilber 79s HS, Ancient History

Born 1934 Nelson, New Zealand. LittD 1976 Ancient History Univ of Melbourne. Honors: Dominion Fship in Humanities Nuffield Foundation, London 1966; Fellow Australian Acad of Humanities 1975; Commonwealth Visiting Fellow Inst for Class Studies, London 1973; Overseas Fellow Churchill College, Cambridge 1979. Appointments: Australian Research Grants Comm 1976-; Council of Australian Acad of Humanities 1976-1977. Memberships: Soc for the Promotion of Roman Studies; Australian Soc for Classical Studies. Prof, Dept of Classical Studies, Univ of Melbourne, Parkville, Victoria 3052, Australia.

Publications Related to IAS Residence: *The Letters of Cyprian*. Ancient Christian Writers, 3 vols. New York, NY: Newman Press, forthcoming.

Other Publications: *The Octavius of Marcus Minucius Felin*. Ancient Christian Writers, 39. New York, NY: Newman Press.

Clarkson, James Andrew 34-36 M

Born 1906. PhD 1934 Brown Univ. Deceased.

Publications Related to IAS Residence: With W. C. Randels. Fourier Series Convergence Criteria, as Applied to Continuous Functions. *Duke Math J* 2(1936) 112-116; Uniformly Convex Spaces. *TAMS* 40(1936) 396-414; The von Neumann-Jordan Constant for the Lebesgue Spaces. *Ann Math* 2 38(1937) 114-115.

Classen, Carl Joachim 75f HS, Classics

Born 1928 Hamburg, Germany. PhD 1953 Classics Univ of Hamburg. Memberships: Mommsen-Gesellschaft; Classical Assoc; Am Philolog Assoc; Internatl Assoc for Neo-Latin Studies; Internatl Soc for the Hist of Rhetoric. Prof, Classics, Univ of Göttingen, Dean

Members

Faculty of Arts, 7 Am Brachfelde, D 34 Göttingen, Germany.

Publications Related to IAS Residence: with bibliography and introduction, *Sophistik*. Wege der Forschung. Darmstadt: 1976; Cicero, the Laws and the Lawcourts. *Latomus* 37(1978).

Other Publications: *Untersuchungen zu Platons Jagdbildern*. Berlin: 1960; Sprachliche Deutung als Triebkraft platonischen und sokratischen Philosophierens. *Zetemata* 22(1959); Romulus in der röm Republik. *Philologus* 106(1962) 174-204; Cicerostudien in der Romania; *Cicero*. Berlin: 1968; Poetry and Rhetoric in Lucretius. *TAPA* 99(1968) 129-173.

Classen, Peter 77-78 HS, Medieval History

Born 1924 Hamburg, Germany. DPhil 1950 Göttingen Univ. Honors: Heidelberger Ak d Wiss 1970-. Memberships: Monumenta Germaniae Historica (Member Zentraldirekt); Konstanzer Arbeitskreis für Mittelalterliche Geschichte Vice Chmn. Prof, History, Univ of Heidelberg, Bergstrasse 150, D-6900 Heidelberg, Germany.

Publications Related to IAS Residence: Das Decretum Gratiani wurde nicht in Ferentino approbiert. *Bull Medieval Canon Law* 8(1978).

Other Publications: *Gerhoch von Reichersberg*. Wiesbaden: F. Steiner, 1960; *Karl der Grosse, das Papsttum und Byzanz*. Düsseldorf: Schwann, 1968; *Burgundio von Pisa*. *Heidelberger Ak d W Sitzungsberichte* 4(1974).

Clay, Sir Henry 49-54 HS(EP), Relations between Industry and the State

Deceased.

Publications Related to IAS Residence: *The Conditions of Industrial Progress*. Philadelphia: Univ of Penn, 1947; The Economic Outlook of the United Kingdom. *Amer Econ R* 37: Papers & Proceedings(1947) 12-20; The Organization of Industry. In *The Character of England*, ed. by Barker, Sir E., 136-158. Oxford: 1947; Red Tape. *Law Q Rev* 65 (1949) 172-187; The Case for Exchange Controls. *For Affairs* 28(1950) 605-614; Lord Norman: An Appreciation. *Bankers' Insurance Managers' and Agents' Magazine* 169(1950) 231 -235; Planning and Market Economy: Recent British Experience. *Amer Econ R* 40(1950) 1-20.

Clemens, Charles Herbert 68-70 M, Algebraic Geometry

Born 1939 Dayton, OH. PhD 1966 Math Berkeley. Memberships: AMS. Prof, Mathematics Dept, University of Utah, Salt Lake City, UT 84112.

Publications Related to IAS Residence: With Griffiths, Phillip A. The intermediate Jacobian of the cubic threefold. *Annals of Math* 95(March 1952) 281-356.

Other Publications: Degeneration of Kähler manifolds. *Duke Math J* 44(1977) 215-290.

Clement, Paul A. 38-49, 52f, 55-56, 56f HS, Classical Philology, Archaeology

Born 1906 Atlanta, GA. PhD 1930 Johns Hopkins Univ. Prof Emer, UCLA, Isthmia Excavations, Amer Schl of Class Studies, 54 Souidias St, Athens 140, Greece.

Publications Related to IAS Residence: Note on the Thessalian Cult of Enodia. *Hesperia* 8(1939) 200; Chronological Notes on the Issues of Several Greek Mints. *Amer J Philol* 62(1941) 157-168; *Moralia* 614 E. *Amer J Philol* 66(1945) 192-196.

Clifford, Alfred H. 34s, 34-38 M

Born 1908 St. Louis, MO. PhD 1933 Math Calif Inst of Tech. Memberships: AMS; MAA. Prof Emer, Math, Tu-lane Univ, 303 Walnut St, New Orleans, LA 70118.

Publications Related to IAS Residence: Representations induced in an invariant subgroup. *Ann Math* 38(1937) 533-550.

Other Publications: With G.B. Preston. *The Algebraic Theory of Semigroups*. Math Surveys, 7. Providence, RI: AMS, 1961, 1967.

Cline, Edward Thomas, Jr. 78-79 M, Representations and Cohomology of Algebraic Groups

Born 1940 Hinsdale, IL. PhD 1966 Mathematics California Inst of Tech. Memberships: AMS. Assoc Prof, Dept of Mathematics, Clark University, Worcester, MA 01610.

Publications Related to IAS Residence: With B. Parshall, L. Scott and W. van der Kallen. Rational and generic cohomology. *Invent Math* 39(1977) 143-163; With B. Parshall and L. Scott. Induced modules and affine quotients. *Math Annal* 230(1977) 1-4; With B. Parshall and L. Scott. Induced modules and extensions of representations. *Invent Math* 47(1978) 41-51; With B. Parshall and L. Scott. Cohomology of finite groups of Lie type I. *Publications Math IHES* 45(1975) 169-191; With B. Parshall and L. Scott. Cohomology of finite groups of Lie type II. *J Algebra* 45(1977) 182-198; With R. Carter. The submodule structure of Weyl modules for groups of type A_1 . In *Proceedings of Utah Group Theory Symposium*, 303-311. Academic Press, 1976; Ext¹ for SL_2 . *Communications in Algebra* 7, 1(1979) 107-111.

Other Publications: On an embedding property of generalized Carter subgroups. *Pacific J Math* 29(1969) 491-519; Some connections between Clifford theory and the theory of vertices and sources. *Proceedings of Symposia in Pure Mathematics* 21(1971) 19-23; Stable Clifford theory. *J Algebra* 22(1972) 350-364.

Clover, Frank M. 73-74 HS, Roman History

Born 1940 Denver, CO. PhD 1966 Classics Univ of Chicago. Honors: Junior Fellow Inst for Res in Humanities, U. of Wisc 1970-71; ACLS Fellow 1973-74. Memberships: AHA; Am Philolog Assoc; Archaeology Inst of Amer; Soc for the Promotion of

Roman Studies. Prof, History and Classics, Dept of History, University of Wisconsin, Madison, WI 53706.

Publications Related to IAS Residence: The Family and Early Career of Anicius Olybrius. *Historia* 27: 1978.

Other Publications: *Flavius Merobaudes: A Translation And Historical Commentary*. Philadelphia: American Philosophical Society, 1971.

Coale, Ansley Johnson 48-50 HS(EP), Economics

Born 1917 Baltimore, MD. PhD 1947 Economics Princeton Univ. Honors: Mendel Sheps Prize Mathematical Demography 1974; Am Philosoph Soc; NAS; AAAS; PhD(hc) Catholic U of Louvain 1979. Appointments: U.S. Rep, Population Comm of the UN, 1961-1968; Census Advisory Comm; Presidential Comm on Federal Statistics; Comm on Population and Demography NAS. Memberships: Population Association of America; American Statistical Assoc; Int'l Union for the Scientific Study of Population. Prof, Economics, and Associate Director Office of Population Research Princeton U, 155 Edgerstoune Rd, Princeton, NJ 08540.

Publications: With E. M. Hoover. *Population growth and economic development in low income countries*. Princeton Univ Press, 1958; With P. Demeny. *Regional Model Life Tables and Stable Populations*. Princeton Univ Press, 1966; *The Growth and Structure of Human Populations: A Mathematical Investigation*. Princeton Univ Press, 1972; With Anderson and Kärm. *Human Fertility in Russia since the 19th Century*. forthcoming.

Coester, Fritz 53-54 M(NS), Theoretical Physics

Born 1921 Berlin, Germany. PhD 1944 Univ of Zurich. Memberships: Am Phys Soc; Swiss Phys Soc; European Phys Soc. Senior Physicist, Theoretical Physics, Physic Div, Argonne Natl Lab, Argonne, IL 60439.

Publications Related to IAS Residence: Hyperquantization of Feynman Amplitudes. *Phys. Rev* 95(1954) 1318.

Cohen, David Mordechai 78-79 M, Number Theory

Born 1951 Philadelphia, PA. PhD 1976 MIT. 284 Harvard St, Apt 73, Cambridge, MA 02139. *

Cohen, Eckford 51-53 M, Theory of Numbers

Born 1920 Starkville, MS. PhD 1947 Duke Univ. Dept of Mathematics, Western Michigan Univ, Kalamazoo, MI 49008. *

Cohen, Frederick Ronald 75-77 M, Algebraic Topology

Born 1945 Chicago, IL. PhD 1972 Algebraic Topology Univ of Chicago. Assoc Prof, Dept of Math, Temple Univ, Philadelphia, PA 19122.

Publications Related to IAS Residence: Braid orientations and bundles with flat connections. *Inventiones mathematicae* 46(1978) 99-110; *Gelfand-*

Fuks Cohomology, The Cohomology of Function Spaces, and the Cohomology of Configuration Spaces. Springer Lecture Notes in Math, 657.

Other Publications: With J. C. Moore and J. A. Neisendorfer. Torsion in Homotopy Theory. *Annals of Math* (Jan. 1979).

Cohen, Haskell 62s M, Topology

Born 1920 Omaha, NE. PhD 1952 Mathematics Tulane Univ. Appointments: Lecturer and Consultant for CUPM. Memberships: MAA; AMS. Prof, Mathematics, Department of Mathematics and Statistics, University of Massachusetts, Amherst, MA 01003.

Publications Related to IAS Residence: On Fixed Points of Commuting Functions. *Proc AMS* 15(1964) 293-296; With R. J. Koch. Acyclic Semigroups and Multiplications on Two-Manifolds. *Trans AMS* 118(1965) 420-427.

Other Publications: A Cohomological definition of dimension for locally compact Hausdorff spaces. *Duke Math J* 21 (1954) 209-224.

Cohen, Irvin Sol 42f M

Born 1917 Baltimore, MD. PhD 1942 Johns Hopkins U. Deceased.

Publications Related to IAS Residence: On the Structure and Ideal Theory of Complete Local Rings. *TAMS* 59(1946) 54-106.

Cohen, Jeffrey M. 69-71 NS, Astrophysical and General Relativity

Born 1940 Elizabeth, NJ. PhD 1966 Physics Yale Univ. Honors: Fellow, NY Acad of Scis 1976; Fellow, Am Phys Soc 1973; NAS Senior Associateship 1972, 1973; 1967-1968; AEC Fship 1966; AMS Fship 1965; NSF Fship 1962-63-64-65; Outstanding Scholar Award 1962. Appointments: Consultant, Defense Dept. Memberships: IAU, Am Phys Soc, Am Astron Soc, NY Acad of Scis. Assoc Prof, Physics Dept, University of Pennsylvania, Philadelphia, PA 19104.

Publications Related to IAS Residence: Pulsar Electrodynamics. *Ap Letters* 7(1971) 213; Gravitational Collapse of Magnetic Neutron Stars. *Ap and Space Sci* 9(1970) 146; Centrifugal Force in General Relativistic Rotational Properties of Stellar Models. *Astrophys Space Sci* 6, No 2(1970); Gravitational Collapse of Magnetic Neutron Stars. *Ap and Space Sci* 9, No 1(1970) 146; Slowly Rotating Magnetic Neutron Stars. *Ann of Phys* 87, No 1(1970) 244; Pulsar Electrodynamics. *Astrophys Letters* 7(1971) 213; Pulsar, Planet "Glitch" and Wisp. *Nature* 229(1971) 403; Closed Anisotropic Cosmological Models. *Ann of Phys* 73, No 2(1971) 578; A Point Charge in the Vicinity of a Schwarzschild Black Hole. *J of Math Phys* 12, No 9(1971) 1845; Note on the Angular Momentum and Mass of Gravitational Geons. *J of Math Phys* 13, No 4(1972) 543.

Other Publications: Dragging of Inertial Frames by Rotating Masses. 1965 Lectures in Applied Mathematics, 8. In *Relativity Theory and*

Members

Astrophysics, ed. by J. Ehlers, 200. Am Math Soc, 1967.

Cohen, Leon W. 52-53 M, Analysis, Topology

Born 1903 New York, NY. PhD 1928 Univ of Michigan. Prof, Univ of Maryland, College Park, MD 20742. *

Cohen, Marshall M. 65-67 M, Topology

Born 1937 Chicago, IL. PhD 1965 Mathematics Univ of Mich. Memberships: AMS; MAA. Prof, Dept of Mathematics, Cornell University, White Hall, Ithaca, NY

Publications Related to IAS Residence: Simplicial Structures and Transverse Cellularity. *Annals of Math* 85(1967) 218-245; A general theory of Relative Regular Neighborhoods. *Trans AMS* 136(1969) 189-229; Homeomorphisms between homotopy manifolds and their resolutions. *Inventiones Math* 10(1970) 239-250; With D. Sullivan. On the regular neighborhood of a 2-sided submanifold. *Topology* 9(1970) 141-147; A proof of Newman's theorem. *Proc Camb Phil Soc* 64(1968) 961-963.

Other Publications: *A course in simple-homotopy theory*. G T M, 10. Springer-Verlag Co, 1973.

Cohen, Michael 57-58 M(NS), Physics

Born 1930 New York, NY. PhD 1956 Cal Tech. Appointments: Co-Founder, Trustee, Member of Exec Comm Aspen Cntr for Physics. Memberships: Am Phys Soc (Fellow). Prof, Dept of Physics, Univ of Penn, Philadelphia, PA 19104.

Publications Related to IAS Residence: Relation Between Inelastic Neutron Scattering and Thermodynamic Functions of Liquid Helium. *Phys Rev* 118(1960) 27.

Other Publications: With T. L. Einstein. Statistical Mechanics of a Simple Model of a Displacive Ferroelectric. *Phys Rev* B7(1973) 1932; With S. K. Khanna et al. Theory of Microwave Losses of One-Dimensional Conductors in the Skin Effect Regime. *Solid State Comm* 17(1975) 367; With C. C. Chang. Structure of the Surface of Liquid He⁴. *Phys Rev* A8(1973) 1930.

Cohen, Paul Edward 73-74 M, Logic

Born 1945 Albuquerque, NM. PhD 1972 Mathematics Univ of Ill. Memberships: AMS; MAA; Assoc for Symbolic Logic. Asst Prof, Mathematics Department, Le-high University, Bethlehem, PA 18015.

Publications Related to IAS Residence: Products of Baire Spaces. *Proc Amer Math Soc* 55(1976) 119-124; P-points in random Universes. *Proc Amer Math Soc* in press; Some continuity properties for ultraproducts. *Zeit f Math Logik* 24(1978) 319-321.

Cohen, Paul J. 59-61 M

Born 1934 Long Branch, NJ. PhD 1957 U of Chicago. Honors: National Medal of Science; Fields Medal. Prof, Dept of Math, Stanford Univ, Palo Alto, CA

Cohn, Harvey 70-71 M, Number Theory

Born 1923 New York, NY. PhD 1948 Harvard Univ. Honors: Wm Lowell Putnam Prize 1942; Townsend Harris Award of CCNY Alumni 1972. Appointments: CUPM Survey Comm on Grad Ed 1964-7; Advisory Comm for Autonomous Univ of Guadalajara 1964-7. Memberships: Consultant for Computing Center Argonne Natl Lab 1958-1970. Distinguished Prof, Department of Mathematics, City College of New York, 138 St and Convent Ave, New York, NY 10031.

Publications Related to IAS Residence: *Classical Invitation to Algebraic Numbers and Class Fields*. Springer-Verlag, 1978; *Second Course in Number Theory*. John Wiley, 1962; *Conformal Mapping on Riemann Surfaces*. McGraw-Hill, 1967.

Other Publications: Markoff Forms and Primitive Words. *Mathematische Annalen* 196(1972) 8-22.

Cohn, Leslie 70-71 M, Representation Theory

Born 1943 Philadelphia, PA. PhD 1969 Math Univ of Chicago. Memberships: AMS. Assoc Prof, Department of Mathematics, Johns Hopkins University, Baltimore, MD 21218.

Publications Related to IAS Residence: *Analytic Theory of the Harish-Chandra C-Function*. Springer Lecture Notes in Mathematics, 429. Berlin, Heidelberg, New York: 1974.

Other Publications: The Dimension of Spaces of Automorphic Forms on a Certain Two Dimensional Complex Domain. *Memoirs of the AMS* No 158(March 1975).

Cohn, Richard M. 55s M, Algebra

Born 1919 New York, NY. PhD 1947 Columbia Univ. Memberships: AMS; MAA. Prof, Mathematics Dept, Rutgers University, New Brunswick, NJ 08903.

Publications Related to IAS Residence: An Invariant of Difference Field Extensions. *Proceedings of AMS* 7(1956) 656-661.

Other Publications: *Difference Algebra*. New York: Interscience Publishers, 1965; Manifolds of Difference Polynomials. *Trans Am Math Soc* 64(1948) 133-172; Singular Manifolds of Difference Polynomials. *Ann of Mathematics* 53(1951) 445-463; With F. Mosteller, J. W. Pratt and M. Tatsuoka. Maximizing the Probability That Adjacent Order Statistics of Samples From Several Populations Form Overlapping Intervals. *Ann Math Stat* 31(1960) 1095-1104; Systems of Ideals. *Canadian Journal of Mathematics* 21(1969) 783-807; Specializations of Differential Kernels and the Ritt Problem. *J of Algebra* in press.

Cole, Kenneth Stewart 41-42 M(NS)

Born 1900 Ithaca, NY. PhD 1926 Physics Cornell Univ. Honors: ScD(hc) Oberlin 1954; ScD(hc) Chicago 1967; MD(hc) Uppsala 1967; Order Southern Cross, Brazil 1966; Nat'l Medal Sci USA 1967; NAS 1956; AAAS 1972; Foreign Member, Royal Society London 1972. Memberships: Am Phys Soc; Am Physiol Soc; Soc Gen'l Physiol; Biophysical Soc; Soc Neurosci. Prof Emer, Biophysics, NIMCDS, NIH, Adj

Prof Univ Calif Berkeley, 2404 Loring St, San Diego, CA 92109.

Publications Related to IAS Residence: *Membranes, Ions & Impulses*. U Calif Press, 1968 reprint 1972; *Arch d Sci Physiol* 3(1949) 253-258.

Other Publications: With H. J. Curtis. *J. Gen'l Physiol* 22(1939) 649-670.

Coleff, Nicolas R. 76-77 M, Several Complex Variables

Born 1944 Argentina. PhD 1975 La Plata Univ. 5n + 1802, 1900 La Plata, Argentina. *

Coleman, Robert F. 80s M, Number Theory

Born 1954 Glen Cove, NY. PhD 1979 Princeton Univ. Apt. 301 4400 Hillcrest Dr, Hollywood, FL *

Colglazier, Elmer William, Jr. 73 74, 74f, 75-76 NS, High Energy Physics

Born 1944 Ft. Benning, GA. PhD 1971 Theoretical Physics Calif Inst of Technology. Honors: Congressional Sci Fellow Am Assoc for the Adv of Sci 1976-7. Memberships: Am Phys Soc. Res Assoc, Harvard Univ, Associate Director Prog in Sci, Tech & Humanism Aspen Inst for Human Studies, Ctr for Sci and Intl Affairs, Harvard University, Kennedy School of Government, Cambridge, MA 02138.

Publications Related to IAS Residence: With R. Rajaraman. *Phys Rev D* 10(1974) 334-7; With S. L. Adler, J. B. Healy, Inga Karliner, Judy Lieberman, Yee Jack Ng, Hung-Sheng Tsao. *Phys Rev D* 11(1975) 3309-18; With S.L. Adler, J.B. Healy, Inga Karliner, Judy Lieberman, Yee Jack Ng, Hung-Sheng Tsao. *Phys Rev D* 12(1975) 3501-; With K. J. Barnes, A.J.G. Hey, R.K.P. Zia. *Acta Physica Polonica B*6(1975) 823-829; With R.K. Weatherwax. In *Center for Environmental Studies*, Report 38. Princeton Univ, Sept 1976.

Other Publications: With R. N. Cahn, J. W. Cleymans. Multiplicities in Lepton Hadron Processes. *Phys Letters* 43B(1973) 323-6.

Collins, Michael John 74-75 M, Algebra

Born 1945 Stanmore, Middx, England. DPhil (Oxon.) 1969 Mathematics. Honors: Lindemann Trust Fellow 1973-4. Memberships: London Math Soc. Fellow & Praelector, Pure Mathematics, University College, Oxford OX1 4BH, England.

Publications Related to IAS Residence: 3-Structure in Finite Simple Groups. In *Proc Conf on Finite Groups*, ed. by W.R. Scott & F. Gross. New York: Academic Press, 1976.

Collins, Randall 74-75 Soc

Born 1941 Knoxville, TN. PhD 1969 Univ Calif Berkeley. Honors: President-Elect, Theory Section of Am Sociol Assoc 1978-9. Appointments: NSF Advisory Comm. Memberships: Am Sociol Assoc; Southern Sociological Society; Society for Social Studies of Science. Prof, Sociology, and Member,

Center for Advanced Study, 539 Cabell Hall, University of Virginia, Charlottesville, VA 22903.

Publications Related to IAS Residence: *The Credential Society: An Historical Sociology of Education & Stratification*. NY: Academic Press, 1979.

Other Publications: *Conflict Sociology: Toward an Explanatory Science*. NY: Academic Press, 1975.

Comenetz, George 35-37 M, Differential Geometry

Born 1910 New York, NY. PhD Mathematics Columbia Univ. 240 Ave F, Pittsburgh, PA 15221.

Publications: With D. M. Wroughton et al. Electromagnetic Levitation of Solid and Molten Metals. *Jour of Applied Physics* 23(1952) 545, 1413; With D. M. Wroughton et al. A Technique for Eliminating Crucibles in Heating and Melting. *Jour Electrochem Soc* 99(1952) 205; With J.W. Salatka. Ten Gram Levitation Melted Ingots. *Jour Electrochem Soc* 105(1958) 673; With R. T. Begley et al. Vacuum Levitation Melting. *Rev Scientific Instruments* 30(1959) 38; With J.C.R. Kelly. Containment of Hot Matter. In *High Temperature Materials and Technology*, ed. by I.E. Campbell & E.M. Sherwood, 595. 1967; Levitation Melting. *McGraw-Hill Yearbook of Science and Technology* (1967) 221.

Comfort, Howard 56s 60f HS, Roman Archaeology

Born 1904 Haverford, PA. PhD 1932 Classics Princeton Univ. Appointments: Inst for Internat Ed Jury 3 yrs; Canada Council Consultant; Cult Attaché US Embassy Rome 1950-51; US Legation Bern 1951-52. Memberships: Am Philolog Assoc (Pres 1962-63); Archaeol Inst Amer; Rei Cretariae Romanae Fautores (Pres 1957-71, Hon Pres 1971-); Stiftung Dr René Clavel Augst Switzerland ScholarlyComm; Deutsches Archäol Institut; Fellow Soc of Antiquaries of London. Prof Emer, Classics, Haverford Coll, Crosslands 224, Kennett Square, PA 19348.

Publications Related to IAS Residence: Some Imported Pottery at Khor Rori (Dhofar). *Bull Amer Schools of Oriental Research* 160(1960) 15-20; With A. Oxé. Corpus Vasorum Arretinorum, A catalogue of the signatures shapes and chronology of Italian Sigillata. In *Antiquitas*, Abhandlung zur Vorund Frühgeschichte zur klassischen und provinzial römischen Archaeologie. Bonn: Habelt, 1968.

Other Publications: un Médaille Rhodanien À Alexandre. *Ogam* 12(1960) 435-436; Terra Sigillata. In *Paulys real encyclopädie der classischen altertums wissenschaft; neue bearbeitung*, Supp 7. Stuttgart: J. B. Metzler, 1940.

Conde, Antonio 71-72 M, Topology

Born 1939 Quata-São Paulo, Brazil. Livre Docencia 1979 Topology State University of São Paulo-Brazil. Honors: Franz and Gertrude Meyer Prizes Univ Chicago 1968. Memberships: AMS; Brazilian Math Soc; Assoc of Members of IAS-Princeton. Assoc Prof, Topology, State Univ of Campinas-Brazil, IMECC-Unicamp, C.P. 1170, 13100 Campinas-SP, Brazil.

Members

Publications Related to IAS Residence: On an Integrality Theorem of Atiyah and Hirzebruch. *Acad Brasileira de Cien* (1973); The Atiyah-Hirzebruch Class, The Thorn Class, The Embedding Problem and Flag Manifolds. *Livre Docencia Thesis USP* (1979).

Conforto, Fabio 50f M, Algebraic Geometry, Theory of Functions

Born 1909 Italy. Laurea 1931 U of Rome. Deceased.

Publications Related to IAS Residence: *Funzioni Abeliene Modulari*. 1. Roma: Docet, 1952; Una Proposizione sulle Matrici Quasi Abeliene. *Univ Roma 1st Naz Alta Mat Rend Mat e Appl* 59(1950) 335-345; Postulati della Geometria Euclidea e Geometria Non Euclidea. In *Repertorio di Matematiche*, ed. by Villa, Mario, 193-224. Padova: 1951; With F. Gherardelli. Classificazione delle Superficie Ellittiche con un Fascio Ellittico di Curve di Genere Tre. *Ann Mat Pura Appl* 4 33(1952) 273-351.

Conklin, Harold C. 72s Soc, Anthropology, Linguistics

Born 1926 Easton, PA. PhD 1955 Anthropology Yale University. Honors: NAS 1976; AAAS 1976; Guggenheim Fship 1973-1974; Fellow, Cntr for Advanced Study in the Behavl Scis 1978-1979. Appointments: Pacific Science Board NRC-NAS 1962-1966; SSRC Comm on Problems & Policy, Board of Dirs 1963-1970; Am Assoc for Adv of Sci Council 1971-1974. Memberships: Am Ethnological Soc President 1978-1979; Am Anthropological Assoc; Linguistic Soc of America; Royal Anthropological Inst of Gt Brit & Ireland; The Classification Society. Prof, Department of Anthropology, Yale University, New Haven, CT 06520.

Publications Related to IAS Residence: *Folk Classification*. New Haven: Yale University, Department of Anthropology, 1972; Color Categorization. *Am Anthropologist* 75.4(1973) 931-942; *Land Use in North Central Ifugao*. New York: Am Geographical Soc, 1972.

Other Publications: Hanunóo Color Categories. *Southwestern J of Anthropology* 11.4(1955) 339-344; Lexicographic Treatment of Folk Taxonomies. *International Journal of American Linguistics* 28.2 4(1962) 119-141; *Hanunóo Agriculture*. Rome: FAO, 1957 reprinted 1975; *Ethnographic Atlas of Ifugao*. New York: Am Geographical Soc, forthcoming.

Conn, Jack Frederick 77-78 M, Differential Geometry

Born 1952 Minneapolis, MN. PhD 1978 Mathematics Princeton Univ. Honors: PBK Harvard College 1973. Memberships: AMS. Asst Prof, Department of Mathematics 253-37, California Institute of Technology, Pasadena, CA 91125.

Publications Related to IAS Residence: Non-Abelian Minimal Closed Ideals of Transitive Lie Algebras. *Acta Math* in press.

Other Publications: A New Class of Counterexamples to the Integrability Problem. *Proc NAS* 74(1977) 2655-2658.

Connell, Edwin H. 61-63 M, Topology

Born 1931 Anson, TX. PhD 1959 Stanford Univ. Honors: Sloan Fellow; NSF Sr Postdoc Fellow. Memberships: AMS. Prof, Math Dept, University of Miami, Coral Gables, FL 33124.

Publications Related to IAS Residence: Approximating Stable Homeomorphisms by Piecewise Linear Ones. *Annals of Math* 78 No 2(1963) 326-38; With D. Montgomery & C. Yang. Compact Groups in E^n . *Annals of Math* 80 No 1(July 64) 94-103.

Other Publications: Developments of Non Linear Algebraic K-Theory: A K-Theory for the Category of Projective Algebras. *Journal of Pure & Applied Algebra* 5(1974); Developments of Non Linear Algebraic K-Theory: On the K-Theory of Algebras and Polynomial Extensions. *J of Pure & Applied Alg* 7 (1976).

Conner, Pierre Euclide, Jr. 55-57, 61-62 M, Differential Topology

Born 1932 Houston, TX. PhD 1955 Math Princeton Univ. Memberships: AAAS; PBK; Sigma Xi. Nicholson Prof, Math, LSU, 3327 Chapelwood Dr, Baton Rouge, LA 70815.

Publications Related to IAS Residence: With E. E. Floyd. *Differentiable Periodic Maps*. New York: Springer-Verlag, 1964.

Connes, Alain 78-79 M

Born 1947 France. PhD 1973 Univ de Paris VI. Prof, IHES, 91440 Bures sur Yvette, France. *

Converse, George A. 70s M, Mathematics

Born 1941 Santa Monica, CA. PhD 1967 Functional Analysis Univ of Washington. Memberships: AMS; MAA. Assoc Prof, Monmouth Coll, Chmn Department of Mathematics, 611 E Second Ave, Monmouth, IL 61462.

Cooke, George Erskine 55-57, 61-62, 67-68 M, Harmonic Integrals

Born 1932 Bryn Mawr, PA. PhD 1967 Princeton Univ. Deceased.

Coolidge, John Phillips 39-40 HS(H), History of Architecture

Born 1913 Cambridge, MA. PhD 1948 New York Univ. Memberships: Coll Art Assn; Soc of Architectural Historians. Prof, Fine Arts, Harvard Univ, 24 Gray Gardens W, Cambridge, MA 02138.

Cooper, Frederick Michael 77f NS, Elementary Particle Physics

Born 1944 New York, NY. PhD 1968 Physics Harvard Univ. Memberships: Am Phys Soc. Staff Member,

Theory Division, T-8 MS 453, Los Alamos Scientific Lab, Los Alamos, NM 87545.

Publications Related to IAS Residence: Is the Fermi theory of Weak Interactions a Yang-Mills theory in disguise?. *Phys Rev Letters* 40(1978) 1620-23; With G. Guralnik, R.W. Haymaker, K. Tamvakis. Renormalization of Broken Symmetry 2D SU(N) & Model and $(\Psi\Psi)^2$ Model. *Phys Rev* in press.

Cooper, John C. 45-51 HS(EP), Aviation Law

Deceased.

Publications Related to IAS Residence: *The Impact of Air Power*. The Univ Record of the Univ of Florida, 43. Gainesville: 1948; *Government Financial Aid to Foreign Air Carriers*. Public Affairs Bulletin No. 87. Washington: 1950; Air Power and the Coming Peace Treaties. *For Affairs* 24(1946) 441-452; Étude sur le Statut Juridique des Aéronefs. *Revue Française de Droit Aérien* 4 (1950) 125-148, 205-232; Air Transport and World Organization. *Yale Law J* 55(1946) 1191-1213; Aviation Law Comes Home to the Main Street Lawyer. *Law & Contemporary Problems* 11(1946) 556-563; The Bermuda Plan: World Pattern for Air Transport. *For Affairs* 25(1946) 59-71; IATA, League of Airlines. *Air Transport* 4(1946) 29-33; New Problems in International Civil Aviation Arbitral Procedure. *Arbitration J* 2(1947) 119-124; Notes on Air Power in Time of Peace. *Air Affairs* 1(1946/47) 80-96; The Proposed Multilateral Agreement on Commercial Rights in International Civil Air Transport. *J of Air Law* 14(1947) 125-149; Some Historic Phases of British International Aviation Policy. *Int Affairs* 23(1947) 189-201; International Air Transport and Foreign Policy. In *The United States in World Affairs, 1947-1948*, 276-304. New York: 1948; State Sovereignty vs. Federal Sovereignty of Navigable Airspace. *J of Air Law* 15(1948) 27-38; Internationalization of Air Transport. *Air Affairs* 2(1947/49) 546-560; United Nations Trusteeships. *Air Affairs* 2(1947/49) 115-127; Airspace Rights over the Arctic. *Air Affairs* 3(1949/50) 517-540; Highways on the Earth and in the Air. In *Highways in Our National Life*, ed. by Labatut, J., 240-246. Princeton: 1950; National Status of Aircraft. *J of Air Law* 17(1950) 292-316; Recognition of Foreign Judgments under Article 15 of Proposed Revision of Rome Convention. *J of Air Law* 17 (1950) 212-220; American Citizenship: Its Rights and Responsibilities. *Am Bar Assoc J* 37(1951) 665-667, 714-715; Crimes Aboard American Aircraft: Under What Jurisdiction Are They Punishable? *Am Bar Assoc J* 37(1951) 257-260, 326-327; High Altitude Flight and National Sovereignty. *Internatl Law Q* 4(1951) 411-418; *The Right to Fly*. New York: Holt, 1947; *The Fundamentals of Air Power*. Washington, DC: Library of Congress, 1948.

Cooper, Leon N. 54-55 M(NS)

Born 1930 New York, NY. PhD 1954 Columbia Univ. Honors: Comstock Prize (with J.R. Schrieffer) NAS 1968; Nobel Prize (with J. Bardeen and J.R. Schrieffer) 1972; Award of Excellence Graduate

Faculties Alumni of Columbia University 1974; Descartes Medal Académie de Paris, Université René Descartes 1977; DSc(hc) Columbia Univ 1973; Univ of Sussex 1973; Univ of Illinois 1974; Brown Univ 1974; Gustavus Adolphus Coll 1975; Ohio State Univ 1976; Univ of Paris 1977; AAAS; NAS; Am Philos Soc. Memberships: Fellow Am Phys Soc; Sponsor Fed of Amer Scientists; Member Soc for Neuroscis; Sigma Xi; PBK; Am Assoc for Adv Sci. Prof, Science, and Co-Dir Center for Neural Science, Department of Physics, Brown University, Providence, RI 02912.

Publications Related to IAS Residence: With W. Tobocman. Deuteron Stripping and the Problem of Nuclear Radii. *Phys Rev* 97(1955) 243; Some Notes on Nonrenormalizable Field Theory. *Phys Rev* 100(1955) 362.

Other Publications: Bound Electron Pairs in a Degenerate Fermi Gas. *Phys Rev* 104(1956) 1189; With J. Bardeen and J. R. Schrieffer. Theory of Superconductivity. *Phys Rev* 106(1957) 162; With R. L. Mills and A. M. Sessler. Possible Superfluidity of a System of Strongly Interacting Fermions. *Phys Rev* 114(1959) 1377; *An Introduction to the Meaning and Structure of Physics*. New York: Harper and Row, 1968; Wavefunction and Observer in the Quantum Theory. In *The Physicist's Conception of Nature*, ed. by J. Mehra, 668. Reidel, 1973; A Possible Organization of Animal Memory and Learning. In *Proc of the Nobel Symposium on Collective Properties of Physical Systems*. Sweden: Aspenasgarden, 1973; With Menasche Nass. A Theory for the Development of Feature Detecting Cells in Visual Cortex. *Biological Cybernetics* 19(1975) 1; How Possible Becomes Actual in the Quantum Theory. *Proc of Amer Philos Soc* 120, No. 1(1976); Comments on "The Brain-Mind Problem as a Frontier of Science" by John C. Eccles. In *The Future of Science (1975 Nobel Conference)*, ed. by Timothy C. L. Robinson, 93. New York: Wiley, 1977.

Cooter, Robert D. 77-78 Soc, Economics

Born 1945 Washington, DC. PhD 1975 Harvard Univ. Honors: Fulbright Scholar Oxford University 1967-1969; NSF & Danforth Fellowships Harvard U 1971-75. Asst Prof, Dept Economics, University of California, Berkeley, CA 94720.

Publications Related to IAS Residence: Optimal Tax Schedules and Rates. *American Economic Review* (1978) 756-768; A Closed Model of Careers in a Simple Hierarchy. *Bell Journal of Economics* 126a; Can Litigation Improve the Law Without the Help of Judges. *J Legal Studies* in press.

Coppi, Bruno 67-68, 68f NS, Physics

Born 1935 Gonzaga, Italy. Doct 1958 Politecnico di Milano. Honors: Member Collegium Ghislievi; Gold Medal Politecnico di Milano; AAAS. Appointments: Fusion Adv Cttee; Joint Eur Scientific Cttee; Intl Schl of Plasma Phys. Memberships: Am Phys Soc; Eur Phys Soc; AAAS. Prof, Physics, MIT, Cambridge, MA 02139.

Members

Publications Related to IAS Residence: With M. Rosenbluth and R. Sudan. Non-linear Interaction of Positive and Negative Energy Modes in Rarefied Plasmas. *Ann Phys* 55(1969) 207.

Other Publications: *The Alcator Experiment*. Report PRR 70-3. Cambridge: MIT, 1970; Compact Experiments for α -particle heating. *Comments in Plasma Physics* 3(1977) 47.

Corbett, Peter E. 57s HS, Attic Red-figured Pottery

Born 1920 England. MA(Oxon.) 1945. Dept of Classical Archaeology, University College, Gower St, London WC 1, England. *

Corinaldesi, Ernesto 61-62 M(NS)

Born 1923 Locri, Italy. PhD 1951 Theoretical Physics Univ of Manchester. Memberships: Società Italiana di Fisica. Prof, Physics, Boston Univ, Via Nemorense 189, 00199 Roma, Italy.

Publications Related to IAS Residence: Perturbation Theory of Scattering of a Particle by an Identical Bound Particle. I. *Nuovo Cimento* 24(1962) 92; With F. Strocchi. Relativistic Wave Mechanics. (1963).

Cornwall, John Michael 63-65 M(NS), Elementary Particle Theory

Born 1934 Denver, CO. PhD 1962 Univ Calif, Berkeley. Honors: NSF Fellow 1960-62, 62-63; Sloan Fellow 1967-72. Appointments: NASA Advisory Panels. Memberships: Am Inst of Physics; Am Geophys Union. Prof, Physics, UCLA, Consultant to Aerospace Corp SRI Int'l, Los Alamos Labs; Member, Advisory Board Nat'l Inst of Theoretical Phys, Dept of Physics, University of California, Los Angeles, CA 90024.

Publications Related to IAS Residence: With K. Bardaoui, P. Freund, B. W. Lee. *Phys Rev Lett* 13(1964) 698; 14(1965) 48; 15(1965) 79; With M.A.B. Bég, C.H. Woo. *Phys Rev Lett* 12(1964) 305; With P. Freund, K. Mahanthappa. *Phys Rev Lett* 14(1965) 525.

Other Publications: With R.E. Norton. *Phys Rev* 177(1969) 2584; D8(1973) 3338; With R. Jackin. *Phys Rev D* 4(1971) 367; With D. Levin, G. Tiktopoulos. *Phys Rev D* 10(1974) 1145; *Phys Rev D* 10(1974) 500; With G. Tiktopoulos. *Phys Rev D* 15(1977) 2937.

Corominas, Ernesto 54f M, Algebra

Born 1913 Spain. Docteur 1952 Paris. Calabria 230, Barcelona, Spain. *

Corson, Edward Michael 45-48 M(NS), Physics

Born 1921 . PhD 1945 Johns Hopkins Univ. *

Publications Related to IAS Residence: Second Quantization and Representation Theory. *Phys Rev* 2 70(1946) 728-748; The Invariant Form of Quantum Equations and the Schroedinger-Heisenberg Parallelism. *Phys Rev* 271(1947) 200-208; With I.

Kaplan. The Oscillator Concept in the Theory of Solids. *Phys Rev* 271(1947) 130-131; Note on the Dirac Character Operators. *Phys Rev* 273(1948) 57-60.

Other Publications: *Perturbation Methods in the Quantum Mechanics of n-Electron Systems*. New York: Hafner, 1951; *Introduction to Tensors, Spinors, and Relativistic Wave-Equations (Relation Structure)*. New York: Hafner, 1953.

Corwin, Lawrence Jay 73f, 78f M, Group Representations

Born 1943 East Orange, NJ. PhD Mathematics Harvard Univ. Honors: Sloan Fellow 1972-74. Memberships: AMS; MAA. Assoc Prof, and Chairman Math University Coll, Rutgers Univ, Dept of Mathematics, Rutgers University, Hill Center, Busch Campus, New Brunswick, NJ 08903.

Publications Related to IAS Residence: With F. Greenleaf. Intertwining Operators For Representations induced From Uniform Subgroups. *Acta Math* 136(1976) 275-301; With F. Greenleaf. Character Formulas and Spectra of Compact Nilmanifolds. *J Functional Analysis* 21(1976) 123-154.

Other Publications: Representations of Division Algebras over Local Fields. *Advances in Math* 13(1974) 259-267; L^2 (GQ/GA) is not always Multiplicity-Free. *Proc AMS* 56(1956) 329-332; With R. Howe. Computing Characters of Tame Ramified p-adic Division Algebras. *Pac J Math* 73(1977) 461-477; The Plancherel Measure in Nilpotent Lie Groups as a Limit of Point Measures. *Math Zeitschrift* 155(1977) 151-162; With F. Greenleaf & R. Penney. A Canonical Formula For the Distribution Kernels of Primary Projections in L^2 of a Nilmanifold. *Comm Pure & Appl Math* 30(1977) 355-372; With Y. Ne'eman and S. Sternberg. Graded Lie Algebras in Mathematics and Physics. *Rev Modern Physics* 47(1975) 573-603.

Costa De Beauregard, Olivier 50-51 M(NS), Theoretical Physics

Born 1911 Paris, France. PhD 1943 Physics; PhD 1963 Philosophy. Honors: Palmes Académiques (Commandeur); Legion D'Honneur (Chevalier). Memberships: Acad Intern Phil Science Brussels; Internatl Soc Study of Time USA. Dir, Research, CNRS, 76 Rue Murger, 77780 Bourron-Marlotte, France.

Court, William Henry B. 54f HS, Economic and Social History

Born 1904 England. MA 1928 Harvard Univ. Deceased.

Cowles, John Richard 75-76 M, Mathematical Logic

Born 1945 Berkeley, CA. PhD 1975 Math Penn State Univ. Honors: PBK. Memberships: AMS; Assoc for Symbolic Logic; MAA; Natl Council of Teach of Math. Asst Prof, Dept of Math, University of Wyoming, Laramie, WY 82070.

Publications Related to IAS Residence:

Generalized Archimedean fields and logics with Mality Quantifiers. in press; Theory of Archimedean real closed fields in logics with Ramsey quantifiers. *Fund Math* in press; The theory of differentially closed fields in logics with cardinal quantifiers. *Arch Math, Logik Grundlagen* 18(1977) 105-114; The relative expressive power of some logics extending first order logic. *J Symbolic logic* in press.

Cowling, Vincent F. 65-66 M, Analysis

Born 1918 Mount Carmel, IL. PhD 1944 Complex Analysis Rutgers Univ. Memberships: AMS; AMM. Dean, Coll of Sci & Math, State University of New York, Albany, NY

Publications Related to IAS Residence: Inclusion Relations between Matrices. *Math Z* 98(1968) 192-195.

Cozzi, Gaetano 72f HS

Born 1922 Zero Branco (Treviso), Italy. Vineitoro di Concorso 1965 U of Cagliari. Honors: Corr Fellow Brit Acad 1973. Prof, Modern History, Univ of Venice, Dorsoduro 3131, 30123 Venice, Italy.

Publications Related to IAS Residence: With E. Fasano Guarini. La giustizia e la politica agli albori dell'età moderna. In *Potere e società negli stati regionali italiani fra '500 e '600*. Bologna: Il Mulino, 1978.

Other Publications: *Il doge Nicolò Contarini; ricerche sul patriziato veneziano agli inizi del Seicento*. Civiltà Veneziana. Venice: Istituto per la collaborazione culturale, 1958.

Cracco, Lellia Ruggini 75-76 HS, History of the Late Antiquity

Born 1931 Milan, Italy. PhD Univ of Pavia. Honors: Bonavera Prize Accad Mia Delle Scieze 1962; Prize of Cassa Di Risparmio Delle Prov Lombarde 1966. Appointments: Comm II Concorso A Cattedre Numismatica 1975. Memberships: Soc Storici Ital. Prof, Roman Hist, Univ of Turin, Corso Vittorio Emanuele NR 12, 10123 Turin, Italy.

Publications Related to IAS Residence: Il Paganesimo romano tra religione e politica (384-394 dC): Per una reinterpretazione del "Carmen contra paganos". *Mem Acc Naz dei Lincei* 23(1979) 1; Apoteosi e politica senatoria nel IV s dC: il dittico dei Symmachi al British Museum. *RSI* 89(1977) 425-489; The Ecclesiastical Histories and the Pagan Historiography: Providence and Miracles. *Athenaeum* Ns 55(1977) 107-126; With G. Cracco. Changing Fortunes of the Italian City from Late Antiquity to Early Middle Ages. *RFIC* 105(1977) 448-475; Fame laborasse Italiani: Una nuova testimonianza sulla carestia del 383 dC. *Athenaeum* ns, fasc. spec 1976:83-98; Il vescovo cromazio e gli Ebrei di Aquileia. *Antichità Adriatiche* 12 (1977) 353-381; Come Bisanzio vide la fine dell'impero d'Occidente. In *La fine dell'impero romano d'Occidente*, 71-82. Rome: Ist di St. Romani, 1978.

Other Publications: Ebrei e Orientali nell'Italia Settentrionale fra il IV e il VI secolo d Cr. *SDHI* 25(1959) 186-309; *Economia e società nell'Italia Annonaria*. Rapporti fra agricoltura e commercio dal IV al VI secolo dC. Milano: Giuffrè, 1961; Vicende rurali dell'Italia antica dall'età tetrarchica ai Longobardi. *RSI* 76(1964) 261-286; Note sugli Ebrei in Italia dal IV al XVI secolo. *RSI* 76(1964) 926-956; Strutture socioeconomiche della Spagna tardoromana. *Athenaeum* 43(1965) 432-440; Esperienze economiche e sociali nel mondo romano. In *Nuove Questioni di Storia Antica*, 685-813. Milano: Marzorati, 1968; Monza imperiale e regia. In *Atti IV Congr Int di St sull'Alto Medioevo*, 377-391. Spoleto: 1968; Pubblicità e storiografia bizantine di fronte alla crisi dell'impero romano. *Athenaeum* 50(1972) 146-183; L'eredità di Roma. In *Storia d'Italia*, 5, 1: 5-45. Torino: Einaudi, 1973; Leggenda e realtà degli Etiopi nella cultura tardoimperiale. In *Atti del IV Congr Int di Studi Etiopici*, 141-193. Roma: Acc dei Lincei, 1974; Ambrogio e le opposizioni anticattoliche fra il 383 e il 390. *Augustinianum* 14(1974) 409-449; Ambrogio di fronte alla compagine sociale del suo tempo. In *Ambrosius Episcopus*, Atti del Congr Int di St. Ambrosiani, I: 230-265. Milano: 1976.

Craggs, Robert F. 66-68 M, Topology

Born 1937 South Charleston, OH. PhD 1966 Univ of Wisconsin. Assoc Prof, Dept of Mathematics, University of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: Improving the intersection of polyhedra in 3-manifolds. *III J Math* 12(1968) 567-586; Building cartesian products of surfaces with [0,1]. *TAMS* 144(1969) 391-425; Small ambient isotopies of a polyhedron which transform one embedding of a polyhedron into another. *Fund Math* 68(1970) 225-256; Canonical neighborhoods for topologically embedded polyhedra. *TAMS* 173(1972) 465-490.

Craig, Gordon Alexander 46-47, 51-52 HS, Modern European History

Born 1913 Glasgow, Scotland. PhD 1941 History Princeton Univ. Honors: AAAS; Am Philos Soc; DLitt(hc) Princeton U 1970; Pres Pacific Coast Branch AHA 1970; 2nd Vice Pres Com Internatl Scis Hist 1975-. Appointments: Public member, Foreign Service Selection Bd, Dept of State, 1949; Consultant to Arms Control and Disarmament Agency 1964-70. Memberships: AHA. Prof, and Chairman History Dept Stanford Univ, 946 Valdez Place, Stanford, CA 94305.

Publications Related to IAS Residence: *The Politics of the Prussian Army, 1640-1945*. Oxford: 1955; ed with Felix Gilbert. *The Diplomats 1919-1939*. Princeton: 1953.

Other Publications: *From Bismarck to Adenauer: Aspects of German Statecraft*. Johns Hopkins, 1958; *The Battle of Königgrätz*. Lippincott, 1964; *War Politics and Diplomacy*. Praeger, 1966; *Europe since 1815*. Holt, Rinehart, Winston, 1961, 1964, 1967,

Members

1970; *Germany, 1866-1945*. Oxford History of Europe. Oxford, 1978.

Crane, Diana 76-77 Soc, Sociology of Science

Born 1933 Toronto, Canada. PhD 1964 Sociology Columbia Univ. Honors: Guggenheim Fship 1974-75. Appointments: Board on Human Resources, NAS, 1971-74. Memberships: Am Sociol Assoc; Internatl Sociol Assoc; Soc for Social Studies of Sci. Assoc Prof, Sociology, Univ of Penn, 13 rue Cassette, 75006 Paris, France.

Publications Related to IAS Residence: An Exploratory Study of Kuhnian Paradigms in Theoretical High Energy Physics. *Social Studies of Science* (August, 1979); Reward Systems in Avant-Garde Art: Social Networks and Stylistic Change. In *Artists, Publics, and Public Policy*, ed. by Bernard Faber. in press.

Other Publications: *Invisible Colleges: Diffusion of Knowledge in Scientific Communities*. Chicago: University of Chicago Press, 1972; *The Sanctity of Social Life: Physicians' Treatment of Critically Ill Patients*. New York: Russell Sage Foundation, 1975; Studies of Science and Technology Policies. In *A Guide to the Culture of Science, Technology and Medicine*, ed. by Paul Durbin. New York: Free Press, 1979.

Cranz, F. Edward 76-77 HS, Medieval and Renaissance Thought

Born 1914 Barmen, Germany. PhD History Harvard Univ. Honors: Guggenheim Fellow 1973-74. Appointments: Comm Medieval Academy; Natl Council Renaissance Soc of Amer. Memberships: Medieval Academy; Renaissance Soc of Amer; AHA. Rosemary Park Prof, History, Connecticut College, New London, CT 06320.

Publications Related to IAS Residence: Editor-in-Chief, *Catalogus Translationum et Commentariorum*. 4. forthcoming.

Other Publications: *An Essay on the Development of Luther's Thought on Justice, Law, and Society*. Harvard Theological Studies, 19. Cambridge: 1959; *A Bibliography of Aristotle Editions 1501-1600*. Baden-Baden: Bibliotheca Bibliographica Aureliana, 1971; Editor-in-Chief with P. O. Kristeller. *Catalogus Translationum et Commentariorum*. 3. Washington, D.C.: 1976.

Crater, Horace William 68-70 NS, Particle Physics

Born 1942 Washington, DC. PhD 1968 Particle Theory Yale Univ. Memberships: Am Phys Soc. Assoc Prof, Theoretical Physics, Space Institute, University of Tennessee, Tullahoma, TN 37388.

Publications Related to IAS Residence: *Physical Review* D1(1970) 3313-3319; *Physical Review* D2(1970) 1060-1062.

Other Publications: *Physical Review* D12(1976) 1804-1812; *Physical Review* D12(1975) 1115-1177.

Crawley, Charles William 55s HS, Modern European History

Born 1899 London, England. MA(Cantab.) 1924 Classics and History. Honors: Hon Fellow Trinity Hall Cambridge 1971; FRHistS. One Madingley Road, Cambridge CB3 CE6, England.

Publications Related to IAS Residence: ed, Introduction. In *New Cambridge Modern History*, 9. Near East 1792-1832. Informational Relations 1815-30. Cambridge Univ Press, 1965.

Other Publications: *Trinity Hall: the History of a Cambridge College, 1350-1975*. Cambridge Univ Press, 1965.

Creaghan, John S., S.J. 44-45, 45f HS(H)

Born 1913 Baltimore, MD. STL 1944 Woodstock Coll. Deceased.

Publications Related to IAS Residence: With A. E. Raubitschek. Early Christian Epitaphs from Athens. *Hesperia* 16(1947) 1-54.

Critchfield, Charles Louis 40-41 M(NS), Mathematical Physics

Born 1910 Shreve, OH. PhD 1939 Mathematical Physics GW Univ. Honors: National Research Fellow 1940; Alumni Achievement Award GW Univ 1964; Apollo Achievement Award, NASA 1969. Appointments: Assoc Ed Jour of Franklin Inst, 1956-62; Ann Reviews of Nuclear Sci, 1957-61; Member of Planetology Subcomm, NASA, 1964-69. Memberships: Fellow, Am Phys Soc. Prof Emer, Univ of Calif. 391 El Conejo, Los Alamos, NM 87544.

Publications Related to IAS Residence: With Willis E. Lamb, Jr. Note on the Field Theory of Nuclear Forces. *Phys Rev* 58(1940) 46; Excited States of Nuclear Particles in the Meson-Pair Theory. *Phys Rev* 59(1941) 48; With E. Wigner. The Antisymmetrical Interaction in Beta Decay Theory. *Phys Rev* 60(1941) 412.

Other Publications: With G. Gamow. *Theory of Atomic Nucleus and Nuclear Energy Sources*. Oxford, 1949; Scalar Potentials in the Dirac Equation. *Jour Math Physics* 17(1976) 261.

Crocker, Lester G. 58-59 HS, Ethical Thought in the Eighteenth Century

Born 1912 New York, NY. PhD 1936 Univ of Calif. *

Cronbach, Lee Joseph 60-61 M(NS), Psychology

Born 1916 Fresno, CA. PhD 1940 Univ of Chicago. Honors: LHD(h c) Yeshiva 1967; PhD(h c) Gothenburg 1977; Am Philos Soc; AAAS; NAS; NAEdn; Dist Contr to Edl Resch Am Ed Res Assn 1977; Dist Sci Contr Am Psych Assn 1973; Dist Contr Edl Measmt ETS 1971. Appointments: Mental Health Study Section of NIMH. Memberships: Am Psychological Psychometric Soc; Amer Edl Resch Assoc. Vida Jacks Prof, Education, Stanford Univ. 16 Laburnum Rd, Atherton, CA 94025.

Publications Related to IAS Residence: With Gleser, Nanda, and Tajaratnam. *Dependability of Behavioral Measurements*. New York: Wiley, 1972.

Other Publications: With Gleser. *Psychological Tests and Personnel Decisions*. Univ of Illinois Press, 1957, 1965; *Essentials of Psychological Testing*. Harper & Row, 1949, 1960, 1970.

Cronström, Christofer Eige 69-71 NS, Mathematical Physics

Born 1940 Helsinki, Finland. PhD 1967 Theoretical physics Univ of Helsinki. Appointments: Finnish Particle Physics Committee 1976-; Board of NORDITA (Copenhagen) 1977-. Memberships: Finnish Phys Soc. Assoc Prof, Univ of Helsinki, Dept of Theoretical Physics, Siltavuorenpenger 20 C, SF 00170 Helsinki 17, Finland.

Publications Related to IAS Residence: With W.H. Klink. Generalized $O(1,2)$ Expansions of Multiparticle Amplitudes. *Ann Phys (NY)* 69(1972) 218-78; Generalized $O(2,1)$ Expansions. In *Lectures in Theoretical Physics*, ed. by A. O. Barut and W. E. Brittin, 13: 205-218. Colo Univ Press, 1971; With M. Noga. Algebraic Realization of Weinberg's Superconvergence Conditions. *Phys Rev D*1(1970) 2414-20; Constraints on Partial Wave Amplitudes from the Froissart-Gribov Representation. *Ann Phys (NY)* 61(1970) 98-118; With M. Noga. Bootstrap Equations and Cabibbo Theory. *Nucl Phys B* 17(1970) 477-88.

Other Publications: Zeros of the Pion Form Factor. *Phys Lett* 49B(1974) 283; Partial Diagonalization of Bethe-Salpeter Type Equations. *Ann Phys* 92(1975) 262.

Crow, John W. 56-57 HS, Elizabethan Literature

Born 1904 England. MA(Oxon.) 1942. *

Crutchfield, Richard Stanley 58-59 M(NS), Psychology

Born 1912 Pittsburgh, PA. PhD 1938 Univ of Calif, Berkeley. Deceased.

Curjel, Caspar Robert 63-64 M

Born 1931 Berlin, Germany. DSc 1960 Math ETH Zurich. Prof, Department of Mathematics, Univ of Wash, Seattle, WA 98195.

Curran, Peter M. 68f M, Cohomology of Groups

Born 1925 New York, NY. PhD 1968 Columbia Univ. Assoc Prof, Fordham Univ. 62-96 Wetherol St, Rego Park, NY 11374. *

Curry, Haskell Brooks 38-39 M, Mathematical Logic

Born 1900 Millis, MA. PhD 1930 Mathematical Analysis Univ of Göttingen. Honors: Honorary Visit Prof University of Louvain 1951; Sc.D. (hc) Curry College 1955; Sigma Xi. Appointments: Member of Council AAAS, 1937; Chairman conf on mathematical logic for Internatl Math Congress proposed for 1940,

cancelled on account of World War II; Member War Preparedness Committee; Liaison member, Applied Math Panel, NDRC, 1943-44, Council, AMS, 1945-47; Policy Committee for Math, 1956-57; Conference Board, Math Sciences, 1958-63; U.S. Nat'l Committee, Internatl Union Hist & Philos Soc 1959-63. Memberships: Assoc Symbolic Logic (vice-pres 1936-37, Pres 1938-40) AMS; MAA; AAAS; Wiskundig Genootschapte Amsterdam; Oesterreichische M G; Am Philos Assoc; Amer Ornitholog Union; Nederlandse Ornith Unie. Prof Emer, Mathematics, Penn State, 228 E Prospect Ave, State College, PA 16801.

Publications Related to IAS Residence: *Outlines of a Formalist Philosophy Of Mathematics*. Amsterdam: North Holland Publishing Co, 1951; The paradox of Kllene and Rosser. *Trans Amer Math Soc* 50(1941) 454-516.

Other Publications: *A Theory of Formal Deducibility*. Notre Dame Mathematical Lectures, no 6. 1950; *Leçons de logique algebrique*. Gauthier Villars & E. Nauwelaerts, 1952; With Robert Feys. *Combinatory Logic*. 1. North Holland, 1958; *Foundations of Mathematical Logic*. McGraw-Hill Book Co, 1963.

Curtis, Charles W. 54-55, 68-69 M, Algebra

Born 1926 Providence, RI. PhD 1951 Mathematics Yale Univ. Prof, Dept of Mathematics, University of Oregon, Eugene, OR

Publications Related to IAS Residence: Modular Lie algebras I, II. *Trans Amer Math Soc* 82(1956) 160-179; 86(1957) 91-108; Commuting rings of endomorphisms. *Canadian J Math* 8(1956) 271-292; With Irving Reiner. *Representation Theory of Finite Groups and Associative Algebras*. New York: John Wiley & Sons, 1962; With N. Iwahori and R. Kilmoyer. Hecke algebras and characters of parabolic type of finite groups with B,N-pairs. *Publ Math IHES* no. 40(1972) 81-116; With C.T. Benson. On the degrees and rationality of certain characters of finite Chevalley groups. *Trans Amer Math Soc* 165(1972) 251-273; 202(1975) 405-406.

Curtis, Morton Landers 51-53 M, Topology

Born 1921 TX. PhD 1951 Univ of Michigan. Prof, Rice Univ, Houston, TX 77001. *

Curtis, Richard Bertram 56-58 M(NS), Theoretical Physics

Born 1931 New Brunswick, NJ. PhD 1956 Theoretical Physics Univ of Ill. Appointments: AEC 1957-58; NSF Grad Fship Panel 1965-67; NAS Dir Study Postdoc Ed in US 1967-69; ACE Cttee on Sponsored Projects 1969. Consultant Lawrence Berkeley Laboratory, 439 University Ave, Los Gatos, CA 95030.

Publications Related to IAS Residence: With Lewis. Electron Polarization in Beta Processes. *Phys Rev* 107(1957) 543; With Lewis. Beta-Gamma Correlations from Oriented Nuclei. *Phys Rev* 107(1957) 1381; With Lewis. Beta-Gamma Correlations with Resonance Fluorescence. *Phys Rev*

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110(1958) 910; With Wellner. Role of the Asymptotic Condition in a Lagrangian Field Theory. *J of Math Phys* 2(1961) 651; With Bahcall. The Mass of the Muon's Neutrino. *Nuovo Cimento* 10(1961) 422; With Maxon. T-Functions in the Lee Model. *Bull Amer Phys Soc Series II* 9, 1(1964) 86; With Maxon. LSZ Formalism in the Lee Model. *Phys Rev* 137(1965) 996.

Other Publications: *The Invisible University: A Study of Postdoctoral Education in the United States*. NAS, 1969; Postdoctoral Education in the United States. In *Encyclopedia of Education*. MacMillan, 1972; Decision-Rules and Collective Values in Constitutional Choice. In *Probability Models of Collective Decision Making*, ed. by Richard G. Niemi. 1972.

Curtius, Ernst Robert 49f HS, Mediaeval Literature

Born 1886 Germany. PhD 1910 Univ of Strasbourg. Deceased.

Publications Related to IAS Residence: Antike Pathosformeln in der Literatur des Mittelalters. In *Estudios Dedicados a Menendez Pidal*, 1: 257-263. Madrid: 1950.

Cutler, Edward Hutchens 35 36 M

Born 1903 . PhD 1930 Harvard Univ. Prof Emer, Lehigh Univ, 1818 Jennings St, Bethlehem, PA 18017. *

Cvitanović, Predrag 75-76, 77-78 NS, Theoretical Elementary Particle Physics

Born 1946 Zagreb, Yugoslavia. PhD 1973 Theoretical Physics Cornell Univ. Res Assoc, Elem Part Physics, NORDITA, Blegdamsvej 17, 2100 Copenhagen 0, Denmark.

Publications Related to IAS Residence: Quantum Chromodynamics on the Mass-Shell. *Nucl Phys B* 130(1977) 114-144; Group Theory for Feynman Diagrams in Non-Abelian Gauge Theories. *Phys Rev D* 14(1976) 1536-53.

Other Publications: With T. Kinoshita. Sixth Order Magnetic Moment of the Electron. *Phys Rev D* 10(1974) 4007-31.

Cwikel, Michael 75-76 M, Analysis

Born 1948 Melbourne, Australia. PhD 1973 Mathematics Weizmann Institute. Memberships: AMS, Israel Math Union. Senior Lect, Department of Mathematics, Technion, Haifa, Israel.

Publications Related to IAS Residence: Weak type estimates for singular values and the number of bound states of Schrödinger operators. *Annals of Math* 109(1977) 93-100.

d'Alverny, Marie-Thérèse 62s, 71f HS, Mediaeval History

Born 1903 Boën Sur Lignon, France. Doctorate 1963 Mediaeval History Sorbonne. Honors: Chevalier Legion d'Honneur 1957; DLitt(hc) Oxford University

1967; Dr(hc) Smith College 1977; Corr Member Mediaeval Acad of Amer 1957; 1965 British Acad; Amer Philos Soc 1974; AAAS 1975; Member Acad Hist des Scis 1966. Appointments: Com Natl CNRS 1967-1975; Pres Soc L'Ecole des Chartes 1965-1966. Memberships: Soc Ecole des Chartes; Soc Etudes Latines; Com Internatl de Paleographie; Com Dir Scriptorium, Manuscripta, Vivarium; Dir, Archives d'Hist Litt et Doctrinale du Moyen Age. Dir, Recherche, CNRS, Prof Centre d'Études Sup Civilisation Mediev, Poitiers, 58 Rue de Vaugirard, Paris 75006, France.

Publications Related to IAS Residence: *Alain de Lille. Textes inedits avec une introduction sur sa vie et ses oeuvres*. Paris: vrin, 1965; Un adversaire de Saint Thomas: Petrus Iohannis Olivi. In *St. Thomas Aquinas 1274-1974, Commemorative Studies*, 2. Toronto: Pontifical Inst of Mediaeval Studies, 1974.

d'Arcy, Martin C., S.J. 41f HS(H), History, Religion

Born 1888. MA (Oxon.) Deceased.

D'Arms, John Haughton 75-76 HS, Roman History

Born 1934 Poughkeepsie, NY. PhD 1965 Classical Philology Harvard Univ. Honors: PBK Princeton 1956; Keasbey Scholar New College, Oxford 1956-59; Fulbright U of Rome 1961-62; ACLS Fellow 1971-72; Guggenheim Fellow 1975-76. Appointments: Fulbright Comm for Cultural Exchange with Italy (1977-); Bd Dir ACLS (1973-1977); Term Trustee Princeton U (1970-74). Memberships: Amer Philological Assoc; Archaeol Inst of Amer; Soc for Promotion of Roman Studies. Mellon Prof, Classical Studies, and Dir, American Academy in Rome, Via Angelo Masina 5, 00153 Rome, Italy.

Publications Related to IAS Residence: *Ancient and Modern: Essays in Honor of G.F. Else*. Ann Arbor: 1977; Notes on municipal notables of Imperial Ostia. *AJP* 97(1976) 387-411; Proprietari e ville nel golfo di Napoli. In *Atti dei Convegni Lincei*, 33: 347-363. Accad Naz di Lincei, 1977.

Other Publications: *Romans on the Bay of Naples*. Harvard U Press, 1970; 18 unedited inscriptions from Puteoli. *AJA* 77(1973) 152-167; Puteoli in the Second Century of the Roman Empire: a social and economic study. *JRS* 64(1974) 104-124.

Dabrowski, Janusz 58-59 M(NS), Theoretical Physics

Born 1927 Poznan, Poland. PhD 1954 Physics Univ of Warsaw. Honors: 1st degree Awd of State Coun for peaceful uses of Atomic Ener (Pol Atomic Comm) work on nclr matter 1969. Appointments: Com for Peaceful Uses of Atomic Energy of Polish Acad of Sci, 63-70; Scientific Council of the Inst for Nuclear Research, Warsaw, 63-68; Scientific Council at the Inst for Theoretical Physics, Warsaw Univ, 65-present. Memberships: Ed Board of Acta Physica Polonica, 76-present; Advisory Ed Board of Physics Letters, 66-72. Prof, and Head, Theoretical Division,

Institute of Nuclear Research, Hoza 69, PL-00-681 Warsaw, Poland.

Publications Related to IAS Residence: With J. Sawicki. The Medium and High Energy Optical Model and the Correlations in the Nuclear Wave Function. *Nuclear Physics* 13(1959) 621.

Other Publications: On the binding energy of the 16° nucleus. *Proc Phys Soc* 71(58) 658; 72(58) 499; Symmetry Energy and the Isotopic Spin Dependence of the Simple Particle Potential in Nuclear Matter. *Phys Rev* 134(1964) 772; With M.S. KÖhler. On the binding energy of a lambda particle in nuclear matter. *Phys Rev* 136(1964) 162; With M.Y.N. Hessian. Binding energy of a lambda particle in nuclear matter. *Phys Rev C* 1(1970) 1883; With P. Haensel. Spin and Spin - Isospin Symmetry Energy of Nuclear Matter. *Phys Rev C* 7(1973) 916; With E. Fedorjusvie, P. Haensel, M.Y.M. Hessian. Binding Energy of ^3H and n-d Doublet Scatterings Length with Change-Dependent Forces. *Phys Rev C* 4(1971) 1985.

Dales, Richard Clark 66-67 HS, History of Science

Born 1926 Akron, OH. PhD 1955 Univ of Colorado. Memberships: Medieval Assoc of the Pacific; Medieval Acad of America; Hist of Sci Soc. Prof, Medieval History, Univ of Southern California, 616 Chatham Pl, Flintridge, CA 91011.

Publications Related to IAS Residence: With Servus Gieben. *Roberti Grosseteste Hexaameron, Editio critica*. The British Academy, in press; The Proemium to Robert Grosseteste's Hexaameron. *Speculum* 43(1968) 451-461; *The Achievement of Medieval Science*. Philadelphia: Univ of Penn Press, 1973.

Other Publications: A Medieval View of Human Dignity. *Journal of the History of Ideas* 38(1977) 557-572; *Marius: On the elements*. Berkeley: Univ of Calif Press, 1976; A Twelfth-Century Concept of the Natural Order. *Viator* 9(1978) 179-192.

Dalitz, Richard Henry 55s M(NS), Theoretical Physics of Elementary Particles

Born 1925 Melbourne, Victoria, Australia. PhD(Cantab) 1950 Theoretical Physics. Honors: FRS 1960; Maxwell Medal & Prize Inst Physics & Physical Soc 1966; Jaffe Prize (Bakerian Lecture of the Royal Society) 1969; Hughes Medal (Royal Society) 1975. Memberships: Inst of Physics (London); Am Phys Soc; European Phys Soc; Sigma Xi. Royal Society Research Prof, University of Oxford, Fellow, All Souls College, Oxford OX14AL, England.

Publications Related to IAS Residence: Charge Independence in Light Hyperfragments. *Phys Rev* 99(1955) 1475-1477; Radiative τ -Meson Decay. *Phys Rev* 99(1955) 915-920.

Other Publications: *Strange Particles and Strong Interactions*. India: Oxford U Press, 1962; *Nuclear Interactions of the Hyperons*. India: Oxford U Press, 1965; Decay of τ -Mesons of Known Charge. *Phys Rev* 94(1954) 1046-1051; The Low scattering equation for charged scalar meson theory. *Phys Rev*

101(1956) 453-458; With L. Castillejo and F.J. Dyson. K-mesons and Hyperons. *Reps Progr Phys* 20(1957) 163-303; With S.F. Tuan. The phenomenological description of K- nucleon reaction processes. *Ann Phys NY* 10(1960) 307-351; Quark Models for the Elementary Particles. In *High Energy Physics*, 251-324. NY: Gordon & Breach, 1966; Excited Nucleons and the Baryonic Supermultiplets. In *Pion-Nucleon Scattering*, ed. by G. L. Shaw & D. Y. Wong, 187-207. NY: Wiley-Inter-science, 1969.

Dalla Volta, Vittorio 50-51 M, Differential Geometry

Born 1918 Italy. PhD Univ of Rome. Traversa via Man-zoni 2, 80123 Napoli, Italy. *

Daltrop, Georg 75s HS, Classical Archaeology

Born 1932 Burgsteinfurt, Germany. DPhil Univ Münster. Honors: Pontificia Accad Romana di Archeologia corr 1971, effettivo 1976; Intl Assoc for Class Archaeology 1971; Deutsches Archäologisches Inst Berlin 1969. Dir, Antichità Classiche, Musei Vaticani, I00120 Vatican City, Italy.

Publications Related to IAS Residence: Zur Überlieferung und Restaurierung des Apoll vom Belvedere. In *Rendiconti della Pontificia Accademia Romana di Archeologia*, 48: 127-140. 1975-76.

Other Publications: Die Flavien-Domitian. In *Das römische Herrscherbild*, 2, 1: 30-42. Berlin: 1966.

Dancoff, Sidney Michael 41-42, 50-51 M(NS), Physics

Born 1913 Philadelphia, PA. PhD 1939 Univ of Calif. Deceased.

Publications Related to IAS Residence: With W. Pauli. The Pseudoscalar Meson Field with Strong Coupling. *Phys Rev* (2) 62(1942) 85-108.

Dani, Shrikrishna Gopal 76-77 M, Ergodic Theory

Born 1947 Belgaum, India. PhD 1975 Univ of Bombay. Honors: Young Scientist Awd Indian Nat Sci Acad 1976. Reader, School of Mathematics, Tata Institute of Fundamental Research, Homi Bhabha Rd, Bombay 400005, India.

Publications Related to IAS Residence: Invariant measures of horospherical flows on non-compact homogeneous spaces. *Inv Math* 47(1978) 101-138; Nilmanifolds with Anosov Automorphisms. *J Lon Math Soc* 18(1978) 553-558.

Other Publications: Kolmogorov automorphisms on homogeneous spaces. *Amer J Math* 98(1976) 119-163; Bernoullian translations and minimal horospheres on homogenous spaces. *J Ind Math Soc* 39(1976) 245-284.

Dankner, Alan 77-78 M, Topology

Born 1945 Newton, MA. PhD 1977 Math Univ Calif Berkeley. Honors: AMS Research Fellowship 1978-9. Memberships: AMS. Asst Prof, Department of Mathematics, University of Iowa, Iowa City, IA 52242.

Members

Publications Related to IAS Residence: Axiom A Dynamical Systems, Cycles, and Stability. *Topology* in press.

Other Publications: On Smale's Axiom A Dynamical Systems. *Ann of Math* 107(1978) 517-553.

Danskin, John Moffatt, Jr. 55-58 M, Calculus of Variations, Functional Equations

Born 1923 Alhambra, CA. PhD 1949 U of Calif, Berkeley. Apt J-1208, 1021 Arlington Blvd, Arlington, VA 22209. *

Darnton, Robert 79f Soc, History

Born 1939 New York, NY. PhD 1964 Oxford Univ. Prof, History, Princeton Univ, 6 McCosh Cir., Princeton, NJ 08540. *

Dashen, Roger F. see Present Faculty

Dauben, Joseph Warren 77-78 HS, History of Science

Born 1944 Santa Monica, CA. PhD 1972 History of Science Harvard Univ. Honors: NEH Fellow 1973-74; Sigma Xi. Appointments: Ed, *Historia Mathematica* 1978-; Vice-Chair Hist & Phil of Sci Section, NY Acad Scis. Memberships: Hist of Sci Soc; NY Acad of Scis; past Pres Metro NY Sect Hist of Sci Soc. Assoc Prof, Dept of History, Herbert H. Lehman College, CUNY, Bedford Park Boulevard West, New York, NY 10468.

Publications Related to IAS Residence: *Georg Cantor: His Mathematics and Philosophy of the Infinite*. Harvard University Press, 1979; *Conceptual Revolutions and the History of Mathematics: Two Studies in the Growth of Knowledge*. In *Festschrift*. Cambridge University Press, in press.

Other Publications: The Development of Cantorian Set Theory. In *From the Calculus to Set Theory, 1630-1910*, ed. by Ivor Grattan-Guinness, 181-219. Duckworths, 1977; Georg Cantor and Pope Leo XIII: Philosophical and Theological Dimensions of Transfinite Set Theory. *J Hist Ideas* 38(1977) 85-108; C. S. Peirce's Philosophy of Infinite Sets. *Math Mag* 50, 3(1977) 123-135; Peirce's Critique of Cantorian Set Theory. In *Proceedings of the C. S. Peirce Bicent Internatl Cong, Amsterdam*. Texas Tech U Press, in press; Georg Cantor: The Personal Matrix of His Mathematics. *ISIS* 69(1978) 534-550.

Daux, Georges Louis 47f HS(H), Greek Epigraphy, History, Literature

Born 1899 Bastia, France. Honors: FBA; Dr(hc) Brussels 1956; Dr(hc) Liège 1967; Am Philos Soc; Accad dei Lincei. Appointments: Head French Delegation in the Security Council's Commission of Inquiry in the Balkans, Dec 1946-July 1947, Athens, Sofia, Belgrade, Genève, New York. Memberships: Deut Archaeolog Inst; Deut Ak d W; Archaeolog Inst Amer. Prof Emer, 6, avenue Paul-Appell, 75014 Paris, France.

Dauids, Norman 42s M, Applied Math

Born 1918 New York, NY. PhD Math NYU. Honors: Nav Ord Devel Award 1946; Fulbright 1960; PBK; Engin Coll Research Award (PSU) 1974. Memberships: Fellow, Amer Acad of Mechanics, Society of Rheology, ASME. Prof Emer, Engineering Science, Pa State Univ, 236 E Irvin Ave, State College, PA 16801.

Publications Related to IAS Residence: Minimal Surfaces Spanning Closed Manifolds. *Amer Jour Math* 44(1942) 348-362; A Characterization of Minkowski Geometry. *Bull Amer Math Soc* 53(No 2) 196-200.

Other Publications: With R. L. Berger and E. Panek. The Design and Development of a Stopped-Flow Microcalorimeter for the Study of Enzyme Kinetics. *Journées de Calorimétrie et d'Analyse Thermique* May(1973) 6-1 to 6-12; With G. Ray and Y. K. Liu. Wall Stress in Curved Aorta in Blunt-Chest Trauma. *28th Conf On Eng in Medicine and Biology, New Orleans* (1975) 9-20; With D. N. Ghista and A. S. Kobayashi. Analyses of Some Biomechanical Structures and Flows by Computer-Based Finite Element Method. *Comput Biol Med* 5(1975) 119-161; With K. Kandarpa. Analysis of the Fluid Dynamic Effects on Atherogenesis at Branching Sites. *J Biomechanics* 9(1976) 735-741.

Davies, Edward Brian 68-69 M

Born 1944 Cardiff, Wales. DPhil 1968 Mathematics Oxford Univ. Univ Lect, Mathematics, Oxford Univ, Oxford, England.

Publications: *Quantum Theory of Open Systems*. New York: Academic Press, 1976; *One-Parameter Semigroups*. New York: Academic Press, 1980.

Davies, Martin 55f HS, Art History

Born 1908 London, England. BA(Cantab.) 1930. Deceased.

Davis, Chandler 57-58 M, Hilbert-Space Operators

Born 1926 Ithaca, NY. PhD 1950 Math Harvard Univ. Honors: NRC Senior Res Fship 1968-69. Memberships: AMS; MAA; Canadian Math Soc; Soc for Industrial & Applied Math. Prof, Mathematics Dept, University of Toronto, Toronto M5S 1A1, Canada.

Publications Related to IAS Residence: Separation of two linear subspaces. *Acta Sci Math* 19(1958) 172-187; Various averaging operations onto subalgebras. *Illinois J Math* 3(1959) 538-553; Another subdivision which cannot be shelled. *Proc Amer Math Soc* 9(1958) 735-737.

Other Publications: Theory of positive linear dependence. *Amer J Math* 76(1954) 733-746; With W. M. Kahan. The rotation of eigenvectors by a perturbation III. *Siam J Numer Anal* 7(1970) 1-46; With D.E. Knuth. Number representations and dragon curves. *J Recreational Math* 3(1970) 66-81 133-149; The shell of a Hilbert-space operator. *Acta Sci Math* 29(1968) 69-86.

Davis, Joseph S. 48-49 HS(EP), Consumption Economics

Born 1885 Frazer, PA. PhD 1913 Harvard Univ. Deceased.

Publications Related to IAS Residence: Our Amazing Population Upsurge. *J of Farm Economics* 31(1949) 765-778.

Davis, Martin D. 52-54 M, Mathematical Logic

Born 1928 New York, NY. PhD 1950 Math Princeton Univ. Honors: Chauvenet Prize 1975; Steele Prize 1975; Lester R. Ford Prize 1975. Memberships: AMS; MAA; Assoc Symbolic Logic. Prof, Math, New York Univ, Courant Institute, 251 Mercer St, New York, NY 10012.

Publications Related to IAS Residence: *Computability & Unsolvability*. New York: McGraw-Hill, 1958.

Other Publications: With Hilary Putnam & Julia Robinson. The Decision Problem for Exponential Diophantine Equations. *Ann of Math* 74(1961) 425-436; Eliminating the Irrelevant from Mechanical Proofs. *Proc Symp Applied Math* 15(1963) 15-30; Hilbert's Tenth Problem is Unsolvable. *Amer Math Monthly* 80(1973) 233-269; With Juri Matijasevič & Julia Robinson. Hilbert's Tenth Problem, Diophantine Equation: Positive Aspects of a Negative Solution. *Proc Symp Pure Math* 28(1976) 323-378.

Davis, Michael 76-77 M, Transformation Groups, Differential Topology

Born 1949 Norristown, PA. PhD 1975 Princeton Univ. Dept of Math, Columbia Univ, New York, NY 10027. *

Davis, Natalie Zemon 78s Soc, European History

Born 1928 Detroit, MI. PhD 1959 Univ of Michigan. Honors: Koren Prize 1968 & 1971; Chevalier Ordre Palmes Académiques 1976; DHumLitt(hc) Smith Coll 1977; AAAS 1979. Memberships: Soc for French Hist Studies (Pres 1976-77); Amer Soc for Church Hist; Amer Hist Soc, Council mem 1972-75; Renaissance Soc of Amer; Soc for Reformation Research, Council mem 1975-77. Prof, History, Princeton Univ, 78 Alexander St, Princeton, NJ 08540.

Publications Related to IAS Residence: The Sacred and the Body Social in Sixteenth Century Lyon. *Past and Presents* press; Gender and Genre: Women as Historical Writers 1400-1820. In *Learned Women of the European Past*, ed. by Patricia Labalme. New York: NYU press, Les conteurs de Montailou. *Annales Economies Sociétés Civilisations* 34(1979) 61-73.

Other Publications: *Society and Culture in Early Modern France*. Stanford CA: 1975; Ghosts, Kin & Progeny: Some Features of Family Life in Early Modern France. In *The Family* ed. by Alice Rossi et al. NY: Norton, 1978.

Day, Florence Ely 38-39, 40s HS(H), Humanities

Born 1908 Beirut, Lebanon. PhD 1940 Near Eastern Art Univ of Michigan. Honors: Res Fellow Harvard University 1962-63. 16 Chauncy St Apt 10, Cambridge, MA 02138.

Publications Related to IAS Residence: Islamic Finds at Tarsus. *Asia* 41(1941) 143-148.

Day, Mahlon Marsh 39-40, 48-49 M, Analysis

Born 1913 Rockford, IL. PhD 1939 Brown Univ. Memberships: AMS; MAA; Am Assoc for Adv Sci. Prof, Math, Univ of Ill at Urbana, 713 W Oregon St, Urbana, IL 61801.

Publications Related to IAS Residence: *Normed Linear Spaces*. Ergebnisse der Mathematik (N.F.), Heft 21. Berlin-Göttingen-Heidelberg: 1958; Reflexive Banach spaces not isomorphic to uniformly convex spaces. *Bull AMS* 47(1941) 313-317; Some more uniformly convex spaces. *Bull AMS* 47(1941) 504-507; A property of Banach spaces. *Duke Math J* 9(1941) 763-770; Ergodic theorems for Abelian semi-groups. *Trans AMS* 51(1942) 399-412; Convergence, closure, and neighborhoods. *Duke Math J* 11(1944) 181-199; Oriented systems. *Duke Math J* 11(1944) 200-229; Means for the bounded functions and ergodicity of the bounded representations of semi-groups. *Trans AMS* 69(1950) 320-337; Amenable semigroups. *Ill J Math* 1(1957) 509-544; The spaces L^p with $0 < p < 1$. *Bull AMS* 46(1940) 816-823; Strict convexity and smoothness of normed spaces. *Trans AMS* 78(1955) 516-528; Semigroups and amenability, Semigroups. In *Proceedings of a Conference at Wayne State University held in June 1968*, 5-53. Academic Press, August 1969.

Day, Richard H. 78-79 Soc, Economics

Born 1933 Ames, IA. PhD 1961 Economics Harvard Univ. Appointments: Founder, Ed (with S. Winter) of *The Journal of Economic Behavior and Organization*. Memberships: Am Econ Assoc; Econometric Soc. Prof, and Chairman, Department of Economics, Univ of Southern California, University Park, Los Angeles, CA 90007.

Publications: With I.J. Singh. *Economic Development as an Adaptive Process: A Green Revolution Case Study*. Cambridge: 1977; *Modeling Economic Change: The Recursive Programming Approach*. Amsterdam: North-Holland, 1978; ed with T. Groves. *Adaptive Economic Models*. Academic Press, 1975.

de Boer, Jan 53s, 56f M(NS), Quantum Statistical Mechanics

Born 1911 The Netherlands. PhD 1940 Univ of Amsterdam. Inst Theoret Phys, Univ of Amsterdam, Valcherierstraat 65, Amsterdam, The Netherlands. *

Publications Related to IAS Residence: A Cell-Cluster Method for the Liquid State, I. *Physica* 20(1954) 655-664.

de la Torre, Pilar 75-76 M

Members

Born 1944 Spain. PhD 1975 Math SUNY at Buffalo. 2702 Wisconsin Ave NW, 109, Washington, DC 20007.

De Luccia, Frank Joseph 79-80 NS, Theoretical Particle Physics

Born 1953 Paterson, NJ. PhD 1979 Physics Harvard Univ. Honors: Phi Beta Kappa & Sigma Xi 1974. Memberships: Am Phys Soc. Dept 423, DF 33, Electronic Systems Group, Rockwell International, 3370 Miraloma Ave, PO Box 3105, Anaheim, CA 92803.

de Lyra, Carlos 60-61 M, Algebraic Topology

Born 1927 Brazil. DSc 1958 Univ of São Paulo. Deceased.

de Ruset, Alan W. 51-52 HS, International Organization

Born 1916 England. MA 1942 Cambridge Univ. Deceased.

Publications Related to IAS Residence: Large and Small States in International Organization: Present Attitudes to the Problem of Weighted Voting. *Int Affairs* 30(1954) 463-474.

De Sapio, Rodolfo Vittorio 68f M, Topology

Born 1936 New York, NY. PhD 1964 Univ of Chicago. Memberships: AMS; MAA; AAUP; New York Acad of Scis; Am Assoc for the Adv of Sci. Assoc Prof, Department of Mathematics, University of California, 405 Hilgard Ave, Los Angeles, CA 90024.

Publications Related to IAS Residence: Differential structures on a product of spheres: II. *Ann of Math* 89(1969) 305-313.

Other Publications: Differential structures on a product of spheres. *Comment Math Helv* 44(1969) 61-69; Almost diffeomorphisms of manifolds. *Pacific J Math* 26(1968) 47-56; Embedding $\tau\tau$ -manifolds. *Ann of Math* 82(1965) 213-244.

De Wet, Jacobus S. 38-40 M, Quantum Mechanics, Hilbert Spaces

Born 1913 . AB 1933 U of Cape Town. *

Publications Related to IAS Residence: On the Connection between the Spin and Statistics of Elementary Particles. *Phys Rev* 2 57(1940) 646-652; On the Spinor Equations for Particles with Arbitrary Spin and Rest Mass Zero. *Phys Rev* 2 58(1940) 236-242.

Deakin, Sir William 72s HS, Modern History

Born 1913 London, England. BA 1934 Modern History Oxford. Honors: Honorary Fellow Wadham Coll Oxford Univ 1961; Honorary Fellow St. Antony's Coll 1968; Honorary Student Christ Church Oxford U 1979. Le Castellet, 83 Var, France.

Publications: *The Brutal Friendship: Mussolini, Hitler and the Fall of Italian Facism*. NY: Harper and Row,

1962; *The Embattled Mountain*. Oxford Univ Press, 1971.

Dean, Ruth J. 43-44, 50-51 HS, Paleography

Born 1902 New York, NY. DPhil 1938 Medieval Intellectual Hist. Honors: Palmer Fellow AAUW 1943-44; Guggenheim Fellow 1948-49; NEH Sr Fellow 1967-68; Officier d'Academie 1949; Officier Palmes Académiques 1963; Fellow Mediaeval Acad 1969; Corr Fellow Brit Acad 1976; Hon MA Univ of Penn 1976. Appointments: Advisory Com Sr Fulbright Awards 50-54; Fellowship award cttees of ACLS 59, 60, 71 of AAUW 60, 61; Ed Bd PMLA 62-67; Foreign Lang Prog Adv MLA: cttee 64-68; Exec. Counc 58-61; First V-Pres 62; Exec Counc 58-61; Mediaeval Acad of Amer: Council 63-66, 68-71; Exec Cttee 66-67 (other cttees). Memberships: Phi Beta Kappa; MLA; Mediaeval Acad; AAUP; Am Assn Teachers of French; Modern Humanities Research Assn; Soc for Study of Medieval Langs and Literatures; Anglo-Norman Text Society (Amer hon sec 1974--); Assoc of Columbia Univ Seminar on Mediaeval Studies 1975--. Prof Emer, French, Mount Holyoke Coll, Prof Emer English & Rom Langs Univ of Penn, Apt 10-C, 165 West 66th St, New York, NY 10023.

Publications Related to IAS Residence: The Earliest Known Commentary on Livy by Nicholas Trevet. *Medievalia et Humanistica* 3(1945) 86-98; Cultural Relations in the Middle Ages: Nicholas Trevet and Nicholas of Prato. *Studies in Philology* 45(1948) 451-564; Latin Palaeography: 1929-1943. *Progress of Mediaeval and Renaissance Studies in the USA and Canada* 18(1944) 6-18; Nicholas Trevet, Historian. In *Medieval Learning and Literature*, ed. by J.J.G. Alexander & M.T. Gibson, Essays presented to R. W. Hunt: 328-352. Oxford: Clarendon Press, 1976; A Fair Field Needing Folk: Anglo-Norman. *PMLA* 69(1954) 965-978; The Fair Field of Anglo-Norman: Recent Cultivation. *Medievalia et Humanistica* NS 3(1972) 279-297; The Manuscripts of Nicholas Trevet's Anglo-Norman "Cronicles". In *Medievalia et Humanistica*, 14 Studia in Honorem E. A. Lowe: 95-105. 1962, The Science and Art of Paleography. In *Literature and Science*, 19-27. Oxford: Blackwell, 1955.

Other Publications: Ed with M. D. Legge. *The Rule of St Benedict: A Norman Prose Version*. Oxford: Blackwell, 1964; The Dedication of Nicholas Trevet's Commentary on Boethius. *Studies on Philology* 63(1966) 593-604; Unnoticed Commentaries on the "Dissuasio Valerii" of Walter Map. *Medieval and Renaissance Studies* 2(1950) 128-150; Elizabeth, Abbess of Schönau, and Roger of Ford. *Modern Philology* 41(1944) 209-220.

Debever, Robert 48s M

Born 1915 Belgium. PhD 1947 Univ of Brussels. 119 Ave de l'Opale, Brussels 1040, Belgium. *

Publications Related to IAS Residence: Electromagnétisme et Géométrie. *Bull Soc Math Belgique* 1947/1948(1949) 34-42.

Debevoise, Neilson C. 40-41 HS(H), Oriental Studies

Born 1903 Jersey City, NJ. PhD 1930 Univ of Ill. Oriental Institute, Univ of Chicago, Chicago, IL 60637. *

Debus, Allen George 72-73 HS

Born 1926 Chicago, IL. PhD 1961 History of Science Harvard Univ. Honors: Bowdoin Awd in Nat Sci Harvard Univ 1957, 1958; Fulbright Awd 1959-60; SSRC Fship 1959-60; Overseas Fellow Churchill Coll, Cambridge 1966-67, 1969; Guggenheim Fellow 1966-67; NEH Fellow Newberry Library 1975-76; Edward Kremers Awd Am Inst of the Hist of Pharmacy 1978; Pfizer Award Hist of Sci Soc 1978. Memberships: Hist of Sci Soc; Am Chem Soc, Hist of Chem Div; AAAS Fellow; Internationale Paracelsus Gesellschaft; Am Assoc for the Hist of Medicine; British Soc for the Hist of Sci; Soc for the Study of Alchemy and Early Chemistry; Acad Int d'Histoire de la Médecine; Acad Int d'Histoire des Sciences; Soc Int d'Hist de la Médecine; Am Inst of the Hist of Pharmacy; Am Inst for Reformation Research. Morris Fishbein Prof, Hist of Sci and Med, Univ of Chicago, 85 Bent Creek Ridge, Deerfield, IL 60015.

Publications Related to IAS Residence: *The Chemical Philosophy: Paracelsian Science and Medicine in the Sixteenth and Seventeenth Centuries*. 2 vols. New York: Science History Publications, 1977; *The Chemical Philosophers: Chemical Medicine from Paracelsus to van Helmont. History of Science* 12(1974) 235-259; *The Chemical Debates of the Seventeenth Century: the Reaction to Robert Fludd and Jean Baptiste van Helmont*. In *Reason, Experiment, and Mysticism in the Scientific Revolution*, ed. by M.L. RighiniBonelli and W.R. Shea. N.Y.: Sci Hist Pubs, 1975.

Other Publications: *Man and Nature in the Renaissance*. Cambridge: Cambridge UP, 1978; ed, *The English Paracelsians*. London: Oldbourne, 1965; *Medicine in 17th Century England*. Berkeley: U Calif Press, 1974; ed, *The Chemical Dream of the Renaissance*. Cambridge: Heffer, 1968; ed, *Science, Medicine and Society in the Renaissance*. 2 vols. New York: Sci Hist Pubs, 1972; *Science and Education in the Seventeenth Century. The Webster-Ward Debate*. London: Macdonald and Co., Ltd, 1970; *Robert Fludd and His Philosophical Key: Being a Transcript of the Manuscript at Trinity College, Cambridge*. With an Introduction by Allen G. Debus. New York: Sci Hist Pubs, forthcoming.

DeCelles, Paul Craig 62-63 M(NS), Physics

Born 1934 Kansas City, MO. PhD 1960 Johns Hopkins Univ. *

Dedecker, Paul Jean 57f M, Algebraic and Differential Topology

Born 1921 Brussels, Belgium. Agr Sup 1958 Mathematics Univ de Liège. Honors: Profesor Honorario Universidad Central de Venezuela,

Caracas, Venezuela; Prizes Adolphe Wetrems 1956 and François Deruyts 1962 Acad Royale Belgique. Appointments: UNESCO Expert in Chile 1959. Memberships: Soc Math Belgique; Soc Math France; AMS; MAA. Prof Ordinaire, Mathematics, Université Catholique de Louvain, Institut de Mathématiques Pures et Appliquées, Chemin du Cyclotron, n°2, B 1348 Louvain-la-Neuve, Belgium.

Publications Related to IAS Residence: Sur une méthode de Batemann dans le problème inverse du calcul des variations. *Bull Acad R Belg Cl Sc* 35(1949) 774-792; Sur un problème inverse du calcul des variations. *Bull Acad R Belg Cl Sc* 36(1950) 63-70; Sur le théorème de la circulation de V. Bjerkens et de la théorie des invariants intégraux. *Misc Inst Royal Météorologique Belg* 36(1951) 1-49; Sur les intégrales multiples du calcul des variations. In *C.R. du III^e Congrès National des Sciences, Bruxelles 1950*, Sect Math & Phys, 29-33; Calcul des variations, formes différentielles et champs géodésiques. In *Géométrie Différentielle, Coll Intl du CNRS, Strasbourg 1953*, 17-34. Paris: CNRS, 1953; Systèmes différentiels extérieurs, invariants intégraux et suites spectrales. In *Atti del Convegno Internazionale di Geometria Differenziale, Italia 1953*, 247-262. Roma: Perrella, 1954; *Calcul des variations et Topologie algébrique*. Mém Soc Roy Sc Liège, 14. 1957; On the generalization of symplectic geometry to multiple integrals in the calculus of Variations. In *Differential Geometric Methods in Mathematical Physics, Proc Symp U Bonn 1975*, ed. by K. Bleuler & A. Reetz, Lect Notes in Math 570: 395-456. Berlin: Springer-Verlag, 1977; Généralisation d'une formule de H.A. Schwarz relative aux surfaces minima. *C.R. Acad Sci Paris* 285(1977) 23-26; Généralisation d'une formule de H.A. Schwarz aux intégrales multiples du Calcul des Variations. *C.R. Acad Sci Paris* 285(1977) 59-61; Intégrales complètes de l'équation aux dérivées partielles de Hamilton-Jacobi d'une intégrale multiple. *C.R. Acad Sci Paris* 285(1977) 123-126; Le théorème de Helmholtz-Cartan pour une intégrale simple d'ordre supérieur. *C.R. Acad Sci Paris* 288(1979) 827-830.

Other Publications: Cohomologie à coefficients non abéliens et espaces fibrés. *Bull Acad Ray Belg Cl Sc* 41(1955) 1132-1146; La structure algébrique de l'ensemble des classes d'espaces fibrés. *Bull Acad Roy Belg Cl Sc* 42(1956) 270-290; Cohomologie de dimension deux à coefficients non abéliens. *C.R. Acad Sci Paris* 247(1958) 1160-1162; Sur la cohomologie non abélienne I. *Can J Math* 12(1960) 231-251; Sobre operaciones cohomológicas superiores. In *Atas do Segundo Coloquio Brasileiro de Matematica, 1959*, 89-97. São Paulo: 1960; Variétés linéaires par morceaux et variétés combinatoires. *Ann di Matematica* 60(1962) 365-383; Algèbre Homologique non abélienne. In *Colloque de Topologie, Bruxelles 1964*. Paris: Gauthier Villars, 1966; *Cohomologie non abélienne*. Lille: Institut de Math, 1965; Three dimensional non abelian cohomology for groups. In *Category Theory, Homology Theory, and their Applications Proc Battelle*

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Inst Conf 1968, Vol II, ed. by P. Hilton, Lect Notes in Math 92: 33-64. Berlin: Springer-Verlag, 1969; *Varietades diferenciales y Espacios fibrados*. Ediciones de la Biblioteca, 24. Caracas: Universidad Central de Venezuela, 1969; With E. M. Luks. Sur la non fonctorialité du H^2 en cohomologie non abélienne. *C.R. Acad Sci Paris* 282(1976) 139-141, 183-185; *Matemática y Desarrollo, Educación Matemática en las Américas*. In *IV Conferencia In-teramericana sobre Educación Matemática, Caracas 1975*, 141-152. Montevideo: Oficina regional de Ciencia y Tecnología de la UNESCO, 1976.

Deininger, Jürgen 79-80 HS, Greek and Roman History

Born 1937 Schwäbisch Gmünd, Germany. Habil 1969 Ancient Hist Univ of Freiburg. Honors: German Archaeol Inst 1978 & 1979; Prize of Fac of Letters Univ of Tübingen 1960. Appointments: Komm Alte Geschichte und Epigraphik des Deut Archäol Inst, Munich, 1977-. Memberships: Mommsen-Gesell; Verb deut Hist. Prof, Ancient Hist, Univ of Hamburg, Dürerstr 6, D-2000 Hamburg 52, West Germany.

Dekker, Jacob C. E. 56-58, 67-68 M, Logic

Born 1921 Hilversum, Netherlands. PhD 1950 Math Syracuse Univ. Memberships: AMS; MAA; Assoc for Symbolic Logic; NY Acad Scis Prof, Dept of Mathematics, Rutgers Univ, New Brunswick, NJ 08903.

Publications Related to IAS Residence: With J. Myhill. Recursive Equivalence Types. *U of Cal Pub in Math* 3(1960)67-214; Countable Vector Spaces with Recursive Operations. *J Symb Logic* 34(1969) 363-387; 36(1971) 477-493.

Other Publications: Regressive isols. In *Sets, Models and Recursion Theory*, ed. by John Crossley, 272-296. Amsterdam: North Holland Pub Co, 1967.

Delaissé, Léon 59-60 HS, Fine Arts, Philology

Born 1914 Herseaux, Belgium. PhD 1952 Louvain Univ. Deceased.

Delange, Hubert 47f, 56f, 61f, 68s M, Number Theory

Born 1914 France. DèsSc 1940 Math Univ of Paris. *

Publications Related to IAS Residence: Théorèmes Taubériens pour les Séries Doubles. *C. R. Acad Sci Paris* 225(1947) 855-856; Théorèmes Taubériens pour les Séries Multiples de Dirichlet. *C R Acad Sci Paris* 226(1948) 377-379; The Converse of Abel's Theorem on Power Series. *Ann Math (2)* 50(1949) 94-109, 999; Théorèmes Taubériens pour les Séries Multiples de Dirichlet et les Intégrates Multiples de Laplace. *Ann Sci École Norm Sup (3)* 70(1953) 51-103.

deLeeuw, Karel 60-61 M, Functional Analysis, Harmonic Analysis

Born 1930 Chicago, IL. PhD 1954 Princeton Univ. Deceased.

Deligne, Pierre 73s, 77s M

Born 1944 Brussels, Belgium. PhD 1968 Univ of Brussels. Honors: Fields Medal 1978. Permanent Member, Math, IHES, 35, route de Chartres, 91440 Bures, France.

Publications Related to IAS Residence: With M. Rapoport. Les Schémas de modules de courbes elliptiques. In *Modular Functions of One Variable, Proc Intl Summer School U Antwerp 1972, Vol II*, ed. by W. Kuyk & J.P. Serre, Lect Notes in Math 349. Berlin: Springer-Verlag, 1973.

Other Publications: Formes modulaires et représentations l -adiques. In *Seminaire Bourbaki 1968/69, Exp 347-363*, Lect Notes in Math 179: 139-172 (Exp 355). Berlin: Springer-Verlag, 1971; With D. Mumford. Irreducibility of the space of curves of a given genus. *Publ Math IHES* 36(1969); *Equations différentielles à points singuliers réguliers*. Lect Notes in Math, 163. Berlin: Springer-Verlag, 1970; Théorie de Hodge I. *Actes Nices 1(1971)* 425-430; Théorie de Hodge II, III. *Publ Math IHES* 40, 44(1971, 1974) 5-58, 5-77; La conjecture de Weil I. *Publ Math IHES* 43(1974) 273-308; With J.P. Serre. Formes modulaires de poids 1. *Ann ENS* 7, 4(1974) 507-530; With G. Lusztig. Representations of reductive groups over finite fields. *Ann Math* 103, 1(1976) 103-161.

Dell'Antonio, Gianfausto 66f, 69-70 NS, Mathematical Physics

Born 1933 Italy. PhD 1955 Univ of Milan. *

Dellacherie, Claude 71-72, 78-79 M

Born 1943 Lauwin-Planque, Nord, France. Dd'Etat 1970 Math France. Appointments: Mem French Natl Comm on Careers of mathematicians in French Univs. Memberships: Soc Math France; Syndicat Natl de l'Enseignement supérieur. Prof sans chaire, Math, Université de Strasbourg, Maître de Recherche CNRS, Institut de Mathématiques, 7 rue René Descartes, 67084 Strasbourg Cedex, France.

Publications Related to IAS Residence: Ensembles analytiques, Capacités, Mesures de Hausdorff. *Springer Lecture Notes in Math* 295(1972).

Other Publications: *Capacités et Processus stochastiques*. Ergebnisse 67. Heidelberg: Springer, 1972; With P. A. Meyer. Chapters 1-4. In *Probabilités et Potentiels*. Paris: Hermann, 1974.

Delsarte, Jean 47s M, Analysis

Born 1903 France. DèsSc 1928 Univ of Paris. *

Publications Related to IAS Residence: Fonctions de Möbius sur les Groupes Abéliens Finis. *Ann Math (2)* 49(1948) 600-609.

Demargne, Pierre 73f HS, Greek Archaeology

Born 1903 Aix en Provence, France. DèsL 1946 Archeologie. Honors: Acad Inscip et Belles Lett

Institut de France 1969; Acad Mayence 1964; Acad Pontificale D'Archéologie 1970; Acad d' Athènes 1977. Appointments: Comites Consultatifs des Univ du CNRS; Jury de L'Ecole Française d'Athènes. Memberships: Assoc Etudes Grecques; Soc Française D'Archéologie Classique. Prof Hon, La Sorbonne. 120 Boulevard du Montparnasse, 75014 Paris, France.

Publications Related to IAS Residence: *Fouilles De Xanthos*. Tombes-Maisons, Tombes Rupestres Sarcophages, 5. Paris: 1974.

Dembowski, Peter Florian 79-80 HS, Literary History of Medieval France

Born 1925 Warsaw, Poland. PhD 1960 Old French and Romance Philology Univ of Calif, Berkeley. Honors: Guggenheim Fellow France 1970-71. Appointments: Panel Member NEH 1974-78; Danforth Found Associate 1976-82; Chm, Div of French Med L and L MLA 1979; Councillor, Med Acad of Amer 1979. Memberships: MLA; La Soc Linguistique Romane; Med Acad Amer. Prof, French and Chairman, Dept of Rom Langs and Lit, U of Chicago. 5447 South Kenwood Ave, Chicago, IL 60615.

Publications: La Position de Froissart-poète dans l'histoire littéraire. bilan provisoire. In *Melanges...Jean Rychner*, 131-147. Strasbourg: 1978; Li Orloge amoureuse de Froissart. *L'Esprit Créateur* 18(1978) 19-31; *La Chronique de Robert de Clari. Etude langue et du style*. Toronto: 1963; *La Vie de sainte Marie l'Egyptienne. Versions en ancien et en Moyen français*. Geneva-Paris: 1977.

Denef, Jan 78-79 M, Logic and Algebra

Born 1951 Mechelen, Belgium. PhD 1976 Math University Louvain. Adegemstraat 33, 2800 Mechelen, Belgium.

Publications Related to IAS Residence: The diophantine problem for polynomial rings of positive characteristic. In *Logic Colloq 78*. Mons: North Holland Pub Co, in press.

Other Publications: With J. Becker, L. Lipschitz & L. van den Dries. Ultraproducts and approximation in local rings I. *Invent Math* 57(1979) 789-203; The diophantine problem for polynomial rings and fields of rational functions. *TAMS* 242(1979) 391-399.

Dennery, Etienne 40-41 HS(EP)

Born 1903 France. PhD 1926 Univ of Paris. *

Dennis, R. Keith 70 71 M

Born 1944 Vernon, TX. PhD 1970 Math Rice Univ. Memberships: AMS; MAA; LMS. Assoc Prof, Math Dept, Cornell Univ, Ithaca, NY 14853.

Publications Related to IAS Residence: With M.R. Stein. K2 of discrete valuation rings. *Adv in Math* 18(1975) 182-238; Stability for K_2 . *Springer Lecture Notes in Math* 353(1973) 85-94.

Dentzer, Jean-Marie 70-71 HS, Archaeology

Born 1935 Strasbourg, France. D d'état ès L Univ of Paris. Appointments: Centre de Recherches archéologiques, Valbonne. Maître de Conférences, Univ of Paris, Dir de l'URA No 20 CNRS, 52 bd Arago, 75013 Paris, France.

Publications Related to IAS Residence: Aux origines de l'iconographie du banquet couché. *Revue Archéologique* 8(1971) 215-258; Le sanctuaire de Baal-shamîn à Palmyre. *Revue Archéologique* 8(1973) 315-320; Reliefs au banquet dans la moitié orientale de l'empire romain: Iconographie hellénistique et traditions locales. *Revue Archéologique* NS(1978) 63-82.

Other Publications: Recherches archéologiques en Syrie Palmyre. *Revue Archéologique* (1973) 315-320.

Deny, Jacques 55-56, 57f, 62s M, Potential Theory

Born 1916 Algiers, Algeria Memberships: SMF; AMS. Prof, Math, Univ of Paris-Sud (Orsay), 37 Pare D'Ardenay, 91120 Palaiseau, France.

Publications Related to IAS Residence: With A. Beurling. Dirichlet Spaces. *Proc NAS* 45(1959) 208-215.

Other Publications: With A. Beurling. Espaces de Dirichlet I: Le Cas Elémentaire. *Acta Math* 99(1958) 203-224; Noyaux de convolution de Hunt et noyaux associés à une famille fondamentale. *Ann Inst Fourier* 12(1962) 643-647.

Deodhar, Vinay Vithal 75-77 M, Algebraic Groups, Representation Theory

Born 1948 Bombay, India. PhD 1975 Math Univ of Bombay. Honors: Young Scientist Award in Math Indian Natl Sci Acad 1978. Fellow, School of Mathematics, Tata Institute of Fundamental Research, Colaba, Bombay 400005, India.

Publications Related to IAS Residence: Some characterizations of Bruhat ordering for a Coxeter group and determination of the relative Möbius Function. *Inventiones Math* 39(1977) 187-198; With J. Lepowsky. On multiplicity in the Jordan-Hölder series of a Verma module. *J of Algebra* 49, no. 2(1977) 512-524; On Bruhat ordering and weight lattice ordering for a Weyl group. *Indagationes Math* 40, Fasc. 4(1978) 423-435.

Other Publications: On Central extensions of rational points of algebraic groups. *American J of Math* 100 no. 2(1978) 303-386.

Derbolav, Josef Lothar 64-65, 70-71 HS, Ancient Philosophy

Born 1912 Vienna, Austria. PhD 1935 Univ of Vienna.; Dhabil 1953 Univ of Vienna. Honors: Member Accad Peloritana dei Pericolanti, Messina. Memberships: Allg Gesellschaft f Philos in Deutschland; Deutsche Gesellschaft f Erziehungswissenschaft; World Assn for the Adv of Ed Res, Görres Gesellschaft. Prof, Philos & Ed, Univ of Bonn, Lutfriidstr 6, D 5300 Bonn, Germany.

Publications Related to IAS Residence: *Platons Sprachphilosophie im Kratylos u id späteren*

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Schriften. Darmstadt: 1972; Was Platon "sagte" und was er "gemeint hat" In *Beispiele E. Fink zum 60 Geburtstag*, 161-187. den Haag: 1965; The Philosophical Origins of Plato's Theory of Ideas. *Archiv Gesch Phil* 54(1972) 1-23.

Other Publications: *Von den Bedingungen gerechter Herrschaft. Studien zu Platon und Aristoteles*. forthcoming.

Derow, Peter Sidney 76s HS, Ancient History

Born 1944 Newport, RI. PhD 1970 Princeton Univ. Memberships: Classical Assoc; Soc for the Prom of Hellenic Studies; Soc for the Prom of Roman Studies; Classical Assoc of Canada; Amer Philolog Assoc. Fellow and Tutor, Ancient History, Wadham College, Oxford, England OX1 3PN.

Publications Related to IAS Residence: The Roman Calendar, 218-191 BC. *Phoenix* 30(1976) 265-281.

Other Publications: Polybius, Rome, and the East. *J of Roman Studies* 69(1979); The Roman Calendar, 190-168 BC. *Phoenix* 27(1973); Klemporos. *Phoenix* 27(1973).

Derrick, Graham H. 59-60 M(NS), General Relativity

Born 1934 Brisbane, Australia. PhD 1959 University of Sydney. Memberships: American Institute of Physics; Australian Institute of Physics. Reader, Department of Theoretical Physics, University of Sydney, Sydney, NSW, Australia. 2006.

Publications: With R. McPhedran, D. Maystre & M. Nevire. Crossed Gratings: A Theory and its Applications. *Applied Physics* 18(1979) 39-52; With I. M. Bassett. The Collection of Diffuse Light onto an extended absorber. *Optical and Quantum Electronics* 10(1978) 61-82; Statistical Mechanics in External Force Fields. *Phys Rev* 181(1969) 457-462; With K K. Wan. Particle Motion and Interaction in Non linear Field Theories. *J Math Phys* 9(1968) 232-240; Non Linear Wave Equations as Models for Elementary Particles. *J Math Physics* 5(1964) 1252-1254; Simple Variational Bound to the Entropy. *Phys Rev* 133(1964) 1215-A1217; With J. M. Blatt. Classification of Truon Wave Functions. *Nuclear Physics* 8(1958) 310-324.

Deser, Stanley 53-55 M(NS), Physics

Born 1931 Rovno, Poland. PhD 1953 Harvard Univ. Honors: DPhil(hc) Stockholm Univ Centennial 1978; Disting Alumnus award Brooklyn Coll; Guggenheim Fellow; Fulbright; NATO Fellowship; Visit Fellow All Souls Coll, Oxford 1977; Loeb Lecturer Harvard 1975. Appointments: Bd of Eds, *Jour of Math Phys* ; Exec Comm Div of Particles & Fields, Am Phys Soc. Memberships: Am Phys Soc. Prof, Physics Dept, Brandeis Univ, Waltham, MA 02154.

Publications Related to IAS Residence: *Phys Rev* 94(1954) 711; *Phys Rev* 96(1954) 774; *Phys Rev* 99(1955) 325; *Phys Rev* 100(1955) 349.

Deshman, Robert 76-77 HS, Art History

Born 1941 Dayton, OH. PhD 1970 Princeton Univ. Honors: Fulbright Scholar England 1966-68; A. Kingsley Porter Prize 1974; Canada Council Research Fellow 1972-73. Memberships: College Art Assoc; Mediaeval Acad of Amer; Internatl Center of Mediaeval Art. Assoc Prof, Dept of Fine Art, University of Toronto, Toronto M5S 1A1, Canada.

Publications Related to IAS Residence: The Exalted Servant: the Ruler Theology of the Prayerbook of Charles the Bald. *Viator* 11(1980).

Other Publications: Anglo-Saxon Art After Alfred. *Art Bulletin* 56(1974) 176-200; Christus Rex et Magi Reges: Kingship & Christology in Ottonian & Anglo-Saxon Art. *Frühmittelalterliche Studien* 10(1976) 367-405; The Leofric Missal & tenth-century English Art. *Anglo-Saxon England* 6(1977) 145-174.

Deuring, Max Friedrich 59-60 M, Number Theory, Algebra

Born 1907 Göttingen, Germany. Dr Phil 1930 Univ of Göttingen. Honors: Ak d W und Lit Mainz; Ak d W Göttingen 1949. Prof emeritus, Unvers of Göttingen, Merkelstrasse 45, 3400 Göttingen, Germany.

Publications Related to IAS Residence: Die Zetafunktion einer algebraischen Kurve vom Geschlechte Eins. *Nachr Ak d W Göttingen Math Phys Klasse* (1952) 85-94.

Other Publications: Die Klassenkörper der komplexen Multiplikation. In *Enzyklop d math Wissensch*, 1 2 2 Aufl 10. 1959.

Devinatz, Allen 52-54, 60-61 M, Analysis

Born 1922 Chicago, IL. PhD 1950 Harvard Univ. Honors: NSF Postdoc Fellow 1952-1953; NSF Senior Postdoc Fellow 1959-60. Memberships: AMS; AAUP. Prof, Depart of Mathematics, Lunt Hall, Northwestern University, Evanston, IL 60204.

Publications Related to IAS Residence: Toeplitz operators on H^2 spaces. *Trans Amer Math Soc* 112(1964) 304-317; The factorization of operator valued functions. *Ann Math* 73(1961) 458-495; Integral representations of positive definite functions II. *Trans Amer Math Soc* 77(1954) 450-480; A note on semi-groups of unbounded self-adjoint operators. *Proc Amer Math Soc* 5(1954) 101-102; A representation of functions as Laplace-Stieltjes Integrals. *Duke Math J* 22(1955) 185-192; With A. P. Calderon. A certain class of curves in Hilbert space. *Comptes Rendus* 241(1955) 539-541; With A. P. Calderon. On Fourier-Stieltjes transforms. *Canadian J Math* 7(1955) 453-461; With A.P. Calderon. On certain curves of constant curvature in Hilbert space. *Comptes Rendus* 241(1955) 586-587.

DeWeerd, Harvey Arthur 40-42 HS(EP), History

Born 1902 Holland, MI. PhD 1937 History Univ of Mich. Appointments: SSRC, USAF Supporting Studies Grp, Hist of the Strategic Arms Competition, 1945-1972. Memberships: AHA; Am Mil Inst; Assoc of the US Army; Assoc for the Study of World War II Hist. Deceased.

Publications Related to IAS Residence: *Great Soldiers of the Two World Wars*. New York: W.W. Norton, 1941; *The Role of the Civilian in War*. In *Makers of Modern Strategy*, ed. by E.M. Earle. Princeton: Princeton Univ Press, 1943.

Other Publications: US Strategic Decision Making Vietnam, 1965-1968. *Yale Review* (Summer 1978).

DeWitt, Bryce Seligman 49-50, 54f, 64s, 66f M(NS)

Born 1923 Dinuba, CA. PhD 1950 Harvard Univ. Honors: Visiting Fellow All Souls Coll 1975-76; Guggenheim Fellow 1975-76; NSF Sr Post Doct Fellow 1964-66; Gravity Research Foundation Prize 1953. Appointments: Exec Comm, Div of Particles and Fields, APS; Int Comm on General Relativity and Gravitation; Leader, Texas-Mauritanian Eclipse Expedition; NRC Associateships Panel. Memberships: Fellow Am Phys Soc; Sigma XL Prof, Dir Center for Relativity, Department of Physics, University of Texas, Austin, TX 78712.

Publications Related to IAS Residence: Quantum Theory of Gravity, I, II, III. *Phys Rev* 160: 1113; 162(1967) 1195, 1239; Gravity: A Universal Regulator?. *Phys Rev Letters* 13(1964) 114; The Operator Formalism in Quantum Perturbation Theory. *UCRL Publication* No 2884(1955).

Other Publications: *Dynamical Theory of Groups and Fields*. NY: Gordon and Breach, 1965; Quantum Field Theory in Curved Spacetime. *Physics Reports* 190(1975) 295.

DeWitt-Morette, Cecile 48-50 M(NS), Theoretical Physics

Born 1922 Paris, France. D d'Etat 1947 Physique Univ de Paris. Appointments: Founder & Dir of Ecole D'été de Physique Théorique (Les Houches Summer Schl) 1951-72. Prof, Department of Astronomy, University of Texas, Austin, TX 78712.

Publications Related to IAS Residence: On the Definition and Approximation of Feynman's Path Integrals. *Phys Rev* 81 (1951) 848-852; Path Integration in Non Relativistic Quantum Mechanics. *Physics Reports* (in press).

Other Publications: With Y. Choquet-Bruhat and M. Dil-lard-Bleick. *Analysis, Manifolds and Physics*. Amsterdam: North Holland, 1977.

Deyon, Pierre 72s Soc, Social History

Born 1927 Beauvais, France. D d'Etat 1967 Sorbonne. Appointments: Pres Univ of Lille 1972-75; Com Consult French univs 1972-77; Com du CNRS 1977-. Prof, Univ of Lille, 137 Bd de la Liberté, Lille 59800, France.

Publications Related to IAS Residence: *Le Temps des Prisons: essai sur l'histoire de la delinquences et les origines du regime penitentiaire*. Paris: Editions Univ P Delarge, Avril 1974.

Other Publications: *Histoire economique et sociale du monde*. 2, 1580-1730. Paris: A. Colin, 1978; *Amiens au 17^{me}*, une capitale provinciale. Paris: Mouton, 1967.

Diamond, Harold G. 66-67 M, Analytic Number Theory

Born 1940 Wurtsboro, NY. PhD 1965 Math Stanford Univ. Honors: N.S.F. Postdoc Fellow 1965-66. Memberships: AMS; MAA. Prof, Dept of Math, Univ of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: Characterization of derivations on an algebra of measures, II. *Math Zeit* 105(1968) 301-306; A set of generalized numbers showing Beurling's Theorem to be sharp. // *J Math* 14(1970) 29-34.

Other Publications: With J. Steinig. An elementary proof of the prime number Theorem with a remainder Term. *Inv Math* 11(1970) 199-258.

Diamond, Patrick Henry 79-81 NS, Plasma Physics

Born 1955 Brooklyn, NY. PhD 1979 Physics MIT. Honors: Sigma XI. Memberships: Am Phys Soc.

Dias, Candido L da Silva 49s M, Differential Geometry

Born 1913 Brazil. PhD 1942 Univ of São Paulo. *

Publications: Espaços Vectoriais Topológicos e Sua Aplicação nos Espaços Funcionais Analíticos. *Bol Soc Mat São Paulo* 5(1952) 1-58.

Dicke, Robert H. 70-71 NS, Physics

Born 1916 St. Louis, MO. PhD 1941 Physics Univ of Rochester. Honors: AAAS Count Rumford Awd 1967; Nat Medal of Sci 1971; AAAS; Am Philos Soc; Cornstock Prize 1973; D Sci(hc) Univ of Edinburgh 1972; NASA Medal for Exceptional Scientific Achievement 1973. Appointments: Nat Sci Board 1970-76; NASA Phys Sci Comm; NASA Lunar Ranging Team; President's Comm on the Natl Medal of Sci 1974-75; Natl Bureau of Standards Visiting Comm 1974; Am Phys Soc Councilor at Large and Member of Executive Comm 1970-73; NAS Secy Class I Membership Comm 1978-79. Memberships: Am Assoc Adv Sci; Am Assoc Phys Teachers; Am Astron Soc; Am Geophys Soc; Am Phys Soc; Natl Acad of Arts & Sciences; Assoc of Royal Astron Soc. Prof, Physics, Joseph Henry Laboratories Jadwin Hall, Princeton University, Princeton, NJ 08540.

Publications Related to IAS Residence: Solar Oblate-ness and the Abundance of Lithium in the Sun. *Phys Rev Lett* 27(1971) 210; Rotation and lithium in solar type stars. *Ap J* 171(1972) 331; Mach's Principle. In *Magic Without Magic*: John Archibald Wheeler, ed. by J. R. Klander. San Francisco: Freeman, 1972.

Dicks, David Reginald 67s HS, History of Ancient Science

Born 1923 Ranchi, India. PhD Classics Birkbeck Coll. Memberships: Soc for Promotion of Hellenic Studies. Senior Lect, Greek, Bedford Coll, Univ of London. Oakmalls, Coneyhurst Ln, Emhurst, Surrey GU6 7PL, England.

Members

Publications Related to IAS Residence: *Early Greek Astronomy to Aristotle*. London: Thames & Hudson, 1970.

Other Publications: *The Geographical Fragments of Hipparchus*. London: Athlone Press, 1960.

Dijk, Gerrit van 69-70 M, Harmonic Analysis on Lie Groups

Born 1939 Kampen, Netherlands. Appointments: Cttee to select the recipient of the Brouwer Mem Medal (Cttee of the Dutch Wiskundig Genootschap, 1978). Memberships: AMS. Prof, Leiden Univ, Math Inst, Wassenaarseweg 80, Leiden, Netherlands.

Publications Related to IAS Residence: Harmonic analysis on reductive p-adic groups. *Lecture Notes in Mathematics* 162(1970); Harmonic analysis on reductive p-adic groups. *Lecture Notes in Mathematics* 244(1971) 89-106; Computation of certain induced characters of p-adic groups. *Math Ann* 199(1972) 229-240.

Dikaios, Porphyrios 52-53, 63-65 HS, Archaeology

Born 1904 Nicosia, Cyprus. Lie Lettres 1929 Paris Univ. Honors: Dr(hc) Univ of Nancy 1954; Fellow London Soc of Antiquaries. Deceased.

Publications Related to IAS Residence: *Enkomi; excavations 1948-58, Vols 1-3*. Mainz: 1969-71.

Diliberto, Stephen Peter Lucio 55s M

Born 1920 . PhD 1947 Princeton Univ. *

Dimock, Jonathan D. 79-80 NS, Mathematical Physics

Born 1945 . PhD 1971 Harvard Univ. Assoc Prof, Math Dept, SUNY, Buffalo, NY *

Dippolito, Paul Randall 77-78 M, Topology

Born 1948 Boston, MA. PhD 1974 Math Brown Univ. Memberships: AMS. 337 North Ave, Weston, MA 02193.

Publications Related to IAS Residence: Codimension one foliations of closed manifolds. *Annals of Mathematics* 107(1978) 403-453.

Dirac, Paul Adrian Maurice 34-35, 46f, 47 48, 58-59, 62-63 M(NS), Physics

Born 1902 England. PhD 1926 Cambridge Univ. Honors: Nobel Prize for Physics 1933. 7 Cavendish Ave, Cambridge, England. *

Publications Related to IAS Residence: *The Principles of Quantum Mechanics*. Second Edition. Oxford: Clarendon Press, 1935; The Electron Wave Equation in De-Sitter Space. *Ann Math* 2 36(1935) 657-669; Wave Equations in Conformal Space. *Ann Math* 2 37(1936) 429-442; Quantum Theory of Localizable Dynamical Systems. *Phys Rev* 2 73(1948) 1092-1103; The Theory of Magnetic Poles. *Phys Rev* 2 74(1948) 817-830.

Dodwell, Charles R. 52-53, 65-66 HS, Art History

Born 1922 England. PhD 1950 Cambridge Univ. The Old House, 12 Park Rd, Cheadle, Cheshire SK8 7DA, England. *

Doi, Koji 68-70 M, Number Theory

Born 1934 Tokyo, Japan. PhD 1962 Math Tokyo Univ of Education. Prof, Dept of Math, Hokkaido Univ, Sapporo 060, Japan.

Publications Related to IAS Residence: With H. Naganuma. On the functional equation of certain Dirichlet series. *Inventiones Math* 9(1969) 1-14.

Dolciani, Mary Patricia 47-48 M

Born 1923 New York, NY. PhD 1947 Cornell Univ. 340 E 64th St, Apt 7N, New York, NY 10021. *

Dold, Albrecht E. 56-58 M, Algebraic Topology

Born 1928 Triberg, Germany. Dr rer nat Math Univ of Heidelberg. Honors: Member Heidelberg Akad der Wissenschaften. Appointments: Deutsche Forschungsgemeinschaft (Advisor). Memberships: Deutsche Math Vereinigung; AMS. Prof, Mathematisches Institut der Universität, 6900 Heidelberg, Germany.

Publications Related to IAS Residence: *Ann Math* 67(1958) 239-281; *Ann Math* 68(1958) 54-80.

Other Publications: *Lectures on Algebraic Topology*. Heidelberg-New York: Springer, 1972.

Dominicis, Cyrano Tullio de 61f M(NS), Physics

Born 1927 France. PhD 1957 Birmingham Univ. *

Donald, David Herbert 57-58 HS, American History

Born 1920 Goodman, MS. PhD 1946 Univ of Ill. Honors: Guggenheim Fellow 1964; ACLS Fellow 1969; NEH Sr Fellow 1971; AAAS; PBK. Memberships: Orgn Am Historians; Mass Hist Soc; Am Antiquarian Soc. Charles Warren Prof, Amer Hist, and Prof & Chairman Program in Am Civ Harvard Univ. PO Box 158, Lincoln Rd, Lincoln Center, MA 01773.

Publications Related to IAS Residence: *Lincoln Reconsidered*. Knopf, 1956; *Politics of Reconstruction*. LA State Univ Press, 1965; Ed, *Why the North Won the Civil War*. LA State Univ Press, 1960; *Liberty and Union*. Heath, 1978.

Doney, Willis Frederick 72-73 HS, History of Philosophy

Born 1925 Pittsburgh, PA. PhD 1949 Philosophy Princeton U. Honors: Fellow Camargo Fndn 1978-1979. Appointments: Exec, Prog Comms APA. Memberships: APA; Aristotelian Society; AAUP. Prof, Philosophy Dept, Dartmouth College, Hanover, NH 03755.

Publications Related to IAS Residence: The Geometrical Presentation of Descartes's A Priori Proof. In *Descartes: Critical and Interpretive Essays*, ed. by M. Hooper. Baltimore: Johns Hopkins Press, 1978.

Donovan, Peter Windeyer 68-69 M

Born 1943 Sydney, Australia. PhD (Oxon) 1968 Math. Memberships: Austral Math Soc. Senior Lect, School of Mathematics, University of New South Wales, Kensington 2033, Australia.

Publications Related to IAS Residence: With M. Karoubi. Graded Brauer Groups and K-theory with local coefficients. *Publications Mathematiques I.H.E.S.* 38(1970) 5-29.

Other Publications: The Lefschetz-Riemann-Roch theorem. *Bull Soc Math France* 97(1969) 257-273; With M. Freislich. The representation theory of finite graphs and associated algebras. *Carleton Mathematical Lecture Notes* 5(1973); Dihedral defect groups. *Journal of Algebra* in press.

Doob, Joseph Leo 41-42, 64-65, 71-72 M, Analysis

Born 1910 Cincinnati, OH. PhD 1932 Harvard Univ. Honors: NAS; AAAS; Academié des Sciences. Memberships: AMS, pres 1963-64; Inst of Math Stats, pres 1950. Retired from, Univ of Ill, Trustee IAS, 208 W High St, Urbana, IL 61801.

Publications Related to IAS Residence: *Stochastic processes*. NY: John Wiley & Sons, 1953; The Brownian Movement and Stochastic Equations. *Ann of Math* 2 43(1942) 351-369.

Dore, Ronald 69-70 Soc, Sociology

Born 1925 England. BA 1967 Japanese London Univ. Honors: Fellow British Acad; Hon. Fellow AAAS. Fellow, Inst of Development Studies, University of Sussex, Andrew Cohen Bldg, Falmer, Brighton, Sussex BN1 9 RE, England.

Publications Related to IAS Residence: *British Factory, Japanese Factory: The origins of national diversity in industrial relations*. Berkeley: Univ of California Press, 1973.

Other Publications: *City Life in Japan*. Berkeley: Univ of Calif Press, 1958; *The Diploma Disease*. Berkeley: Univ of Calif Press, 1976.

Dorfmeister, Josef 76-77 M, Mathematics

Born 1946 Regensburg, Germany. PhD 1974 Math Univ of Münster. Memberships: DMV. Asst Prof, Dept of Math, Univ Münster, Roxelerstr 64, D-44 Münster, West Germany.

Publications Related to IAS Residence: Inductive Construction of Homogeneous Cones. *Trans Am Soc Math* in press; Algebraic Description of Homogeneous Cones. *Trans Am Soc Math* in press; Theta Functions for the Special Formally Real Jordan Algebras. *Invention es Math* 44.

Dörig, José 75-76 HS, Classical Archaeology

Born 1926 St Gallen, Switzerland. Honors: Ord Mitglied Deut Archäolog Inst 1965. Appointments: commission archéologique de Suisse. Prof Ord, Class Archaeology, Univ of Geneva, 33, chemin des Palettes, CH-1212 Grand-Lancy, Switzerland.

Publications Related to IAS Residence: *Onatas from Aegina*. Leiden: Brill, 1977.

Dörner, Friederich K. 57-58 HS, Archaeology, Philology, Epigraphy

Born 1911 Germany. PhD 1933 Univ of Greifswald. Prof, Alte Geschichte an der Westfälischen, Wilhelms Universität, D4400 Münster/Westfalen, Germany. *

Dorpalen, Andreas 53-54, 69s HS, European History

Born 1911 Berlin, Germany. Dr jur 1933 Univ of Bonn. Honors: Pres NY St Assoc of European Historians 1951-52; Guggenheim Fellow 1953-54; Honorable Mention for "Treitschke" Herbert Baxter Adams Prize Comm of AHA 1958; Chmn Conference Group for Central Europ Hist of AHA 1972; Distinguished Service Awd Ohio Acad of History 1978. Appointments: Member (1964) & Chmn (1965, 1967) of Fulbright Screening Comm of Student Applications for Germany; Member, Exec Comm of Mod European Hist Section of AHA 1966-68. Memberships: AHA; Conference Group for Central European Hist; Ohio Acad of Hist. Prof Emer, Hist, Ohio State Univ, 2040 Tremont Rd, Columbus, OH 43221.

Publications Related to IAS Residence: *Heinrich von Treitschke*. New Haven: Yale University Press, 1957; Die Revolution von 1848 in der Geschichtsschreibung der DDR. *Historische Zeitschrift* 210(1970) 324-68.

Other Publications: *Hindenburg and the Weimar Republic*. Princeton: Princeton Univ Press, 1964; *Europe in the 20th Century*. Macmillan, 1968.

Doss, Raouf 49-50 M, Analysis

Born 1915 Cairo, Egypt. PhD Math Cairo Univ. Honors: State Prize for Science Egypt 1952 & 1964; Prix France-Egypte 1952. Prof, Math Dept, SUNY at Stony Brook, Stony Brook, NY 11794.

Publications Related to IAS Residence: On generalized almost periodic functions. *Annals of Mathematics* 55(1954) 477-489.

Dothan, Moshe 65-66 HS, Archaeology

Born 1919 Cracow, Poland. PhD 1959 Archaeology Hebrew Univ. Appointments: Archaeol Bd of Israel; Israel Explor Soc. Memberships: Israel Assn of Archaeol; Israel Underwater Soc. Prof, and Head Archaeology Haifa Univ, 29th of November 24, Jerusalem, Israel.

Publications Related to IAS Residence: *Ashdod I*. Atiqot Series 7. Jerusalem: 1967.

Other Publications: *Ashdod II & III*. Jerusalem: 1971.

Dothan, Yossef 69-71 NS, Theoretical Particle Physics

Born 1939 Pethah Tiqva, Israel. PhD 1966 Physics Hebrew University. Memberships: Israeli Phys Soc; Eur Phys Soc; Am Phys Soc. Associate Prof, Dept of

Members

Physics and Astronomy, Tel-Aviv University, Tel-Aviv, Israel.

Publications Related to IAS Residence: Finite Dimensional Spectrum Generating Algebras. *Phys Rev D* 2(1970) 2944; Infinitesimal Invariance Transformations. *Nuovo Cimento* 11A(1972) 465.

Douglas, Jesse 34-35, 38-39 M

Born 1897 New York, NY. PhD 1920 Columbia Univ. Deceased.

Douglas, Ronald George 65-66 M

Born 1938 Osgood, IN. PhD 1962 Math La State Univ. Honors: Sloan Fship 1968-74; Invited Speaker ICM at Helsinki 1978. Memberships: AMS; MAA; AAAS. Prof, and Director Grad Studies, Math Dept, SUNY at Stony Brook, Stony Brook, NY 11794.

Publications Related to IAS Residence: Structure Theory for Operators I. *J Reine Ang Math* 232(1968) 180-193.

Other Publications: Extensions of C^* -Algebras, Operators with Compact Self-Commutators, and K-Homology. *Ann Math* 105(1977) 265-324; Complex Geometry and Operator Theory. *Acta Math* 141(1978) 187-261.

Dowker, Yael Nairn 48-49 M, Measure Theory

Born 1919 Tel Aviv, Israel. PhD 1948 Radcliffe Coll. Dept of Math, Imperial College, Exhibition Rd, London SW7, United Kingdom. *

Publications Related to IAS Residence: Finite and σ -Finite Invariant Measures. *Ann Math* (2) 54(1951) 595-608.

Downey, Glanville 36-40, 56-57 HS, Classics; Ancient History

Born 1908 Baltimore, MD. PhD 1934 Classics Princeton Univ. Honors: Elected Assoc Sec of Hist & Lit Class of Lit, Royal Belgian Acad 1965; Prize of Christian Rsch Found, Inc 1958; Guggenheim Fellow 1956/57. Memberships: Am Philolog Assoc; Archaeolog Inst of Amer; Amer Numismatic Soc; Mediaeval Acad of Amer; Soc for the Promotion of Roman Studies (London); Classical Assoc (Britain). Distinguished Prof Emer, Classical Studies and Hist, Indiana Univ, 3033 Golden Rain Rd Apt 3, Walnut Creek, CA 94595.

Publications Related to IAS Residence: *History of Anti-och in Syria*. Princeton: Princeton Univ Press, 1961; *Ancient Antioch*. Princeton Univ Press, 1963; *The Late Roman Empire*. New York: Holt, Rinehart and Winston, 1969.

Other Publications: *Constantinople in the Age of Justinian*. Univ of Oklahoma Press, 1960; *Antioch in the Age of Theodosius the Great*. Univ of Oklahoma Press, 1962; *Gaza in the Early Sixth Century*. Univ of Oklahoma Press, 1963; *Aristotle, Dean of Early Science*. New York: Franklin Watts, 1962.

Dowty, David R. 74-75 Soc, Linguistics

Born 1945 Coleman, TX. PhD 1972 Linguistics Univ of Texas, Austin. Honors: ACLS Fellow 1974-75. Appointments: Ed Bd *Linguistics and Philosophy* 1977; *Syntax and Semantics* 1972. Memberships: Ling Soc Amer. Asst Prof, Department of Linguistics, Ohio State University, Columbus, OH 43210.

Publications Related to IAS Residence: *Word Meaning and Montague Grammar*. Dordrecht: D. Reidel Publishing Co, 1979; Toward a Semantic Analysis of Verb Aspect and the English Imperfective Progressive. *Ling and Philos* 1.1(1977) 45-78; Dative Movement and Thomason's Extensions of Montague Grammar. In *Papers from the 1977 Albany Conference on Montague Grammar, Linguistics and Philosophy*, ed. by M. Mi-thun and S. Davis. University of Texas Press, in press.

Other Publications: Governed Transformations as Lexical Rules. *Linguistic Inquiry* 9.3(1978) 331-360.

Drabkin, Israel Edward 53s HS, History of Science and Medicine

Born 1905 Jersey City, NJ. PhD 1930 Greek and Latin Columbia Univ. Honors: Am Philos Assoc; Guggenheim Fellow 1945. Deceased.

Dragt, Alexander James 63-65 M(NS), Theoretical Physics

Born 1936 Lafayette, IN. PhD 1963 Physics Univ of Cal, Berkeley. Memberships: Am Geophys Union; Am Phys Soc; Am Assoc for Adv Sci. Prof, Dept of Physics and Astronomy, University of Maryland, College Park, MD 20742.

Publications Related to IAS Residence: Classification of Three Particle States According to SU(3). *J Math Phys* 6(1965) 533-53; Relativistic Three-Particle SU(3) States. *J Math Phys* 6(1965) 1621-25; Trapped Orbits In a Magnetic Dipole Field. *Rev Geophys* 3(1965) 255-98; With C. H. Woo. Some Simple Consequences of SU(4) Symmetry. *Phys Rev* 139(1965) 945-46.

Other Publications: Effect of Hydromagnetic Waves on the Lifetime of Van Allen Radiation Protons. *J Geophys Res* 66(1961) 1641-49; With M. Austin and R. S. White. Cosmic Ray and Solar Proton Albedo Neutron Decay Injection. *J Geophys Res* 71(1965) 1293-1304; With B. Beers. New Theorems About Spherical Harmonic Expansions and SU(2). *J of Math Phys* 11(1970) 2313-2328; With G. Sterman. Rotational Analyticity of the S-Matrix. *Phys Rev D* 10: 2(1974) 663-674; With J. Finn. Insolubility of Trapped Particle Motion in a Magnetic Dipole Field. *J Geophys Res* 81(1976) 2327-2340; With J. Finn. Lie Series and Invariant Functions for Analytic Symplectic Maps. *J Math Phys* 17(1976) 2215-2227; With J. Finn. Normal Form For Mirror Machine Hamiltonians. *J Math Physics* in press(1979).

Draine, Bruce T. 79-80 NS, Astrophysics

Born 1947 Calcutta, India. PhD 1978 Cornell Univ. Res Fellow, Center for Astrophysics Harvard Coll Observatory, 60 Garden St, Cambridge, MA 02138. *

Drake, Harold Allen 76-77 HS, Classics

Born 1942 Cincinnati, OH. PhD 1969 Ancient History Univ of Wisc. Honors: Pious Award (Outstanding Junior Faculty) Academic Senate, UCSB 1976. Memberships: Assoc of Ancient Hist; Am Philolog Assoc; Archaeological Inst of Amer; PBK. Assoc Prof, Roman History, UCSB, 423 Los Verdes Dr, Santa Barbara, CA 93111.

Publications Related to IAS Residence: *Constantine & Eudoxia: A Coptic History of the Discovery of the Holy Sepulchre*. Turin, 1980.

Other Publications: *In Praise of Constantine: A Historical Study and New Translation of Eusebius' Tricennial Orations*. 15. Berkeley: Univ Calif Pubs: Classical Studies, 1976.

Draper, Theodore 68-73 HS, American History

Born 1912 Brooklyn, NY. BSS 1933 Brooklyn Coll. Honors: NEH; Guggenheim; Lehrman Inst, Ford Found Fships; AAAS. Memberships: Council on For Rels. 35 Linwood Circle, Princeton, NJ 08540.

Publications Related to IAS Residence: *The Rediscovery of Black Nationalism*. New York: Viking Press, 1970; *American and World Power*, forthcoming; *The Dominican Intervention Reconsidered*. *Poli Sci Q* (1971); *Gastonia Revisited*. *Social Research* (Spring 1971); *The Communists and the Miners*. *Dissent* (Spring 1972); *The Strange Case of the Comintern*. *Survey* (Summer 1972); *The Specter of Weimar*. *Social Research* (Summer 1972).

Other Publications: *The Six Weeks' War*. New York: Viking Press, 1944; *The Roots of American Communism*. New York: Viking, 1957; *American Communism and Soviet Russia*. New York: Viking, 1960; *Castro's Revolution: Myths and Realities*. Praeger, 1962; *Castroism: Theory and Practice*. Praeger, 1965; *Israel and World Politics*. New York: Viking, 1968; *The Dominican Revolt*. *Commentary* (1968).

Dresden, Arnold 35f M

Born 1882 Netherlands. PhD 1909 Univ of Chicago. Deceased.

Publications Related to IAS Residence: *An Invitation to Mathematics*. New York: Holt, 1936.

Dress, Andreas W. M. 67-69, 74-75 M, Topology

Born 1938 Berlin, Germany. Dr. rer. nat. 1962 Univ Kiel. Memberships: AMS; DMV; BDWi. Prof, Math, Univ Bielefeld, Bremer Str. 33A, D-48 Bielefeld 1, Germany.

Publications Related to IAS Residence: On the algebraic structure of the character ring of a compact connected Lie group. *J reine angew Math* 238: 93-99; The weak local global principle in algebraic K-theory. *Communications in Algebra* 3, (7)(1975) 615-661; Zur Theorie der Henselschen Ringe. *Math Zeitschr* 106(1968) 335-360; On Finite Groups Generated By Pseudoreflections. *J of Algebra* 11, No. 1(1969) 1-5; On the Localization of Simple Algebras. *J Algebra* 11, No. 1(1969) 53-55; Zur Berechnung von

Defektgruppen. *J of Algebra* 43, No. 1(1976) 221-30; On Integral Representations. *Bull AMS* 75, No. 5(1969) 1031-1034; On The Decomposition of Modules. *Bull AMS* 75, No. 5(1969) 984-986.

Drubin, Daniel Maccabaeus 36-37 M, Algebra, Number Theory

Born 1913 Chicago, IL. PhD 1936 Number Theory Univ of Chicago. Honors: PBK; Sigma Xi. Memberships: MAA; AMS. Administrator, Univ of Md, College Park, 1016 Kathryn Rd, Silver Spring, MD 20904.

Publications Related to IAS Residence: Quartic Fields With The Symmetric Group. *Annals of Math* 38(1937) 739-749; Normal Extensions of Quartic Fields With The Symmetric Group. *Annals of Math* 39(1938) 341-349.

Drijvers, Hendrik J. W. 77-78 HS, Classical Studies and Archaeology

Born 1934 Winschoten, Netherlands. Doctor 1966 Semitic Langs & Lit State Univ Groningen. Appointments: Pres Comm for Middle Eastern Studies Acad Council of the Netherlands 1976-. Memberships: Member Royal Dutch Acad. Prof, Semitic Langs, State Univ Groningen, Acacialaan 54, 9741 KZ Groningen, Netherlands.

Publications Related to IAS Residence: *A New Sanctuary at Palmyra*. *Archaeology* 31(1978) 60ff; *Cults and Beliefs at Edessa*. Leiden: Brill, 1979.

Other Publications: *Bardaisan of Edessa*. *Studia Semitica Neerlandica*, 6. Assen: 1966; *Old-Syriac (Edesseean) Inscriptions*. Leiden: 1972; *The Religion of Palmyra*. *Iconography of Religions* 15 5(1976); *Hatra, Palmyra und Edessa*. *Aufstieg und Niedergang der römischen Welt* 8(1977) 799-906.

Dubins, Lester E. 57-59 M, Probability Theory

Born 1920 . PhD 1955 Univ of Chicago. *

Ducrey, Pierre B. 73-74 HS, Archaeology, Ancient History, Classics

Born 1938 Lausanne, Switzerland. Doctorate Ancient History Univ of Lausanne. Honors: Prix Desrousseaux Soc Études grecques, Paris 1969; Prix Ambatielos Acad Inscript et Belles Lettres, Paris 1969 & 1976. Appointments: Comm locale du Fonds Natl Rech Sci 1976-; Vice Pres Assoc Suisse l'Etude l'Antiquité 1978-; Treas Assoc Internatle d'épigraphie grecque et latine 1977-; Comm Groupe romand des Etudes grecques et latines 1979-. Memberships: Soc des Etudes grecques, Paris; Soc Suisse de Numismatique; Amer Inst of Archaeology; Soc Suisse de Préhistoire et d'archéologie. Prof, Ancient Hist, and Vice Dean, Faculté des lettres, Univ of Lausanne, Rue Cité-Devant 1, 1005 Lausanne, Switzerland.

Publications Related to IAS Residence: *Philippe I. Les Reliefs rupestres*. *Bull de Corr Hellénique* 2(1975); *A propos de l'histoire de Latô*. *Antichita Cretesi* 2(1978) 76-80.

Members

Other Publications: *Le traitement des prisonniers de guerre dans la Grèce antique*. Paris: 1968.

Duff, George Francis Denton 64s M, Differential Equations

Born 1926 Toronto, Canada. PhD 1951 Princeton Univ. Honors: Fellow Royal Society of Canada 1959. Appointments: Council, AMS 1963-65; Math Committees of NRC (Canada) 1964-70; Editor Can Journal of Math. Memberships: AMS; SIAM; Canadian Math Soc. Prof, Dept of Mathematics, University of Toronto, Toronto, Canada M5S 1A1.

Publications Related to IAS Residence: With D. Naylor. *Differential Equations of Applied Mathematics*. New York: Wiley, 1966.

Dumézil, Georges 68-69 HS, Archaic Roman Religion, Indo-European Civilization

Born 1898 Paris, France. Dèsl Univ of Paris. Honors: Inst de France; Dr(hc) Uppsala 1955; Istanbul 1964; Berne 1969; Belgian Royal Acad 1958; Corr mem Ak d W, Vienna 1968; Hon mem Royal Irish Acad 1974. Appointments: La Soc Asiatique; Dir *Revue des Etudes Arméniennes*. Hon Prof, Coll de France, 82 rue N-D-des-Champs, 75006 Paris, France.

Publications Related to IAS Residence: *Mythe et Epopée, II. 1 & 2*. Paris: Gallinard, 1971.

Dumont, Louis Charles Jean 71f Soc, Social Anthropology

Born 1911 France. Dèsl 1954 Univ of Paris. *

Duncan, H. E. Anthony 75-77 NS, Particle Theory

Born 1950 Kingston, Jamaica. PhD 1950 Physics MIT. Memberships: Am Phys Soc. Asst Prof, Dept of Physics, Columbia Univ, New York, NY 10027.

Publications Related to IAS Residence: *Phys Rev D* 13(1976) 2866; *Phys Rev D* 15(1977) 1712; *Phys Rev D* 16(1977) 438; *Annals of Physics* 107(1977) 201.

Duncan-Jones, Richard Phare 71-72 HS, Ancient History

Born 1937 Chichester, Sussex, England. PhD 1965 Roman History Cambridge Univ. Memberships: Council Soc for Prom Roman Studies. Fellow, Caius College, Cambridge Univ, Cambridge, England.

Publications Related to IAS Residence: *The Economy of the Roman Empire: Quantitative Studies*. Cambridge: 1974.

Dunford, Nelson 45-46 M

Born 1906 St Louis, MO. PhD 1936 Analysis Brown Univ. 355 N Washington Dr, St. Armands Key, Sarasota, FL

Publications: With Jacob T. Schwartz. *Linear Operators*. 1, 2, & 3. NY: Wiley-Interscience Publishers, 1958-1971.

Dunn, Mary Maples 74-75 HS, Modern History

Born 1931 Sturgeon Bay, WI. PhD History Bryn Mawr Coll. Honors: PBK 1954; Lindback Foundation Awd for distinguished teaching 1969. Appointments: Research Panel NEH; Nom Cttee AHA; Co-Pres Coord Cttee for Women in the Historical Profession; Pres Berkshire Conf of Women Historians; Chair Advisory Council Inst Early Amer Hist & Culture. Dean of the College & Prof, History, Bryn Mawr College. 321 St. Davids Rd, St. Davids, PA 19010.

Publications Related to IAS Residence: *Saints and Sisters: Congregational and Quaker Women in the Early Colonial Period. Amer Quart* (1979); *Women of Light*. In *Women of America*, ed. by Berkin & Norton. Boston: Houghton Mifflin Co, 1979.

Other Publications: *William Penn, Politics & Conscience*. Princeton: Princeton University Press, 1967; ed, *Political Essays on the Kingdom of New Spain by Alexander von Humboldt*. NY: Alfred A. Knopf, 1972.

Dunn, Richard S. 74-75 HS, American Colonial History

Born 1928 Minneapolis, MN. PhD 1955 Princeton. Prof, Univ of Pa, 321 St Davids Rd, St Davids, PA 19010. *

Durand, Bernice Black 75-76 NS, Theoretical Physics

Born 1942 Clarion, IA. PhD 1971 Physics Iowa State Univ. Asst Prof, Dept of Physics, University of Wisconsin, Madison, WI 53706.

Durand, David 41s, 41f HS(EP), Economics

Born 1912 Ithaca, NY. 1941 Economics Columbia Univ. Memberships: Am Econ Assoc; Amer Soc for Quality Control; Am Stat Assoc; Bernoulli Society; Inst of Math Statistics. Prof Emer, Management, MIT, 212 Follen Rd, Lexington, MA 02173.

Publications Related to IAS Residence: *Basic Yields of Corporate Bonds: 1900-1942*. Technical Paper 3. New York: Natl Bureau of Econ Res, 1942.

Other Publications: *Costs of Debt and Equity Funds for Business: Trends and Problems of Measurement*. In *Conf on Res in Business Finance*, 215-247. New York: National Bureau of Economic Research, 1952; *Stable Chaos: An Introduction to Statistical Control*. Morris-town, NJ: D.H. Mark Publ of Gen Learning Press, 1971.

Durand, Loyal III 57-59, 75f M(NS), Particle Physics

Born 1931 Madison, WI. PhD 1957 Yale Univ. Appointments: Fermi Natl Accelerator Lab, Policy Advisory Comm.; Argonne Natl Lab, ZGS Pro Comm. Memberships: Am Phys Soc; AMS; AAAS; Wisc Acad of Scis; Arts & Letters. Prof, and Pres Aspen Cntr for Physics, Department of Physics, University of Wisconsin, Madison, WI 53706.

Publications Related to IAS Residence: *Inelastic electron-deuteron scattering cross-sections at high energies. Phys Rev* 115(1959) 1020-38; *On the analytic continuation, multiplication, and Fourier*

transformation of Schwarz distributions. *J Math Phys* 2(1961) 240-58; Product formulas and Nicholson-type integrals for Jacobi functions. *SIAM J of Mathematical Analysis* 9(1978) 76-86.

Duren, Peter Larkin 68-69 M, Analysis

Born 1935 New Orleans, LA. PhD Mathematics MIT. Honors: Sloan Fship 1964-66; Invited Hour Address AMS Annual Mtng 1976. Memberships: AMS; MAA; London Math Soc; AAUP. Prof, Department of Mathematics, University of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: *Theory of H^p Spaces*. New York: Academic Press, 1970; Smirnov domains and conjugate functions. *J Approx Theory* 5(1972) 393-400; With O. Lehto. Schwarzian derivatives and homeomorphic extensions. *Ann Acad Sci Fenn* 477(1970); On the multipliers of H^p spaces. *Proc AMS* 22(1969) 24-27.

Other Publications: With M. Schiffer. The theory of the second variation in extremum problems for univalent functions. *J Analyse Math* 10(1963) 193-252; With H.S. Shapiro and A.L. Shields. Singular measures and domains not of Smirnov type. *Duke Math J* 33(1966) 247-254; With B.W. Romberg & A.L. Shields. Linear functionals on H^p spaces with $0 < p < 1$. *J Reine Angew Math* 238(1969) 32-60.

Durfee, Alan H. 74-76 M, Topology

Born 1943 New Haven, CT. PhD 1971 Math Cornell Univ. Memberships: AMS; MAA. Asst Prof, Dept of Math, Univ of Wash, Seattle, WA 98195.

Publications Related to IAS Residence: The characteristic polynomial of the monodromy. *Pacific J Math* 59(1975) 21-26; With L. Kauffman. Periodicity of branched cyclic covers. *Math Ann* 218(1975) 157-174; Bilinear and quadratic forms on torsion modules. *Adv in Math* 25(1977) 133-164; The signature of smoothings of complex surface singularities. *Math Ann* 232(1978) 85-98; Fifteen characterizations of rational double points and simple critical points. *L'enseignement Math* in press.

Düring, Ingemar 55-56 HS

Born 1903 Sweden. PhD 1938 Univ of Göteborg. *

Duval, Noël 76-77 HS, Ancient History and Archaeology

Born 1929 Le Chesnay Yvelines, France. D. ès L. 1969 Histoire ancienne et archéologie Sorbonne. Honors: Médaille de bronze l'Acad d'Architecture 1956; Médaille d'argent l'Acad d'Architecture 1963; Prix Saintour l'Acad des Inscriptions 1973. Appointments: Comité des travaux Hist et Sci; Commission d'Afrique du Nord; Conseil Supérieur de la Recherche Archéologique 1969-1975; Comm Supérieure des Monuments Historiques 1969-1975; Comité des Conservateurs et Comm des Musées classés et contrôlés 1972-1975. Memberships: Assn des Etudes Grecques; Soc des Etudes Latines; Soc des Antiquaires de France (membre résident); Soc

française d'archéologie classique; Soc des professeurs d'histoire ancienne; Assn des profs d'histoire de l'art et archéologie; Assn des Conservateurs; Assn pour l'étude de la mosaïque antique, etc. Prof, Archéologie de l'Antiquité tardive, Univ de Paris-Sorbonne, Dir Recherches Archéol CNRS, 5 avenue Gouv. Binger, 94100 Saint-Maur, France.

Publications Related to IAS Residence: Ed, *Colloque d'onomastique latine 1975*. Paris: CNRS, 1977; Notes sur les installations liturgiques de l'église de Kabr Hiram. *Cahiers archéologiques* 26(1977) 81-104; Les études d'épigraphie chrétienne en France. *Epigraphica* 39(1977) 103-120; La basilique de Zana. *Mélanges de l'Ecole française de Rome* 89(1977) 847-873.

Other Publications: *La mosaïque funéraire dans l'art paléochrétien*. Ravenna: 1976.

DuVal, Patrick 34-35 M

Born 1903 . PhD 1930 Trinity Coll, Cambridge. *

Dvoretzky, Aryeh 48-50, 57-58 M

Born 1916 USSR. PhD 1941 Hebrew Univ. Hebrew U, Jerusalem, Israel. *

Publications Related to IAS Residence: On the Strong Stability of a Sequence of Events. *Ann Math Statistics* 20(1949) 296-299; On the Theorem of Jentzsch. *Proc NAS* 35(1949) 246-252; With C. A. Rogers. Absolute and Unconditional Convergence in Normed Linear Spaces. *Proc NAS* 36(1950) 192-197; Bounds for the Coefficients of Univalent Functions. *Proc AMS* 1(1950) 629-635; Decision Functions. *Econometrica* 18(1950) 181-182; With P. Erdős and S. Kakutani. Double Points of Paths of Brownian Motion in n-Space. *Ada Sci Math Szeged* 12B(1950) 75-81; With A. Wald and J. Wolfowitz. Elimination of Randomization in Certain Problems of Statistics and the Theory of Games. *Proc NAS* 36(1950) 256-260; On Sections of Power Series. *Ann Math* (2) 51(1950) 643-696; With E. Calabi. Convergence- and Sum-Factors for Series of Complex Numbers. *Trans AMS* 70(1951) 177-194; Elimination of Randomization in Certain Statistical Decision Procedures and Zero-Sum Two-Person Games. *Ann Math Statistics* 22(1951) 1-21; With A. Wald and J. Wolfowitz. Relations among Certain Ranges of Vector Measures. *Pac J Math* 1(1951) 59-74; With P. Erdős. Some Problems on Random Walk in Space. In *Proc Second Berkeley Symposium on Math Stats and Probability, 1950*, 353-367. 1951; With J. Wolfowitz. Sums of Random Integers Reduced Modulo m . *Duke Math J* 18(1951) 501-507; On Hausdorff Measures. In *Proc Intl Cong Math, Cambridge, Mass, 1950, Vol I*, 477. 1952.

Dwork, Bernard M. 61-62 M, Algebraic Number Theory

Born 1923 New York, NY. PhD 1954 Columbia Univ. *

Dwyer, William G. 75-76 M, Algebraic Topology

Members

Born 1947 Jersey City, NJ. PhD 1973 MIT. Department of Mathematics, Yale University, New Haven, CT 06520. *

Dye, Henry Abel 53-54 M

Born 1926 Dunkirk, NY. PhD 1950 Math Univ of Chicago. Memberships: AMS. Prof, Department of Mathematics, University of California, Los Angeles, CA 90024.

Publications Related to IAS Residence: With R. S. Phillips. On the geometry of projections in certain operator algebras. *Ann Math* 61 (1955) 73-89; With R.S. Phillips. Groups of Positive Operators. *Can J Math* 8(1956) 462-486.

Other Publications: The Radon-Nikodym theorem for finite rings of operators. *Trans AMS* 72(1952) 243-280; On groups of measure preserving transformations. I, II. *Am J Math* 81, 85(1959, 1963) 119-159, 551-576.

Dyer, Micheal Neal 73-74 M, Algebraic Topology

Born 1938 Des Moines, IA. PhD 1965 Math UCLA. Memberships: AMS. Prof, Dept of Mathematics, University of Oregon, Eugene, OR 97403.

Publications Related to IAS Residence: Homotopy classification of (π, m) -complexes. *J Pure & Applied Alg* 7(1976) 249-281; Projective k -invariants. *Comment Math Helvetici* 51 (1976) 259-277.

Dyer, S. Eldon, Jr. 56-57, 73-74 M, Topology

Born 1929 TX. PhD 1952 Univ of Texas. Grad Math Ctr, CUNY, 33 W 42nd St, New York, NY 10036. *

Dynin, Alexander 77-78 M, Partial Differential Equations

Born 1936 Berdichev, USSR. PhD 1961 Math Moscow Univ. Honors: Award of Moscow Math Soc 1962. Memberships: AMS. Assoc Prof, Math Dept, SUNY at Stony Brook, Stony Brook, NY 11794.

Publications Related to IAS Residence: Inversion problem for singular integral operators: C^* -approach. *Proc NAS* 75, 10(October 1978) 4668-4670.

Dyson, Freeman J. see Present Faculty

Earle, Clifford John, Jr. 63-65 M, Mathematics, Analysis

Born 1935 Racine, WI. PhD 1962 Math Harvard. Honors: Guggenheim Fship 1974-75. Memberships: AMS; AAAS. Prof, Department of Mathematics, Cornell University, White Hall, Ithaca, NY 14853.

Publications Related to IAS Residence: Reduced Teichmüller spaces. *Trans Amer Math Soc* 126(1967) 54-63; Teichmüller spaces of groups of the second kind. *Acta Math* 112(1964) 91-97; The Teichmüller space of an arbitrary Fuchsian group. *Bull Amer Math Soc* 70(1964) 699-701; A reproducing formula for

integrable automorphic forms. *Amer J Math* 88(1966) 867-870.

Other Publications: With J. Eells. A fibre bundle description of Teichmüller theory. *J. Differential Geometry* 3(1969) 19-43; On holomorphic families of pointed Riemann surfaces. *Bull Amer Math Soc* 79(1973) 163-166; With I. Kra. On sections of some holomorphic families of closed Riemann surfaces. *Acta Math* 137(1976) 49-79.

Eastwood, Bruce Stansfield 79-80 HS, History of Science

Born 1938 Worcester, MA. PhD 1964 History Univ of Wisc. Memberships: Hist of Sci Soc. Assoc Prof, History, Univ of Kentucky, 205 Catalpa Rd, Lexington, KY 40506.

Eaton, William Thomas 69-70 M

Born 1938 Long Beach, CA. PhD 1967 Math Univ of Utah. Honors: Sloan Fellow; Univ Texas Prize in Math. Prof, Math, Univ of Texas, 8408 Silver Ridge Dr, Austin, TX 78759.

Publications Related to IAS Residence: The sum of solid spheres. *Mich Math J* 19(1972) 193-207; A 2-sided approximation theorem for 2-spheres. *Pac J Math* 44(1973) 461-485; Applications of a mis-match theorem to decomposition spaces. *Fund Math* 84(1975) 199-224.

Other Publications: A generalization of the dog bone space to E^n . *Proc AMS* 39(1973) 379-387.

Eban, Abba 78f HS, International and Diplomatic History

Born 1915 Cape Town, South Africa. MA 1937 Cambridge Univ. Honors: AAAS; Hon doctorates: NYU; Boston U; Cincinnati U; Maryland U; Temple U; Lehigh U; Yeshiva U; Brandeis U; Jewish Theol Seminary; Hebrew Union Coll; Dropsie Coll; Tel Aviv U. Appointments: Vice-President, General Assembly United Nations 1952; Ambassador to US 1950-9; Ambassador to UN 1949-1959; Foreign Minister 1966-74. Foreign Relations Cttee Knesset, POB 394, Herzliya, Israel.

Publications Related to IAS Residence: Camp David: Unfinished Business. *Foreign Affairs* (December 1978); *The New Diplomacy*. Random House, forthcoming.

Other Publications: *Voice of Israel*. 1957; *Tide of Nationalism*. 1959; *My People*. 1968; *My Country*. 1972; *An Autobiography*. 1977.

Eberlein, Patrick Barry 78-79 M, Topology

Born 1944 San Francisco, CA. PhD 1970 Mathematics UCLA. Honors: NRC Travel Grant to Vancouver Internatl Congress 1974. Memberships: AMS. Assoc Prof, Department of Mathematics, University of North Carolina, Chapel Hill, NC 27514.

Publications Related to IAS Residence: Surfaces of Nonpositive Curvature. *AMS Memoirs* in press.

Other Publications: With Barrett O'Neill. Visibility Manifolds. *Pac J M* 46(1) (1973) 45-109; Geodesic Flows on Negatively Curved Manifolds, I. *Ann Math* 95(1972) 492-510; When is a geodesic flow of Anosov type, I? *J Diff Geom* 8(1973) 437-463.

Eberlein, William Frederick 47-48 M

Born 1917 . PhD 1942 Harvard Univ. *

Echols, Robert Lewis 33-35 M(NS), Physics

Born 1907 . PhD 1930 Univ of Virginia. *

Eckart, Carl Henry 34-35, 52-53, 60f M(NS), Geophysics

Born 1902 St Louis, MO. PhD 1925 Princeton Univ. Honors: Guggenheim Fellow 1927-28. Deceased.

Publications Related to IAS Residence: Some Studies Concerning Rotating Axes and Polyatomic Molecules. *Phys Rev* (2) 47(1935) 552-558; The Generation of Wind Waves on a Water Surface. *J Appl Phys* 24(1953) 1485-1494; Relation between Time Averages and Ensemble Averages in the Statistical Dynamics of Continuous Media. *Phys Rev* (2) 91(1953) 784-790; The Scattering of Sound from the Sea Surface. *J Acoust Soc Amer* 25(1953) 566-570; The Theory of Noise in Continuous Media. *J Acoust Soc Amer* 25(1953) 195-199.

Eckmann, Beno 47s, 51-52 M, Topology, Algebra, Homology

Born 1917 Bern, Switzerland. PhD 1948 Mathematics E.T.H. Zurich. Honors: Silver Medal E.T.H. Zurich 1942; Hon Dr's Degree Univ Fribourg Switzerland 1964; Hon Dr's Degree Ecole Polytech Lausanne, Switzerland 1970. Appointments: Pres, Swiss Math Soc 1961/62; Member, Swiss Natl Res Council (NSF) 1973-. Memberships: Swiss Math Soc (Hon Member since 1977); AMS, Prof, and Dir Math Research Inst, E.T.H., 8092 Zurich, Switzerland.

Publications Related to IAS Residence: With P.J. Hilton & U. Stambach. On the homology theory of central group extensions: II—The exact sequence in the general case. *Comm Math Helv* 47, 2(1972) 171; With R. Bieri. Groupes à dualité homologique. *C R Acad Sci Paris* 275(Nov 72) 899; With P. J. Hilton and U. Stambach. On the Schur multiplier of a central quotient of a direct product of groups. *J of Pure and Applied Algebra* 3(1973) 73; With R. Bieri. Propriétés de finitude des groupes à dualité. *C R Acad Sci Paris* 276(mars 73) 831.

Other Publications: On Complexes over a Ring and Restricted Cohomology Groups. *Proc NAS* 33(1947) 275-281; On Infinite Complexes with Automorphisms. *Proc NAS* 33(1947) 372-376; Coverings and Betti Numbers. *Bull AMS* 55(1949) 95-101; With H. Samelson and G. W. Whitehead. On Fiberings of Spheres by Toruses. *Bull AMS* 55(1949) 433-438; Quelques Propriétés Globales des Variétés Kähleriennes. *C R Acad Sci Paris* 229(1949) 577-579;

Sur les Applications d'un Polyèdre dans un Espace Projectif Complexe. *C R Acad Sci Paris* 228(1949) 1397-1399; With E. Calabi. A Class of Compact, Complex Manifolds Which Are Not Algebraic. *Ann Math* (2) 58(1953) 494-500; Cohomology of Groups and Transfer. *Ann Math* (2) 58(1953) 481-493; On Complexes with Operators. *Proc NAS* 39(1953) 35-42; With R. Bieri. Groups with homological duality generalizing Poincaré duality. *Invent Math* 20(1973) 103; With R. Bieri. Finiteness properties of duality groups. *Comm Math Helv* 49, 1(1974) 74; With R. Bieri. Amalgamated free products of groups and homological duality. *Comm Math Helv* 49, 4(1974) 460; Aspherical manifolds and higher-dimensional knots. *Comm Math Helv* 51 (1976) 93.

Edelstein, Ludwig 59-60 HS, History of Science and Medicine

Born 1902 Berlin, Germany. PhD 1929 Greek Heidelberg Univ. Deceased.

Eden, Richard John 54s, 59f, 73s M(NS), High Energy Physics and Energy

Born 1922 London, England. PhD 1951 Theoretical Physics Cambridge Univ. Honors: Smiths Prize Cambridge Univ 1949; Maxwell Medal of the UK Institute of Physics 1970; OBE 1978. Appointments: UK Advisory Council on Energy Conservation 1974-. Memberships: Fellow of UK Inst of Physics. Reader, Theoretical Physics, Cambridge Univ, Head Energy Research Group, Cavendish Laboratory, Madingley Rd, Cambridge CB3 0HE, United Kingdom.

Publications Related to IAS Residence: Theory of Nuclear Models. *Phys Rev* 97(1955) 1366; The Analytic Structure of Collision Amplitudes in Perturbation Theory. *Phys Rev* 119(1960) 1763; Energy Conservation in the UK. In *NEDO Report*. London: HMSO, 1974.

Other Publications: *The Analytic S Matrix*. Cambridge Univ Press, 1966; *High Energy Collisions of Elementary Particles*. Cambridge University Press, 1967; *World Energy Demand*. IPC Science & Technology Press, 1978.

Edgerton, Samuel Youngs, Jr. 67-68 HS, History of Art, Science

Born 1926 Cleveland, OH. PhD 1965 Art History Univ of Penna. Honors: ACLS Fellow 1976-77; Guggenheim Fellow 1977-78; Villa I Tatti Fellow 1971-72. Memberships: College Art Assn; Hist of Sci Assn. Prof, Art History, Boston Univ, 41 Mason Terr, Brookline, MA 02146.

Publications Related to IAS Residence: *The Renaissance Rediscovery of Linear Perspective*. New York: Basic Books, 1975.

Other Publications: Alberti's Color Theory; A Medieval Bottle Without Renaissance Wine. *J of Warburg & Courtauld Institutes* 32(1969) 109-135.

Edmonds, Allan Lee 73-74 M, Topology

Members

Born 1946 Bartlesville, OK. PhD 1973 Mathematics Univ of Michigan. Memberships: AMS. Assoc Prof, Mathematics, Indiana Univ, 1714 Wilton Dr, Bloomington, IN 47401.

Publications Related to IAS Residence: With R. Lee. Fixed point sets of group actions on euclidean space. *Topology* 14(1975) 339-345; With R. Stern. Resolutions of homology manifolds: a classification theorem. *J London Math Soc* 11 (1975) 474-480; With D. Galewski. Codimension one fixed point sets. *Topology* 15(1976) 71-84; Compact Lie groups which act on euclidean space without fixed points. *Proc Amer Math Soc* 55(1976) 416-418.

Other Publications: With I. Berstein. The degree and branch set of a branched covering. *Invent Math* 45(1978) 213-220; Deformation of maps to branched coverings in dimension two. *Ann of Math* in press.

Edson, Charles Farwell, Jr. 52-53, 62-63 HS, Greek History and Epigraphy

Born 1905 Los Angeles, CA. PhD 1939 Harvard Univ. Honors: Corr Mem German Archaeol Inst; Charles Goodwin Prize Am Philolog Assoc. Memberships: Alum Assn Amer Schl of Class Studies. Prof Emer, Department of History, Univ of Wisconsin, Madison, WI 53706.

Publications Related to IAS Residence: Strepas (Thucydides 1.61.4). *Classical Philology* 50, 3(July 1955) 169-190; *Inscriptiones Graecae; Inscriptiones Thessalonicae et Viciniae*. Berlin: de Gruyter, 1972.

Other Publications: Imperium Macedonicum: The Seleucid empire and the literary evidence. *Classical Philology* 53, 3(1958) 153-170.

Edwards, Charles H., Jr. 65-66 M, Topology

Born 1937 Pleasant Hill, TN. PhD 1960 Math University of Tennessee. Honors: Sloan Fellow 1964-66. Prof, Dept of Mathematics, University of Georgia, Athens, GA 30602.

Edwards, David Alan 71-72 M, Global Analysis, Index Theory

Born 1946 Brooklyn, NY. PhD 1971 Columbia Univ. Dept of Math, SUNY, Binghamton, NY 13901. *

Edwards, Richard C. 76-77 Soc, Economics

Born 1944 Minot, ND. PhD 1972 Economics Harvard Univ. Honors: Cole Prize (Journal of Econ Hist). Appointments: NAS/NRC Comm on Occupational Classification. Memberships: Union for Radical Political Economics. Assoc Prof, Dept of Economics, University of Massachusetts, Amherst, MA 01003.

Publications Related to IAS Residence: Contested Terrain: *The Transformation of the Workplace in the 20th Century* New York: Basic Books, 1979.

Other Publications: With M. Reich and T. Weiskopf. *The Capitalist System*. Englewood Cliffs: Prentice-Hall, 1972 and 1978; With D. Gordon and M.

Reich. *Labor Market Segmentation*. Lexington, MA: Lexington Books, 1975.

Edwards, Robert Duncan 76-77 M, Topology

Born 1942 Freeport, NY. PhD 1969 Math Univ of Mich. Prof, Mathematics Dept, UCLA, Los Angeles, CA 90024.

Edwards, Samuel Frederick 52-53 M(NS), Quantum Field Theory

Born 1928 Swansea, Glamorgan, Wales. PhD (Cantab.) 1953. Honors: Knight 1975; Fellow Royal Society 1966; Hon D Tech Loughborough 1976; Hon DSc Salford 1976; Edinburgh 1977; Bath 1978. Appointments: Chmn, Sci Res Council of UK; UK delegate NATO Sci Comm; Member Europ Econ Community Comm for R&D. Memberships: Inst of Physics (UK); Inst of Math (UK); Chemical Society (UK). Plummer Prof, Physics, Cambridge Univ, The Cavendish Laboratory, Madingley Rd, Cambridge CB30HE, UK.

Publications Related to IAS Residence: A non perturbative expansion of electrodynamics. *Phys Rev*(1953); Field equations in functional form. *Proc Roy Soc* (1954).

Eells, James 55-56, 62-63, 72-73, 77f M, Elliptic Analysis, Differential Geometry

Born 1926 Cleveland, OH. PhD 1954 Harvard Univ. Appointments: Advisory Board, Inter Centre Theo Physics Trieste. Prof, Math Institute, Univ of Warwick, Coventry, England.

Publications Related to IAS Residence: With J.H. Sampson. Harmonic mappings of Riemannian manifolds. *Am J Math* 86(1964) 109-160; With L. Lemaire. A report on harmonic maps. *Bull London Math Soc* 10(1978) 1-68.

Other Publications: On the geometry of function spaces. In *Sym Alg Top*. Mexico: 1956; A setting for global analysis. *Bull Am Math Soc* 72(1966) 751-807.

Eguchi, Masaaki 74-76 M, Harmonic Analysis on Homogeneous Spaces

Born 1941 Yanagawa, Fukuoka, Japan. DSc 1973 Harmonic analysis Kyushu Univ. Memberships: Math Soc of Japan. Assoc Prof, Math, Faculty of Integrated Arts & Scis, Hiroshima University, Hiroshima 730, Japan.

Publications Related to IAS Residence: Asymptotic Expansions of Eisenstein Integrals and Fourier Transform on Symmetric Spaces. *J Funct Anal* In press; An Application of Topological Paley-Wiener Theorems to Invariant Differential Equations. *Springer-Verlag Lect Notes* in press.

Ehrenpreis, Leon 54-57, 61-62, 79-80 M, Theory of Distributions

Born 1930 Brooklyn, NY. PhD 1953 Columbia U. Assoc Prof, Math, Yeshiva Univ, 1510 E 4th St, Brooklyn, NY 11230. *

Ehrlich, Paul E. 80s M

Born 1948 Schenectady, NY. PhD 1974 SUNY at Stony Brook. Asst Prof, Dept of Math, Univ of Missouri, Columbia, MO 65211. *

Ehrmann, Henry Walter 50f HS, Modern European History

Born 1908 Berlin, Germany. JD 1932 Univ of Freiburg. Honors: MA (Hon) Dartmouth 1962; LLD(hc) Univ of Hartford 1978; Chevalier Palmes Académiques 1977. Appointments: Fulbright Select Comm (France, Germany); Various SSRC Committees. Memberships: APSA; Fond Natle des Scis Polit; Internatl Poli Sci Assoc; Conf Group on French Politics & Society; Conf Group on German Politics. Prof Emer, Dartmouth Coll. 3 Webster Terr, Hanover, NH 03755.

Publications Related to IAS Residence: The French Peasant and Communism. *Amer Pol Sci Rev* 46(1952) 19-43; The French Trade Associations and the Ratification of the Schuman Plan. *World Politics* 6(1954) 453 ff; *Organized Business in France*. Princeton: Princeton Univ Press, 1957.

Other Publications: *Politics in France*. Boston: 1968; *Comparative Legal Cultures*. Englewood Cliffs: Prentice-Hall, 1976.

Eichler, Martin Maximilian Emil 64-65 M, Modular Functions

Born 1912 Pinnow, Pommerania, Germany. Dr sc nat habil Math Univ of Göttingen. Memberships: Schweizer Math Verein. Prof, Math, Univ of Basel, 27 im Lee, CH 4144 Arlesheim, Switzerland.

Publications Related to IAS Residence: Zur Begründung der Theorie der automorphen Funktionen in mehreren Variablen. *Aequationes Mathematicae* 3(1969) 93-111.

Eichten, Estia Joseph 75-76 NS, High Energy Theory

Born 1946 Stillwater, MN. PhD 1972 Physics MIT. Honors: Sloan Fellow 1978. Memberships: Am Phys Soc. Asst Prof, Physics, Harvard Univ, 284 Harvard St. Apt. 76, Cambridge, MA 02139.

Publications Related to IAS Residence: The Interplay of Confinement and Decay In the Spectrum of Charmonium. *PRL* 36(1976) 500; Charm Threshold in Electron-Positron Annihilation. *PRL* 37(1976) 477; Precocious Scaling: Evidence for Field Theory. *PRL* 37(1976) 1181.

Other Publications: Spectrum of Charmed Quark-Anti Quark Bound States. *PRL* 34(1975) 369; Heavy Quarks in $e^+ e^-$ Annihilation. *Phys Lett* 66B(1977) 286; Dynamical Symmetry Breaking of Non-Abelian Gauge Symmetries. *PR D* 10(1974) 3254.

Eickelman, Dale Floyd 76-77 Soc, Anthropology

Born 1942 Evergreen Park, IL. PhD 1971 Univ of Chicago. Honors: Postdoc Fellow Comm for Comp Study of New Nations Univ of Chicago 1973-1974. Appointments: Member, Predoc Screening Panel, Joint Comm on Near & Middle East, SSRC and ACLS. Memberships: Royal Anthro Inst; Middle East Studies Assoc of No Amer; Am Anthro Assoc. Assoc Prof, Department of Anthropology, New York University, New York, NY 10003.

Publications Related to IAS Residence: The Art of Memory: Islamic Education and Its Social Reproduction. *Comparative Studies in Society and History* 20, 4(1978) 485-516; Ideological Change and Regional Cults: Maraboutism and Ties of "Closeness" in Western Morocco. In *Regional Cults*, ed. by Richard P. Werbner, 3-28. New York and London: Academic Press.

Other Publications: *Moroccan Islam*. Austin and London: Univ of Texas Press, 1976.

Einem, Herbert von 65f HS

Born 1905 Saarbürg/Lothringen, Germany. Dphil habil 1935 Univ Halle. Honors: Member Acads Düsseldorf, Mainz, München, Göttingen, Stockholm; Deuts Archäolog Inst Berlin. Appointments: Pres Comité Internatl d'Histoire de l'Art 1964-1968; Vorsitzender Verbs Deut Kunsthist 1960-1968. Memberships: Verb Deut Kunsthist. Prof Emer, Art History, Univ of Bonn, Charlottenburgerstr 19, 34 Göttingen-Geismar, Germany.

Publications Related to IAS Residence: *Die Verklärung Christi und die Heilung des Besessenen von Raffael*. Mainzer Akademie, 1966; Poussins "Madonna an der Treppe". *Wallraf-Richartz-Jahrbuch* 28(1966); Masaccios "Zinsgroschen". Düsseldorf Akademie, 1967; *Programm der Stanza della Segnatura*. Düsseldorf: 1971.

Other Publications: *Carl Ludwig Fernow*. Berlin: DVK, 1935; *Deutsche Malerei des Klassizismus und der Romantik*. Munich: H. Beck, 1978.

Eisenberg, Marvin 70s HS, History of Art

Born 1922 Philadelphia, PA. PhD 1954 Art and Archaeology Princeton Univ. Honors: Stella della Solidarietà Italiana, II 1961; Benj Franklin Fellow Royal Soc of Arts 1969; Collegiate Prof Univ of Michigan 1975-1976. Appointments: Visiting Comm, Fine Arts, Harvard Univ, 1975-; Adv Comm, Study Center, Nat Gallery of Art, Washington, 1978; Visit Comm, Fine Arts, Hunter Coll, New York, 1978-. Memberships: Coll Art Assoc of Amer; Mediaeval Acad of Amer; Renaissance Soc of Amer. Prof, Department of the History of Art, The University of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: "The Penitent St. Jerome" by Giovanni Toscani. *The Burlington Magazine* 118(1976) 274-283; A Late Trecento "Custodia" with the Life of St. Eustace. In

Members

Studies in Late Mediaeval and Renaissance Painting in Honor of Millard Meiss, 143-151. New York: 1977.

Eisenbud, Leonard 40f M(NS), Theoretical Physics

Born 1913 Elizabeth, NJ. PhD 1948 Physics Princeton Univ. Honors: Fellow Am Phys Soc. Memberships: Sigma Xi. Prof, Physics, SUNY-Stony Brook, 28 Conscience Circle, Setauket, NY 11733.

Publications: With E. P. Wigner. *Nuclear Physics*. Princeton, NJ: Princeton U Press; *Conceptual Foundations of Quantum Mechanics*. New York: Van Nostrand, Reinhold.

Eisler, Colin T. 57-58 HS, Art History

Born 1931 Hamburg, Germany. PhD Art History Harvard Univ. Appointments: Trustee Smith Coll Art Museum; Drawing Center; Arch Hist Found; Am Friends of Israel Museum; Board of Coll Art Assoc; NEH Consultancy; ACLS; Art Bulletin; Secy, Natl Comm for Hist of Art; Board Member, Internl Comm for Hist of Art; Board of ARs Neerlandica. Herbert Lehman Prof, Art Hist, NYU Institute of Fine Arts, 1 E 78th St, New York, NY 10021.

Publications Related to IAS Residence: *Corpus of Early Netherlandish Painting - Les Primitifs Flamands - The New England Collections*, de Sikkel, 1961.

Other Publications: *Catalogue of Non-Italian Paintings of the Samuel H. Kress Foundation*. New York & London: Phaidon Press, 1976.

Eizenhöfer, Leo Alfons, O.S.B. 58s HS, History of Ecclesiastical Liturgy

Born 1907 Johannesberg-Oberafferbach, Bavaria, Germany. DPhil 1942 Univ of Heidelberg. Honors: Abt-Herwegen-Inst zur Erforschung der christlichen Liturgien und der Monasticshen Lebensformen 1948; Vice Pres Henry Bradshaw Soc, England 1964. Abtei Neuburg, Stiftweg 2, Heidelberg-Ziegelhausen, West Germany.

Eliasson, Halldor Ingimar 65-66 M, Differential Geometry

Born 1939 Iceland. Dr 1964 Univ of Mainz. *

Eliezer, Christie Jayaratnam 55-56 M(NS), Theoretical Physics

Born 1918 Ceylon. PhD 1945 Cambridge Univ. *

Eliot, Thomas Stearns 48f HS, Literature

Born 1888 St. Louis, MO. MA 1911 Harvard Univ. Honors: Nobel Prize for Literature 1948; LLD: U of Edinburgh 1937; St. Andrews U 1953; LittD: Columbia U 1933; Cambridge U 1938; Bristol U 1938; Leeds U 1939; Harvard U, Yale U, Princeton U 1947; Oxford U 1948; London U 1950; Washington U 1953; Rome U 1958; Sheffield U 1959; Order of Merit; Officier Legion d'Honneur; German Order of Merit. Appointments: Ed The Criterion 1923-39, pub 1925-65. Deceased.

Publications Related to IAS Residence: *The Cocktail Party*. London: Faber & Faber, 1950.

Other Publications: *Collected Poems (1909-62)*. London: Faber & Faber, 1963; *Selected Essays*. London: Faber & Faber, 1932; *The Use of Poetry*. London: Faber & Faber, 1933; *After Strange Gods*. London: Faber & Faber, 1934; *Murder in the Cathedral*. London: Faber & Faber, 1935; The Family Reunion. London: Faber & Faber, 1939; *The Idea of a Christian Society*. London: Faber & Faber, 1939; *Four Quartets*. New York: Harcourt Brace, 1943; *Notes Towards the Definition of Culture*. London: 1962; *Poetry and Drama*. Cambridge: Harvard Univ Press, 1951; *The Confidential Clerk*. London: Faber & Faber, 1954; On Poetry and Poets. London: Faber & Faber, 1957; *The Elder Statesman*. London: Faber & Faber, 1959; *Knowledge and Experience*. London: Faber & Faber, 1964.

Elitzer, Shmuel 77-79 NS, Field Theory

Born 1944 Israel. PhD 1977 Hebrew Univ. Theoretical Physics Group, Fermilab, P.O. Box 500, Batavia, IL 60510. *

Elkins, Stanley Maurice 70-71, 76-77 HS, History

Born 1925 Cambridge, MA. PhD 1959 American History Columbia Univ. Honors: Guggenheim Fellow 1976-77. Memberships: AHA; Org Amer Historians. Prof, Dept of History, Smith College, Northampton, MA 01063.

Publications Related to IAS Residence: With Eric McKittrick. *The Age of Washington and Jefferson*, forthcoming

Other Publications: *Slavery: A Problem in American Intellectual and Institutional Life*. Chicago: 1959.

Ellentuck, Erik 63-65, 71-72 M

Born 1934 New York, NY. PhD 1962 Univ of Calif, Berkeley. Honors: NSF Postdoc Fellow 1964-65; NJ Research Council Fellow 1968-69, 1971-72, 1974-75. Memberships: Assoc Symb Logic; AMS. Prof, Math, Rutgers Univ, Visit Scholar U of Calif, Berkeley, Math Dept, U of California, Berkeley, CA 94720.

Elliott, George Arthur 71-72 M, Operator Algebras

Born 1945 Montreal, Canada. PhD 1969 Math Univ of Toronto. Memberships: Am, Canadian and Danish Math Societies. Prof, Univ of Ottawa, Lektor Math Univ of Copenhagen, Department of Mathematics, University of Ottawa, Ottawa, Canada K1N6N5.

Publications Related to IAS Residence: Derivations of matroid C^* -algebras, II. *Ann of Math* 100(1974) 407-422; Finite projections in tensor product von Neumann algebras. *Trans AMS* 212(1975) 47-60; With H. Araki. On the definition of C^* -algebras. *Publ RIMS, Kyoto Univ* 9(1973) 93-112.

Other Publications: On the classification of inductive limits of sequences of semisimple finite-dimensional algebras. *J. Algebra* 38(1976) 29-44; Some C^* -

algebras with outer derivations, III. *Ann of Math* 106(1977) 121-143; A property of totally ordered groups. *Math Rep Acad Sci Canada* 1(1979).

Elliott, Joanne 61f M, Analysis

Born 1925 Providence, RI. PhD 1950 Cornell U. *

Ellis, Hubert W. 56-57 M, Analysis

Born 1918 Canada. PhD 1947 Univ of Toronto. *

Ellis, Robert 62-63 M, Transformation Groups

Born 1926 Cleveland, OH. PhD 1953 Univ of Penn. Dept. of Math, Univ. of Minnesota, Minneapolis, MN 55455. *

England, James W. 67-68 M, Topological Dynamics

Born 1938 Newton, KS. PhD 1964 Univ of Missouri. Dept of Math, Swarthmore Coll, Swarthmore, PA 19081. *

Enright, Thomas J. 75-76 M, Representation Theory

Born 1947 Concord, NH. PhD Math Univ of Wash. Honors: Sloan Fship 1978-80. Assoc Prof, Math Dept, Univ of California at San Diego, La Jolla, CA 92037.

Enss, Volker 79-80 NS, Mathematical Physics

Born 1942 Kassel, Germany. Dr rer nat 1974 Physics Univ of Hamburg. Memberships: International Association for Mathematical Physics. Wiss Rat und Prof, Dept of Math, Ruhr Univ Bochum, D-4630 Bochum 1, West Germany.

Publications Related to IAS Residence: Asymptotic Completeness for Quantum-Mechanical Potential Scattering II. *Ann Phys* 119(1979) 117-132.

Other Publications: *Commun Math Phys* 52(1977) 233-238; *Commun Math Phys* 61(1978) 285-291; *Rep Math Phys* 13(1978) 87-99.

Enz, Charles Paul 59-61 M(NS), Theoretical Physics

Born 1925 Zurich, Switzerland. DSc ETH. Appointments: Comm on Condensed Matter, Swiss Phys Soc, Pres 1975-78; Comm on Thermodynamics and Statistical Mechanics, Internl Union of Pure and Applied Physics. Memberships: Am, European, Swiss Phys Socs. Prof, Geneva Univ, Chairman Physics Dept, Ecole de Physique (Université), 24 Quai Ernest Ansermet, CH-1211 Genève 4, Switzerland.

Publications Related to IAS Residence: With R. Eden and J. Lascoux. *Bull Am Phys Soc* 5(1960) 284; With A. Thellung. *Helv Phys Acta* 33(1960) 839.

Other Publications: ed, *Pauli Lectures in Physics*. 1-6. Cambridge, MA: MIT Press, 1973; W. Pauli's Scientific Work. In *The Physicist's Conception of Nature*, ed. by J. Mehra, 766-799. Dordrecht, The Netherlands: D. Reidel, 1973; *Rev Mod Phys* 46(1974) 705-753.

Epstein, David Bernard Alper 61-62 M, Topology

Born 1937 Pretoria, South Africa. PhD 1960 Math Cambridge Univ. Appointments: Council of London Math Soc. Memberships: AMS; London Math Soc; AUT. Prof, Mathematics Institute, University of Warwick, Coventry CV4 7AL, England.

Publications Related to IAS Residence: With N.E. Steenrod. Cohomology Operations. In *Annals of Mathematics Study* 50. Princeton Univ Press.

Epstein, Henri 65-66, 70f M(NS), Quantum Field Theory

Born 1932 Paris, France. Licence 1957 Univ of Paris. Dir de Recherches, Physics, CNRS, IHES, 91440 Bures sur Yvette, France.

Publications Related to IAS Residence: CTP Invariance of the S-Matrix in a Theory of Local Observables. *J of Math Physics* 8(1967) 750-767.

Epstein, Saul Theodore 47 48 M(NS)

Born 1924 East Hampton, NY. PhD 1948 Physics MIT. Prof, Physics Dept, Univ Wisconsin, Madison, WI 53706.

Erder, Cevat 72-73 HS, Classical Archaeology

Born 1931 Istanbul, Turkey. PhD 1965 Classical Archaeology Ankara Univ. Appointments: Exec Comm UNESCO's ICOMAS 1972-; Turkish High Comm of Antiquities, lifetime member. Memberships: Turkish Soc of Class Studies. Prof, History of Architecture & Conservation, Faculty of Architecture, Middle East Technical University, Ankara, Turkey.

Publications Related to IAS Residence: *The Care of the Historic Environment*. Ankara: Mid East Tech Univ, 1975; Lessons on Archaeological and Monument Salvage. *Monumentum* 15

Other Publications: Hellenistic Architecture in Anatolia. In *The Cyma Recto-Cyma Reversa*. Ankara: 1967; The Case of Historic Monuments and Sites in Turkey. In *From Medina to Metropolis, Heritage and Change in the Near Eastern City* ed. by L. C. Brown, 277-288. Princeton: 1973; *The Consciousness of the Historic Environment*. Ankara: 1961.

Erdős, Paul 38-40 M

Born 1913 Hungary. PhD 1939 Univ of Manchester. Mathematical Inst, Hungarian Academy of Sciences, Realtanoda U 13-15, Budapest 5, Hungary. *

Erim, Kenan Tevfik 64s HS, Archaeology

Born 1929 Istanbul, Turkey. PhD 1958 Classical Archaeology Princeton. Honors: Guggenheim Fellow 1961-62; Franklin L. Burr Awd Nat Geo Soc 1973; Citation Rep of Turkey for 50th Anniv 1973. Memberships: Archaeological Inst of Amer; AHA; Amer Oriental Soc; ASOR; Royal Numismatic Soc; Internatl Assoc for Classical Archaeology; Corr

Members

Member Turkish Hist Soc. Prof, Classics, NYU. 48 Nassau St, PO Box 584, Princeton, NJ 08540.

Publications Related to IAS Residence: De Aphrodisiade. *AJA* 71, 3(1967) 233-243; The School of Aphrodisias. *Archaeology* 20, 1(1967) 18-27.

Other Publications: Classical Archaeology. In *Collier's Encyclopedia*. 1962; Aphrodisias. In *Princeton Encyclopedia of Classical Sites*.

Erie, Dieter Heinz 69-70 M

Born 1939 Vienna, Austria. Dr Rer Nat 1968 Math Univ of Bonn. Memberships: Deutsche Math Verein; AMS. Wissensch Rat U Prof, Math, Univ of Dortmund, Grenz-weg 8, 4600 Dortmund 30, Germany.

Publications Related to IAS Residence: With W.C. Hsiang. On Certain Unitary And Symplectic Actions With Three Orbit Types. *Amer J Math* 94(1972) 289-308; Smooth Structure and Signature of Codimension 2 Embeddings. *Proc Am Math Soc* 35(1972) 611-616.

Other Publications: Die Quadratische Form Eines Knotens und ein Satz Über Knotenmannigfaltigkeiten. *J Reine Angew Math* 236(1969) 174-218.

Erlwanger, Stanley Herbert 74-76 M, Mathematics Learning

Born 1934 Bulawayo, Rhodesia. PhD 1974 Math Ed Univ of Ill. Appointments: Internat Commission on Math Instruction; Nat Council Teacher Ed (Botswana); Regional Math Panel (Botswana, Lesotho & Swaziland). Memberships: MAA, NCTM, NEA; Phi Delta Kappa; Jean Piaget Society; Natl Soc for Study of Ed; Amer Ed Research Assoc; Smithsonian Inst. Head, Science Ed, and Dean Fac of Ed, University of Botswana and Swaziland, Private Bag 0022, Gaborone, Botswana.

Publications: Case Studies of Children's Conception of Mathematics. *J Childrens Math Behaviour* (1974-1976); The Observation Interview Method and Some Case Studies. In *Proc Conf on Future of Math Ed*. Florida St Univ, 1975.

Ernest, John Arthur 60-62 M, Analysis

Born 1935 New York, NY. PhD 1960 Math Univ of Illinois. Memberships: AMS; MAA. Prof, Math, Univ of Calif, Santa Barbara. 1712 Calle Boca del Canon, Santa Barbara, CA 93101.

Publications Related to IAS Residence: A decomposition theory for unitary representations of locally compact groups. *Trans Amer Math Soc* 104(1962) 252-277.

Other Publications: Charting the operator terrain. *Memoirs of the Amer Math Soc* 6(1976) 171.

Errington, Robert Malcolm 76-77 HS, Ancient History

Born 1939 Howdon-On-Tyne, England. PhD 1966 Ancient History Durham Univ. Memberships: Soc for Prom of Roman Studies; Soc for Prom of Hellenic

Studies; Hochschulverband (Bonn). Prof, Ancient History, Philipps Universität, Am Glaskopf 3, 3550 Marburg, Germany.

Publications Related to IAS Residence: The Nature of the Macedonian State Under the Monarchy. *Chiron* (1978).

Other Publications: *Philopoemen*. Oxford: Clarendon Press, 1969; *The Dawn of Empire*. London/Ithaca: 1971.

Errington, Shelly Elizabeth 77-78 Soc, Anthropology, Southeast Asia

Born 1944 . PhD 1975 Cornell Univ. Stevenson College, Univ of California, Santa Cruz, CA 95064. *

Ettinghausen, Richard 37-38 HS(H), Islamic Art

Born 1906 Frankfurt/Main, Germany. PhD 1931 Univ of Frankfurt. Honors: Order of the Imperial Crown of Iran. Deceased.

Publications Related to IAS Residence: Inscription on the Caravanserai at Yazd-i Khwast. In *Contributions to the Anthropology of Iran*, ed. by Henry Field, 568-572. Chicago: 1939; An Umayyad Pound Weight. *Walters J* 2(1939) 73-76; Painting in the Fatimid Period: A Reconstruction. *Ars Islam* 9(1942) 112-124.

Ettlinger, Elisabeth 63-64 HS, Roman Provincial Archaeology

Born 1915 Breslau, Germany. PhD 1942 Univ of Basel. Honors: German Archaeol Inst 1968; Corr member Austrian Archaeol Inst 1975; Hon Fellow Soc of Antiquaries of London 1976. Prof Emer, and Pres Int assoc for Roman ceramics, Witikonstr 58, 8032 Zürich, Switzerland.

Publications Related to IAS Residence: *Die römischen Fibeln in der Schweiz*. Bern: Francke, 1973.

Other Publications: *Die Keramik der Augster Thermen*. Basel: Birkhäuser, 1949; *Kleine Schriften*. *Acta RCRF Suppl* 2(1977).

Ettlinger, L D. 56s HS, History of Art

Born 1913 England. PhD 1937 Univ of Halle. Dept of History, Univ of California, Berkeley, CA 94720. *

Evans, Benny Dan 71-72 M, Geometric Topology

Born 1947 Fort Worth, TX. PhD 1971 U of Mich. Dept of Math, Oklahoma State U, Stillwater, OK 74074. *

Evans, Trevor 52-53 M, Algebra

Born 1925 Wolverhampton, England. MA 1950 Oxford U. *

Publications Related to IAS Residence: On Multiplicative Systems Defined by Generators and Relations II. *Proc Cambridge Philos Soc* 49(1953) 579-589; An Embedding Theorem for Semigroups with Cancellation. *Amer J Math* 76(1954) 399-413.

Everett, Charles Warren 45s HS(EP)***Ewing, George McNaught** 40-41 M

Born 1907 Lexington, MO. PhD 1935 Math Univ of Missouri. Honors: George L. Cross Research Prof 1963-77. Memberships: AMS; MAA; SIAM. Prof Emer, Math, Univ of Okla, 816 College Ave, Norman, OK

Publications Related to IAS Residence: With Marston Morse. The Variational Theory in the Large Including the Non-Regular Case: I, II. *Ann Math (2)* 44(1943) 339-374; Variation Problems Formulated in Terms of the Weierstrass Integral. *Duke Math J* 14(1947) 675-687; Minimizing an Integral on a Class of Continuous Curves. *Duke Math J* 10(1943) 471-477.

Other Publications: *Calculus of Variations with Applications*. New York: W. W. Norton & Co., 1969.

Fadell, Edward Richard 63-64 M, Topology

Born 1926 Niagara Falls, NY. PhD 1952 Mathematics Ohio State U. Appointments: NSF Panels; AMS Membership Comm. Memberships: AMS; MAA; AAUP. Prof, Dept Math, University of Wisconsin, Madison, WI 53706.

Publications Related to IAS Residence: Generalized normal bundles for locally flat imbeddings. *TAMS* 114(1965) 488-513; Locally flat immersions and Whitney Duality. *Duke Math J* 32(1965) 37-52; On a coincidence theorem of F.B. Fuller. *Pac J Math* 15(1965) 825-834.

Other Publications: With W. Hurewicz. On the structure of higher differential operators in spectral sequences. *Ann Math* 68(1958) 314-347; Recent results in the fixed point theory of continuous maps. *Bull AMS* (Jan 1970) 10-29; Generalized cohomological index theories for Lie group actions with an application to bifurcation questions for Hamiltonian systems. *Invent Math* 45(1978) 139-174.

Fahy, Everett 72f HS, Italian Renaissance Painting

Born 1941 Philadelphia, PA. PhD 1968 Harvard Univ. Appointments: Three-year term with IRS Art Advisory Panel. Memberships: College Art Assoc; Assoc of Art Museum Dirs. Adjunct Prof, Institute of Fine Arts, New York University, 11 West 81st St, New York, NY 10024.

Publications Related to IAS Residence: Bartolommeo di Giovanni Reconsidered. *Apollo* 97(May 1973) 462-469.

Other Publications: *Some Followers of Domenico Ghirlandajo*. London-New York: Garland Publishing, Inc., 1976; In *The Wrights man Collection*, ed. by F.J.B. Watson, 5, Paintings, Drawings. Greenwich, Conn: NY Graphic Soc, 1973.

Faith, Carl 60-62 M

Born 1927 Covington, KY. PhD 1956 Math Purdue Univ. Honors: NATO Postdoc 1959-60; NSF Postdoc

1961-62; Rutgers Fac Fellow 1965-66, 1969-70. Appointments: Screening Comm Sr Fulbrights 1970-73; Consultant AID & NSF India summer 1968. Prof, Math, Rutgers Univ, 199 Longview Dr, Princeton, NJ 08540.

Publications Related to IAS Residence: With Y. Utumi. On the noetherian prime rings. *TAMS* 114(1965) 53-60; Rings with ascending condition on annihilators. *Nagoya Math J* 27(1966) 179-191; With E. A. Walker. Direct sum representations of injective modules. *J Alg* 5(1967) 203-221; Radical extension of rings. *Proc AMS* 12(1961) 274-283; Derivations and generations of finite extensions. *Bull AMS* 67(1961) 550-553; *Algebra: Rings, Modules and Categories I*. Berlin: Springer, 1973; With J. H. Cozzens. *Simple Noetherian Rings*. Tracts in Math & Phys. Cambridge Univ Press, 1975; *Algebra II: Ring Theory*. NY: Springer, 1976.

Other Publications: Injective Modules and Quotient Rings. *Springer Lecture Notes in Math* 49(1967); Galois subrings of Ore domains are Ore. *Bull AMS* 78(1972) 1077-80; Extensions of normal bases and completely basic fields. *TAMS* 85(1957) 406-27.

Faldi, Italo 76s HS, History of Art

Born 1917 Rome, Italy. PhD 1945 Univ of Rome. Honors: Accad St Luca. Appointments: National Italian Comm UNESCO. Memberships: CIHA; AICA. viale delle Belle Arte 139, 00197 Rome, Italy.

Publications: *La scultura barocca in Italia*. Milano: 1958; *Pittori viterbegi di cinque secoli*. Roma: 1970; With B. Mantura. *La Galleria Nazionale d'arte moderna*. Milano: 1977.

Fan, Ky 45-47 M, Functional Analysis

Born 1914 Hangchow, China. DèSc 1941 Mathematics Univ of Paris. Memberships: AMS; MAA. Prof, Department of Mathematics, University of California, Santa Barbara, CA 93016.

Publications Related to IAS Residence: Partially ordered additive groups of continuous functions. *Ann Math (2)* 51(1950) 409-427; *Les fonctions définies-positives et les fonctions complètement monotones*. Mémorial des Sci Math, 114. Paris: Gauthier-Villars, 1950; Two mean theorems in Hilbert space. *Proc NAS* 31 (1945) 417-421; With S. Bochner. Distributive order-preserving operations in partially ordered vector sets. *Ann Math (2)* 48(1947) 168-179; On positive definite sequences. *Ann Math (2)* 47(1946) 593-607.

Other Publications: On a theorem of Weyl concerning eigenvalues of linear transformations. I, II. *Proc NAS* 35, 36(1949, 1950) 652-655, 31-35; Fixed-point and minimax theorems in locally convex topological linear spaces. *Proc NAS* 38(1952) 121-126; On systems of linear inequalities. In *Linear inequalities and related systems*, ed. by Kuhn, H.W., and Tucker, A.W., 99-156. Princeton Univ Press, 1956; Combinatorial properties of simplicial maps and convex sets. In *Proceedings of the Twelfth Biennial Seminar of the Canadian Mathematical Congress: Time Series and Stochastic Processes, Convexity*

Members

and Combinatorics, 231-241. Montreal: 1970; Analytic functions of a proper contraction. *Math Z* 160(1978) 275-290.

Farkas, Ann Elizabeth 79-80 HS, Ancient Art

Born 1931 New Brighton, PA. PhD 1967 Art History & Archaeology Columbia Univ. Memberships: Arch Inst of Amer; Coll Art Assoc; Columbia U Seminar on Arch of Eastern Med. Prof, Ancient Art, Brooklyn Coll, Visiting Professor Dept of Art Hist & Arch Columbia University, New Preston Hill Rd, New Preston, CT 06777.

Publications: *Achaemenid Sculpture*. Istanbul: 1974; From the Lands of the Scythians. *Catalogue of exhibition at Metropolitan Museum of Art* (1975); With E. Bunker & B. Chatwin. *Animal Style Art from East to West*. New York: 1970.

Farmer, Paul 50f HS, History

Born 1918 Hartford, CT. PhD 1942 Columbia Univ. 5 Emerson Court, Amherst, MA 01002.

Publications Related to IAS Residence: *Vichy: Political Dilemma*. NY: Columbia Univ Press, 1954.

Farrar, Glennys Reynolds 71-73 NS, Particle Physics

Born 1946 Washington, DC. PhD 1970 Princeton Univ. Honors: Sloan Fellow 1975-. Appointments: Exec Comm APS Div of Particles & Fields. Memberships: AAAS; APA. Sr Res Fellow, Theoretical Physics, Cal Tech, 848 S Mentor Ave, Pasadena, CA 91106.

Publications Related to IAS Residence: Oltet Dom of Baryon Matrix Elements & Vanishing of Neutron Charge Rad. *Phys Rev D*6(1970) 292; With J. L. Rosner. Question of Measurement of Quark Charge. *Phys Rev D*7(1973) 2747; With S. Treiman. Bound on CP Non-conservation in $K_L \rightarrow 2\gamma$ Decay. *Phys Rev D*4(1971) 257; With Adler & Treiman. 3- π States in $K_L \rightarrow \mu^+ \mu^-$, Puzzle. *Phys Rev D*5(1972) 770; How Big Are Anomalous Dimensions. *Phys Lett*44B(1973) 275.

Other Publications: With S. Brodsky. Scaling Laws at Large Transverse Momentum. *Phys Rev Lett*31(1973) 1153; Testing QCD. *Phys Lett*70B(1977) 346.

Farrell, F. Thomas 76-77 M, Topology

Born 1941 Cincinnati, OH. PhD 1967 Mathematics Yale Univ. Honors: Invited to address Internat'l Cong of Mathematics Nice, France 1970. Memberships: AMS. Prof, Mathematics, Penn State Univ, 506 Nimitz Ave, State College, PA 16802.

Publications Related to IAS Residence: With W. C. Hsiang. The Topological-Euclidean space form problem. *Invent math* 45(1978) 181-192; With L. E. Jones. Markov cell structures. *Bull Amer Math Soc* 83(1977) 736-740; With W. C. Hsiang. On the rational homotopy groups of the diffeomorphism groups of discs, spheres and aspherical manifolds. *Proc Symp*

*Pure Math*32 part 1 (1978) 325-337; With L. E. Jones. Examples of expanding endomorphisms on exotic tori. *Invent math* 45(1978) 175-179; The non-finiteness of Nil. *Proc Amer Math Soc* 65(1977) 215-216.

Other Publications: The obstruction to fibering a manifold over a circle. *Indiana Univ Math Jour*21, 4(1971) 315-346; With W. C. Hsiang. Manifolds with $\pi_1 = GX_a$ T. *Amer Jour of Math* 95(1973) 813-848; An extension of Tate cohomology to a class of infinite groups. *Jour of Pure and Applied Algebra* 10 (1977) 153-161; With L. E. Jones. New attractors in hyperbolic dynamics. *Jour of Diff Geom* in press.

Farrell, Orin James 49s M, Function Theory, Analysis

Born 1899 Philipsburg, PA. PhD 1930 Mathematics Harvard U. Honors: Natl Research, Munich 1930-31; ScD Lebanon Valley College 1963. Memberships: AMS. Prof Emer, Union Coll, Schenectady NY. 148W Embury Apts, Saratoga Springs, NY 12866.

Publications Related to IAS Residence: On Approximation Measured by a Surface Integral. *SIAM Journal*3, No 2(1966).

Fay, John David 70-71 M

Born 1943 Portland, ME. PhD 1970 Mathematics Harvard Univ. Asst Prof, Department of Mathematics, Bowdoin College, Brunswick, ME 04011.

Publications Related to IAS Residence: Theta Functions on Riemann Surfaces. *Springer Lecture Notes* 352(1973); Fourier Coefficients of the Resolvent for a Fuchsian Group. *Crelle's J für Math* 293: 143-203.

Fedalto, Giorgio 77-78 HS, Middle Ages

Born 1930 Venice, Italy. Honors: Socio effettivo dell'Ateneo Veneto; Socio corrispondente della Deputazione di Storia Patria per le Venezie. Appointments: Com stor, filosof, filolog Consiglio Naz Ricerche, 1977-. Prof, Storia del cristianesimo, Univ of Padua, via Gazzera 4, 30174 Mestre-Venezia, Italy.

Publications Related to IAS Residence: With A. Carile. Organizzazione ecclesiastica e vita religiosa nella "Venetia maritima". In *Le origini di Venezia*. Bologna: 1978.

Other Publications: *Ricerche storiche sulla posizione giuridica ed ecclesiastica dei greci a Venezia nei secoli XV e XVI*. Firenze: L.S. Olschki, 1967; *Massimo Marguino e il suo commento al De Trinitate di S. Agostino (1558)*. Brescia: Paideia, 1968; *Simone Atumano monaco di studio, arcivescovo latino di Tebe*. Brescia: Paideia, 1968; *La chiesa latina in Oriente*. Verona: Mazziana, 1973-1978.

Feder, Samuel S. 64-66 M, Differential Topology

Born 1938 Mexico. PhD 1964 Univ of Calif, Berkeley.*

Federbush, Paul Gerard 73-74 NS, Mathematical Physics

Born 1934 Newark, NJ. PhD 1958 Physics Princeton Univ. Honors: Sloan Fellow 1965-1969; Guggenheim Fellow 1973-74. Memberships: Am Phys Soc. Prof, Dept of Mathematics, University of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: A New Approach to the Stability of Matter Problem I, II. *J Math Phys* 16(1975) 347-351; 16(1975) 706-709; With D. Brydges. The Cluster Expansion is Statistical Mechanics. *Commun Math Phys* 49(1976) 233-246; With D. Brydges. The Cluster Expansion For Potentials with Exponential Fall-off. *Commun Math Phys* 53(1977) 19-30.

Other Publications: With M. L. Goldberger and S. B. Treiman. Electromagnetic Structure of the Nucleon. *Phys Rev* 112, No 2(1958) 642-665; A Note on Quasi-Elastic Photon-Deuteron Scattering. *Nuovo Cimento Series* 10, 15(1960) 479-480; Haag's Theorem in a Finite Volume. *Nuovo Cimento Series* 10, 15(1960) 932-933; With K. A. Johnson. Uniqueness Property of the Twofold Vacuum Expectation Value. *Phys Rev* 120, No 5(1960) 1926; Minimal Electromagnetic Coupling for Spin Two Particles. *Nuovo Cimento Series* 10, 19(1961) 572-573; A Two-Dimensional Relativistic Field Theory. *Phys Rev* 121, No 4(1961) 1247-1249; With M. T. Grisaru. The High Energy Behavior of Scattering Amplitudes in Perturbation Theory, I. *Ann Phys* 22, No 2(1963) 263-273; With M. T. Grisaru. The High Energy Behavior of Scattering Amplitudes in Perturbation Theory, II. *Ann Phys* 22, No 2(1963) 299-308; Calculation of Some Homology Groups Relevant to Sixth Order Feynman Diagrams. *J Math Phys* 6, No 6(1965) 941-954; Existence of Spurious Solutions to Many-Body Bethe-Salpeter Equations. *Phys Rev* 148, No 4(1966) 1551-1552; A Partially Alternate Derivation of a Result of Nelson. *J Math Phys* 10(1969) 50-52; Unitary Renormalization of $[\phi_4]_{2+1}$. *Commun Math Phys* 21(1971) 261-268; With D. Brydges. A Semi-Euclidean Approach to Boson-Fermion Model Theories. *J Math Phys* 15(1974) 760-732; With D. Tromba. Note on 't Hooft's Hamiltonian in Two-dimensional Quantum Chromodynamics. *Phys Rev D* 15(1977) 2913-2914; With D. Brydges. A Lower Bound for the Mass of a Random Gaussian Lattice. *Commun Math Phys* 62(1978) 79-82; With D. Brydges. A New Form of the Mayer Expansion in Classical Statistical Mechanics. *J Math Phys* 19(1978) 2064-2067.

Federer, Herbert 57f M

Born 1920 Vienna, Austria. PhD 1944 Math Univ of Calif Berkeley. Honors: Sloan Fellow 1957-60; NAS 1975-; AAAS; Guggenheim Fellow 1975-76; NSF Fellow 1964-1965 Appointments: NRC 1966-69; AMS Assoc Secy 1967-68; AMS Colloquium Lecturer 1977. Florence Grant Univ Prof, Math, Brown Univ, 287 Elm Grove Ave, Providence, RI 02906.

Publications Related to IAS Residence: A note on the Gauss-Green Theorem. *Proc Am Math Soc*

9(1958) 447-451; Curvature measures. *Trans Am Math Soc* 93(1959) 418-491.

Other Publications: The Gauss-Green Theorem. *Trans Am Math Soc* 58(1945) 44-76; The (ϕ, k) rectifiable subsets of n space. *Trans Am Math Soc* 62(1947) 114-192; On Lebesgue area. *Ann Math* 61(1955) 289-353; A study of function spaces by spectral sequences. *Trans Am Math Soc* 82(1956) 340-361; With W.H. Fleming. Normal and integral currents. *Ann Math* 72(1960) 458-520; Currents and area. *Trans Am Math Soc* 98(1961) 204-233; Some theorems on integral currents. *Trans Am Math Soc* 117(1965) 43-67; Geometric measure theory. Berlin: Springer-Verlag, 1969; The singular sets of area minimizing rectifiable currents with codimension one and of area minimizing flat chains modulo two with arbitrary codimension. *Bull Am Math Soc* 76(1970) 767-771; Colloquium lectures on geometric measure theory. *Bull Am Math Soc* 84(1978) 291-338.

Feenberg, Eugene 36-37, 37f M(NS)

Born 1906. PhD 1933 Harvard Univ. Deceased.

Publications Related to IAS Residence: On the Saturation Property of Nuclear Forces. *Phys Rev* 2 51 (1937) 777; With M. Phillips. On the Structure of Light Nuclei. *Phys Rev* 251(1937) 597-608; Further Remarks on the Saturation Property of Nuclear Forces. *Phys Rev* 2 52(1937) 667-668.

Feer, Daniel B. 48-49 M(NS), Theoretical Physics

Born 1924 Boston, MA. PhD 1948 Harvard Univ. Deceased.

Publications Related to IAS Residence: Polarization of Mesons Produced at Threshold in Gamma-Nucleon Collisions. *Phys Rev (2)* 76(1949) 306.

Feferman, Solomon 59-60 M, Mathematical Logic

Born 1928 New York, NY. PhD 1957 Mathematics UC Berkeley. Honors: NSF Fellow 1959-60; NSF Senior Postdoc Fellow 1964-65; Guggenheim Fellow 1972-73. Memberships: AMS; Assoc for Symbolic Logic; MAA. Prof, Mathematics & Philosophy, Mathematics Dept, Stanford University, Stanford, CA 94305.

Publications Related to IAS Residence: Transfinite progressions of axiomatic theories. *J Sym Logic* 29(1962) 259-316; With C. Spector. Incompleteness along paths in progressions of theories. *J Sym Logic* 27(1962) 383-390; Classifications of recursive functions by means of hierarchies. *Trans AMS* 104(1962) 101-122.

Other Publications: Systems of predicative analysis. *J Sym Logic* 29(1964) 1-30; With R.L. Vaught. First-order properties of products of algebraic systems. *Fund Math* 47(1959) 57-103; Arithmetization of metamathematics in a general setting. *Fund Math* 49(1960) 35-92; Ordinals and functionals in proof theory. *Proc Int Cong Maths* 1(1970) 229-233.

Feinberg, Gerald 56-57 M(NS), Theoretical Physics

Members

Born 1933 New York, NY. PhD 1957 Columbia Univ. Honors: Guggenheim Fellow 1973. Memberships: Am Phys Soc. Prof, Dept of Physics, Columbia University, New York, NY 10027.

Publications Related to IAS Residence: With T.D. Lee et al. Possible Detection of Parity Nonconservation in Hyperon Decay. *Phys Rev* 106(1957) 1367; Selection Rules Implied by CP Invariance. *Phys Rev* 108(1957) 878-81.

Other Publications: *Phys Rev* 159(1967) 1089.

Feis, Herbert 48-49, 49f, 51-53, 58-60, 62-63 HS, International Affairs

Born 1893 New York, NY. PhD 1921 Economics Harvard Univ. Honors: Guggenheim Fellow 1926; Pulitzer Prize in History 1961. Appointments: Adviser on Internatl Econ Affairs, State Dept 1931-43; Special Asst to Secy of the Army 1944-46. Deceased.

Publications Related to IAS Residence: *The Road to Pearl Harbor*. Princeton: Princeton Univ Press, 1950; *Japan Subdued*. Princeton: 1961; *Between War & Peace; the Potsdam Conference*. Princeton: 1960.

Other Publications: *The China Tangle*. NY: 1953; *Churchill, Roosevelt, Stalin; the war they waged & the peace they sought*. Princeton: 1957; *Contest over Japan*. NY: 1967; *Foreign Aid & Foreign Policy*. NY: 1964; 1933: *Characters in Crisis*. Boston: 1966.

Feit, Walter 58-59 M, Group Theory

Born 1930 Vienna, Austria. PhD 1954 Mathematics Univ of Mich. Honors: Cole Prize in Math 1964; NAS 1977. Appointments: NAS/NRC: US Natl Comm for Math. Memberships: AMS; MAA. Prof, Department of Mathematics, Yale University, New Haven, CT 06520.

Publications Related to IAS Residence: On a class of doubly transitive permutation groups. *Illinois J Math* 4(1960) 170-186; A characterization of the simple groups $SL(2, 2^a)$. *Amer J Math* 82(1960) 281-300; With N.J. Fine. Pairs of commuting matrices over a finite field. *Duke Math J* 27(1960) 91-94.

Other Publications: With J.G. Thompson. Solvability of groups of odd order. *Pacific J Math* 13(1963) 775-1029.

Fekete, Michael 53-54 M, Classical Analysis

Born 1886 Zenta, Hungary. Dr Phil 1909 Mathematics Univ of Budapest. Honors: Israel Prize for Exact Sciences 1955. Deceased.

Publications Related to IAS Residence: With J. L. Walsh. On the asymptotic behaviour of polynomials with extremal properties and of their zeros. *J Analyse Math* 4(1954-55) 49-87; On the Semi-Continuity of the Transfinite Diameter. *Bull Research Council of Israel* 3, 4(1954) 333-336.

Other Publications: Über die Verteilung der Wurzeln bei gewissen algebraischen Gleichungen mit ganzzahligen Koeffizienten. *Math Zeitschrift* 17(1923) 228-249; Über den transfiniten Durchmesser von linearen Punktmengen. *Acta Litt sci* 5(1930) 19-22; Über den transfiniten Durchmesser

ebener Punktmengen. *Math Zeitschrift* 32(1930) 108-114, 215-221; 37(1933) 635-646; On transfinite radius. In *Proc Int Congr Math Cambridge Mass 1951*, 1.

Feldman, David 49s, 49-50 M(NS), High-Energy Physics

Born 1921 Brooklyn, NY. PhD 1949 Physics Harvard Univ. Honors: AEC Postdoc Res Fellow 1949-50; NSF Sr Postdoc Fellow The University of Paris 1962-63; Phi Beta Kappa; Sigma XI. Appointments: Member, Adv Panel Physics NSF, 1968-71. Memberships: Fellow, Am Phys Soc. Prof, Department of Physics, Brown University, Providence, RI 02912.

Publications Related to IAS Residence: With C. N. Yang. The S Matrix in the Heisenberg Representation. *Phys Rev* 79(1950) 972-978; On Realistic Field Theories and the Polarization of the Vacuum. *Phys Rev* 76(1949) 1369-1375.

Other Publications: Editor *Proceedings of the Fifth Annual Eastern Theoretical Physics Conference*. New York: W. A. Benjamin, 1967.

Feldman, Gordon 55-56 M(NS), Theoretical Physics

Born 1928 Windsor, Ontario, Canada. PhD 1953 Univ of Birmingham. Honors: Guggenheim Fellow 1962-3. Prof, Dept of Physics, Johns Hopkins University, Baltimore, MD 21218.

Publications Related to IAS Residence: Crossing Symmetry in Meson-Nucleon Scattering. *Phys Rev* 102(1956) 1421-22; No-Recoil Approximations to Charged Scalar Meson Scattering. *Phys Rev* 103(1956) 1870-73; Behavior of the Meson-Nucleon Cross Section at High Energies. *Phys Rev* 108(1957) 144-47.

Feldman, Jacob 54-56, 60-61 M, Functional Analysis

Born 1928 Philadelphia, PA. PhD 1954 Univ of Chicago. *

Fellmann, Rudolf 72-73 HS, Archaeology and Ancient History

Born 1925 Basel, Switzerland. DPhil Habil 1975 Archaeology of the Roman Provinces Univ of Freiburg/Brg. Honors: Corr Mem German Arch Inst 1956; Corr Mem Austrian Arch Inst 1975. Prof extraord, Archaeology of the Roman Provinces, Univ of Berne, Flughafenstrasse 33, POB 105, CH-4025 Basel, Switzerland.

Publications Related to IAS Residence: *Le Sanctuaire de Baalshamîn à Palmyre*. 6. Rome: Inst Suisse, 1975.

Other Publications: *Le Sanctuaire de Baalshamîn à Palmyre*. 5. Rome: Inst Suisse, 1970; *Die Principia des Legionslagers von Vindonissa und das Zentralgebäude der römischen Lager und Kastelle*. Brugg: Vin-donissamuseum, 1958; *Das Grab des Lucius Munatius Plancus bei Gæta*. Schriften des

Instituts für Ur- und Frühgeschichte der Schweiz, 11. Basel: 1957.

Fenchel, Werner 50f M

Born 1905 Berlin, Germany. DPhil 1928 Math Univ of Berlin. Honors: Hon mem Danish Math Soc 1973. Memberships: Royal Danish Acad of Sci and Letters; AMS. Prof Emer, Univ of Copenhagen, Sønderengen 110, Søborg DK-2860, Denmark.

Publications Related to IAS Residence: *Convex Cones, Sets, and Functions*. Lecture Notes. Princeton: Princeton Univ Press, 1953; Über konvexe Funktionen mit vorgeschriebenen Niveaumannigfaltigkeiten. *Math Z* 63(1956) 496-506.

Other Publications: Über Krümmung und Windung geschlossener Raumkurven. *Math Ann* 101(1929) 238-252; With T. Bonnesen. Theorie der konvexen Körper. *Ergebn d Math* 3, 1(1934); With B. Jessen. Mengenfunktionen und konvexe Körper. *Danske Vid Selsk Mat-Fys Medd* 16, 3(1938); On Total Curvatures of Riemannian Manifolds. *J London Math Soc* 15(1940) 15-22; Estensioni di gruppi discontinui e trasformazioni periodiche delle superficie. *Rend Acc Naz Lincei* 8, 5(1948) 326-329; On Conjugate Convex Functions. *Canad Math J* 1(1949) 73-77.

Fergusson, Francis 48-50 HS, Literature

Born 1904 Albuquerque, NM. BA(Oxon.) 1926. Honors: DLitt Univ of New Mex 1958; DLitt Rutgers Univ 1966. Box 143, Kingston, NJ 08528.

Publications Related to IAS Residence: *The idea of a theater; a study often plays: the art of drama in changing perspective*. Princeton: Princeton Univ Press, 1949.

Other Publications: *Dante*. New York: Macmillan, 1966; *Dante's dream of the mind; a modern reading of the Purgatorio*. Princeton: Princeton Univ Press, 1953; *The human image in dramatic literature*. Garden City, NY: Doubleday, 1957; *Literary landmarks: essays on the theory and practice of literature*. New Brunswick, NJ: Rutgers Univ Press, 1975; *Poems, 1929-1961*. New Brunswick, NJ: Rutgers Univ Press, 1962; *Shakespeare: the pattern in his carpet*. New York: Delacorte Press, 1970; *Trope and allegory: themes common to Dante and Shakespeare*. Athens, Ga: Univ of Georgia Press, 1977.

Fernandez-Santamaria, Jose A. 77-78 HS, Spanish History

Born 1936 Mahon, Spain. PhD 1970 History Indiana Univ. Honors: Summer NEH Fellow 1977; Newberry Library Junior Fellow 1969; ACLS Fellow 1980. Memberships: Historians of Early Mod Europe; Soc for Span & Port Hist Studies. Prof, Department of History, California State University, Hayward, CA 94542.

Publications Related to IAS Residence: Simulacion y disimulacion. El problema de la duplicidad en el pen-samiento politico espanol del barroco. *Boletin de*

la Real Academia de la Historia (in press); Reason of State in the Spanish Baroque. The Case of Diego Saavedra Fajardo. *Il Pensiero Politico* in press; Baltasar Alamos de Barrientos' *ciencia de contingentes: A Spanish View of Statecraft as Science During the Baroque*. *Bibliothèque d'Humanisme et Renaissance* (1979); Reason of State in Spain 1595-1640. *J of Hist of Ideas* in press.

Other Publications: *The State, War, and Peace. Spanish Political Thought in the Renaissance 1516-1559*. Cambridge: Cambridge Univ Press, 1977.

Ferrand, Jacqueline 56f M, Theory of groups

Born 1918 Alès, France. PhD 1942 Math Univ of Paris. Memberships: Soc Math de France. Prof, Math, Univ of Paris, 14 rue de Bagneux Bat B, 92330 Sceaux, France.

Publications Related to IAS Residence: Application of Hilbert Space Methods to Lie Groups Acting on a Differentiable Manifold. *Proc Nat Acad Sciences* 43(1957) 249-52; Sur l'application des méthodes de Hilbert à l'étude des transformations infinitésimales d'une variété différentiable. *Bull Soc Math Belgique* 9(1957) 59-73; *Bull Soc Math France* 86(1958) 1-26; Sur le prolongement des groupes locaux d'Homéomorphismes sur un espace localement compact. *Bull Soc Math France* 89(1961) 429-450.

Other Publications: *Duke Math J* 40(1973) 163-186; *J of Differential Geometry* 8(1973) 487-510.

Ferry, Steven Charles 77-79 M, Topology

Born 1947 Takoma Park, MD. PhD 1973 Mathematics Univ of Mich. Honors: Sloan Fellow 1978-80. Memberships: AMS. Assoc Prof, Dept of Math, University of Kentucky, Lexington, KY 40506.

Publications Related to IAS Residence: Shape Equivalence Does Not Imply CE Equivalence. *Proc AMS* in press.

Other Publications: The Homeomorphism Group of a Compact Hilbert Cube Manifold is an ANR. *Annals of Math* 106(1977) 101-119; With T. A. Chapman. Approximating ϵ -Equivalences by Homeomorphisms. *Amer Journ Math* in press; Homotoping ϵ -Maps to Homeomorphisms. *Am J Math* in press.

Fialkow, Aaron David 36-37 M, Differential Geometry

Born 1911 New York, NY. PhD Mathematics Columbia Univ. Honors: Univ Fellow Columbia Univ 1933, 1935; Natl Research Fellow Princeton & IAS 1936. Memberships: AMS. Emer Prof, Math, Polytechnic Inst of NY, 3125 Tibbett Ave, Bronx, NY 10463.

Publications Related to IAS Residence: Hypersurfaces of a Space of Constant Curvature. *Ann of Math* 2 39(1938) 762-785; Conformal Geodesics. *Trans Amer Math Soc* 45(1939) 443-473; Einstein Spaces in a Space of Constant Curvature. *Proc Nat Acad Sci* 24(1928) 30-34; The Riemannian Curvature of a Hy-persurface. *Bull Amer Math Soc* 44(1938)

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253-257; Totally Geodesic Einstein Spaces. *Bull Amer Math Soc* 45(1939) 423-428; Geometric Characterizations of Invariant Partial Differential Equations. *Amer J Math* 59(1937) 833-844; With E. Kasner. Geometry of Dynamical Trajectories at a Point of Equilibrium. *Trans Amer Math Soc* 41 (1937) 314-320.

Other Publications: Conformal Differential Geometry of a Subspace. *Trans Amer Math Soc* 56(1944) 309-434; The Conformal Theory of Curves. *Trans Amer Math Soc* 51(1942) 435-501; With I. Gerst. The Transfer Function of General Two Terminal-Pair RC Networks. *Quart Appl Math* 10(1952) 113-127; With I. Gerst. The Transfer Function of Networks Without Mutual Reactance. *Quart Appl Math* 12(1954) 117-131; A Limitation of the Series-Parallel Structure. *IEEE Trans Circuit Theory* CT-15(1968) 124-132; Inductance, Capacitance Networks Terminated in Resistance. *IEEE Trans Circuits and Systems* in press.

Fiedorowicz, Zbigniew 78-79 M, Algebraic Topology

Born 1949 Guildford, England. PhD 1975 Univ of Chicago. Dept of Mathematics, University of Michigan, Ann Arbor, MI 48109. *

Field, Alexander James 79-80 Soc, Economics

Born 1949 Boston, MA. PhD 1974 Economics Univ of Calif, Berkeley. Honors: Nevins Prize Columbia Univ 1975; PBK 1970. Memberships: Am Econ Assoc; Econ Hist Assoc. Asst Prof, Department of Economics, Stanford University, Stanford, CA 94305.

Publications: On the Explanation of Rules Using Rational Choice Models. *J of Econ Issues* 13(March 1979) 49-72; Economic and Demographic Determinants of Educational Commitment, Massachusetts, 1855. *J of Econ Hist* 39(June 1979) 439-459; Sectoral Shift in Antebellum Massachusetts: A Reconsideration. *Explorations in Econ Hist* 15(April 1978) 146-171; American Railroads and the Relative Stability of German Industrial Growth: 1880-1913. In *Wachstumzyklen der deutschen Wirtschaft im 19. u. 20. Jahrhundert, Historisch-Sozialwissenschaftliche Forschungen-Band Nr. 11*, ed. by W.H. Schröder and R. Spree. Stuttgart.: Ernst Klett Verlag, 1980.

Fierz, Markus 50f M(NS), Theoretical Physics

Born 1912 Zurich, Switzerland. DPhil 1936 Univ of Zurich. Honors: Hon Memb Schweizer Phys Gesellschaft 1965; Zurich Phys Gesellschaft 1966. Appointments: Schweizer Nationalfonds Conseil du CERN, Genève; Conseil du CERN, Genève. Prof Emer, ETH, Fel-seneggstrasse 10, CH 8700 Küsnacht, Zurich, Switzerland.

Publications Related to IAS Residence: *Helv Phys Acta* 24(1951) 357-366.

Other Publications: *Vorlesungen zur Entwicklungsgeschichte der Mechanik*. Lecture Notes in Physics. Berlin: 1972.

Fillmore, Jay Paul 69-70 M, Geometry

Born 1938 Minneapolis, MN. PhD 1964 Mathematics Univ of Minn. Prof, Department of Mathematics, University of California at San Diego, LaJolla, CA 92093.

Fine, Nathan Jacob 53-54, 58-60 M

Born 1916 Philadelphia, PA. PhD 1946 Mathematics Univ of Pa. Honors: Guggenheim Fellow 1958. Memberships: AMS; MAA. Prof Emer, Pa State Univ, 401 South Gill St, State College, PA 16801.

Publications Related to IAS Residence: On the asymptotic distribution of certain sums. *Proc AMS* 5, 2(1954) 243-252; With G. E. Schweigert. On the group of homeomorphisms of an arc. *Ann Math* 62, 2(1955) 237-253; On groups of orthonormal groups I, II. *Pac J Math* 5, 1(1955) 51-59, 61-65; On a system of modular functions connected with the Ramanujan identities. *Tohoku Math JB*, 2(1956) 149-164; Cesaro summability of Walsh-fourier series. *Proc NAS* 41, 8(1956) 588-591; With W. Feit. Pairs of commuting matrices over a finite field. *Duke Math J* 27, 1(1960) 91-94; With L. Gillman. Extension of continuous functions in $\mathcal{B}N$. *Bull AMS* 66, 5(1960) 376-381; With L. Gillman. Remote points in $\mathcal{B}R$. *Proc AMS* 13, 1(1962) 29-36.

Other Publications: The jeep problem. *Amer Math Monthly* 54, 1(1947) 24-31; On the Walsh functions. *Trans AMS* 65, 3(1949) 372-414; The generalized Walsh functions. *Trans AMS* 69, 1(1950) 66-77; On the asymptotic distribution of the elementary symmetric functions (mod p). *Trans AMS* 69, 1(1950) 109-129; Note on the Hurwitz Zeta-function. *Proc AMS* 2, 3(1951) 361-364; Proof of a conjecture of Goodman. *J symb Logic* 19, 1(1954) 41-44; With R. Harrop. Uniformization of linear arrays. *J Symb Logic* 86, 1(1957) 246-255; Fourier-Stieltjes series of Walsh functions. *Trans AMS* 86, 1(1957) 246-255; Classes of periodic sequences. *Ill J Math* 2, 2(1958) 285-302; With I.N. Herstein. The probability that a matrix be nilpotent. *Ill J Math* 2, 4A(1958) 499-504; Generating functions. In *Twenty-eighth Yearbook, National Council of Teachers of Mathematics*. 1963; With H. S. Wilf. Uniqueness theorems for periodic functions. *Proc AMS* 16, 1(1965) 109-114; *An Introduction to Modern Mathematics*. Chicago: Rand McNally & Co., 1965; The distribution of the sum of digits (mod p). *Bull AMS* 71, 4(1965) 651-652; With L. Gillman, J. Lambek. *Rings of Continuous Functions*. Montreal: McGill Univ Press, 1966; *Some Thoughts on Problem Solving in the Role of Axiomatics and Problem Solving in Mathematics*. New York: Ginn & Co., 1966; With P. Maserick. On the simplex of completely monotonic functions on a commutative semigroup. *Canad J Math* 21, 2(1970) 317-326; On a question of Ayoub, Chowla and Walum concerning character sums. *Ill J Math* 14, 1(1970) 88-90; Walsh functions. In *Encyclopedic Dictionary of Physics*, Suppl 4. Pergamon Press, 1971; On rational triangles. *Amer Math Monthly* 83, 7(1976) 517-521; Infinite Products for K^{th} roots. *Amer Math Monthly* 84(1977)

629-630; Look, Ma, No Primes. *Math Mag* 49, 5(1976) 249; Tensor products of function rings under composition. *Pac J Math* 68, 1(1977) 62-72.

Finkelstein, Robert Jay 47-48, 52f, 56s, 59-60, 64s M(NS), Theoretical Physics

Born 1916 Pittsfield, MA. PhD 1941 Harvard Univ. *

Finn, Robert S. 51-53 M, Analysis

Born 1922 Buffalo, NY. PhD 1951 Syracuse Univ. *

Finzi, Arrigo 51f M

Born 1917 Milan, Italy. Dr 1938 Mathematics Rome Univ. Prof, Dept of Mathematics, Israel Institute of Technology, Haifa, Israel.

Publications: Sur les systèmes d'équations aux dérivées partielles qui, comme les systèmes normaux, comportent autant d'équations que de fonctions inconnues *Koinklyke Nederlandsche Akademie van Wetenschappen* 1(1947); Sur le problème de la génération d'une transformation donnée d'une courbe fermée par une transformation infinitésimale. *Ann l'Ecole Norm Sup* 88(1952) 371; On the hypothesis of the variation of the gravitational constant, and some of its consequence. *Ann Phys* 26(1964) 411; Cooling of a neutron star by the Urca Process. *Phys Rev* 137(1965) 472; The vibrational energy of neutron stars and the exponential light curves of type I supernovae. *Phys Rev Lett* 15(1965) 599; Test for a possible variation of Newton's constant. *Icarus* 9(1968) 191; With R. Wolf. Possible conversion of the rotational energy of the neutron star in the Crab Nebulae into energy of relativistic electrons. *Ap J* 155(1969) 107; With R. Wolf. Ejection of mass by radiation pressure in planetary nebulae. *Astron & Astrophys* 11(1971) 418; With R. Finzi and G. Shaviv. The creation of planetary nebulae. *Astron & Astrophys* 3(1975) 325.

Fischer, Bernd 78-79 M

Born 1936 Germany. PhD 1967 Frankfurt Univ. Universität Bielefeld, Fakultät für Mathematik, 48 Bielefeld 1, West Germany. *

Fischer, Fritz 65s HS, Modern and Contemporary History

Born 1908 Ludwigsstadt, Bavaria, Germany. DPhil 1937 Philosophy Universität Berlin. Honors: Corr Mem British Acad 1971; DLitt(hc) Univ Sussex 1973; Bundesverdienstkreuz 1973. Appointments: Founding Member Kommission für Geschichte des Parlamentarismus und der politischen Parteien (Bonn); Member Friedrich Ebert-Stiftung (Bonn). Memberships: Deut Hochschullehrerverb; Verb Hist Deut; P.E.N.-Zentrum BRD. Prof Emer, Frenssenstr 19a, 2000 Hamburg 55, Germany.

Publications Related to IAS Residence: *Krieg der Illusionen; die deutsche Politik von 1911 bis 1914*. Düsseldorf: Droste, 1969.

Other Publications: *Der erste Weltkrieg und das Deutsche Geschichtsbild: Beitr zur Bewältigung e. histor Tabus; Aufsätze und Vorträge aus 3 Jahrzehnten*. Düsseldorf: Droste, 1977; *Germany's aims in the first world war*. New York: Norton, 1967; *Griff nach der Weltmacht: die Kriegszielpolitik des kaiserlichen Deutschland, 1914-18*. Düsseldorf: Droste, 1961; *Moritz August von Bethmann-Hollweg und der protestantismus (religion, rechts-und staatsgedanke)*. Berlin: Verlag dr. Emil Ebering, 1937.

Fischer, Wolfram 75-76 Soc, Economic History

Born 1928 Weigelsdorf, Silesia, Germany. PhD 1951 Univ of Tübingen.; Dr rer pol 1954 U of Berlin. Appointments: Comm on Soc Sci, Deut Forschungsgemeinschaft. Prof, Economic and Social History, Free Univ of Berlin, Chmn Berliner Wiss Gesellschaft, Gelfertstrasse, 1000 Berlin 33, West Germany.

Publications Related to IAN Residence: *Die Weltwirtschaft im 20. Jahrhundert*. Göttingen: Vandenhoeck & Ruprecht, 1979; *Die Weltwirtschaft im 20. Jahrhundert. Beharrung und Wandel. Historische Zeitschrift* 227(1979); *Der Wandel der sozialen Frage in den fortgeschrittenen Industriegesellschaften. In Soziale Probleme der modernen Industriegesellschaft, Verhandlungen Aug der Arbeitstagung des Vereins für Socialpolitik, Gesellschaft für Wirtschafts- und Sozialwissenschaften Augsburg 1976*, ed. by B. Külp, 1: 35-68. Berlin: Duncker & Humblot, 1977; *Wissenschaft, Technik und wirtschaftliche Entwicklung in Deutschland seit dem 18. Jahrhundert. In Jahrbuch der Berliner Wissenschaftlichen Gesellschaft e. V. 1977*, Berlin: Duncker & Humblot, 1978; *La belle Epoque. Gerhard Masur als Interpret der europäischen Geschichte und ihrer Auswirkungen auf die Welt vor dem Ersten Weltkrieg. In Forschungen zur osteuropäischen Geschichte*, ed. by 25, 63-74. Berlin: 1978; *Some Recent Developments in the Study of Economic and Business History in Western Germany. In Recent Developments in the Study of Business and Economic History: Essays in Memory of Herman E. Krooss*, ed. by R. E. Gallman, 247-285. Greenwich, Conn: Jai Press, 1977; *Ethics and the Law in Dealings between Unequals. In The Ethical Basis of Economic Freedom*, ed. by I. Hill, 111-123. Chapel Hill, NC: American Viewpoint, 1976.

Other Publications: *Der Staat und die Amfänge der Industrialisierung in Baden 1800-1850*. Berlin: Duncker & Humblot, 1962; *Wirtschaft und Gesellschaft im Zeitalter der Industrialisierung. Aufsätze-Studien-Vorträge*. Göttingen: Vandenhoeck & Ruprecht, 1972.

Fischer-Colbrie, Doris Helga 78-79 M, Geometry

Members

Born 1949 Vienna, Austria. PhD 1978 Univ Calif, Berkeley. Memberships: AMS. Asst Prof, Geometry, Columbia Univ. 831 Arroyo Rd, Los Altos, CA 94022.

Fishburn, Peter C. 70-71 Soc, Choice Behavior

Born 1936 Philipsburg, PA. PhD 1962 Operations Research Case Inst of Tech. Memberships: Econometric Soc; Operations Research Soc of Amer; Inst of Management Sci; Public Choice Soc; Psychometric Soc; Inst of Math Statistics; Soc of Math Psych; Amer Inst for Decision Scis; Sigma XI; AAAS; MAA. Member Tech Staff, Bell Laboratories, Murray Hill, NJ 07974.

Publications Related to IAS Residence: *The Theory of Social Choice*. Princeton: Princeton Univ Press, 1973; Lotteries and Social Choices. *J Econ Theory* 5(1972) 189-207; Paradoxes of Voting. *Amer Pol Sci Rev* 68(1974) 537-546; Betweenness, Orders and Interval Graphs. *J Pure & Appl Algebra* 1(1971) 159-178; Even-Chance Lotteries in Social Choice Theory. *Theory & Decision* 3(1972) 18-40.

Other Publications: *Decision and Value Theory*. New York: Wiley, 1964; *Utility Theory for Decision Making*. New York: Wiley, 1970.

Fishman, Joshua A. 75-76 Soc, Sociology

Born 1926 Philadelphia, PA. PhD 1953 Social Psychology Columbia Univ. Honors: DPed Yeshiva University 1969. Appointments: Chm Adv Bd *Language and Language Behavior Abstracts*. Distinguished University Research Prof, Social Sciences, Yeshiva Univ, 3340 Bainbridge Ave, Bronx, NY 10467.

Publications Related to IAS Residence: *Spread of English*. Rowley: Newbury House, 1977; *Bilingual Education*. Rowley: Newbury House, 1976; *Social Science and Bilingual Education*. Arlington: Center for Applied Linguistics, 1977; *Advances in the Creation and Revision of Writing Systems*. The Hague: Mouton, 1977; *Advances in the Study of Society's Multilingualism*. The Hague: Mouton, 1978.

Other Publications: *Language Loyalty in the United States*. The Hague: Mouton, 1966; *Language and Nationalism*. Rowley: Newbury House, 1972; *Bilingualism in The Barrio*. Bloomington: Indiana Univ Pr, 1971; *Language in Socio-Cultural Change*. Stanford: Stanford Univ Press, 1972.

Flannery, Brian Paul 74-76 NS, Physics

Born 1948 Utica, NY. PhD 1974 Astronomy Univ of Calif. Memberships: Am Astron Soc. Asst Prof, Astronomy, Harvard Univ, Center for Astrophysics, 60 Garden St, Cambridge, MA 02138.

Publications Related to IAS Residence: A Cyclic Thermal Instability in Contact Binary Stars. *Ap J* 205(1976) 217; On the Origin of Cen X-3 and Related Binary X-Ray Sources. *Ap J* 212(1976) 533; On the Origin of the Binary Pulsar PSR 1913+16. *Astr Ap* 39(1975)61.

Fleischner, Herbert 72-73 M, Graph Theory

Born 1944 Austria. PhD 1968 Univ of Vienna. Herogasse 18/1, A-1100 Vienna, Austria. *

Fleming, Denna Frank 46f, 48-49 HS(EP), International Relations

Born 1893 Paris, IL. PhD 1928 Political Science Univ of Ill. Honors: Delta Sigma Rho, Kappa Delta Pi, PBK, Penfield Traveling Scholar Univ of Pennsylvania 1932-33, 1938-39; Pres Southern Pol Sci Assoc 1941; VP APSA 1943; Board of Dir Woodrow Wilson Found 1950-55; Lect Fulbright Conf on Amer Studies Cambridge Univ 1954; AAUP Exec Council 1954-57; Phi Beta Kappa Assoc 1956-; Fulbright Lect The Indian School of Int'l Studies, New Delhi 1959-60; PeD Eastern Ill St Univ 1949; Distinguished Alumni Awd East Ill Univ 1975; The St of Tenn, Governor's Outstanding Tennessean Awd for Achievt in World Peace and Internat'l Coop 1977. Appointments: Adviser Atomic Energy Section State Department, 1946. Memberships: AAUP; APSA; Southern Pol Sci Assoc. Emer Res Prof, International Relations, Vanderbilt Univ, 4721 Sewanee Rd, Nashville, TN 37220.

Publications Related to IAS Residence: *The Cold War and its Origins, 1917-1960*. 2. New York: Doubleday, 1961.

Other Publications: *The Treaty Veto of the American Senate*. New York: G. P. Putnam's Sons, 1930; *The United States and the League of Nations, 1918-1920*. New York: G. P. Putnam's Sons, 1932; *The United States and World Organization 1920-1933*. New York: Columbia Univ Press, 1938; *Can We Win The Peace?* The Norton Lectures for 1943. Nashville: Broadman Press, 1943; *While America Slept-A Contemporary Analysis of World Events from the Fall of France to Pearl Harbor*. A compilation of weekly radio talks over station WSM during the period. Nashville: Abingdon-Cokesbury Press, 1944; *The United States and the World Court*. New York: Doubleday, 1945; *The Origins and Legacies of World War I*. New York: Double-day, 1968; *America's Role in Asia*. New York: Funk and Wagnalls, 1969; *The Issues of Survival*. New York: Doubleday, 1972.

Fleming, John Marcus 38-39 HS(EP)

Born 1911 England. MA univ of Edinburgh. Deceased.

Flexner, William Welch 39-40 M

Born 1904 . PhD 1930 Princeton Univ. Deceased.

Flicker, Yuval Zvi 78-79 M, Automorphic Representations

Born 1955 Tel-Aviv, Israel. PhD 1978 Number Theory Cambridge Univ. 22 Tel-Hai St, Ramat Gan, Israel.

Publications Related to IAS Residence: Automorphic forms on covering groups of GL(2).

Mimeographed notes: 1979; On analytic models of degenerating Abelian varieties. *France Math Soc Bull.*
Other Publications: Algebraic independence by a method of Mahler. *J Australian Math Soc* 27(1979) 173-188.

Flores, Antonio 36f M, Topology

Born 1912 Madrid, Spain. Doctor 1935 Mathematics Univ of Madrid. Escuelas Pias, 52, Barcelona, Spain.

Publications Related to IAS Residence: Über die Existenz n-dimensionaler Komplexe, die nicht in den R_{2n} topologisch einbettbar sind. *Ergebnisse eines mathematischen Kolloquiums* 5(1933) 17-24.

Other Publications: Über n-dimensionale Komplexe, die im R_{2n+1} absolut selbstverschlungen sind. *Ergebnisse eines mathematischen Kolloquiums* 6(1933) 4-7.

Floyd, Edwin E. 58-59, 63-64 M, Topology

Born 1924 Eufaula, AL. PhD 1948 Mathematics Univ of Va. Honors: Sloan Fellow 1960-64; Hedrick Lecturer 1964 Math Assoc of Amer. Memberships: AMS. Robert C. Taylor Prof, Mathematics, and Dean of Faculty Arts and Sciences, University of Virginia, 419 Cabell Hall, Charlottesville, VA 22903.

Publications: With P.E. Conner. *Differentiable Periodic Maps*. Berlin: Springer Verlag, 1964.

Foldy, Leslie Lawrence 47-48 M(NS), Physics

Born 1919 Sabinov, Czechoslovakia. PhD 1948 Univ of Calif, Berkeley. Honors: Fulbright Fellow 1953-54; Guggenheim Fellow 1953-54; NSF Sr Postdoc Fellow 1963-64. Appointments: Adv Panel Fulbright Sr Fship 1955-56; Adv Panel Physics NSF 1960-62. Memberships: Am Phys Soc; Acoust Soc Am; AAS; Fed Am Scientists; Sigma Xi; AAUP. Institute Prof, Department of Physics, Case Western Reserve University, Cleveland, OH 44106.

Publications: Multiple Scattering of Waves. *Phys Rev* 67(1945) 107; With F.J. Milford. On the Deviation of Nuclear Magnetic Moments from the Schmidt Limits. *Phys Rev* 80(1950) 751; With S.A. Wouthuysen. On the Dirac Theory of Spin 1/2 Particles and its Non-Relativistic Limit. *Phys Rev* 78(1950) 29; The Electron-Neutron Interaction. *Phys Rev* 83(1951) 688; With E. Eriksen. Some Physical Consequences of Vacuum Polarization. *Phys Rev* 98(1955) 775; Relativistic Particle Systems with Interaction. *Phys Rev* 122(1961) 275; Charged Boson Gas. *Phys Rev* 124(1961) 649; With J.D. Walecka. Muon Capture in Nuclei. *Il Nuovo Cimento* 32(1964) 1685; With J. D. Walecka. On the Theory of the Optical Potential. *Ann of Phys* 54(1969) 447; With R.A. Krajcik. Separable Solutions for Directly Interacting Particle Systems. *Phys Rev D* 12(1975) 1700.

Folland, Gerald Budge 79s M, Analysis

Born 1947 Salt Lake City, UT. PhD 1971 Mathematics Princeton Univ. Memberships: AMS; MAA. Assoc Prof, Dept of Mathematics, University of Washington, Seattle, WA 98195.

Publications: With E.M. Stein. Estimates for the δ_b complex and analysis on the Heisenberg group. *Comm Pure Appl Math* 27(1974) 429-522; *Introduction to partial differential equations*. Princeton: Princeton Univ Press, 1976.

Follin, James Wightman, Jr. 47-48 M(NS), Theoretical Physics

Born 1919 Philadelphia, PA. PhD 1947 Physics Cal Tech. Memberships: Am Phys Soc; Am Geophys Un. Principal Staff, Applied Physics Laboratory, Johns Hopkins Univ, 14909 Waterway Dr, Rockville, MD 20853.

Publications: With R. A. Alpher and R. C. Herman. Physical Conditions in the Initial Stages of the Expanding Universe. *Phys Rev* 92(1953) 1347-1361; With Leverett Davis, Jr. and Leon Blitzler. *The Exterior Ballistics of Rockets*. Princeton, NJ: D. Van Nostrand Company, Inc., 1958.

Følner, Erling 47-48 M

Born 1919 Denmark. PhD 1944 Copenhagen Univ. *

Fonda, Luciano 60s,f M(NS), Elementary Particles, Foundations of Quantum Mechanics

Born 1931 Pula, Yugoslavia. Dr 1955 Physics Trieste Univ. Memberships: Italian Phys Soc; Am Phys Soc. Prof, Theoret Phys, Trieste Univ, Director, Advanced School of Physics, Miramare, Trieste, Italy.

Publications Related to IAS Residence: With L. A. Radicati and T. Regge. Mandelstam representation for non-relativistic many-channel problem. *Ann of Phys* 12(1961) 68; With R. Newton. Threshold effects in 3-body channels. *Phys Rev* 119(1960) 1394; Inelastic collisions and threshold effects. *Suppl Nuovo Cimento* 20(1961) 116; Resonance reactions and continuous channels. *Ann of Phys* 12(1961) 476.

Other Publications: With F. Ferrari. Stimulated decay of the Lambda hyperon. *Nuovo cimento* 7(1958) 320; With P. Budini and N. Dallaporta. On the charge conjugation of baryons. *Nuovo Cimento* 9(1958) 316; With J. E. Russell. Possible determination of K-Lambda relative parity. *Phys Rev Letters* 2(1959) 57; With R. Newton. K-hyperon production threshold phenomena. *Nuovo Cimento* 14(1959) 1027; With R. Newton. Theory of resonance reactions. *Ann of Phys* 10(1960) 490; Bound states embedded in the continuum and the formal theory of scattering. *Ann of Phys* 22(1963) 123; With G. Ghirardi, A. Rimini, T. Weber. Analytic properties of resolvents and completeness. *Journ Math Phys* 7(1966) 1643; With G. Calucci and G. Ghirardi. Correspondence between unstable particles and poles in S-matrix theory. *Phys Rev* 166(1968) 1719; With G. Ghirardi. Transformation properties and relativistic equations for spin-one elementary

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systems. *Phys Rev* 175(1968) 2082; With G. Ghirardi. Contribution to the decay theory of unstable quantum systems. *Nuovo Cimento* 67A(1970) 257; With G. Ghirardi, A. Rimini and T. Weber. On the quantum foundations of the exponential decay law. *Nuovo Cimento* 15A(1973) 689; With G. Ghirardi and A. Rimini. Decay theory of unstable quantum systems. *Reports on progress in Physics* 41(1978) 587; With G. Ghirardi. *Symmetry Principles in Quantum Physics*. New York: Marcel Dekker, 1970.

Fontaine, Jean-Marc 79f M, Algebraic Number Theory

Born 1944 France. D d'Etat 1972 Univ de Paris Sud. Prof, Univ de Grenoble I, 19 av de la Plaine-Fleurie, F-38240 Meylan, France. *

Ford, Franklin Lewis 74s HS, Modern European History

Born 1920 Waukegan, IL. PhD 1950 Harvard Univ. Honors: Am Philos Soc. Appointments: Member, Comm on Instits of Higher Ed of New England Assoc of Schools and Colls, 1974-1978 - Chm, 1978. Memberships: Massachusetts Historical Society. McLean Prof, Ancient and Modern History, Harvard Univ, 12 Clifton St, Belmont, MA 02178.

Publications Related to IAS Residence: *Murder and Politics*. Cambridge: Harvard U Press, forthcoming; Assassination in the Eighteenth Century. *Proc of the Amer Philos Soc* 120, No 3(1976).

Other Publications: *Robe and Sword*. Cambridge: Harvard U Press, 1953; *Strasbourg in Transition*. Cambridge: Harvard U Press, 1958; *Europe, 1780-1830*. New York: Longman, 1970.

Ford, George Willard 55-56 M(NS), Statistical Mechanics

Born 1927 Detroit, MI. PhD 1954 Univ of Mich. *

Formanek, Edward William 73-74 M, Algebra

Born 1942 Chicago, IL. PhD 1970 Math Rice Univ. Memberships: AMS. Prof, Math, 330 Mc Allister Building, Penn State Univ, University Park, PA 16802.

Publications Related to IAS Residence: With Joan Dyer. The Automorphism Group of a Free Group is Complete. *J Lond Math Soc* 11(1975) 181-190; With Joan Dyer. Characteristic Subgroups and Complete Automorphism Groups. *Amer J Math* 99(1977) 713-753.

Other Publications: Central Polynomials for Matrix Rings. *J Alg* 23(1972) 129-132; With Claudio Procesi. Mumford's Conjecture for the General Linear Group. *Adv Math* 19(1976) 292-305.

Forni, Giovanni 79-80 HS, Roman History

Born 1922 Belgioioso, Pavia, Italy. DèS 1945 Univ of Pavia. Honors: Member Ist Lombardo di Sci e Lett; Member Pontificia Accad di Archeol Romana. Prof,

Ord of Roman History, Via Cino da Pistoia 3, 00152 Rome, Italy.

Publications Related to IAS Residence: Sull' epigrafe CIL III 4412 da Carnuntum. *Epigraphica* (in press).

Other Publications: *Reclutamento Delle Legioni*. 1953; *Valore E Fonti Di Pompeo Trogo*. 1958.

Forster, Otto F. 66-67 M, Complex Analysis

Born 1937 Munich, Germany. Dr rer nat University of Munich. Memberships: DMV; AMS. Prof, Univ of Münster, Math Institut, Roxeler Str. 64, D-44 Münster, West Germany.

Publications Related to IAS Residence: Some remarks on parallelizable Stein Manifolds. *Bull AMS* 73(1967) 712-716.

Other Publications: Power series methods in deformation theory. *Proc Symp Pure Math* 30, 2(1977) 199-217.

Forster, Robert 75-76 HS, European History

Born 1926 New York, NY. PhD 1956 European History Johns Hopkins Univ. Honors: French Gov't Fellow 1953-55; "Prix Gaussail", Acad of Arts et Belles Lettres de Toulouse 1957; Soc Sci Council Grants, France each 6 months 1962, 1964; Guggenheim Fellow Paris 1969-70; Fellow of Center for Advanced Study in Behavioral Scis 1979-80. Appointments: Chm AHA Committee on Internatl Activities 1975-80; U.S. Delegate, 1975-80 and Mem of the General Assembly of Cong of Internatl Hist Sci; Mem of the Affiliated Comm on the French Rev. Memberships: AHA, Econ Hist Assn, Soc for French Hist Studies, Pres, 1974; Soc for Robespierist Studies, Paris. Prof, Modern French and European History, Department of History, Johns Hopkins University, Baltimore, MD 21218.

Publications: *The Nobility of Toulouse in the 18th Century*. 1960; *The House of Saulx-Tavanes: Versailles and Burgundy, 1700-1830*. 1971.

Forsyth, George Howard, Jr. 37f, 39f, 44-45 HS(H), Art and Archaeology

Born 1901 Chicago, IL. MFA 1927 Architecture Princeton Univ. Honors: Traveling Fship Mediaeval Acad of Amer 1924-1925; Haskins Medal Mediaeval Acad of Amer 1955; Rockefeller Found Res Grant 1946; Guggenheim Fellow 1953; Research Assoc Smithsonian Inst 1954, 1956, 1960; Hon Assoc Dumbarton Oaks, Harvard 1972-. Appointments: Coll Art Assoc of Amer (dir 1949,1954). Memberships: Soc française d'archéologie (life member); Royal Soc of Arts (London); Coll Art Assoc of Amer; Mediaeval Acad of Amer; Amer Inst of Archaeology; Soc of Architectural Hist. Res Prof Emer, Archaeology, Kelsey Museum of Ancient and Mediaeval Archaeology, University of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: The Church of St. Martin at Angers. The Architectural

History of the Site from the Roman Empire to the French Revolution. In *Princeton Monographs for Art and Archaeology*, 28. Princeton Univ Press, 1953; L'Église Saint-Martin d'Angers. *Bulletin Monumental* 110(1952) 201-228; St. Martin's at Angers and the Evolution of Early Mediaeval Church Towers. *Art Bull* 32(1950) 308-318; The Church of St. Martin at Angers. Roman, Merovingian, and Carolingian Constructions. *Antiquity* (1937) 400-408.

Other Publications: With Kurt Weitzmann. *The Monastery of St. Catherine at Mount Sinai, The Church and Fortress of Justinian*. Plates (text volume forthcoming). Ann Arbor: Univ of Mich Press, 1973; The Monastery of St. Catherine at Mt. Sinai: The Church and Fortress of Justinian. *Dumbarton Oaks Papers* 22(1968) 1-19; An Early Byzantine Church at Kanli Divane in Cilicia. In *De Artibus Opuscula XL in Honor of Erwin Panofsky* 127-137. New York: New York Univ Press, 1961; Architectural Notes on a Trip through Cilicia. *Dumbarton Oaks Papers* 11(1957) 223-236; Geometricis et arithmetis instruments. A Problem of Surveying in Mediaeval Architecture. *Archaeology* 3(1950) 74-79.

Forsyth, Ilene H. 77s HS, History of Art

Born 1928 Detroit, MI. PhD 1960 History of Art Columbia Univ. Honors: Charles Rufus Morey Awd 1974; Corr Mem Académie des Arts, Sciences et Belles-Lettres de Dijon; Fellow Columbia University; Fels Fellow; AAUW Fellow; Fulbright Fellow; ACLS Grant-in-aid. Appointments: Board of Dir, Internatl Center of Medieval Art; Natl Cttee on the Hist of Art; Ed Board, Coll Art Assoc; Chm, Nominating Cttee, Coll Art Assoc; Board of Dirs, Midwest Art Hist Soc. Memberships: Archaeological Inst of Amer; Coll Art Assoc; Internatl Center of Medieval Art; Medieval Acad of Amer; Centre de recherches et d'études préromanes et romanes. Prof, Department of the History of Art, University of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: The Theme of Cockfighting in Burgundian Romanesque Sculpture. *Speculum* 53(1978) 252-282; Saint-Andoche, Saulieu: The Romanesque Chevet. in press.

Other Publications: Magi and Majesty: A Study of Romanesque Sculpture and Liturgical Drama. *The Art Bulletin* 50(1968) 215-222; *The Throne of Wisdom: Wood Sculptures of the Madonna in Romanesque France*. Princeton: Princeton Univ Press, 1972; Children in Early Medieval Art: Ninth Through Twelfth Centuries. *History of Childhood Quarterly: The Journal of Psychohistory* 4 1(1976) 31-70; The Ganymede Capital at Vézelay. In *Essays for Sumner Crosby, Gesta*, 15: 241-246. 1976.

Fourès, Léonce Guy 51-52, 55f M

Born 1926 Albi, France. Doctorat 1951 Université Paris. Prof, Mathématiques, Univ de Provence, 700 Immeuble Le Corbusier, Blvd Michelet, Marseille 13008, France.

Publications Related to IAS Residence: Sur les recouvrements régulièrement ramifiés. *Bull Sci Math* 76(1952); Groupes Fuchsien et revêtements. *Ann Inst Fourier* 4(1952); Determination of an automorphic function. In *Seminars on analytic functions*. Princeton, 1957.

Other Publications: Le problème des translations isothermes. *Ann Inst Fourier* 3(1951).

Fourès, Yvonne Bruhat, see Choquet, Yvonne Bruhat

Fowler, Alastair David Shaw 66f, 80s HS

Born 1930 Glasgow, Scotland. DLitt 1972 English literature Oxford Univ. Honors: FBA 1974. Appointments: Scottish Arts Council 1976-7; Minister for the Arts advisory panel on printed books. Memberships: AUT; IAUPE; ASLS; Renaissance Soc; Spenser Soc; Carlyle Soc (Hon Pres). Regius Prof, Rhetoric and English Literature, University of Edinburgh, 8 Wilton Rd, Edinburgh, EH 16 5NX, Scotland UK.

Publications Related to IAS Residence: *Triumphal Forms*. Cambridge Univ Press, 1970.

Other Publications: *Spenser and the Numbers of Time*. New York: Barnes and Noble, 1964; With John Carey. *The Poems of John Milton*. London: Longman, 1968; *Conceitful Thought*. Edinburgh Univ Press, 1975; Ed, *Silent Poetry*. London: Routledge, 1970; Intention Floreat. In *On Literary Intention*, ed. by D. Newton-De Molina. Edinburgh Univ Press, 1976; The Life and Death of Literary Forms. In *New Directions in Literary History* ed. by R Cohen. London: Routledge, 1974; *Edmund Spenser*. London: Longman, 1977; Tr, Ed. *De re Poetica*, by Richard Wills. Oxford: Blackwell for the Luttrell Soc, 1958; *Catacomb Suburb*. Edinburgh: Edinburgh Univ Press, 1976; Ed, *Spenser's Images of Life*, by C.S. Lewis. Edinburgh: Cambridge U Press, 1967.

Fowler, George Bingham 53-55 HS, Medieval Studies

Born 1903 New York, NY. PhD 1946 History Columbia Univ. Honors: Phi Beta Kappa (hc) Univ of Pittsburgh 1957; Hon Mem Mediaeval Acad Amer. Appointments: Collaborator, Monumenta Germaniae Historica, Munich; Bd Dirs, Hill Monastic Mss Library. Memberships: Mediaeval Acad Amer; Am Oriental Soc; Am Catholic Hist Assoc. Prof Emer, History, Univ of Pittsburgh. 900 E Harrison Ave (E 6), Pomona, CA 91767.

Publications Related to IAS Residence: History and Comparative Studies. *Nat Council Teachers of Eng: Newsletter* (1943); Learning in Austria about 1300: Notes and Suggestions. *Church History* 20, 2(1951) 56-71; Manuscripts of Engelbert of Admont. *Osiris* 11(1954) 455-485; Some Autographs of Engelbert of Admont. In *Festschrift für W. Sas-Zaloziecky*, 59-67. Graz: 1956; Engelbert of Admont and the Universal Idea. *Die Fundamente* 2(1957) 45-51; Engelbert

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d'Admont. In *Dictionnaire de Spiritualité ascétique, mystique et morale*, 4: 745-747. 1959; Meditation not Prayer. *Fellowship in Prayer* 12, 1(1961) 16f; Additional Notes on Manuscripts of Engelbert of Admont (c. 1250-1331). *Recherches de Théologie ancienne et médiévale* 28(1961) 268-282; Comparative Studies and the Concept of the Middle Ages. *Hist of Ed Quart* 2, 2(1962) 113-121; A Medieval Thinker Confronts Modern Perplexities: Engelbert, Abbot of Admont, O.S.B.(c 1250-1331). *Amer Benedictine Rev* 23, 2(1972) 226-248; A Chronology of the Writings of Engelbert of Admont, OSB (ca 1250-1331). In *Studies in Memory of Edwin A. Quain*, 121-134. New York: Fordham Univ Press, 1976; Manuscript 608 and Engelbert of Admont (c 1250-1331). *Archives d'Histoire Doctrinale et Littéraire du Moyen Age* 44(1977)149-242; 45(1978) 225-306.

Fox, Edward Whiting 50-52 HS

Born 1911 Seattle, WA. PhD 1942 History Harvard Univ. Memberships: AHA; Soc for French Hist Studies. Prof Emer, History, Cornell Univ, 507 Triphammer Rd., Ithaca, NY 14850.

Publications Related to IAS Residence: *History in Geographic Perspective, The Other France*. NY: Norton, 1971.

Other Publications: *Atlas of American History*. New York: Oxford Univ Press, 1964; Ed with H. S. Deighton. *Atlas of European history*. New York: Oxford Univ Press, 1957; General Editor, *The Development of Western Civilization*. Ithaca: Cornell Univ Press.

Fox, Geoffrey Charles 67-68 NS, High Energy Physics

Born 1944 Dunfermline, Scotland. PhD 1967 Cambridge Univ. Assoc Prof, Theoretical Physics, Cal Tech, Cal Tech, 356-48, Pasadena, CA 91125.

Publications Related to IAS Residence: With D. Z. Freedman. Compton Scattering Sum Rules and Their Saturation. *Phys Rev* 182(1969) 1628; With L. Sertorio. Regge Secondary Trajectories. *Phys Rev* 176(1968) 1739; With C. Quigg. Production Mechanisms of Two-to-Two Scattering Processes at Intermediate Energies. *Ann Rev of Nuclear Sci* 23(1973); With R. D. Field. Triple Regge and Finite Mass Sum Rule Analysis of Inclusive Proton Production in pp Scattering from 10 GeV to ISR Energies. *Nuclear Physics* B80(1974) 367; Phenomenology of Asymptotically Free Theories in Deep Inelastic Scattering, I: Electron and Muon Scattering. *Nuclear Physics* B131(1977) 107; With A. V. Barnes, R. G. Kennett, R. L. Walker, O. I. Dahl, R. W. Kenney, A. Ogawa, M. Pripstein. Precise Tests of Triple-Regge Theory from π^+ and η Inclusive Production in 100 GeV/c $\pi\pi$ p Collisions. *Phys Rev Letters* 41(1978) 1260; With R. P. Feynman and R. D. Field. Quantum-Chromodynamic Approach for the Large-Transverse-Momentum Production of Particles and Jets. *Phys Rev D* 18(1978) 3320; With S. Wolfram. Observables for the Analysis of Event

Shapes in e+ e-Annihilation and Other Processes. *Phys Rev Letters* 41(1978) 1581.

Fox, Richard G. 71-72 Soc, Anthropology

Born 1939 New York, NY. PhD 1965 Anthropology Univ of Michigan. Appointments: NSF review panel; Ed, *Amer Ethnologist* 1976-1979. Memberships: Amer Anthropological Assoc; Amer Ethnological Soc. Prof, and Chairman, Department of Anthropology, Duke University, Durham, NC 27706.

Publications Related to IAS Residence: *Urban Anthropology: Cities in their Cultural Settings*. Englewood Cliffs: Prentice-Hall, 1977; Rationale and Romance in *Urban Anthropology*. *Urban Anthropology* 1: 205-233; *Anthropology's Urban Progress*. In *Horizons of Anthropology* ed. by Sol Tax and L. G. Freeman, 199-214. Chicago: Aldine; *From Zamindar to Ballot Box: Community Change in a North Indian Market Town*. Ithaca: Cornell Univ Press, 1969; *Kin, Clan, Raja, and Rule: State-Hinterland Relations in Preindustrial India*. Berkeley and Los Angeles: Univ of Calif Press, 1971.

Fox, Robert 74-75 HS, History of Science

Born 1938 Bradford, Yorkshire, England. DPhil Modern History Oxford. Appointments: Royal Soc of London; British Nat Comm for the Hist of Sci, Medicine, and Technology, from 1976. Memberships: Royal Hist Soc; British Soc for the Hist of Sci (Vice-President, 1977-8); Hist of Sci Soc. Reader, History of Science, Dept of History, University of Lancaster, Lancaster LA1 4YG, England.

Publications Related to IAS Residence: *Sadi Carnot. Réflexions sur la puissance motrice du feu. Edition critique...augmentée de documents d'archives et de divers manuscrits de Carnot* Paris: Librairie Philosophique J Vrin, 1978.

Other Publications: *The Caloric Theory of Gases from Lavoisier to Regnault* Oxford: Clarendon Press, 1971.

Frame, James Sutherland 50-51 M, Group Theory

Born 1907 New York, NY. PhD 1933 Mathematics Harvard U. Honors: Dist Fac Awd Michigan St Univ 1967; Sigma Xi Sr Res Awd Mich State Chapt 1952. Appointments: Bd of Govs, MAA, 1950-52, 58-60; Pres, Pi Mu Epsilon 1957-66. Memberships: AMS; MAA; AAUP; AAAS; Mich Acad Sci Arts & Letters (pres 1958-59). Prof Emer, Mathematics, Mich State U, 136 Oakland Dr, East Lansing, MI 48823.

Publications Related to IAS Residence: The classes and representations of the groups of 27 lines and 28 bitangents. *Ann di Matematica* 4, 32(1951) 83-119; An irreducible representation extracted from two permutation groups. *Ann of Math* 55, 1(1952) 85-100.

Other Publications: With G.deB. Robinson & R.M. Thrall. The hook graphs of the symmetric group. *Can J Math* 6, 3(1954) 125-127; The characters of the Weyl group E_8 . In *Computational problems in abstract*

algebra; Proceedings, Oxford, 1967, ed. by J. Leech, 111-130. Oxford: Pergamon Press, 1970.

Frank, Nathaniel Herman 36f M(NS), Physics

Born 1903 Boston, MA. ScD 1927 Physics MIT. Honors: Fellow AAAS. Memberships: Fellow, Am Phys Soc; Member, Am Assoc for Engineering Educ; Am Assoc of Phys Teachers. Prof Emer, Physics, 101 Monmouth St, Brookline, MA 02146.

Publications Related to IAS Residence: Note on the Hartree and Hartree-Fock Methods. *Phys Rev* April(1937).

Frankel, Francine Ruth 76s Soc, Political Economy

Born 1935 New York, NY. PhD 1965 Political Science Univ of Chicago. Honors: Am Philos Soc Res Grant 1969 and 1976; Resident Scholar, Bellagio Study & Conf Cntr Rockefeller Found Spring 1975; ACLS Awd 1973; Ford Found Fac Res Grant in Pol Sci 1972-73. Appointments: Member-at-Large, Comm of Internatl Rels, NAS, 1973-79. Memberships: APSA; Member, Council on For Rels. Prof, Political Science, Univ of Penn, 130 Spruce St, Apt 35B, Philadelphia, PA 19106.

Publications Related to IAS Residence: *India's Political Economy; 1947-77: The Gradual Revolution*. Princeton: 1978; Compulsion and Social Change: Is Authoritarianism the Solution to India's Economic Development Problems?. *World Politics* 30(1978) 215-40.

Other Publications: *India's Green Revolution: Economic Gains and Political Costs*. Princeton: 1971.

Frankel, Theodore T. 57-59 M

Born 1929 Philadelphia, PA. PhD 1955 Math Univ of Cal, Berkeley. Memberships: AMS. Prof, Math Dept, C-012, Univ of Calif at San Diego, La Jolla, CA 92093.

Publications Related to IAS Residence: Manifolds with positive curvature. *Pac J Math* 11 (1961) 165-74; Fixed Points and Torsion on Kähler manifolds. *Ann Math* 70(1959) 1-8; The Lefschetz theorem on hyperplane sections. *Ann Math* 69(1959) 713-17; The 2nd Lefschetz theorem on hyperplane sections. In *Global Analysis*, ed. by Spencer & Iyanaga, Papers in honor of K. Kodaira. 1969.

Other Publications: *Gravitational curvature; an introduction to Einstein's theory*. San Francisco: W. H. Freeman & Co., 1979.

Frankl, Paul 40f, 62s HS, Art History

Born 1978 Prague, Czechoslovakia. PhD 1910 Univ of Munich. Deceased.

Publications Related to IAS Residence: A Window by Peter Hemmel. *Parnassus* 12(1940) 10-15; The Early Works of Erasmus Grasser. *Art Q* 5, 3(1942) 242-258; The Earliest Jewish Portrait. *Historia Judaica* 5(1943) 155-164; Four Pieces of Stained Glass. *Princeton Mus Rec* 3, 1(1944) 8-15; The

Secret of the Medieval Masons. *Art Bul* 27(1945) 46-60; A French Gothic Cathedral: Amiens. *Art in Am* 35(1947) 294-299; The "Crazy" Vaults of Lincoln Cathedral. *Art Bul* 35(1953) 95-107.

Franklin, Philip 35-36 M

Born 1898 New York, NY. PhD 1921 Princeton Univ. Deceased.

Publications Related to IAS Residence: A New Class of Transcendental Numbers. *TAMS* 42(1937) 155-182; Note on the Four Color Problem. *J Math Physics* 16(1938) 172-184; The Four Color Problem. *Scripta Math* 6(1939) 149-156, 197-210.

Frantz, M. Alison 76-77 HS, Classical Studies

Born 1903 Duluth, MN. PhD 1937 Classics, Art and Archaeology Columbia U. Honors: Order of Benevolence Kingdom of Greece 1956; Smith Coll Medal 1967. Appointments: Allied Mission to Observe the Greek Elections, 1946; Olivia James Fship Comm of Archaeol Inst of Amer. Memberships: Amer Philos Soc; Archaeol Inst of Amer; Mediaeval Acad of Amer; Corr mem German Arch Inst. Research Fellow (Agora), Amer Sch of Class Studies. 27 Haslet Ave, Princeton, NJ 08540.

Publications Related to IAS Residence: A Public Building of Late Antiquity in Athens. *Hesperia* 48(1979).

Other Publications: From Paganism to Christianity in the Temples of Athens. *Dumbarton Oaks Papers* 19(1965) 187-202; *The Church of the Holy Apostles*. The Athenian Agora, 20. 1971; Honors to a Librarian. *Hesperia* 35(1966) 377-380; Hercules in Athens: Pagan or Christian? In *Akten des VII Internationalen Kongresses für Christliche Archäologie, Trier, 5-11 September 1965*, 527-530. With H.A. Thompson and J. Travlos. The "Temple of Apollo Pythios" on Sikinon. *Amer J Archaeol* 73(1969) 397-422; Akritas and the Dragons. *Hesperia* 10(1941) 9-13; Middle Byzantine Pottery in the Agora. *Hesperia* 7(1938) 429-467; Byzantine Illuminated Ornament. *Art Bull* 16(1934) 43-76.

Frazer, William R. 59-60 M(NS), Theoretical Physics

Born 1933 Indianapolis, IN. PhD 1959 Physics Univ of Calif Berkeley. Honors: Sloan Fellow 1962-65; Guggenheim Fellow 1973. Appointments: Exec Cttee Division of Particles and Fields, Am Phys Soc, 1972-74. Memberships: Am Phys Soc. Prof, Physics Dept, University of Calif, San Diego, La Jolla, CA 92093.

Publications Related to IAS Residence: With José R. Fulco. Partial-Wave Dispersion Relations for Pion-Nucleon Scattering. *Phys Rev* 119(1960) 1420; Application of the Mandelstam Representation to Pion-Nucleon Scattering. In Proc of the 1960 *Ann Intl Conf on High-Energy Phys at Rochester*.

Freedman, Daniel Z. 67-68, 73-74 NS, Elementary Particle Theory

Members

Born 1939 Hartford, CT. PhD 1964 Univ of Wis. Honors: Sloan Fellow 1970-72; Guggenheim Fellow 1973-74. Memberships: Am Phys Soc. Prof, Institute for Theoretical Physics, State University of New York at Stony Brook, Stony Brook, NY 11794.

Publications Related to IAS Residence: Coherent Effects of a Weak Neutral Current. *Phys Rev D* 9(1974) 1389-92; With E. Weinberg. On the Energy-Momentum Tensor in Scalar and Gauge Field Theories. *Ann of Phys* 87(1974) 354; Kinematic Singularities of Helicity Amplitudes for Compton Scattering. *Phys Rev* 168(1968) 1822-26.

Other Publications: With P. von Nieuwenhuizen and S. Ferrara. Progress Toward a Theory of Supergravity. *Phys Rev D* 13(1976) 3214; With A. Das. Gauge Internal Symmetry in Extended Supergravity. *Nuclear Phys B* 120(1977) 221.

Freedman, Michael H. 75-76 M, Toplogy

Born 1951 Los Angeles, CA. PhD 1973 Princeton Univ. Memberships: AMS. Assoc Prof, Dept of Math, U of Calif San Diego, LaJolla, CA 92037.

Frel, Jiří 69-70 HS, Classical Archaeology

Born 1923 Czechoslovakia. PhD 1948 Class Archaeol Charles Univ. Honors: German Archaeol Inst 1962. Memberships: Archaeol Inst of Amer. Adj Prof, Univ of So Calif, Curator of Antiquities Getty Museum, J Paul Getty Museum, Malibu, CA 90265.

Publications Related to IAS Residence: *Panathenaic Prize Amphoras*. Athens: 1972; Three Attic Workshops. *Greek, Roman & Byz Studies* 11(1970) 197-218.

Other Publications: *Contributions à l'iconographie Grecque*. Prague: 1969; *The Getty Bronze*. Malibu: 1978.

Freund, Peter George Oliver 64-65 M(NS), Theoretical Particle Physics

Born 1936 Timișoara, Rumania. PhD 1960 Physics Univ of Vienna. Memberships: Fellow Am Phys Soc. Prof, Physics, Univ of Chicago, Enrico Fermi Institute, 5630 S. Ellis Ave., Chicago, IL 60637.

Fried, Herbert M. 61-62 M(NS), Theoretical Physics

Born 1929 New York, NY. PhD 1957 Physics Stanford Univ. Honors: NSF Postdoc Fellow Univ de Paris, France 1957-58. Memberships: Fellow Am Phys Soc; Member Soc Française de Phys. Prof, Physics Department, Brown University, Providence, RI 02912.

Publications Related to IAS Residence: Axiomatic Perturbation Theory, I and II. *J. Math Physics* 3(1962) 1107; 4(1963) 451.

Other Publications: *Functional Methods and Models in Quantum Field Theory*. Cambridge: The MIT Press, 1972.

Fried, Michael D. 67-69 M, Algebraic Geometry and Number Theory

Born 1942 Buffalo, NY. PhD 1967 Mathematics Univ of Mich. Honors: Sloan Fellowship 1972. Prof, Math Dept, Univ of Calif, Irvine, CA 92717.

Publications Related to IAS Residence: With G. Sacerdote. Solving diophantine problems over all residue class fields of a number field and all finite fields. *Ann Math* 104(1976) 203-233; Fields of Definition of Function Fields and Hurwitz Families - Groups as Galois Groups. *Comm in Algebra* 5, 1(1977) 17-82; On a conjecture of Schur. *Michigan Math J* 17(1970) 41-55; Galois groups and complex multiplication 1. *TAMS* 235(1978) 141-163; The Field of Definition of Function Fields and a Problem in the Reducibility of Polynomials in Two Variables. *Ill J Math*, 17, 1(1973) 128-146; Arithmetical properties of function fields (II) The generalized Schur problem. *Acta Arithmetica* 25(1974) 225-258; On Hilbert's Irreducibility Theorem. *J of Number Theory* 6, 3(1974) 211-231.

Other Publications: Diophantine properties of subfields of \mathbf{Q} . *Amer J Math* 100, 3(1978) 653-666; Poncelet correspondences: Finite correspondences; Ritt's theorem; and the Griffiths-Harris configuration for Quadrics. *J of Algebra* 55(1978) 1-27.

Friedberg, Richard Michael 62-64 M(NS), Physics

Born 1935 New York, NY. PhD 1962 Physics Columbia Univ. Prof, Physics, Columbia Univ (Barnard), 395 Riverside Dr, New York, NY

Publications Related to IAS Residence: *An Adventurer's Guide to Number Theory*. New York: McGraw-Hill, 1968.

Other Publications: Two Recursively Enumerable Sets not Recursive in One Another. *Proc NAS* 43: 236; A Learning Machine, Part I. *IBM Journal of Research and Development* 2; With J. Cameron. A Test of the Monte Carlo Method—Fast Simulation of a Small Ising Lattice. *J Chem Phys* 52: 6049; With S. R. Hartmann and J. Manassah. Frequency Shifts in Emission and Absorption by Resonant Systems of Two Level Atoms. *Physics Reports* 7C: 101; Creation of Circular Polarization by a Twisted Birefringent Polarizing Medium. *Phys Rev A* 10: 21; Dual Trees and Resummation Theorems. *J Math Phys* 16: 20; With D. I. Paul. New Theory of Coercive Force of Ferromagnetic Materials. *Phys Rev Lett* 34: 1234; With J. M. Luttinger. A New Rearrangement Inequality for Multiple Integrals. *Archive for Rational Mechanics and Analysis* 61: 45; With T. D. Lee. Fermion-Field Nontopological Solitons. *Phys Rev D* 15(1977) 1694; With T. D. Lee. Fermion-Field Nontopological Solitons, II. Models for Hadrons. *Phys Rev D* 16(1977) 1096.

Friedland, Shmuel 74-75 M, Analysis

Born 1944 Tashkent, USSR. DSc 1971 Math Technion. Memberships: AMS; Israel Math Soc. Assoc Prof, Institute of Math, The Hebrew Univ, Jerusalem, Israel.

Publications Related to IAS Residence: With Karlin. Some inequalities for the spectral radius of

non-negative matrices and appl. *Duke Math J* 42(1975) 459-490; Inverse eigenvalue problems. *Lin Alg Appl* 17(1977) 15-51; External eigenvalue problems defined for certain classes of functions. *Arch Rat Mech Anal* 67(1977) 73-81; With R. Loewy. Subspaces of symmetric matrices containing matrices with a multiple first eigenvalue. *Pacific J Math* 62(1976) 389-399.

Other Publications: With Schiffer. On the coefficient regions of univalent functions. *J Analyse Math* 31 (1977) 125-168; A lower bound for the permanent of a doubly stochastic matrix. *Ann Math* 110(1979) 167-176; Nonoscillation, disconjugacy and integral inequalities. *Mem AMS* 176(1976) 78.

Friedlander, John Benjamin 72-74 M, Number Theory

Born 1941 Toronto, Canada. PhD 1972 Mathematics Penn State Univ. Memberships: Can Math Soc; AMS. Asst Prof, Univ of Toronto, 41 Denlow Blvd, Don Mills, Ont, Canada.

Publications Related to IAS Residence: On the Least K-th Power Non-Residue in an Algebraic Number Field. *Proc London Math Soc* 3 26(1973) 19-34; On Characters and Polynomials. *Acta Arith* 25(1973) 31-37; Integers without Large Prime Factors. *Akad van Wetens A* 76 5(1973) 443-451; Character Sums in Quadratic Fields. *Proc London Math Soc* 3 28(1974) 99-111; On the Class Numbers of Certain Quadratic Extensions. *Acta Arith* 28(1976) 391-393; With S. Chowla. Some Remarks on L-Functions and Class Numbers. *Acta Arith* 28(1976) 413-417; With S. Chowla. Class Numbers and Quadratic Residues. *Glasgow Math J* 17(1976) 47-52; Integers Free From Large and Small Primes. *Proc London Math Soc* 3 33(1976) 565-576; Certain Hypotheses Concerning L-Functions. *Pacific J Math* 69(1977) 37-44; Small Values of Zeta-Functions of Quadratic Fields. *Math Scand* in press; With H. Iwaniec. On Bombieri's Asymptotic Sieve. *Ann Sc Norm Sup* in press; Integers without Large Prime Factors II. *Acta Arith* in press.

Frink, Orrin 40f M

Born 1901 New York, NY. PhD 1926 Columbia Univ. Honors: Fulbright Lect, Dublin 1960-61, 1965-66. Memberships: AMS; MAA; Sigma Xi; PBK; AAAS; Pi Mu Epsilon. Prof Emer, Mathematics, Penn State Univ, Box 225, Kennebunkport, ME 04046.

Publications Related to IAS Residence: Bicomcompactness of Cartesian Products. *Bull AMS* 47(1941) 612-614; Representations of Boolean Algebras. *Bull AMS* 47(1941) 755-756; Topology in Lattices. *Trans AMS* 51(1942) 569-582.

Other Publications: Representations of Lattices by Sets. *Trans AMS* 64(1948) 299-316; A New Class of Orthogonal Polynomials: The Bessel Polynomials. *Trans AMS* 65(1949) 100-115; Compactifications and Semi-normal Spaces. *Amer J Math* 86(1964) 602-607.

Frishman, Yitzhak 68-69, 73s, 74-75, 79s NS, Particle Physics, Field Theory

Born 1938 Zamość, Poland. PhD 1966 Theoretical Physics Weizmann Inst. Honors: Kennedy Award 1965; Landau Award 1971. Memberships: Fellow, Am Phys Soc. Prof, Department of Physics, Weizmann Institute, Rehovot, Israel.

Publications Related to IAS Residence: With R. Dashen. *Phys Rev D* 11(1975) 2781; With R. Dashen. *Phys Lett* 46B(1973) 439; With R. Dashen. *Phys Rev Letters* 22(1969) 572.

Other Publications: *Phys Rev Letters* 25(1970) 966; *Phys Reports* 13c, #1(1974).

Fritz, Kurt von 56-57 HS, Greek Philosophy

Born 1900 Metz, Lorraine, Germany. Dphil Greek, Latin, Arabic University of Munich. Memberships: Am Philol Assoc; Intl Soc for Hist of Ideas; Bavarian Acad of Scis; Austrian Acad of Scis; British Acad. Prof Emer, University of Munich, Veterinärstrasse 2^{llr}, 8 München 22, German Fed Republic.

Publications Related to IAS Residence: *Die Griechische Geschichtsschreibung*. 1. Berlin: De Gruyter, 1967.

Other Publications: *Grundprobleme der Geschichte der antiken Wissenschaft*, Berlin: De Gruyter, 1971; *Schriften zur griechischen und römischen Verfassungsgeschichte und Verfassungstheorie*. Berlin: De Gruyter, 1976; *Logik, Ontologie und Mathematik*. 2 vols. Stuttgart: 1978; *The Theory of the Mixed Constitution in Antiquity: A Critical Analysis of Polibius' Political Ideas*. NY: Arno, 1975.

Frölicher, Alfred Victor 54-56 M

Born 1927 Zug, Switzerland. DrMath 1954 ETH. Memberships: Swiss Math Soc. Full Prof, Math, Univ of Geneva, Prom de Belle-Croix 4, CH-1752 Villarsur-Glane, Switzerland.

Publications Related to IAS Residence: A Theorem on stability of complex structures. *Proc NAS* 43: 239-241; With Albert Nijenhuis. Theory of vector-valued differential forms I, II. *Indag Math* 18, 20(1956-1958) 338-359, 474-428.

Other Publications: With W. Bucher. *Calculus in Vector Spaces without Norm*. Lecture Notes in Math, 30. Springer, 1966.

Frommel, Christoph Luitpold 71f, 78s HS, Art History

Born 1933 Heidelberg, Germany. Honors: Daria Borghese Prize 1974. Prof, History of Art, Bonn Univ, Dir Bibl Hertziana in Rome. Joachimstr 14, 53 Bonn, Germany.

Publications Related to IAS Residence: *Der römische Palastbau der Hochrenaissance*. Tübingen: E. Wasmuth, 1973; Die architektonische Planung der Villa Madama. *Römisches Jahrbuch für Kunstgeschichte* (1975) 61-87.

Members

Other Publications: *Die Farnesina und Peruzzis architektonisches Frühwerk*. Berlin: de Gruyter, 1961; *Baldassarre Peruzzi als Maler und Zeichner*. Beiheft des Römischen Jahrbuchs für Kunstgeschichte. Vienna: A. Schroll, 1968.

Fronzizi, Risieri 64s HS, Philosophy

Born 1910 Posadas-Misiones, Argentina. PhD Philosophy National Univ of Mexico. Appointments: Pres 1957-62 Univ of Buenos Aires, Argentina; Pres 1959-62 Inter-Amer Phil Soc; Admin Bd of the Intl Assn of Universities (Paris) 1960-70. Memberships: Amer Soc for Value Inquiry; Metaphysical Soc; Phenomenological Soc; Intl Inst of Philos-Paris. Prof, Dept of Philosophy, Southern Illinois University, Carbondale, IL 62901.

Publications Related to IAS Residence: The Axiological Foundation of the Moral Norm. *The Personalist* (Spring 1969); Value as a Gestalt Quality. *J Value Inquiry* (Fall 1972).

Other Publications: *The Nature of the Self*. New Haven: Yale Univ Press, 1953; *What is Value*. LaSalle: Open Court, 1962; *Introducción a los problemas fundamentales del hombre*.

Frye, Roland Mushat 73-74, 79f HS, Literature, Iconography

Born 1921 Birmingham, AL. PhD 1952 English Literature Princeton Univ. Honors: Pres Milton Soc of Amer 1977-78; Mem Amer Philos Soc 1975-; Secy 1978-. Appointments: Consultant to NEH and Guggenheim Foundation; Chmn Age of Milton Grp MLA 1962-63. Memberships: MLA; Renaissance Soc of Amer; Milton Soc of Amer; Shakespeare Assoc of Amer; Mod Humanities Research Assoc; AAUP; Acad of Literary Studies. Felix E. Schelling Prof, English, Univ of Pa, 226 W Valley Rd, Wayne, PA 19087.

Publications Related to IAS Residence: *Milton's Imagery and the Visual Arts: Iconographic Tradition in the Epic Poems*. Princeton Univ Press, 1978.

Other Publications: *God, Man, and Satan: Patterns of Christian Thought and Life in "Paradise Lost", "Pilgrim's Progress", and the Great Theologians*. Princeton Univ Press, 1960; *Perspective on Man: Literature and the Christian Tradition*. Philadelphia: The Westminster Press, 1961; Ed., *Shakespeare and Christian Doctrine*. Princeton Univ Press, 1963; *The Bible: Selections from the King James Version for study as Literature*. Houghton Mifflin, 1965; *Shakespeare's Life and Times: A Pictorial Record*. Princeton Univ Press, 1967; *Shakespeare: The Art of the Dramatist* Houghton Mifflin, 1970;

Fubini, Guido 39-42 M

Born 1879 Venice, Italy. PhD 1900 U of Pisa. Deceased.

Publications Related to IAS Residence: The Distance in General Fuchsian Geometries. *Proc NAS* 26(1940) 700-708; Equazioni Differenziali per i Periodi di un Integrale Iperellittico. *Univ Nac Tucumán*

Revista (A) 1(1940) 73-79; On a Property of W -Congruences. *Ann Math (2)* 41(1940) 356-364; On Bianchi's Permutability Theorem and the Theory of W -Congruences. *Ann Math (2)* 41(1940) 620-638; On Cauchy's Integral Theorem and on the Law of the Mean for Non-Derivable Functions. *Proc NAS* 26(1940) 199-204; A Remark on General Fuchsian Groups. *Proc NAS* 26(1940) 695-700; Il Teorema del Valor Medio para Funciones No Derivables. *Publ Inst Mat Univ Nac Litoral* 2(1940) 25-28; An Elementary Property of the Trajectory of a Projectile. *Amer Math Monthly* 68 (1941) 397-398; On the Asymptotic Lines of a Ruled Surface. *Bull AMS* 47(1941) 448-451; Sobre Algunas Propiedades de los Grupos Discontinuos Finitos. *Publ Inst Mat Univ Nac Litoral* 3(1941) 51-64; Una Observacion Elemental sobre las Ecuaciones de la Balística Externa. *Math Notae* 2(1942) 3-10; On a Class of Surfaces. *Proc NAS* 28(1942) 178-185; On Abel's Converse Theorem. *Ann Math (2)* 43(1942) 471-500.

Fubini, Sergio Piero 65-66 M(NS), Theoretical Physics

Born 1928 Torino, Italy. Dottore 1950 Physics Univ of Torino. Honors: Dannie Heineman Prize (APS) for Math Physics 1968. Memberships: Am Phys Soc. Member Directorate, CERN, On leave from Univ of Torino, c/o CERN, Geneva, Switzerland.

Publications Related to IAS Residence: With de Alfaro, Rossetti, Furlan. *Currents in Hadron Physics*. Amsterdam: North Holland, 1972.

Fuchs, Werner Rudolf 67-68 HS, Archaeology

Born 1927 Zwickau, Germany. PhD 1963 Univ of Tübingen. Memberships: Mommsen-Gesellschaft; Deut Arch Inst. Prof, Class Archaeol, Wilhelms Universität, Archäolog Seminar, Domplatz 20-22, D-44 Münster, W Germany.

Publications Related to IAS Residence: *Die Skulptur der Griechen*. München: Hirmer, 1969; Review of Kaschnitz von Weinberg, *Ausgewählte Schriften I-III*. *GGA* 221(1969) 25-41; A Late Hellenistic Group of Aeneas and Anchises. *AJA* 72(1968) 384-85.

Other Publications: Die Bildgeschichte die Feucht der Aeneas. In *Festschrift Joseph Vogt*, 1, 4: 615-632. ANRW, 1973; Zur Hekate Des Alkamenes. *Boreas* 1(1978) 32-35.

Fuglede, Bent 50-51 M, Functional Analysis

Born 1925 Copenhagen, Denmark. DPhil 1960 Math Univ of Copenhagen. Memberships: AMS; Danish Math Soc; The Royal Danish Acad of Scis & Letters. Prof, Math, Univ of Copenhagen, Trongaardsparken 67, DK-2800 Lyngby, Denmark.

Publications Related to IAS Residence: With R. V. Kadison. On a conjecture of Murray and von Neumann. *Proc NAS* 37(1951) 420-425; With R. V. Kadison. Determinant theory in finite factors. *Ann Math* 55(1952) 522-530.

Other Publications: A commutativity theorem for normal operators. *Proc NAS* 36, 1(1950) 35-40; Extremal length and functional completion. *Acta Math* 98(1957) 171-219; On the theory of potentials in locally compact spaces. *Acta Math* 103(1960) 139-215; On generalized potentials of functions in the Lebesgue classes. *Math Scand* 8(1960) 287-304; A priori inequalities connected with systems of partial differential equations. *Acta Math* 105(1961) 177-195; Le théorème du minimax et la théorie fine du potentiel. *Ann Inst Fourier* 15(1965) 65-88; The quasi topology associated with a countably subadditive set function. *Ann Inst Fourier* 21(1971) 123-169; Connexion en topologie fine et balayage des mesures. *Ann Inst Fourier* 21(1971) 227-244; *Finely harmonic functions*. Lecture Notes in Math, 289. Springer, 1972; Commuting self-adjoint partial differential operators and a group theoretic problem. *J Funct Anal* 16(1974) 101-121; Fonctions harmoniques et fonctions finement harmoniques. *Ann Inst Fourier* 24(1974) 77-91; Boundary minimum principles in potential theory. *Math Ann* 210(1974) 213-226; Asymptotic paths for subharmonic functions. *Math Ann* 213(1975) 261-274; Harmonic morphisms between Riemannian manifolds. *Ann Inst Fourier* 28(1978) 107-144.

Fujii, Akio 73-74 M, Number Theory

Born 1945 Tokyo, Japan. PhD 1973 Columbia Univ. Instr, Mathematics, Rikkyo Univ, 2-8-24, Nakamachi, Koganeishi, Tokyo, Japan.

Publications Related to IAS Residence: A comparative study of the zeros of Dirichlet L-functions. *Bull of AMS* 81 No 1(1975) 199-201; On the distribution of the zeros of the Riemann zeta function in short intervals. *Bull of AMS* 81 No 1(1975) 139-142.

Other Publications: On some analogues of Titchmarsh divisor problem. *Nagoya Math J* 64(1976) 149-158; On the uniformity of the distribution of the zeros of the Riemann zeta function. *Crelle JB* 302(1978) 167-205.

Fujisawa, Norio 71f HS, Greek Philosophy

Born 1925 Matsumoto, Japan. MA 1956 Greek Philosophy Kyoto Univ. Memberships: Classical Soc Japan; Philos Assoc Japan. Prof, History of Western Philosophy, Kyoto Univ, 4-3 Matsugasaki Goshono-Uchi-Cho, Sakyo-Ku, Kyoto, Japan.

Publications Related to IAS Residence: Εχεν, Μετεχ εν, and Idioms of "Paradeigmatism" in Plato's Theory of Forms. *Phronesis* 19, 1(1974) 30-58.

Fukuda, Hiroshi 51-52 M(NS), Physics

Born 1920 Kyoto, Japan. DSc 1951 Physics Tokyo Univ. Memberships: Am Phys Soc; Phys Soc Japan. Prof, Physics, Tokyo Institute of Technology, Setagayaku Sakurajosui 4-1-10-202, Tokyo, Japan.

Publications Related to IAS Residence: With Y. Fujimoto and M. Koshiba. Nuclear Interaction of μ , Meson. *Progr Theor phys* 6(1951) 788; Multiple

Meson Production by High Energy Nucleon-Nucleon Collisions. *Phys Rev* 89(1953) 4; With S. Nakamura, K. Ono, M. Sasaki and M. Taketani. Analysis on the Two Meson Theory. *Progr Theor Phys Supp* 1(1955); With S. Amai, C. Iso and M. Sato. Hydrodynamical Treatment of Multiple meson Production in High Energy Nucleon-Nucleus Collisions. *Progr Theor Phys* 17(1957) 241; With N. Ogita and A. Ueda. A Nucleonic Cascade Theory and The Analysis of Extensive Air Showers. *Progr Theor Phys* 19(1959) 341; With N. Ogita, S. Takagi and A. Ueda. An Analysis of Extensive Air Showers. *International conference of Cosmic Rays* (1961); With C. Iso. The Relation Between Meson Elastic Diffraction Scattering and Dynamics of Production in the Very High Energy Region. *N Cim* 43(1966); With C. Iso. The Relation Between Charge-Exchange and Quasi-Elastic Scattering and the Dynamics of Multi-particle Production in High energy Region. *Progr Theor Phys Supplement* 37(1966); Relation between Correlation Function of Produced Particles and the Dynamics of High energy Multiple Particle Production. *Progr Theor Phys* 52(1974); Unified Analysis of Inclusive Spectra of Mesons and Baryons in High Energy P-P π -P and $e^+ e^-$ Collisions by Quark Cascade Model. *Progr Theor Phys* 57(1977) 483; With C. Iso. Meson Spectra in Meson's Fragmentation Region in Meson-Nucleon Collisions by New Type of Quark Cascade Model. *Progr Theor Phys* 57(1977) 1663; With C. Iso. Deep-Inelastic Lepton Nucleon Scattering by New Type of Quark Cascade Model I. *Progr Theor Phys* 58(1977) 1472; With C. Iso. Deep-Inelastic Lepton Nucleon Scattering by New Type of Quark Cascade Model II. *Progr Theor Phys* 58(1977) 1486; With C. Iso. Hadron-Hadron Collisions at Large Transverse Momenta in the New Type of Quark Cascade Model I, II. *Progr Theor Phys* 60(1978) 1457, 1812; With C. Iso. Parton Distribution Functions in Hadron and Decay Distribution Functions in the New Type of Quark Cascade Model. *TIT/HEP* 44(1978); With C. Iso. The recombination mechanism and the effects of number of quarks in hadron in high energy hadron reactions. *TIT/HEP* 51(1979).

Fulton, Thomas 54-56 M(NS), Theoretical Physics

Born 1927 Budapest, Hungary. PhD Physics Harvard Univ. Memberships: Amer Phys Soc; ϕ B K , Σ Ξ . Prof, Department of Physics, Johns Hopkins University, Charles and 34th Sts, Baltimore, MD 21218.

Publications Related to IAS Residence: With R. G. Newton. Explicit Non-Central Potentials and Wave Functions for Given S. Matrices. *Nuovo Cim Ser* 10, 3(1956) 677; Self-Energy of the Polaron for Intermediate Temperatures. *Phys Rev* 103(1956) 1712; With R. G. Newton. Tensor Potentials and Wave Functions Constructed Explicitly from S. Matrices. *Bull Am Phys Soc Ser 2*, 1(1956) 66; Self-Energy of the Polaron at Intermediate Temperatures. *Bull Am Phys Soc Ser 2*, 1(1956) 25.

Members

Other Publications: With P. C. Martin. Two Body System in Quantum Electrodynamics. Energy Levels of Positronium. *Phys Rev* 95(1954) 811; With R. G. Newton. Non-Central $n = p$ Potentials from Scattering and Bound State Data. *Bull Am Phys Soc Ser 2*, 2(1957) 71; With G. Feldman. Determination of the Relative $\Sigma - \Lambda$ Parity. *Nuclear Physics* 8(1958) 106; With F. Rohrlich. Classical Radiation from a Uniformly Accelerated Charge. *Ann Phys* 9(1960) 499; With F. Rohrlich and L. Witten. Conformal Invariance in Physics. *Rev Mod Phys* 34(1962) 442; With J. Wess. Mass splitting as a Covariant Concept in the Generalized Poincaré Group. *Ann Phys* 37(1966) 271; With G. Feldman and P. T. Matthews. The $\Delta I = 1/2$ Rule Without Neutral Currents. *Nuovo Cim Ser 10*, 50A(1964) 349; With J. Townsend, G. Feldman. A Spectral Representation for Coulomb Wave Functions. *J Math Phys* 13(1972) 1865; With V. K. Cung, A. Devoto and W. W. Repko. Order α^2 Corrections to the Positronium Hyperfine Interval Arising from Three Photon Virtual Annihilation. *Nuovo Cimento* 43A(1978) 643; With V. K. Cung, A. Devoto and W. W. Repko. $m\alpha^6$ Contributions to the Positronium Hyperfine Structure from Two Photon Virtual Annihilation. *Phys Letters* 78B(1978) 116.

Furlan, Giuseppi 68f, 69f NS, Particle Physics, Field Theory

Born 1935 Trieste, Italy. Physics Laurea 1958 Univ Trieste. Honors: Prize of Italian Phys Soc 1965. Appointments: Chmn Theoret Physics Comm, INFN 1974-1977. Prof, Physics, Univ Trieste, Dir Dept Theoretical Physics Univ Trieste, Istituto di Fisica Teorica, Strada Costiera 11, 34014 Miramare-Grignano, Trieste, Italy.

Publications Related to IAS Residence: Equal-Time Commutators and Low-Energy Pion Physics. *Nuovo Cimento* 62A(1969) 497-513; On the Algebraization of Some Dispersion Sum Rules. *Lettere al Nuovo Cimento* 3(1970) 168-172; With V. de Alfaro, S. Fubini, C. Rossetti. *Currents in Hadron Physics*. Amsterdam: North Holland, 1973.

Furley, David John 64f HS, Greek Philosophy

Born 1922 Nottingham, England. MA(Cantab.) 1946 Classics. Memberships: Sen Fellow of the Center for Hellenic Studies, Wash DC; Am Philos Assn; Am Philolog Assn; (British) Soc for Hellenic Studies. Prof, Classics, Princeton Univ, Chmn Program in Classical Philos, RD 2, Box 86, Saddle Shop Rd, Ringoes, NJ 08551.

Publications Related to IAS Residence: *Two Studies in the Greek Atomists*. Princeton: Princeton Univ Press, 1967; Lucretius and the Stoics. *Bull of the Inst of Class Stud, London* 17(1970) 55-64; Knowledge of Atoms and the void in Epicureanism. In *Essays in Ancient Greek Philosophy*, ed. by Anton and Kustas. Albany: SUNY Press, 1970.

Other Publications: With R. E. Allen. *Studies in Presocratic Philosophy*. 1. London: Routledge and Kegan Paul, 1970; 2. 1975.

Gaal, Ilse Lisl Novak 51-52 M, Mathematical Logic

Born 1924 Vienna, Austria. PhD 1948 Radcliffe Coll. Dept of Math, Univ of Minnesota, Minneapolis, MN 55455. *

Gaal, Steven Alexander 50-52 M, Number Theory

Born 1924 Budapest, Hungary. PhD 1947 Univ of Budapest. Memberships: AMS; MAA. Prof, School of Mathematics, University of Minnesota, VH127, Minneapolis, MN 55455.

Publications: *Linear Analysis and Representation Theory*. Grundlehren der Math, 198. Berlin: Springer-Verlag, 1973.

Gabba, Emilio G. 73f HS, Ancient History

Born 1927 Pavia, Italy. Laurea in Lett 1948 Univ di Pavia. Honors: Membro Effettivo Ist Lombardo di Sci e Lett, Milano; Socio Corr dell'Accad di Archeologia di Napoli. Appointments: Membro com Sci Storiche, Filologiche e Filosofiche del Consiglio Nazionale delle Ricerche (Roma). Prof, Storia Romana, Univ di Pavia Italy, via Maggi 2, Pavia 27100, Italy.

Publications Related to IAS Residence: *Per la Storia dell'esercito romano in età imperiale*. Bologna: Patron, 1974.

Other Publications: *Appiano e la storia delle Guerre Civili*. Firenze: La Nuova Italia, 1956; ed, *Appiani Bellorum Civilium*. 1. Firenze: La Nuova Italia, 1958; ed, *Appiani Bellorum Civilium*. 5. Firenze: La Nuova Italia, 1970; *Esercito e Società nella tarda Repubblica romana*. Firenze: La Nuova Italia, 1973; *Republican Rome: the Army and the Land*. Oxford: Blackwell, 1976.

Gabriel, Astrik L. 50-51, 80s HS, Mediaeval History and Illuminated Manuscripts

Born 1907 Funfkirchen, Austria. PhD 1936 Agrege Budapest Univ. Honors: Hon Doctor Ambrosiana 1967; Officer French Legion of Honor; Commander Order of Merit of Italy. Appointments: Pres Amer Catholic Assn; Member, Bureau of Intl Comm of Hist Sci. Memberships: Member, French Acad of Sci; Corr Mem French & Bavarian Acad of Sci; Fellow, Med Acad of Amer. Dir, Ambrosiana Collection, and President Intl Commission for the History of Universities, Univ of Notre Dame, PO Box 578, Notre Dame, IN 46556.

Publications Related to IAS Residence: Student Life In Ave Maria College, Mediaeval Paris, History and Chartulary of the College. In *Publications in Mediaeval Studies* 14. Notre Dame, Indiana: 1955; The O Antiphons Celebration in a Mediaeval College. *Scriptorium* 9(1955) 217-221; The Liber receptorum of the English-German Nation at the University of Paris. *The American Philosophical Society Year Book* 1962

(1963) 534-538; *Summary Bibliography of the History of the Universities of Great Britain and Ireland up to 1800 covering publications between 1900 and 1968*. Notre Dame, Indiana: Mediaeval Institute, 1974.

Gaetgens, Thomas Wolfgang 79-80 HS, History of Art

Born 1940 Leipzig, Germany. DPhil History of Art. Memberships: Ver Deut Kunsthist; Soc de l'Hist de l'art français. Prof, Kunsthistorisches Institut, Free Univ of Berlin, Altensteinstr. 15, 1000 Berlin, 33, West Germany.

Publications: *Napoleons Arc de Triomphe*. Göttingen: 1974.

Gaffney, Matthew P. 53-54 M, Analysis

Born 1921 Claremont, NH. PhD 1951 U of Chicago. Dept of Math, U of Massachusetts, Boston, MA 02116.*

Galewski, David E. 73-75 M, Topology of Manifolds

Born 1941 Elizabeth, NJ. PhD 1969 Michigan State U. Dept of Math, U of Georgia, Athens, GA 30602. *

Gallagher, Patrick Ximenes 64-65 M, Analytic Number Theory

Born 1935 Elizabeth, NJ. PhD 1959 Mathematics Princeton Univ. Memberships: AMS. Prof, Department of Mathematics, Columbia University, New York, NY 10027.

Publications Related to IAS Residence: Metric simultaneous diophantine approximation II. *Mathematika* 12(1965) 123-127; Zeros of group characters. *Math Zeitschr* 87(1965) 363-364; Non-real zeros of real entire functions. *Math Zeitschr* 90(1965) 124-125; Zeros of characters of finite groups. *J Algebra* 4(1966) 42-45.

Other Publications: Group characters and normal Hall subgroups. *Nagoya Math J* 21(1962) 223-230; A large sieve density estimate near $\sigma = 1$. *Inventiones Math* 16(1970) 329-339; The large sieve and probabilistic Galois theory. *Proc Symp Pure Math AMS* 24(1973) 91-101; With J. H. Mueller. Primes and zeros in short intervals. *J Reine Angew Math* 303/304(1978) 205-220; Invariants for finite groups. *Advances in Mathematics* in press.

Gangolli, Ramesh 66-67 M, Harmonic Analysis

Born 1935 Bangalore, India. PhD 1961 Mathematics MIT. Honors: Sloan Fellow 1966-68; Paul Lévy Prize 1967. Memberships: AMS. Prof, Department of Mathematics, University of Washington, Seattle, WA 98 195.

Publications Related to IAS Residence: Asymptotic behaviour of spectra of compact quotients of certain symmetric spaces. *Acta Math* 121(1968).

Other Publications: *Ann Inst H Poincaré* Section B, 3(1967) 121-226; On the Plancherel formula and the

Paley-Wiener theorem for spherical functions on semisimple Lie groups. *Ann of Math* 93(1971) 150-165; Zeta functions of Selberg's type for compact space forms of symmetric spaces of rank one. *Ill J Math* 21(1977) 1-42.

Gårding, Lars 49-50, 58f, 59f, 60f, 66-67, 77s M, Analysis

Born 1919 Hedemora, Sweden. PhD Math Lund Univ, Sweden. Prof, Lund Univ, Math Inst, Fack 725, Lund 7, Sweden.

Publications Related to IAS Residence: With M. F. Atiyah and R. Bott. Lacunas for hyperbolic differential operators with constant coefficients I, II. *Acta Math* 124, 131(1970, 1973).

Gardner, Robert Brown 70-71 M, Differential Geometry

Born 1939 Tarrytown, NY. PhD 1965 Math Univ Calif, Berkeley. Honors: Kenan Professor UNC 1977-78. Appointments: Chmn, Comm to pick hour speakers for AMS SE Region. Memberships: AMS; MAA; Sigma Xi. Prof, Dept of Math, University of NC, Chapel Hill, NC 27514.

Publications Related to IAS Residence: Subscalar Pairs of Metrics and Hypersurfaces with a non-degenerate second fundamental form. *J of Differential Geom* 6(1972) 437-458.

Other Publications: A differential geometric generalization of characteristics. *Communications of Pure and Applied Math* 22(1969) 597-626; Modules which admit determinants. *J of Linear and Multilinear Algebra* 3(1975) 209-214; New Viewpoints in the Geometry of Submanifolds. *Bull of AMS* 83(1977) 1-35.

Garland, Howard 65-66 M

Born 1937 Detroit, MI. PhD 1964 Mathematics Univ of Calif, Berkeley. Memberships: AMS. Prof, Department of Mathematics, Yale University, New Haven, CT 06520.

Publications Related to IAS Residence: With M. S. Raghunathan. Fundamental Domains for lattices in (R-) rank 1 semisimple Lie groups. *Ann Math* 92(1970) 279-326; With M. Goto. Lattices and the adjoint group of a lie group. *TAMS* 124(1966) 450-460; A rigidity theorem for discrete subgroups. *TAMS* 129(1967) 1-25.

Other Publications: P-adic curvature and the cohomology of discrete subgroups of p-adic groups. *Ann Math* 97(1973) 375-423; A finiteness theorem for K_2 of a number field. *Ann Math* 94(1971) 534-548; The arithmetic theory of loop algebras. *J Algebra* 53(1978) 480-551.

Gatzke, Hans Wilhelm 51-52 HS, Modern German and Diplomatic History

Born 1915 Dülken, Germany. PhD 1947 History Harvard Univ. Honors: Herbert Baxter Adams Prize

Members

AHA 1950. Appointments: Since 1969 US editor-in-chief of the German foreign ministry documents, Appt by the Dept of State. Memberships: AHA; Conf Group on Cent Eur Hist; Amer Comm on the Hist of WW II. Prof, History, Yale Univ. 56 Farrell Rd, Weston, CT 06883.

Publications Related to IAS Residence: *Stresemann and the Rearmament of Germany*. Baltimore: The Johns Hopkins Press, 1954.

Other Publications: *Germany's Drive to the West*. Baltimore: The Johns Hopkins Press, 1950; *The Present in Perspective*. 3rd ed, Chicago: Rand McNally, 1965; *Germany and the United States: A Special Relationship?* Cambridge: Harvard Univ Press, forthcoming.

Gauthier, Marie-Madeleine 64s, 67s HS, Medieval Art History

Born 1920 Langon (Gironde), France. Dip Etudes Sup Lett Classiques Bordeaux Univ. Honors: Palmes Académiques 1961; Ordre National du Mérite 1965. Appointments: Com Nat CNRS 1970-1975; 1975-1980; Ed Bd: *Revue de l'Art ; Répertoire d'Art et d'Archéologie* ; Com Franc Hist Art Sec 1970-78. Memberships: Soc fr d'Archéol; Soc nat des Antiquaires de France; College Art Assoc; Deut Ver Kunstwiss. Maître de Recherche, Antiquités, CNRS, Assoc Prof Univ Paris-Sorbonne, IV, 126 Boulevard Saint-Germain, 75006 Paris, France.

Publications Related to IAS Residence: *Emaux du moyenâge occidental*. Fribourg/Paris: 1972, 1973; L'ancien trône d'émaux de Notre-Dame à Guadalupe et la naissance du style international en Castille. In *Studies in late medieval and Renaissance painting in honor of Millard Meiss*, 157-175. New York: 1978.

Other Publications: Le Tableau de la Crucifixion sur les évangiles ottoniens donnés par Charles V à la Sainte Chapelle et l'orfèvrerie parisienne au temps de saint Louis. *Mon et Mém Fond E Piot, Acad Inscr et BL* 59(1974) 171-208; Du tabernacle au retable, une innovation limousine vers 1230. *Revue de l'art* 40-41(1978) 23-42.

Gaveau, Bernard 77-78 M, Complex Analysis, Differential Geometry

Born 1950 France. PhD 1975 Univ of Paris. 18 rue Gassendi, 59000 Lille, France. *

Geba, Kazimierz 65-66 M

Born 1933 Rudnik n Sanem, Poland. PhD 1962 Torun Univ. Memberships: Polish Math Soc. Assoc Prof, Math, Gdańsk Univ, Polish Academy of Sciences Institute of Math, Inst of Math, Gdańsk Univ, Gdańsk, Poland.

Publications Related to IAS Residence: With A. Granas. Infinite Dimensional Cohomology Theories. *J Math Pure Appl* 52(1973) 145-270.

Gelbart, Abe 47-48 M

Born 1911 Paterson, NJ. PhD 1940 MIT. 140 West End Ave, Apt 25C, New York, NY 10035. *

Gelbart, Stephen Samuel 72-73 M, Automorphic Representations

Born 1946 Syracuse, NY. PhD 1970 Mathematics Princeton Univ. Honors: Sloan Fellow 1977-78. Memberships: AMS. Assoc Prof, Dept of Mathematics, Cornell University, Ithaca, NY 14853.

Publications Related to IAS Residence: *Automorphic Forms on Adele Groups*. Annals of Math Studies, No 83. Princeton: Princeton University Press, 1975; *Weil's Representation and the Spectrum of the Metaplectic Group*. Lecture Notes in Mathematics, No 530. New York: Springer-Verlag, 1976.

Other Publications: Holomorphic discrete series for the real symplectic group. *Inventiones Mathematicae* 19(1973) 49-58; With H Jacquet. A Relation Between Automorphic Forms on $GL(2)$ and $GL(3)$. *Proc Nat Acad Sciences, USA* 73, no 10(1976) 3348-3350; With I Piatetski-Shapiro. Automorphic L-functions of half-integral weight. *Proc Nat Acad Sciences, USA* 75, no 4(1978) 1620-1623.

Gelbaum, Bernard Russell 60-61 M

Born 1922 New York, NY. PhD 1948 Mathematics Princeton Univ. Honors: Chancellor's Teaching Awd SUNY/Buffalo 1976. Memberships: AMS; MAA. Prof, Mathematics, SUNY/Buffalo, 127 Ruskin Rd, Buffalo, NY 14226.

Publications Related to IAS Residence: Tensor Products and Related Questions. *Trans Amer Math Soc* 103(1962) 525-548.

Other Publications: Banach Algebra Bundles. *Pac J Math* 28(1969) 337-349; Fibre Bundles and Measure. *Proc Amer Math Soc* 21(1969) 603-607; Q-Uniform Banach Algebras. *Proc Amer Math Soc* 24(1970) 344-353.

Gelder, Jan Gerrit van 53-54, 59s HS, History of Art

Born 1903 Alkmaar, Netherlands. Dr ph 1933 Utrecht Univ. Honors: Member Royal Acad of Sci 1951-; Dir Belgian Acad 1970-. Appointments: Member Fondation Custodia; Chairman Krö Iler Mü Iler Foundation; Vice president CIHA. Prof Emer, Utrecht Univ, 62, Wilhelminapark, Utrecht, The Netherlands.

Gell-Mann, Murray 51s, 51f, 55s, 67-68 NS, Elementary Particle Physics

Born 1929 New York, NY. PhD 1951 MIT. Honors: Nobel Prize in Physics 1969. Dept of Physics, Cal Inst of Tech, Pasadena, CA 91109. *

Publications Related to IAS Residence: With F. E. Low. Bound States in Quantum Field Theory. *Phys Rev* (2) 84(1951) 350-354.

Gelzer, Thomas Carl 77-78 HS, Classical Antiquity

Born 1926 Basel, Switzerland. DPhil 1953 Univ of Basel. Appointments: Komm Lexicon des fröhgrichischen Epos der Akad zu Göttingen; Forschungskomm Schweiz Geisteswissenschaftlichen Gesell. Memberships: Schweiz Vereinigung für Altertums Wissenschaft (pres 1970-76); Vereinigung der Freunde der antiken Kunst; Assoc pour l'encouragement des études grecques; Amer Philolog Assoc. Prof, Classics, Univ of Berne, Sulgenauweg 38, CH-3007 Berne, Switzerland.

Publications Related to IAS Residence: Aristophanes. In *Das griechische Drama*, ed. by G.A. Seeck, Grundriss der Literaturgeschichte nach Gattungen: 240-284. Darmstadt: Wiss Buchgesellschaft, 1979; Klassizismus, Attizismus und Asianismus. In *Entretiens de la Fondation Hardt pour l'étude de l'antiquité classique*, 25. Genève: Vandoeuvres, 1980; Der deutsche Pindar, vor der Klassik. In *Wandlungen des Textverständnisses am Beispiel Pindar und Haraz*. Wolfenbüttel, in press; Willy Theiler *Gnomon* 50(1978) 502-506; Hans Jucker zum 20.1 1978. In *Antike Kunst*, Bikanes, Festschrift Hans Jucker zum 60. Geburtstag. Basel: in press.

Other Publications: *Der epirrhematische Agon bei Aristophanes, Untersuchungen zur Struktur der attischen Alten Komödie*. Zetemata Heft 23. München: C.H. Beck, 1960; Aristophanes, Der Komiker. In *Pauly's Realencyklopädie*, Suppl Bd 12: 1392-1569. Stuttgart: 1970; *Musaeus, Hero and Leander*. Cambridge, Mass. and London: The Loeb Classical Library, 1975; Die Bedeutung der klassischen Vorbilder beim alten Goethe. In *Classical Influences on Western Thought A.D. 1650-1870*, ed. by R. R. Bolgar, 309-326. Cambridge U P, 1979.

Gentile, Enzo R. 60-62 M

Born 1928 Buenos Aires, Argentina. Dr Mathematics Univ de Cuyo. Memberships: AMS; Union Mat Argentina. Prof, Univ de Buenos Aires, Anchorena 792, La Lucila, (1636), Buenos Aires, Argentina.

Publications Related to IAS Residence: Singular Sub-module and Injective Hull. *Indag Math* 24(1962) 426-433.

Other Publications: A uniqueness Theorem on Rings of Matrices. *J of Algebra* 6(1967); A Note on Injective Group Rings. *Proceed AMS* 23(1969).

Geoghegan, Ross 70-72, 78-79 M, Topology

Born 1943 Dublin, Ireland. PhD 1970 Math Cornell Univ. Memberships: AMS; MAA. Assoc Prof, Dept of Math, SUNY, Binghamton, NY 13901.

Publications Related to IAS Residence: With R. R. Summerhill. Pseudo-Boundaries and Pseudo-Interiors in Euclidean Spaces and Topological Manifolds. *Trans Amer Math Soc* 194(1974) 141-165; With R. R. Summerhill. Concerning the Shapes of Finite-Dimensional Compacta. *Trans Amer Math Soc* 179(1973) 281-292; On Spaces of Homeomorphisms Embeddings and Functions II. *Proc Lond Math Soc* 3 27(1973) 463-483.

Other Publications: With D. A. Edwards. Shapes of Complexes, Ends of Manifolds, Homotopy Limits and the Wall Obstruction. *Ann Math* 101(1975) 521-535; 104(1976) 389; With D. A. Edwards. Stability Theorems in Shape and Pro-Homotopy. *Trans Amer Math Soc* 222(1976) 389-403.

Geramita, Anthony Vito 77-78 M, Algebra

Born 1942 New York, NY. PhD 1968 Syracuse Univ. Memberships: MAA; AMS; Canadian Math Soc. Assoc Prof, and Chmn Grad Studies, Dept of Math, Queen's University, Kingston, Ontario, Canada.

Publications Related to IAS Residence: Principal Ideals and Smooth Curves. *J of Alg* in press; Ideals with Trivial Conormal Bundle. *Can Jour* in press.

Gérardin, Paul 74-75, 79f M

Born 1943 Roanne, France. D d'État 1974 Math Université Paris VII. Memberships: Soc Math France; Assoc des Prof de Math de L'Enseignement Public. Maitre de Conférences, UER de Mathématiques, Université Paris VII, 75221 Paris Cedex 05, France.

Publications Related to IAS Residence: Weil representations associated to finite fields. *J Algebra* 46(1977) 54-101; On cuspidal representations of p-adic reductive groups. *Bull AMS* 81(1975) 756-758.

Other Publications: Cuspidal unramified series for central simple algebras over local fields. In *Automorphic Forms, Representations and L-functions, Proc Symp Oregon State U 1977, Pt 1*, ed. by A. Borel & W. Casselman, Proc Symp Pure Math 33: 157-170. Providence, RI: AMS, 1979; Groupes réductifs et Groupes résolubles. In *Non-Commutative Harmonic Analysis, Actes Coll Marseille-Luminy 1974*, ed. by J. Carmona, J. Dixmier, & M. Vergne, Lect Notes in Math 466: 79-85. Berlin: Springer-Verlag, 1975.

Gerhard, Dietrich 54-55 HS, History

Born 1896 Berlin, Germany. PhD 1923 History Berlin Univ. Honors: Mem Max-Planck Institute for History 1968. Memberships: AHA. Prof Emer, History, Washington Univ & Univ of Cologne, 7534 Teasdale Ave, St. Louis, MO 63130.

Publications Related to IAS Residence: *Alte und Neue Welt in Vergleichender Geschichtsbetrachtung*. pubs of Max-Planck-Inst für Geschichte, 10. Göttingen: Van-dehoeck and Ruprecht, 1962; *Gesammelte Aufsätze*. pubs of Max-Planck-Inst für Geschichte, 54. Göttingen: Vandehoeck and Ruprecht, 1977.

Other Publications: ed, *Die Briefe B. G. Niebuhrs*. 1 & 2. 1926 and 1929; *England und der Aufstieg Russlands*. 1933.

Gerhardt, Claus 79f M, Partial Differential Equations

Born 1946 Mainz, Germany. Habil 1975 Math Univ of Bonn. Memberships: DMV; Ges f angew Math &

Members

Mech. Prof, Stanford Univ, Dept of Math, Stanford, CA 94305.

Gerritzen, Lothar Georg 67-68 M, Algebraic Geometry, p-adic Function Theory

Born 1941 Nürnberg, Germany. PhD 1966 U of Göttingen. Prof, Univ of Bochum, Abteilung Mathematik, Ruhr-Universität, Postfach 102 148, 4630 Bochum 1, W Germany.

Publications Related to IAS Residence: On One-dimensional Affinoid Domains and Open Immersions. *Invent Math* 5(1968) 106-119; Die Azyklizität der affinoiden Überdeckungen. In *Global Analysis*, Papers in Honor of K. Kodaira. Univ of Tokyo Press, Princeton University Press, 1969.

Gerschenkron, Alexander 68-69, 71-72 Soc, Economics

Born 1904 USSR. Dr rer Pol 1928 Univ of Vienna. Deceased.

Gersten, Stephen M. 73f M, Algebra

Born 1940 Utica, NY. PhD 1965 Cambridge Univ. Math Dept, University of Utah, Salt Lake City, UT 84108. *

Gerstenhaber, Murray 52-53, 57-59 M, Algebraic Geometry

Born 1927 . PhD 1951 U of Chicago. Dept of Math, U of Pa, Philadelphia, PA 19174. *

Publications Related to IAS Residence: On a Theorem of Haupt and Wirtinger Concerning the Periods of a Differential of the First Kind, and a Related Topological Theorem. *Proc AMS* 4(1953) 476-481; On the Algebraic Structure of Discontinuous Groups. *Proc AMS* 4(1953) 745-750; A Characterization of the Modular Group and Certain Similar Groups. *Duke Math J* 21(1954) 113-121.

Geyl, Pieter 49f HS(EP), American History, Historiography

Born 1887 Netherlands. Doc Letters 1913 Univ of Leiden. Deceased.

Publications Related to IAS Residence: Prophets of Woe. *Virginia Q Rev* 26(1950) 587-602; The American Civil War and the Problem of Inevitability. *New England Q* 24(1951) 147-168; The National State and the Writers of Netherlands History. In *From Ranke to Toynbee*, Smith College Studies in History 39: 35-51. Northampton, Mass: 1952.

Ghaffari, Abolghassem 51-52 M, Differential Equations

Born 1907 Teheran, Iran. PhD 1948 U of London. 7109 Connecticut Ave, NW, Washington, DC 20015. *

Gherardelli, Francesco 64-65 M, Algebraic Geometry

Born 1925 Italy. Libera Docenze 1956 Univ of Genoa. *

Giannini, Torquato Carlo 47-48 HS(EP), Maritime Law

Born 1869 Italy. PhD 1889 Univ of Bologna. Deceased.

Publications Related to IAS Residence: Vers l'Unification de la Responsabilité du Transporteur Maritime et Aérien. *Revue Générale de l'Air (NS)* 12(1949) 334-348; Metodi d'Insegnamento del Diritto nelle Università Nord-Americane. *Rivista Internazionale di Filosofia del Diritto (3)* 28(1951) 152-164.

Gibbs, John Arthur 68-69 M

Born 1944 Manchester, England. PhD 1968 Warwick Univ. Lect, Pure Mathematics, and Asst Registrar, Mathematical Institute, University of Kent at Canterbury, Kent, England.

Publications Related to IAS Residence: Automorphisms of Certain Unipotent Groups. *J Algebra* 14(1970) 203-228.

Gibson, Eleanor Jack 59-60 M(NS), Psychology

Born 1910 Peoria, IL. PhD 1938 Psychology Yale Univ. Honors: NAS 1970; AAAS 1977; Hon DSc Smith Coll 1970; DSc Rutgers 1973; Wilbur Cross Medal Yale Univ 1973. Appointments: Pres Adv Comm on Res in Biomed Scis Panel on Behavioral & Soc Sci; Counsel of Scientific Advisors for Intramural Research, NIMH. Memberships: Fellow, Am Psych Assoc; Soc of Experimental Psych; Soc for Research in Child Devel. Susan Linn Sage Prof, Psychology, Cornell Univ, 111 Oak Hill Rd, Ithaca, NY 14850.

Publications Related to IAS Residence: Experimental Methods of Studying Perception in Children. In *Handbook of Research Methods in Child Development*, ed. by P. H. Mussen, 311-373. New York: Wiley, 1960; *Principles of Perceptual Learning and Development*. New York: Appleton-Century-Crofts, 1969.

Other Publications: Development of Perception: Discrimination of depth compared with discrimination of graphic symbols. In *Basic Cognitive Processes in Children*, ed. by J. C. Wright and J. Kapau, Monogr Soc Res Child Developm: 5-24. 1963; With H. Levin. *The Psychology of Reading*. Cambridge, Mass: MIT Press, 1975.

Gibson, James Jerome 58-59 M(NS), Psychology

Born 1904 McConnellsville, OH. PhD 1928 Princeton Univ. Honors: DPhil (hc) Univ of Uppsala 1976; DSc (hc) Univ of Edinburgh. Deceased.

Publications Related to IAS Residence: *The Senses Considered as Perceptual Systems*. Boston: Houghton Mifflin, 1966; *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin, 1979.

Other Publications: *The Perception of the Visual World*. Boston: Houghton Mifflin, 1950; *Motion Picture Testing & Research*. Wash. D.C.: Gov't Printing Office, 1946.

Gidas, Basilis Constantine 79-80 M, Mathematical Physics

Born 1941 Exarchos-Locridos, Greece. PhD 1970 Physics and Nuclear Engineering Univ of Michigan.

Publications Related to IAS Residence: Symmetry Properties of Positive Solutions of Non-linear Elliptic Equations. *Commun Math Phys* (in press).

Other Publications: With P. Federbush. Renormalization of the one-space dimensional Yukawa model by unitary transformation. *Ann Phys* 68(1971) 98; Quadratic Fermion Interaction Hamiltonian. *J Math Phys* 12(1971) 1414; Properties of the ϕ^4_2 interaction Hamiltonian. *J Math Phys* 15(1974) 861; On the Self-Adjointness of the Lorentz generator for $(\phi^4)_{1+1}$. *J Math Phys* 15(1974) 867; With J. Bellissard, and J. Fröhlich. Soliton Mass and Surface tension in the $(\lambda|\phi^4)_2$ Quantum Field Theory. *Phys Rev Lett* 38(1977) 619; With J. Bellissard, and J. Fröhlich. Soliton Mass and Surface Tension in the $(\lambda|\phi^4)_2$ Quantum Field Model. *Commun Math Phys* 60(1978) 37; The Glimm-Jaffe-Spencer Expansion for the Classical Boundary Conditions and Coexistence of Phases in the $\lambda\phi$ Euclidean (Quantum) Field Theory. *Ann Phys* 118(1979) 18-83; Deformations and Spectral Properties of Merons. *J Math Phys* 20(1979) 2097-2109; With W. Ni and L. Nirenberg. Symmetry and Related Properties via the Maximum Principle. *Commun Math Phys* 68(1979) 209-243; Euclidean Yang-Mills and Related Equations. In *Bifurcation Phenomena in Mathematical physics and Related Topics*, ed. by C. Bardos and D. Bessis. D. Reidel Publishing Company, 1980.

Gieseke, David 71-72 M, Algebraic Geometry

Born 1943 Oakland, CA. PhD 1970 Math Harvard Univ. Prof, Dept of Mathematics, UCLA, Los Angeles, CA 90024.

Publications Related to IAS Residence: Flat Vector Bundles and Fundamental Group in Non-Zero Characteristics. *Ann Sc Norm Sup Pisa Series 4 Vol 2 n 1*(1975) 1-31.

Giesey, Ralph E. 64-65, 75-76 HS, Mediaeval, Renaissance History

Born 1923 Detroit, MI. PhD 1954 Univ of Calif, Berkeley. Honors: Fulbright in Belgium 1951-2; ACLS Fellow in France 1952-3; Rockefeller grant 1962; APS grant 1966; Guggenheim Fellow 1970; NEH Fellow 1974. Memberships: AHA; Med Acad of Amer; Renaissance Soc of Amer. Prof, Department of History, University of Iowa, Iowa City, IA 52242.

Publications Related to IAS Residence: *The Royal Funeral Ceremony in Renaissance France*. Geneva: Droz, 1960; *If Not, Not: The Oath of the Aragonese and the Legendary Laws of Sobrarbe*. Princeton:

Princeton Univ Press, 1968; With J.H.M. Salmon. *Francogallia by Francois Hotman*. Cambridge: Cambridge Univ Press, 1972; With M. Cherniavsky. *Selected Studies by Ernst H.Kantorowicz*. Locust Valley: J.J. Augustin, 1965; *The Juristic Basis of Dynastic Right to the French Throne*. Philadelphia: Amer Philos Soc, 1961.

Giffen, Charles H. 76-77 M, Algebraic K-Theory, Topology

Born 1940 IL. PhD 1964 Princeton U. Dept of Math, U of Va, Charlottesville, VA 22901. *

Gilbert, Margaret Patricia 78-79 HS, Philosophy

Born 1942 Mursley, Buckinghamshire, England. DPhil 1978 Philosophy Oxford. Memberships: Am Philosoph Assn. Member, IAS, 57 College Rd W, Princeton, NJ 08540.

Gildenhuys, Dion 67-68 M, Algebra

Born 1938 Johannesburg, South Africa. PhD 1966 Algebra McGill Univ. Memberships: AMS; Canadian Math Soc. Assoc Prof, Algebra, Dept of Mathematics Burnside Hall, McGill University, 805 Sherbrooke St W, Montreal H3A 2K6, Canada.

Publications Related to IAS Residence: On Pro-p-groups with a single defining relator. *Inventiones math* 5(1968) 357-366.

Other Publications: With L. Ribes. Profinite groups and boolean graphs. *J Pure and Applied Alg* 12(1978) 21-47.

Giles, William B. 63-64 M, Algebra

Born 1938 Scotland. PhD 1962 Univ of Calif, Berkeley.*

Gill, Bennington Pearson 35-36 M

Born 1898 . PhD 1930 Columbia Univ. Deceased.

Gilliam, James F. see Present Faculty

Gillman, David Saul 62-64 M, Topology

Born 1938 NY. PhD 1962 Univ of Wisconsin. *

Gillman, Leonard 58-60 M, Topology

Born 1917 Cleveland, OH. PhD Mathematics Columbia Univ. Honors: Fellowship in Piano Juilliard Grad Schl 1933-38; Guggenheim Fellow 1958-59; NSF Senior Post-Doc Fellow 1959-60. Appointments: Comm on the Undergrad Prog in Math, 1965-1968; Adv Bd, School Math Study Group, 1967-1971; Org Comm, First Interl Cong on Math Ed, Lyon, France, 1969; Ed Bd, *Gen Topology and Its Applications*, 1971-. Memberships: Assoc Secy, AMS; Treas, MAA; Natl Council Tch Math, Am Assn Adv Sci. Prof,

Members

Mathematics, Univ of Tex, 1606 The High Rd, Austin, TX 78746.

Publications Related to IAS Residence: With Meyer Jerison. *Rings of Continuous Functions*. Princeton, NJ: Van Nostrand, 1960; With N. J. Fine. Extension of continuous functions in βN . *Bull AMS* 66(1960) 376-381; With N. J. Fine. Remote points in βR . *Proc AMS* 13(1962) 29-36; With C. W. Kohls. Convex and pseudoprime ideals in rings of continuous functions. *Math Z* 72(1960) 399-409; With N. J. Fine and J. Lambek. *Rings of quotients of rings of functions*. Montreal: McGill University Press, 1966.

Other Publications: With P. Erdős and M. Henriksen. An isomorphism theorem for real-closed fields. *Ann of Math* 61(1955) 542-554; With M. Henriksen. Rings of continuous functions in which every finitely generated ideal is principal. *Trans AMS* 82(1956) 366-391; Rings with Hausdorff structure space. *Fund Math* 45(1957) 1-16; With M. Jerison. Quotient fields of residue class rings of function rings. *Illinois J Math* 4(1960) 425-436; With R. H. McDowell. *Calculus*. New York: Norton, 1978.

Gilman, Frederick Joseph 74f NS, Physics

Born 1940 Lansing, MI. PhD 1965 Physics Princeton U. Appointments: Exec Comm Div of Particles & Fields APS; Exper Prog Cttees of SLAC Fermilab and Bevatron. Memberships: Am Phys Soc. Prof, Theoretical Physics, Stanford U, Theory Group SLAC, P.O. Box 4349, Stanford, CA 94305.

Publications Related to IAS Residence: Electron-Positron Annihilation and the Structure of Hadrons. In *Theories and Experiments in High-Energy Physics*, ed. by A. Perlmutter and S. Widmayer, 29. New York: Plenum Press, 1975.

Gilman, Jane Piore 79-80 M, Riemann Surfaces, Complex Analysis

Born 1945 Washington, DC. PhD 1971 Columbia Univ. Assoc Prof, Math Dept, NCAS, Rutgers University, Newark, NJ 07102.

Publications: A matrix representation for automorphisms of Riemann surfaces. *Linear Alg & its Appl* 17(1977) 139-147.

Gilsenan, Michael Cole 79-80 Soc, Anthropology

Born 1940 London, England. DPhil 1967 Social Anthropology Oxford Univ. Reader, Anthropology, Univ Coll London, Flat 4, 114 Lordship Rd, London N16, England.

Publications: *Saint and Sufi in Modern Egypt*. Oxford: Clarendon Press, 1973.

Ginibre, Jean 71s NS, Theoretical Physics

Born 1938 Clermont Ferrand, France. D d'Etat 1965 Physics Orsay. Memberships: Assn of Math Physicists. Dir de Rech, CNRS, Laboratoire de Physique Théorique, Université de Paris Sud, 91405 Orsay, France.

Publications Related to IAS Residence: Dilute Quantum Systems. In *Phase Transitions and Critical Phenomena*, ed. by C. Domb & M. S. Green, 1. London: Academic Press, 1972; Correlation Inequalities in Statistical Mechanics. In *Math Aspects of Stat Mechanics*, 5. Providence, RI: AMS, 1972.

Ginouvès, René 67f HS

Born 1926 Clermont l'Hérault, France. D d'Etat 1959 Sorbonne. Honors: Off Palmes Académiques; Citoyen d'honneur d'Argos. Memberships: Inst archéolog allemand. Prof titulaire, Archéologie classique, Univ Paris, Dir Lab CNRS, 6 Rue Frédéric-Bastiat, F 75008 Paris, France.

Publications Related to IAS Residence: Laodicée du Lycos, le nymphée. In *L'architecture*, ed. by de Bocard, 2. Paris: 1969; Les mosaïques de la Maison du Ménandre à Mytilène. In *Antike Kunst*, sechstes Beiheft. Bern: 1970.

Other Publications: *Balaneutikè, recherches sur le bain dans l'antiquité classique*. Paris: 1962; *Le Théâtre à gradins droits et l'Odéon d'Argos*. Paris: 1972; *L'archéologie grecoromaine*. Paris: 1975.

Gintis, Herbert M. 77-78 Soc, Economies

Born 1940 Philadelphia, PA. PhD 1969 Economies Harvard Univ. Memberships: Union for Radical Political Econ. Prof, Economies, Univ of Mass, 13 Cottage St., Cambridge, MA 02139.

Publications Related to IAS Residence: Theory Practice and the Tools of Communication Discourse. *Socialist Revin* press(1980); On the Theory of Transitional Conjunctures. *RRPE* Spring(1980).

Ginzburg, Carlo 75f HS, Modern European History

Born 1939 Torino, Italy. Libera docenza 1968. Appointments: Mem Ed Bd *Quaderni Storici*; Corr Ed *Theory and Society*. Professore straordinario di Storia Moderna, Facoltà di Lettere, Bologna, 6 largo Respighi, 40126 Bologna, Italy.

Publications Related to IAS Residence: High and Low: The Theme of Forbidden Knowledge in the Sixteenth and Seventeenth Centuries. *Past and Present* 73(November 1976) 28-41.

Other Publications: *I benandanti. Stregoneria e culti agrari tra '500 e '600*. Torino: 1966; *Il nicodemismo. Simulazione e dissimulazione religiosa nell'Europa del '500*. Torino: 1970; *Il formaggio e i vermi. Il cosmo di un mugnaio del '500*. Torino: 1976.

Giovannini, Adalberto 74-75 HS, Ancient History

Born 1940 Spiez (Bern), Switzerland. Doctorate 1965 Ancient History Univ of Fribourg. Memberships: Assoc Suisse pour l'étude de l'antiquité (ASEA). Prof, Ancient History, Univ of Geneva, 55, chemin des Voirets, CH 1212 Gd-Lancy/GE, Switzerland.

Publications Related to IAS Residence: *Rome et la circulation monétaire en Grèce au IIe siècle avant Jésus-Christ* Basel: F. Reinhardt, 1978; Athenian

Currency in the Late Fifth and Early Fourth Century BC. *Greek, Roman and Byzantine Studies* 16(1975) 185-195.

Other Publications: *Étude historique sur les origines du catalogue des vaisseaux*. Berne: Francke, 1969; *Untersuchungen über die Natur und die Anfänge der bundesstaatlichen Sympolitie in Griechenland*. Göttingen: Vandenhoeck & Ruprecht, 1971.

Girardeau, Marvin D. 58-59 M(NS), Theoretical Physics

Born 1930 Lakewood, OH. PhD 1958 Physics Syracuse Univ. Honors: NSF Postdoc Fellow IAS 1958-59. Memberships: Amer Phys Soc. Prof, Physics, Institute of Theoretical Science, University of Oregon, Eugene, OR 97403.

Publications Related to IAS Residence: Theory of many-boson systems: Pair theory. *Phys Rev* 113(1959) 755; Weak-coupling expansion for the ground-state energy of a many-boson system. *Phys Rev* 115(1959) 1090-1094.

Gitler, Samuel 64-65 M, Algebraic Topology

Born 1933 Mexico City, Mexico. PhD 1960 Mathematics Princeton Univ. Honors: Mex Nat Prize in Sci 1976. Appointments: Pres Mex Math Soc 1967-1969; Sci Comm of Mex's Council of Sci & Tech 1973-78. Memberships: Mex Math Soc; AMS; London Math Soc; Acad De Invest Cient. Full Prof, and Head, Departamento de Matematicas, Centro de Investigación del IPN, Apartado Postal 14740, Mexico 14, DF, Mexico.

Publications Related to IAS Residence: With J. Stasheff. On the first exotic class of BF. *Topology* 4(1965) 257-266; With J. Milgram. Evaluación de operaciones en dimensiones bajas. *Acta Politécnica* 2(1968) 147-153.

Other Publications: With Edgar H. Brown, Jr. A spectrum whose cohomology is a certain cyclic module over the Steenrod algebra. *Topology* 12(1973) 283-295; With S. Feder. Stunted projective spaces and the J-order of the Hopf bundle. *Bull AMS* 80(1974) 748-9; Immersion and embedding of manifolds. *Algebraic Topology* 22(1971) 87-96.

Giuliani, John Lawrence, Jr. 79-81 NS, Astrophysics

Born 1950 Baltimore, MD. PhD 1980 Astronomy Yale Univ. Memberships: Am Astron Soc. 153 Von Neumann Dr, Princeton, NJ 08540.

Publications: On the Hydrodynamic Stability of Ionization-Shock Fronts. *Astrophys J* 233(1979) 280.

Giusti, Enrico 79f M, Partial Differential Equations

Born 1940 Priverno, Italy. Laurea 1963 Physics Univ of Rome. Memberships: Unione Matematica Italiana. Borgo degli Albizi 7, 50122 Firenze, Italy.

Publications: With E. Bombieri and E. De Giorgi. Minimal cones and the Bernstein problem. *Inv Math*

7(1969); Regolarità parziale delle soluzioni di sistemi ellittici quasi lineari di ordine arbitrario. *Ann Pisa* 26(1969); On the equation of surfaces of prescribed mean curvature-Existence and uniqueness without boundary conditions. *Inv Math* 46(1978).

Givens, James Wallace, Jr. 55s M, Geometry and Mathematical Physics

Born 1910 Alberene, VA. PhD 1936 Mathematics Princeton Univ. Honors: DSc(hc) Lynchburg College 1965; von Humboldt Sr Scientist Award 1974-75. Appointments: Pres SIAM 1969-70. Memberships: AMS; MAA; SIAM; AAAS; ACM; AAUP. Prof Emer, Dept of Mathematics, Northwestern University, Evanston, IL 60201.

Publications Related to IAS Residence: Projective Differentiation of Spinors. *Proc NAS* 20(1934) 232-3; Tensor Coordinates of Linear Spaces. In *Comptes Rendus Cong Intl Math, Oslo 1936*, 2: 176-77. Oslo: A.W. Broggers, 1937; Tensor Coordinates of Linear Spaces. *Ann Math* 38(1937) 355-385.

Other Publications: *Numerical Computation of the Characteristic Values of a Real Symmetric Matrix*. 1574. Oak Ridge Lab, 1954; Computation of Plane Unitary Rotations Transforming a General Matrix to Triangular Form. *J SIAM* 6(1958) 26-50; *Elementary Divisors and Some Properties of the Lyapunov Mapping $X \rightarrow AX + XA^*$* . AEC R & D Report, ANL 6456. Argonne Nat Lab, 1961.

Gjerstad, Einar 66-67 HS, Early Roman History

Born 1897 Örebro, Sweden. PhD 1926 Classics Univ of Uppsala. Honors: Hon Dr Thessalonike. Prof Emer, and Dir Swedish Institute in Rome, Filippavägen 4A, Lund, 22241, Sweden.

Publications Related to IAS Residence: *Early Rome*. Svenska inst i Rom Skrifter. Acta., 17: 1. Lund: C.W.K. Gleerup, 1953; *The Swedish Cyprus Expedition: Finds and Results of the Excavations in Cyprus, 1927-1931*. Stockholm: 1934.

Glaeser, Georges 61-62 M, Differential Analysis

Born 1918 Paris, France. D d'État 1957 Univ of Nancy. Memberships: Soc math de France. Prof, Mathematics, University Louis Pasteur, 14 rue du General Zimmer, Strasbourg Cedex 67084, France.

Publications Related to IAS Residence: Fonctions Composées différentiables. *Ann of Math* 77(1963); Co-bords différentiables définis sur un ensemble fermé. *Topology* 2(1963).

Glaser, Leslie Curtis 69-70 M, Topology

Born 1937 DeKalb, IL. PhD 1964 Topology Univ of Wisc. Honors: Sloan Fellow 1969-71. Memberships: MAA. Prof, Mathematics Department, University of Utah, Salt Lake City, UT 84112.

Publications Related to IAS Residence: Euclidean $(q+r)$ -space modulo an r -plane of collapsible p -complexes. *TAMS* 157(1971) 261-277; With R.

Members

Edwards. A method for shrinking decompositions of Certain manifolds. *TAMS* 165(1972) 45-56; A decomposition proof that the double suspension of a homotopy 3-cell is a topological 5-cell. *III J Math* 16(72) 475-490; A proof of the most general polyhedral schoenflies conjecture possible. *Pac J Math* 38(1971) 401-417.

Other Publications: On the double suspension of certain homotopy 3-spheres. *Ann of Math* 85(1967) 494-507; Uncountably many contractible open 4-manifolds. *Topology* 6(1967) 37-42; Monotone non-compact mappings of E^r onto E^k for $r \geq 4$ & $k \geq 3$. *Proc AMS* (1969) 282-286.

Glauber, Roy Jay 49-51 M(NS), Theoretical Physics

Born 1925 New York, NY. PhD 1949 Harvard Univ. *

Publications Related to IAS Residence: Some Notes on Multiple-Boson Processes. *Phys Rev* 2 84(1951) 395-400; On the Gauge Invariance of the Neutral Vector Meson Theory. *Progress Theoret Phys* 9(1953) 295-298.

Glauber, George Isaac 69s M, Algebra

Born 1941 New York, NY. PhD 1965 Mathematics Univ of Wisconsin. Honors: Inv speaker, Int'l Cong of Math 1970; Prin speaker, CBMS Regional Conf Duluth, MN 1976. Memberships: AMS; MAA. Prof, Math, Univ of Chicago, 5515 S Woodlawn Ave, Chicago, IL 60637.

Publications Related to IAS Residence: Prime-power factor groups of finite groups II. *Math Zeitschrift* 117(1970) 46-56.

Other Publications: Central elements in core-free groups. *J of Algebra* 4(1966) 403-420; A characteristic subgroup of a p-stable group. *Canadian J of Math* 20(1968) 1101-1135; *Factorizations in local subgroups of finite groups*. CBMS Monograph No 33. Providence: AMS, 1977.

Gleason, Andrew M. 60s M

Born 1921 Fresno, CA. BS 1942 Yale Univ. Honors: Newcomb Cleveland Prize 1952. Appointments: Sci Adv Bd NSA; Adv Comm for School Math Study Group. Memberships: AMS; MAA; Société Math de France; NAS. Hollis Prof, Mathematicks and Natural Philosophy, Harvard Univ, Dept of Math, Harvard Univ, One Oxford St, Cambridge, MA 02138.

Publications Related to IAS Residence: With Hassler Whitney. The Extension of Linear Functionals Defined on H^∞ . *Pac Jour of Math* 12: 162-182.

Other Publications: Groups without Small Subgroups. *Ann of Math* 56: 193-212; Measures on the Closed Subspaces of a Hubert Space. *Jour of Rational Mech and Anal* 6: 885-894; Finite Fano Planes. *Amer Jour of Math* 78: 797-807; *Fundamentals of Abstract Analysis*. Reading, Mass: Addison-Wesley, 1966.

Glicksberg, Irving L. 60-62 M

Born 1925 Long Beach, CA. PhD 1951 Math UCLA. Memberships: AMS. Prof, Math Dept GN50, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: Measures orthogonal to algebras and sets of antisymmetry. *TAMS* 105(1962) 415-435; With K. de Leeuw. Quasi-invariance and analyticity of measures on compact groups. *Acta Math* 109(1963) 179-205; With K. de Leeuw. The decomposition of certain group representations. *J d'Analyse Math* 15(1965) 135-192; Some uncomplemented function algebras. *TAMS* 111(1964) 121-137; A remark on analyticity of function algebras. *Pac J Math* 13(1963) 1181-1185; On convex hulls of translates. *Pac J Math* 13(1963) 97-113.

Other Publications: With K. de Leeuw. Applications of almost periodic compactifications. *Acta Math* 105(1961) 63-97; With K. de Leeuw. Almost periodic functions on semigroups. *Acta Math* 105(1961) 99-140; With J. Wermer. Measures orthogonal to a Dirichlet algebra. *Duke Math J* 30(1963) 661-666; The abstract F. and M. Riesz theorem. *J of Functional Anal* 1(1967) 109-122; Stone-Čech compactification of products. *TAMS* 90(1959) 369-382; *Recent Results on Function Algebras*. CBMS Regional Conf Series, 11. Providence, RI: AMS, 1972.

Glidden, Harold Walter 37-38 HS(H), Philology

Born 1910 Rochester, NY. PhD Oriental Langs and Lits Princeton Univ. Honors: Dept of State Meritorious Hon Awd 1964; Dept of State Superior Hon Awd 1968. Memberships: Amer Oriental Soc; Mid East Stud Asso; Mid East Inst; Archaeol Inst of Am. 5149 N 37th St, Arlington, VA 22207.

Glimm, James 59-60 M

Born 1934 Peoria, IL. PhD Math Columbia Univ. Appointments: Chm Comm Applications of Math NAS; Mem Adv Bd, Off of Math Sci NAS. Memberships: AMS, SIAM, New York Acad of Sci. Prof, Mathematics, Rockefeller University, Ed-in-Chief Communications in Math Physics, 530 E 72nd St, New York, NY 10021.

Publications Related to IAS Residence: A Stone-Wierstrass Theorem for C^* -algebras. *Ann of Math* 72(1960) 216-244; Type I C^* -algebras. *Ann of Math* 73(1961) 572-612; Two Cartesian Products which are Euclidean Spaces. *Bull Soc Math France* 88(1960) 131-135.

Other Publications: Solutions in the large for nonlinear hyperbolic systems of equations. *Comm Pure and Applied Math* 18(1965) 105; Yukawa coupling of quantum fields in two dimensions, I. *Comm Math Phys* 5(1967); Yukawa coupling of quantum fields in two dimensions, II. *Comm Math Phys* 6(1967).

Gluck, Herman R. 62s M, Geometry, Topology

Born 1937 New York, NY. PhD 1961 Math Princeton Univ. Honors: NAS-NRC Postdoc Fellow 1961-62;

Sloan Fellow 1963-65; NATO Sr Fellow in Science 1971; Guggenheim Fellow 1972-73. Appointments: NSF Adv Bd on Math. Memberships: MAA; AMS. Prof, Math, Univ of Penn, 1117 Pensehurst Lane, Narberth, PA 19072.

Publications Related to IAS Residence: With M. Brown. Stable Structures on manifolds, I, II, III. *Annals of Math* 79(1964) 1-48; Restrictions of isotopies. *Bull Amer Math Soc* 69(1963) 78-82; Unknotting S^1 in S^4 . *Bull Amer Math Soc* 69(1963) 91-94; Embeddings in the trivial range. *Annals of Math* 81 (1965) 195-210.

Other Publications: With J. Cohen. Stacked bases for modules over principal ideal domains. *J of Algebra* 14(1970) 493-505; The generalized Minkowski problem in differential geometry in the large. *Annals of Math* 96(1972) 245-276; With D. Singer. Scattering of geodesic fields. *Annals of Math* 108(1978) 347-372.

Glueck, Nelson 42s HS(H), Oriental Studies

Born 1900 Cincinnati, OH. PhD 1926 Univ of Jena, Germany. Honors: LLD (hc) Univ of Cincinnati 1936. Deceased.

Gnudi, Cesare 61s, 63s, 69s, 75f HS, History of Art

Born 1910 Ozzano Emilia, Bologna, Italy. Honors: Archiginnasio d'oro del Comune di Bologna 1973. Appointments: Consiglio Superiore delle Antichità e Belle Arti, 1962 to 1976; Consiglio Nazionale per i Beni Culturali, Vice President 1977 to 1979. Via San Petronio Vecchio 45, Bologna, Italy.

Publications Related to IAS Residence: Le Jubé de Bourges et l'apogée du 'classicisme' dans la sculpture de l'Ile-de-France au milieu du XIII siècle. *Revue de l'Art* (1969) 18-36; Su gli inizi di Giotto e i suoi rapporti col mondo gotico. In *Convegno "Giotto e il suo tempo," settembre-ottobre 1967*, 3-23. 1971; La Bibbia di Demeter Néksei-Lipocz, il "Leggendario" Angioino e i rapporti fra la miniatura bolognese e 13 arte d'oriente. In *Actes du Congrès CIHA, Budapest 1969*, 569-581. 1973; Considerazioni sul gotico francese, l'arte imperiale e la formazione di Nicola Pisano. In *Atti del Convegno "Federico II e l'arte del Duecento italiano"*, 1978. Roma: Istituto di Storia dell'Arte dell'Università, in press; Introduzione a Chartres, "Storia dell'Arte". *Scritti in onore di Cesare Brandi* in press.

Goddard, Peter 74f NS, Theoretical Physics, Elementary Particles and Quantum Field Theory

Born 1945 Woking, Surrey, England. PhD 1971 Theoretical Physics Univ of Cambridge UK. Lect, Applied Mathematics in Theoretical Physics, Univ of Cambridge, St. Johns College, Cambridge, UK.

Publications Related to IAS Residence: With A. J. Hanson and G. Ponzano. The Quantization of a Massless Relativistic String in a Time-Like Gauge. *Nuclear Physics* B89(1975) 76-92; With R. Horsley. The Group Theoretic Structure of Dual Vestices. *Nuclear Physics* B111(1976) 272-296.

Gödel, Kurt see Past Faculty/Deceased

Godement, Roger 62s, 69-70 M, Automorphic Functions

Born 1921 France. PhD 1946. *

Goebel, Charles James 60-61 M(NS), Theoretical Physics

Born 1930 Chicago, IL. PhD 1954 Univ of Chicago. *

Goffart, Walter André 67-68 HS, Late Ancient & Medieval History

Born 1934 Berlin, Germany. PhD 1961 History Harvard Univ. Honors: ACLS Fellow 1973-74; Guggenheim Fellow 1979-80. Memberships: AHA; Med Acad of Amer. Prof, Department of History, University of Toronto, Toronto, Canada M5S 1A1.

Publications Related to IAS Residence: "Caput" and Colonate: towards a history of late Roman taxation. Toronto: Univ of Toronto, 1974; The Literary Adventures of St. Liborius. *Analecta Bollandiana* 87(1969) 5-62; Did Julian Combat Venal "Suffragium"? *Classical Philology* 65(1970) 145-151.

Other Publications: *The Le Mans Forgeries*. Cambridge, Mass: 1965; trans. *The Origin of the Idea of Crusade*, by Carl Erdmann. Princeton: 1978; *Barbarians and Romans* (418-584): the techniques of accommodation. Princeton: Princeton UP, forthcoming.

Goffman, Casper 63s M, Analysis

Born 1913 Cleveland, OH. PhD 1942 Math Ohio State Univ. Prof Emer, Math, Purdue Univ, 222 Schilling St, W Lafayette, IN 47906.

Publications Related to IAS Residence: Remark on Problem of Lusin. *Acta Math* 3(1964) 63-72; Approximation of functions in BVC. *Indiana Math J*(1964).

Goitein, Shelomo Dov 71-75 HS, Medieval History

Born 1900 Burgkumstadt, Germany. PhD 1923 Semitics, Islam, Classical History U of Frankfurt. Honors: DHL University of Chicago; DHL Jewish Theol Sem Amer; Haskins Med of Mediaeval Acad of Amer 1973; Levi Delia Vida Med Univ of Calif 1975; Am Philos Soc; Harvey Prize 1980. Memberships: Mediaeval Acad of Amer; Former Pres Am Oriental Soc; Hon Fellow, Mid East St Assoc. Prof Emer, Arabic, University of Penn, Prof Emer Islamic Studies Hebrew Univ. 284 Hamilton Ave., Princeton, NJ 08540.

Publications Related to IAS Residence: The Community; The Family. In *A Mediterranean Society: The Jewish Communities of the Arab World, as Portrayed in the Documents of the Cairo Geniza*, 2, 3. Univ of Calif Press, 1971, 1978; Translated from the Arabic. *Letters of Medieval Jewish Traders*. Princeton Univ Press, 1973; *The Jews of Palestine during Early*

Members

Islam and the Crusader Period, in Hebrew with English summary. Jerusalem: Yad Ben-Zvi Inst, 1979.

Goldberg, Victor Paul 78-79 Soc, Economics

Born 1941 Washington, DC. PhD 1970 Economics Yale Univ. Honors: Postdoc Fellow, Cntr for Study of Pub Choice VPI. Memberships: Am Econ Assn; West Econ Assn; Assn for Evolutionary Econ. Prof, Economics Department, University of California, Davis, CA 95616.

Publications Related to IAS Residence: Welfare Loss and Monopoly: The Unmaking of an Estimate. *Econ Inquiry*(in press); Protecting the Right to be Served by Public Utilities. *Research in Law and Econ* (in press); Book Review: Andersen, Kravits, and Anderson. "Equity in Health Svces". *Policy Analysis* (in press).

Other Publications: Regulation and Administration Contracts. *Bell J of Econ* 7(1976) 426-48; Institutional Change and the Quasi-Invisible Hand. *J of Law & Econ* 17(1974) 461-92; Toward an Expanded Economic Theory of Contract. *J of Econ Iss* 10(1976) 45-61; Competitive Bidding and the Production of Pre-Contract Information. *Bell J of Econ* 8(Spring 1977) 250-61; On Positive Theories of Redistribution. *J of Econ Iss* 11(March 1977) 119-32; Book Review: Hughes and Bleakly. Urban Homesteading. *J of Econ Iss* 11(March 1977) 162-65; Reflections on the Welfare Loss Rectangle. *Ind Organiz Rev* 4(1976); Commons, Clark and the Emerging Post-Coasian Law and Economics. *J of Econ Iss* 10(December 1976) 877-93; Remarks on the State of Orthodoxy. *J of Econ Iss* 9(June 1975) 237-41; With Alan Olmstead. Institutional Change and American Economic Growth—A Critique of Davis and North. *Explorations in Econ Hist* 12(Spring 1975) 193-210; With Blair Lord and William Moss. An Analysis of Net Density of Recent Construction in Sacramento. *IGA Environ Quality Series* (May 1975); Some Emerging Problems of Prepaid Health Plans in the Medi-Cal System. *Policy Analysis* 1(January 1975) 55-68; The Economics of Product Safety and Imperfect Information. *Bell J of Econ and Mgt Sci*5(Autumn, 1974) 683-88; Public Choice—Property Rights. *J of Econ Iss*8(September 1974) 555-79; With Richard Auger. Prepaid Health Plans and Moral Hazard. *Public Policy*22(Summer 1974) 353-97; Socio-Economic Aspects. In *Population and Development*, ed. by Koelzer, Albertson, and Subramaniam, 215-220. Fort Collins, Colo: Colo State, 1974; With Sharon Moirao. Limit Pricing and Potential Competition. *J of Polit Econ* 81(November/December 1973) 1460-66; The Governor's Tax Limitation Plan: A Critique. *IGA Calif Govt Series II*, No 2(August 1973); A Note on the Costs of Monopoly. *Antitrust Bull* 17(Summer 1972) 479-83; Marginal Cost Pricing, Investment Theory and CATV: Comment. *J of Law and Econ* 14(October 1971) 513-16; Price Discrimination and Product Variation in Cellophane. *Antitrust Bull* 16(Fall 1971) 431-42; Land Use Conflict and Public Policy. In *Econ of Natural Resources Development In the West*,

Report No 1, Comm on Econ of Nat Resources Develop of the Western Agric Econ Council: 83-100. 1970.

Goldberger, Marvin L. 66-67, 69-70, 76-77 NS

Born 1922 Chicago, IL. PhD 1948 Physics U of Chicago. Honors: Dannie Heineman Prize in Math Phys 1948; NAS; AAAS. Appointments: President's Sci Adv Comm (1965-1969); Consultant to DOD. Memberships: Amer Phys Soc. Pres, California Institute of Technology, Pasadena, CA 91125.

Goldenweiser, Emanuel A. 50s HS(EP), Economics

Born 1883 Kiev, USSR. PhD 1907 Cornell Univ. Deceased.

Publications Related to IAS Residence: *American Monetary Policy*. New York: McGraw-Hill, 1951.

Other Publications: *The Federal Reserve System*. Second Edition. Washington: US Board of Governors of the Federal Reserve System, 1947; *Monetary Management*. New York: McGraw-Hill, 1949; Translating Facts into Policy. In *Economic Research and the Development of Economic Science and Public Policy*, 53-61. New York: National Bureau of Economic Research, 1946; The Economist and the State. *Amer Econ R* 37(1947) 1-12; Federal Reserve Objectives and Policies; Retrospect and Prospect. *Amer Econ R* 37(1947) 320-338; Douglas Committee Report. *Amer Econ R* 40(1950) 389-396.

Goldfeld, Dorian 73-74, 79s M, Number Theory

Born 1947 Marburg, Germany. PhD 1969 Columbia Univ. Honors: Sloan Fellow 1977-1979. Assoc Prof, Dept of Math, MIT, Cambridge, MA 02139.

Goldman, Oscar 60-62 M, Aritmatic

Born 1925 Brooklyn, NY. PhD 1948 Mathematics Princeton Univ. Honors: NSF Sci Fac Fellow 1960-61. Memberships: AMS; MAA; Math Soc of Japan; AAAS; AAUP; FAS; Assn for Computing Machinery; IEEE. Prof, Mathematics, Univ of PA, 1221 Knox Rd, Wynne-wood, PA 19096.

Publications Related to IAS Residence: With N. Iwahori. The space of p-adic norms. *Acta Math* 109(1963) 137-177; On a special class of Dedekind domains. *J of Topology* 3(1964) 113-118; Quasi-equality in maximal orders. *J Jap Math Soc* 13(1961) 371-376; Determinants in projective modules. *Nagoya J* 18(1961) 27-36.

Other Publications: Hubert rings and the Hubert Null-stellensatz. *Math Zeit* 54(1951) 136-140; With M. Auslander. Maximal Orders. *Trans AMS* 97(1960) 1-24; With M. Auslander. The Brauer group of a commutative ring. *Trans AMS* 97 (1960) 367-409; With C. H. Sah. On a special class of locally compact rings. *J of Algebra* 4(1966) 71-95; With C. H. Sah. Locally compact rings of special type. *J of Algebra* 11(1969) 363-454; Rings and modules of quotients. *J of Algebra* 13(1969) 10-47; Elements of non-

commutative arithmetic I. *J of Algebra* 35(1975) 308-341.

Goldschmidt, Hubert 74-75 M, Differential Geometry, Partial Differential Equations

Born 1942 New York, NY. DèsS 1969 Math Univ de Paris. Memberships: AMS. Maître de Conférences, Univ de Nice. 1035 Fifth Ave, New York, NY 10028.

Publications Related to IAS Residence: On the non-linear cohomology of Lie equations. I, II. *Acta Math* 136(1976) 103-239; Submanifolds and overdetermined differential operators. In *Complex Analysis and Algebraic Geometry*, ed. by W.L. Baily and T. Shioda, A collection of papers dedicated to K. Kodaira: 319-356. Iwanami Shoten, Cambridge Univ Press, 1977.

Other Publications: Existence theorems for analytic linear partial differential equations. *Ann Math* 2, 86(1967) 246-270; The integrability problem for Lie equations. *Bull AMS* 84(1978) 531-546.

Goldstein, Bernard R. 78-79 HS, History of Science

Born 1938 Brooklyn, NY. PhD 1963 Brown Univ. Honors: Guggenheim Fellow 1975. Prof, Religious Studies, and Dir, Jewish Studies Program, Univ of Pittsburgh, JS 2604 CL, Pittsburgh, PA 15260.

Publications: *The Astronomical Tables of Levi ben Gerson*. Hamden, CT: Archon Books, 1974.

Goldstein, Jack S. 52-53 .M(NS), Astrophysics

Born 1925 New York, NY. PhD 1953 Physics Cornell Univ. Prof, Astrophysics, Brandeis Univ, Dean of Faculty, 75 Kingswood Rd, Auburndale, MA 02166.

Publications Related to IAS Residence: Properties of the Salpeter-Bethe Two-Nucleon Equation. *Phys Rev* 91(1953) 1516.

Goldstein, Jerome A. 67-68 M, Analysis

Born 1941 Pittsburgh, PA. PhD 1967 Math Carnegie-Mellon Univ. Honors: 2nd Annual Fac Research Awd Sigma Xi, Tulane Chapter 1971. Appointments: CUPM of the M.A.A.; Chm CUPM Panel on Math Appreciation Courses; MAA's Ad Hoc Comm & Rev Guidelines for Coll Math Programs. Memberships: MAA; AMS; SIAM; Inst Math Stat; Sigma Xi; Soc Brasil Math. Prof, and Chairman, Dept of Math, Tulane Univ, New Orleans, LA 70118.

Publications Related to IAS Residence: Time Dependent Hyperbolic Equations. *J Funct Anal* 4, 6(1969, 1970) 31-49, 347; Abstract Evolution Equations. *Trans AMS* 141(1969) 159-186; Second Order Itô Processes. *Nagoya Math J* 36(1969) 27-63; Semigroups and Second-Order Differential Equations. *J Funct Anal* 4(1969) 50-70.

Other Publications: With P.R. Chernoff. Admissible Subspaces and the Denseness of the Intersection of the Domains of Semigroup Generators. *J Funct Anal* 9(1972) 460-468; With H. Brezis. Liouville Theorems for Some Improperly Posed Problems. In *Improperly*

Posed Boundary Value Problems, ed. by A. Carasso & A.P. Stone, Research Notes in Math 1: 65-75. London: Pitman, 1978; With H.A. Gindler. Dissipative Operator Versions of Some Classical Inequalities. *J d'Analyse Math* 28(1975) 213-238; Semigroup-theoretic proofs of the Central Limit Theorem and other theorems of Analysis. *Semigroup Forum* 12(1976) 189-206; With J.T. Vandefor, Jr. In *volume honoring R.J. Duffin*. Academic Press, NY.

Goldstein, Sheldon 73-75 NS, Statistical Mechanics, Mathematical Physics

Born 1947 Augusta, GA. PhD 1974 Physics Yeshiva Univ. Honors: Woodrow Wilson Fellow 1969; NSF Fellow 1969-70, 71-72, 72-73; NSF Grant for Res in Theoret Phys 1978. Memberships: Am Assoc for Adv Sci; Sigma Pi Sigma. Asst Prof, Dept of Mathematics, Rutgers University, New Brunswick, NJ 08904.

Publications Related to IAS Residence: Space-time ergodic properties of systems of infinitely many independent particles. *CMP* 39(1975) 303-327; Stability and equilibrium states of infinite classical systems. *CMP* 48(1976) 1-14; On the stability of equilibrium states of finite classical systems. *J Math Physics* 16(1975) 6; Ergodic properties of infinite systems. In *Dynamical Systems, Theory and Applications*, 38. Springer Lecture Notes in Physics, 1975; Ergodic properties of an infinite one dimensional hard rod system. *CMP* 39(1975) 289-301; Spectrum of measurable flows. *Astérisque* 40(1976) 95-98; On the equivalence between KMS-states and equilibrium states for classical systems. *CMP* 53(1977) 209-220; Ergodic properties of an infinite system of particles moving independently in a periodic field. *CMP* 37(1974) 1-18.

Other Publications: Maximal coupling. *Z Wahr verw Geb* 46(1979) 193; Microcanonical Gibbs states. *CMP* 62(1978) 279.

Goldthwaite, Richard A. 76 77 HS

Born 1933 Marion, IN. PhD 1965 Renaissance history Columbia Univ. Prof, Dept of History, Johns Hopkins University, Baltimore, MD 21218.

Publications: *Private Wealth in Renaissance Florence: A Study of Four Families*. Princeton: Princeton Univ Press, 1968; The Florentine Renaissance Palace as Domestic Architecture. *Am Hist Review* 77(1972) 977-1012; Schools and Teachers of Commercial Arithmetic in Renaissance Florence. *J of European Econ Hist* 1(1972) 418-33; The Building of the Strozzi Palace: The Construction Industry in Renaissance Florence. *Studies in Medieval and Renaissance History* 10(1973) 99-194; I prezzi del grano a Firenze dal XIV al XVI secolo. *Quaderni storici* 10(1975) 5-36; With W. R. Rearick. Michelozzo and the Ospedale di San Paolo in Florence. *Mitteilungen des Kunsthistorischen Institutes in Florenz* 20(1977) 221-306.

Goldwater, Robert 69s, 69f HS, Art History

Members

Born 1907 New York, NY. PhD 1937 New York Univ. Deceased.

Golubitsky, Martin 78s M

Born 1945 Philadelphia, PA. PhD 1970 Mathematics MIT. Memberships: AMS. Dept of Math, Arizona State University, Tempe, AZ 85281.

Publications Related to IAS Residence: With David Schaeffer. A Theory for Imperfect Bifurcation via Singularity Theory. *Commun Pure & Appl Math* in press; Imperfect Bifurcation in the Presence of Symmetry. *Commun Math Phys* in press.

Other Publications: With Victor Guillemin. *Stable Mappings and Their Singularities*. GTM, 14. New York: Springer Verlag, 1973.

Goncalves, Daciberg Lima 78s. 78 f M, Topology

Born 1949 Russas Ceará, Brazil. PhD 1977 Math Univ of Rochester. Memberships: AMS. Teacher, Math, Instituto de Matemática e Estatística, University of São Paulo, São Paulo, Sp Brasil.

Gonsalves, Richard John 76-78 NS, Elementary Particle Physics

Born 1949 Ootacamund, Tamil Nadu, India. PhD 1976 Physics Columbia Univ. Honors: Sir K.S. Krishnan Gold Medal for Physics 1971; Govt. of India Merit Scholarship 1969-71; J.C. Pfister Fellow Columbia Univ 1974-76. Memberships: Sigma XI; Am Phys Soc. Postdoc Fellow, Physics, Department of Physics B-019, University of California, San Diego, La Jolla, CA 92093.

Publications Related to IAS Residence: With S.S. Shei. Semiclassical Approach to Lattice Theories. *Nuclear Physics B* 130(1977) 221-256; With P. Cvitanović & D. Neville. Color-Charge Algebras in Adler's Chromodynamics. *Phys Rev D* 18(1978) 3881-3384.

Other Publications: Quantizing Solitons without Using a Box. *Phys Rev D* 14(1976) 2610-14.

Good, J. Anton 76-78 M, Analytic Number Theory

Born 1947 Switzerland. PhD 1974 ETH, Zürich. Kapellgasse 10, CH-8887 Mels, Switzerland. *

Good, Roland H., Jr. 60-61 M(NS), Theoretical Physics

Born 1923 Toronto, Canada. PhD 1951 Phys Univ of Mich. Memberships: Am Phys Soc (Fellow). Prof, and Head, Physics Dept, Penn State Univ, 104 Davey Lab, University Park, PA 16802.

Publications: With T.J. Nelson. *Classical Theory of Electric and Magnetic Fields*. New York: Academic Press, 1971; With D.M. Fradkin. Electron Polarization Operators. *Revs Modern Phys* 33(1961) 343; With D. M. Fradkin. Tensor Operator for Electron Polarization. *Il Nuovo Cimento* 22(1961) 643; Connection between Displacement Operators and Integrals of Motion for

Photons. *Il Nuovo Cimento* 24(1962) 713; Uniqueness of the Electron Polarization Operator. *Il Nuovo Cimento* 22(1961) 565; Classical Equations of Motion for a Polarized Particle in an Electromagnetic Field. *Phys Rev* 125(1962) 2112.

Goodall, Marcus Campbell 49-50 M(NS), Mathematical Physics

Born 1914 London, England. Appointments: Biophys Soc Rep to AAAS. Memberships: London Math Soc; AMS; Biophys Soc; AAAS. Assoc Prof, Biophysics, Laboratory of Membrane Biology, University of Alabama, Birmingham, AL 35294.

Publications Related to IAS Residence: Church's Thesis and the Foundations of Relativistic Quantum Mechanics. *AMS Notices Abstract* 721.C.1(1975).

Other Publications: *Science, Logic and Political Action*. Cambridge, Mass.: Schenkman, 1970.

Goodman, Adolph Winkler 56-57 M, Analysis, Complex Variables

Born 1915 San Antonio, TX. PhD 1947 Mathematics Columbia Univ. Memberships: AMS; MAA; Assn for Women in Math. Prof, Math Dept, University of South Florida, Tampa, FL 33620.

Publications Related to IAS Residence: Univalent functions and non-analytic curves. *Proc AMS* 8(1957) 598-601; Variation formulas for multivalent functions. *Trans AMS* 89(1958) 129-148; Variation of the branch points for an analytic function. *Trans AMS* 89(1958) 277-284; On variation formulas for univalent functions. *Trans AMS* 89(1958) 285-294; On the critical points of a multivalent function. *Trans AMS* 89(1958) 295-309.

Goodman, Roe William 68-69 M, Harmonic Analysis on Lie Groups

Born 1938 Pasadena, CA. PhD 1963 Math MIT. Memberships: AMS; MAA; Soc Math de France. Prof, Dept of Math, Rutgers University, Hill Center, New Brunswick, NJ 08903.

Publications Related to IAS Residence: Analytic and entire vectors for reps of Lie groups. *Trans AMS* 143(1969) 55-76; Differential operators of infinite order on a Lie group I. *J Math and Mech* 19(1970) 879-894; One parameter groups generated by operators in an enveloping algebra. *J Funct Anal* 6(1970) 218-236.

Other Publications: *Nilpotent Lie Groups*. Lect Notes in Math, 562. Berlin: Springer-Verlag, 1976.

Goodman, Sue Ellen 76-77 M, Topology

Born 1946 East St Louis, IL. PhD 1974 St Louis Univ. Honors: PBK. Memberships: Pi Mu Epsilon; AMS. Asst Prof, Math Department, University of North Carolina, Chapel Hill, NC 27514.

Publications Related to IAS Residence: With J. Plante. Holonomy & averaging in foliated sets. *J Diff*

Geom in press; With B. Marcus. Topological mixing of higher degrees. *Proc AMS* in press.

Other Publications: Closed leaves in foliations of codimension one. *Comm Math Helv* 50(1975) 383-388; On the structure of foliated 3-manifolds separated by a compact leaf. *Inventiones Math* 39(1977) 213-221.

Goodwin, Geoffrey Lawrence 59 HS, International Relations, History

Born 1916 London, England. BSc 1945 Econ Univ of London. Honors: Hon Pres British Internatl Studies Assoc 1977-80; Fellow Royal Soc of Arts 1975. Appointments: SSRC UK. Memberships: Former Council Member, Royal Inst of Internatl Affairs, London. Emer Prof, International Relations, University of London, Webbs Farm, Church Lane, Headley, Epsom, UK.

Publications Related to IAS Residence: The Expanding United Nations I & II. *International Affairs* April(1960); April(1961).

Other Publications: *Britain and the United Nations*. NY: Manhattan Pub Co, 1957; ed with A. Linklater. *New Dimensions of World Politics*. London: Croom Helm, 1975.

Gordon, Cameron McAllan 76-77 M, Topology

Born 1945 Rhyne, Aberdeenshire, Scotland. PhD(Cantab.) 1971 Mathematics. Honors: Sloan Fellow 1979-1981. Memberships: AMS. Assoc Prof, Dept of Math, Univ of Texas, Austin, TX 78712.

Publications Related to IAS Residence: With A.J. Casson. On slice knots in dimension three. *Proc Symp Pure Math* 32(1978) 39-53; Uncountably many stably trivial strings in codimension two. *Quart J Math Oxford* 2, 28(1977) 369-379.

Other Publications: Knots in the 4-sphere. *Comment Math Helvetici* 39, 51(1976) 585-596.

Gordon, Cyrus Herzl 39-40, 41-42 HS(H), Archaeology

Born 1908 Philadelphia, PA. PhD 1930 Semitics Univ of Penn. Honors: Hon Fellow Royal Asiatic Soc 1975; AAAS; Dir of Ed Specialists Awd 1970; Corr member Inst Antiquity & Christianity Claremont Grad Schl 1967-. Appointments: Trustee Boston Hebrew Coll 1965-; Trustee Internat Council Etruscan Studies of Order of Holy Cross 1970-. Memberships: Am Inst of Archaeol; Am Oriental Soc; Soc Biblical Lit; AHA; Am Philolog Assn. Prof, Hebraic Studies, NYU. 130 Dean Road, Brookline, MA 02146.

Publications Related to IAS Residence: *Ugaritic Textbook*. Rome: Pont Bib Inst, 1965; Poetic Legends and Myths from Ugarit. In *Berytus*, 25: 5-133. Amer U Beirut, 1977.

Other Publications: *The Ancient Near East*. Norton, 1965; *The Common Background of Greek & Hebrew Civilizations*. Norton, 1966; *Smith College Tablets*. Smith College, 1952; *Forgotten Scripts*. Penguin,

1971; *Evidence for the Minoan Language*. Ventnor, 1966; *Hammurapi's Code*. Holt, 1957.

Gorenstein, Daniel 68-69 79s M, Theory of Finite Groups

Born 1923 Boston, MA. PhD 1950 Mathematics Harvard Univ. Honors: PBK 1943; Guggenheim Fellow 1972-73; Fulbright Fellow 1972-73. Appointments: Alt delegate IMU 1978. Memberships: AMS. Prof, Dept Chairman, Mathematics, Rutgers Univ. 8 Lemore Circle, Rocky Hill, NJ 08553.

Publications Related to IAS Residence: With J. L. Alperin and R. Brauer, Finite groups with quasi-dihedral and wreathed Sylow 2-subgroups. *Trans AMS* 151(1970) 1-261.

Other Publications: With J. Walter. Centralizers of involutions in balanced groups. *J Algebra* 20(1972) 405-514; *Finite Groups*. New York: Harper and Row, 1968; On the centralizers of involutions in finite groups. *J Algebra* 11(1969) 243-277; With K. Harada. Finite groups whose 2-subgroups are generated by at most 4 elements. *Mem AMS* 147(1974).

Görler, Woldemar Ernst Heinrich 79-80 HS, Classics

Born 1933 Berlin, Germany. Habil 1970 Classics Heidelberg Univ. Memberships: Mommsen-Gesellschaft. Prof, Classics, Heidelberg Univ, Beethovenstr 28, D-6901 Bammental, West Germany. **Publications Related to IAS Residence:** Pflicht und "Lust" in der Ethik der Alten Stoa. In *Proc of the 7th Cong of the Internatl Fed of the Socs for Class Studies (FIEC), Budapest 1980*. forthcoming; Caesar als Erzähler, am Beispiel von BG 2,15-27. In *Der Altsprachliche Unterricht 1980/3*. forthcoming.

Other Publications: *Untersuchungen zu Ciceros Philosophie*. Heidelberg: 1974.

Goto, Midori S. 77-78 M, Differential Geometry

Born 1944 Japan. PhD 1976 Univ of Penn. Mathematics Department, Faculty of Science, Kyushu University, Fukuoka 812, Japan. *

Goto, Morikuni 52-54 M, Topology

Born 1920 Japan. PhD 1949 Nagoya U. Mathematics Department, Faculty of Science, Kyushu University, Fukuoka 812, Japan. *

Gottlieb, Morris J. 47s M

Born 1912 New York, NY. PhD 1937 Washington U. * **Publications Related to IAS Residence:** Oscillation Theorems for Self-Adjoint Boundary Value Problems. *Duke Math J* 15(1948) 1073-1091.

Gottmann, Jean Iona 42-44, 49f, 50f, 52s, 52f, 54s, 54f, 57-58, 61f HS

Born 1915 Kharkov, USSR. DLitt 1970 Univ of Paris. Honors: FBA; AAAS; Hon LLD Univ of Wisc 1968; MA

Members

Oxford 1968; Hon DSc South Ill Univ. Memberships: Past Pres, World Soc For Eristics. Prof, Geography, and Head of Dept, School of Geog, Univ of Oxford, Mansfield Rd, Oxford, England.

Publications Related to IAS Residence: *A Geography of Europe*. New York: Holt, 1950; *Virginia at Midcentury*. New York: Holt, 1955; *Marchés des Matières Premières*. Paris: Colin, 1957; *Megalopolis*. New York: Twentieth Century Fund, 1961.

Other Publications: *L'Amérique*. Paris: 1949; *La Politique des Etats et Leur Geographie*. Paris: 1952; *The Significance of Territory*. Charlottesville: 1973.

Gough, Michael Richard Edward 68-69 HS, Classical Archaeology

Born 1916 Newcastle on Tyne, England. MA (Cantab.) 1947 Classics and Classical Archaeology. Deceased.

Publications Related to IAS Residence: *The Origins of Christian Art*. NY: Praeger, 1974.

Grace, Virginia Randolph 45-48 HS, Archeology

Born 1901 New York, NY. PhD 1934 Greek and Archeology Bryn Mawr Coll. Memberships: Archaeol Inst of Am; Amer Res Cent in Egypt; Amer Inst of Naut Archeol; Soc for Hellenic Studies; Corr Mem, Deut Archäol Inst; Corr Mem, Amer Numis Soc. Research Assoc, American School of Classical Studies, 54 Swedias St, Athens 140, Greece.

Publications Related to IAS Residence: Revisions in Early Hellenistic Chronology. *Ath Mitt* 89(1974) 193-200; With M. Savvatianou-Petropoulakou. Les timbres amphoriques grecs. In *L'Ilot de la maison des comediens*, Exploration archeologique de Delos vol 27: 277-382. Paris: 1970; Samian Amphoras. *Hesperia* 40(1971) 52-95; Imports from Pamphylia. *BCH*1(1973) 183-208; Stamped amphora handles. In *Anatolian Collection of Charles University Kyme I*, ed. by Jan Bouzek, 89-98. Prague: 1974.

Other Publications: Scopas in Chryse. *JHS* 3(1932) 228-232; A Cypriote Tomb and Minoan Evidence for its Date. *AJA* 44(1940) 10-52.

Graeser, Andreas 74f HS, Ancient Philosophy

Born 1942 Greiz, Thüringen, Germany. PhD 1970 Princeton Univ.; Habilitation 1974 Univ of Bern. Appointments: Secy Swiss Philos Assoc; Pres Philos Assoc of Bern. Memberships: Swiss Philos Assoc; Philos Assoc of Germany. Full Prof, Philosophy, Univ of Bern, Dir Inst of Philos, Universität Bern Philosophisches Institut, Falkenplatz 16, CH 3012 Bern, Switzerland.

Publications Related to IAS Residence: *Die logischen Fragmente des Theophrast*. Berlin; New York: de Gruyter, 1973; *Platons Ideenlehre: Sprache, Logik und Metaphysik: eine Einführung*. Bern; Stuttgart: Paul Haupt, 1975; *Plotinus and the Stoics: a preliminary study*. Leiden: Brill, 1972; *Probleme der platonischen Seelenteilungslehre: Überlegungen z. Frage d. Kontinuität im Denken Platons*. Munich:

Beck, 1969; *Zenon von Kition: Positionen u. probleme*. Berlin; New York: de Gruyter, 1975; *The Stoic Theory of Meaning*. In *The Stoics*, ed. by John M. Rist. Berkeley: Univ of California Press, 1978; On Language, Thought, and Reality in Ancient Greek Philosophy. *Dialectica* (1977); *Bemerkungen zur Antiken Skeptismus. Allgemeine Zeitschrift für Philosophie* (1978).

Graham, Gerald Sandford 51s HS, Strategie and Diplomatie History

Born 1903 Sudbury, Canada. PhD British Colonial History Cambridge Univ. Honors: D Litt 1973; LLD 1976. Appointments: Council, Royal Hist Soc; Hon VP, Royal Commonwealth Soc; Council, Navy Records Soc. Memberships: Royal Hist Soc; Bd of Management, Inst of Commonwealth Studies London. Rhodes Prof Emer, History, Univ of London, Hobbs Cottage, Beckley, Rye, East Sussex, England.

Publications Related to IAS Residence: *Great Britain in the Indian Ocean 1810-1850*. Oxford: Oxford Univ Press, 1967.

Other Publications: *The China Station: War and Diplomacy 1830-1860*. Oxford: Oxford Univ Press, 1978; *Empire of the North Atlantic*. Toronto: Univ of Toronto Press, 1950.

Graham, Loren R. 69-70 HS, History of Science, Russian History

Born 1933 Hymera, IN. PhD 1964 History Columbia Univ. Honors: Guggenheim Fellow 1969-70; Rockefeller Fellow 1976-77. Appointments: Consultant to NAS; Consultant to NSF. Memberships: AHA; HSS. Prof, History of Science, MIT, Adj Prof Columbia U. 7 Francis Ave, Cambridge, MA 02138.

Publications Related to IAS Residence: *Science and Philosophy in the Soviet Union*. NY: Knopf, 1972.

Granas, Andrzej 61s M, Topology

Born 1929 Lodz, Poland. Docent 1962 Math Inst Polish Acad of Scis. Honors: Mazurkiewicz Prize of Polish Math Soc. Memberships: Polish Math Soc. Prof, Math Dept, University of Montreal, Montreal P.Q. H3C 3J7, Canada.

Publications Related to IAS Residence: The theory of compact vector fields and some of its applications to topology of functional spaces. *Rozprawy Matematyczne* 30(1962) 1-90; Sur la multiplication cohomotopique dans les espaces de Banach. *C R Acad Sci Paris* 254(1962) 56-57.

Other Publications: Théorème sur l'extension de l'homotopie dans les espaces de Banach et quelquesunes de ses applications à la théorie des équations non-linéaires. *Bull Acad Pol Sci* 7(1959) 387-394; Generalizing the Hopf-Lefschetz Fixed Point Theorem for non-compact ANR-s. In *Symposium on Infinite Dimensional Topology, Baton Rouge (1967)*, Annals of Math Studies. Princeton: 1972; *Topics in infinite dimensional topology*. Cours professé au Collège de France, Séminaire Jean Leray. Paris:

1969-1970; The Leray-Schauder Index and the Fixed Point Index Theory for arbitrary ANR-s. *Bull Soc Math de France* 100(1972) 209-228; With K. Geba. Infinite dimensional cohomology theories. *Jour Math Pures et Appliquées* 52(1973) 145-270; *Points fixes pour les applications compactes: Espaces de Lefschetz et la théorie de l'indice*. Cours professé pendant la session du Séminaire de Mathématiques Supérieures à l'Université de Montréal. 1973; *Fixed Point Theory*. Monografie Matematyczne Vol 61, 1. Warsaw: Polish Scientific Publishers, 1980.

Grandjovan, Clairève 60-61 HS, Roman Art

Born 1929 Paris, France. PhD 1955 Bryn Mawr College. Archaeological Inst of America, 100 Washington Sq East, New York, NY 10003. *

Granger, Gilles Gaston 72-73 HS, Philosophy

Born 1920 Paris, France. DèsL 1955 Paris (Sorbonne). Honors: Assoc Mem Acad royale des sciences et lettres de Belgique 1974; Mem Acad internationale de philos des sciences 1978; Doctor (hc) University of São Paulo (Brasil) 1977; Doctor (hc) University of Sherbrooke (Quebec) 1978. Prof, Philosophy of Sciences, Université de Provence, "Cassiopée", 13490 Jouques, France.

Publications Related to IAS Residence: Sobre el trato de los hechos humanos como objetos. *Dianoia* (1973); *La philosophie aristotélicienne de la science*. Paris: Aubier, 1976.

Other Publications: *Méthodologie économique*. Paris: PUF, 1955; *Pensée formelle et sciences de l'homme*. Paris: Aubier, 1960; *Essai d'une philosophie du style*. Paris: Armand Colin, 1968; *Langages et épistémologie*. Paris: Klincksieck, 1978.

Grant, Edward 65-66, 76s HS, History of Science

Born 1926 Canton, OH. Phd 1957 History of Science Univ of Wisc. Honors: Acad Internatle d'Histoire des Sciences 1966-; Guggenheim Fellow 1965-66; ACLS Fellow 1975-76. Appointments: Intl Union for the Hist and Philos of Sci; US Natl Comm 1963-69; Secy 1966-67; Chm 1968-69; Del to Gen Assembly of the Div of the Hist of Sci at the XIth Intl Cong of the Hist of Sci in Warsaw/Cracow, Poland 1965 and to the XIIth Intl Cong of the Hist of Sci, Paris, 1968; Advisory Board of *Speculum* (J of the Med Acad of Amer), 1972-75; Hist of Sci Soc: (1) Schuman Prize Comm (1964); (2) Chm of Nominating Comm (1964); (3) Gov Council (1963-66); (4) Comm on *Isis*, 5 year term (1971-75; Chm, 1975); (5) Chm of Pfizer Awd Comm (1975); (6) Prog Chm (1966); Council for Intl Exch of Scholars Advisory Screening Comm in Hist of Sci for Senior Fulbright-Hays Awards 1975-78. Memberships: Hist of Sci Soc; Med Acad of Amer. Prof, Department of History and Philosophy of Science, Indiana Univ, Good-body 130, Bloomington, IN 47405.

Publications Related to IAS Residence: Ed, *Nicole Oresme and the Kinematics of Circular Motion*.

Tractatus de commensurabilitate vel incommensurabilitate motuum celi. Pub in Med Sci. Madison, Milwaukee, and London: University of Wisconsin Press, 1971; *Much Ado About Nothing: Theories of Space and Vacuum from the Middle Ages to the Scientific Revolution*. Cambridge: Cambridge Univ Press, forthcoming.

Other Publications: Ed, *Nicole Oresme: "De Proportionibus Proportionum" and "Ad Pauca Respicientes"*. Pub in Med Sci. Madison, Wis: Univ of Wisc Press, 1966; *Physical Science in the Middle Ages*. Wiley Hist of Sci Series. New York: Wiley, 1971; Ed, *A Source Book in Medieval Science*. Cambridge, Mass: Harvard Univ Press, 1974.

Grattan-Guinness, Ivor 79s HS, History of Science

Born 1941 Bakewell, Derbyshire, England. DSc 1978 History and Philosophy of Mathematics and Mathematical Logic London Univ. Honors: Fulbright Scholar 1978; Visit Lect New Zealand Math Soc 1978. Appointments: Exec Comm, Internatl Comm for the Hist of Math. Memberships: Institute of Mathematics and its Applications; History of Science Society; British Society for the History of Science. Reader, Mathematics, Middlesex Polytechnic, 34 Hillside Gardens, Barnet, Herts EN5 2NJ, England.

Publications: *The Development of the Foundations of Mathematical Analysis*. Cambridge Mass: 1970; *Joseph Fourier, 1768-1830*. Cambridge Mass: 1972; *Dear Russell - Dear Jourdain*. London: 1977.

Grau, Albert A. 44 45 M

Born 1918 Zurich, Switzerland. PhD 1944 Mathematics Univ of Mich. Memberships: AMS; MAA; SIAM; ACM. Prof, Mathematics & Computer Science, Department of EE/CS, Northwestern University, Tech Institute, Evanston, IL 60201.

Publications Related to IAS Residence: Ternary Boolean Algebra. *Bull AMS* 53(1947) 567-572.

Other Publications: Ternary Operation Related to the Complete Disjunction, *Revista* 8(1951) 121-126; With B. T. Goldbeck. Algebraic Properties of Classes of Functions. *Am Math Monthly* 63(1956) 636-638; Algorithm No. 3. Solution of the Polynomial Equation by Bairstow-Hitchcock Method. *Communie ACM* 3(1960) 74-75; Recursive Processes and Algol Translation. *Communie ACM* 4(1961) 9-16; On a Floating Point Number Representation for Use with Algorithmic Languages. *Communie ACM* 5(1962) 160-161; On the Translation of Boolean Expressions. *Communie ACM* 5(1962) 384-387; A Translator-Oriented Programming Language. *Journ ACM* 9(1962) 480-487; A Generalization of the Bairstow Process. *SIAM Appl Math Jour* 11(1963); On the Reduction of Number Range in the Use of the Graeffe Process. *Journ ACM* 10(1963) 538-544; Modified Graeffe Method. *Communie ACM* 8(1965) 379-380; With J. Vallee and G. K. Krullee. Retrieval Formulas for Inquiry Systems. *Prob Inform Stor Retrieval* 4(1968) 13-16; With J. M. Boyle. An Algorithmic Semantics for Algol 60 Identifier Denotation. *Journ ACM* 17(1970)

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361-382; Simultaneous Newton Refinement of a Complete Set of Approximate Factors of a Polynomial. *SIAM Jour Num Anal* 8(1971) 425-438; *Translation of Algol60*. Handbook for Automatic Computation, 1B; With U. Hill and H. Langmaack. Grundlehren der Math Wissenschaften, 137. Berlin-Heidelberg-New York: Springer-Verlag, 1967; Algorithmic Compiler Design. In *Digital Computer User's Handbook*, ed. by Klerer and Korn, 141-180. New York: McGraw-Hill, 1967.

Grauert, Hans 57-59 M, Complex Analysis

Born 1930 Haren, Niedersachsen, Germany. Dr rer nat 1954 Univ of Münster. Honors: Ak d w Göttingen 1963. Memberships: AMS; DMV. Prof, Mathematics, Universität Göttingen, Board of Trustees IHES. Ewaldstr 67, 3400 Göttingen, Germany.

Publications Related to IAS Residence: On Levi's Problem and the imbedding of real-analytic Manifolds. *Ann of Math* 68: 460-472.

Graves, Lawrence M. 35-36 M, Calculus of Variation

Born 1896 . PhD 1924 U of Chicago. Deceased.

Publications Related to IAS Residence: On the Completing of a Hausdorff Space. *Ann Math* 2 38(1937) 61-64; Under-Determined Systems of Linear Differential Equations. *Tohoku Math J* 43(1937) 178-185.

Gray, John Walker 57-59 M, Category Theory

Born 1931 St Paul, MN. PhD 1957 Math Stanford. Honors: NSF Sr Postdoc Fellow 1966-67; Fulbright Sr Lect (Australia) 1975-76. Appointments: Fulbright Math Selection Comm 1976-79, VChmn 1978-79. Memberships: AMA; AAAS. Prof, Dept of Math, Univ of Ill, Urbana, IL 61801.

Publications Related to IAS Residence: Some Global Properties of Contact Structures. *Ann Math* 69(1959) 421-450.

Other Publications: *Formal Category Theory: Adjoint-ness for 2-Categories*. Lect Notes in Math, 391. Berlin: Springer-Verlag, 1974.

Green, Anthony Maurice 64-66 M(NS), Physics

Born 1938 Finland. PhD 1961 Birmingham Univ. *

Green, Frederic L. 79-80 NS, Elementary Particle Theory

Born 1951 New York, NY. PhD 1979 Yale Univ. 85 Grant Ave, Cresskill, NJ *

Green, Herbert Sydney 49-50 M(NS), Theoretical Physics

Born 1920 Ipswich, England. DSc 1949 Mathematical Physics Univ of Edinburgh. Honors: Elected Fellow Australian Acad of Sci 1954; Past Pres, Australian Math Soc; DSc (hc) University of Adelaide 1952. Appointments: Bd of Standards Commonwealth Sci &

Res Org. Memberships: Fellow, Australian Inst of Phys; Member, Australian Math Soc; Member, Soc of Engineer Sci; Member, Royal Zool Soc of S Australia. Prof, Mathematical Physics, University of Adelaide, South Australia 5001, Australia.

Publications Related to IAS Residence: *Molecular Theory of Fluids*. North Holland: 1952.

Green, James Alexander 61s M, Algebra

Born 1926 Rochester, NY. PhD(Cantab.) Mathematics. Memberships: Fellow Royal Soc Edinburgh; AMS; London Math Soc. Prof, Mathematics Institute, University of Warwick, Coventry CV4 7AL, England.

Publications Related to IAS Residence: The modular representation algebra of a finite group. *Illinois Math J* 6(1962) 607-619.

Other Publications: The characters of the finite general linear groups. *Trans AMS* 80(1955) 402-447; Blocks of modular representations. *Math Zeitschr* 79(1962) 100-115.

Green, John W. 51-52 M, Pure Mathematics

Born 1914 Hearne, TX. PhD Math Univ of Calif, Berkeley. Appointments: AMS: Secy 1957-1967; Member Bd Trustees, 1967-1972; Chm Bd Trustees 1969-71; Chmn Conf Bd of Mathematical Scis 1971-72. Prof, Department of Mathematics, UCLA, Los Angeles, CA 90024.

Publications Related to IAS Residence: A Note on the Chords of a Convex Curve. *Portugaliae Math* 10, 3(1951) 121-123; On the Charts of a Convex Curve II. *Portugaliae Math* 11, 1(1952) 51-55; Approximately Convex Functions. *Duke Math J* 19(1952) 499-504; Approximately Subharmonic Functions. *Proc AMS* 3(1952) 829-833; On the Spherical Mean of α -potentials. *Revista Universidad del Tucuman* 9(1952) 7-11; On Families of Sets closed with Respect to Products, Translations, and Point Reflections. *Anais da Academia Brasileira de Ciencias* 24(1952) 241-244; On the Level Surfaces of Potentials of Masses with Fixed Centers of Gravity. *Pacific J of Math* 11 (1952) 147-152; Support, Convergence, and Differentiability Properties of Generalized Convex Functions. *Proc AMS* 4(1953) 391-396; Length and Area of a Convex Curve Under Affine Transformation. *Pacific J of Math* 3(1953) 393-402.

Green, Louis C. 62-63, 68-69 M(NS), Astrophysics

Born 1911 Macon, GA. PhD 1937 Astronomy Princeton Univ. Honors: Guggenheim Fellow 1955-56; Martin Foss Award Haverford College 1976. Appointments: Cttee on Line Spectra of Elements, NRC, Washington, DC; Commission 14, Fund Spectroscopic Data, IAU. Memberships: Fellow, Amer Phys Soc; Amer Astron Soc; IAU. Prof Emer, Astronomy, Haverford College, Haverford, PA 19041.

Publications Related to IAS Residence: With Kolchin, E. K. & Johnson, N. C. Oscillator Strengths and High Accuracy Wave Functions for Neutral

Helium. In *IAU Symp No 26*. Utrecht: 1964; With Kolchin, E.K. & Johnson, N.C. Wave Functions for the Excited States of Neutral Helium. *Phys Rev* 139(1965) 373; With Kolchin, E.K. Equi-Density Surfaces in Synchronously Rotating Close Binaries Built on Polytropic Model $\nu = 3$. *Ap & Space Sci* 21(1973) 285; With Kolchin, E. K. The Structure of Synchronously Rotating Close Binaries Built on Polytropic Model $\nu = 3$. *Ap J Supp* 28(1974) 449.

Green, Michael Boris 70-72 NS, Elementary Particle Theory

Born 1946 London, England. PhD(Cantab.) 1970 Physics. Lect, Department of Physics, Queen Mary College, University of London, Mile End Rd, London E1, 4NS, England.

Publications Related to IAS Residence: *Phys Rev Letters* 26(1971) 1515; *Phys Rev D*6(1972) 1675; *Phys Rev D*7(1973) 102; *Phys Rev D*4(1971) 3439; *Phys Rev D*4(1971) 3502; *Phys Letters* 36B(1971) 477; *Physics Letters* 376(1971) 292.

Green, Philip Palmer 77-78 M, Group Representations

Born 1950 Durham, NC. PhD 1976 Mathematics Univ of Calif, Berkeley. Asst Prof, Math Dept, Columbia Univ, New York, NY 10027.

Publications Related to IAS Residence: The Structure of imprimitivity algebras. *J Funct Anal* in press; Square integrable representations and the dual topology. *J Funct Anal* 'in press; Minimal primitive ideals of GCR C^* -algebras. *Proc AMS*73(1979) 209-210; A primitive C^* -algebra with no nontrivial projections. *Ind Univ Math J* 28(1979) 349-351.

Other Publications: The local structure of twisted covariance algebras. *Acta Math* 140(1978) 191-250.

Greenberg, J. Mayo 65-66 M(NS), Astrophysics

Born 1922 Baltimore, MD. PhD 1948 Theoretical Physics The Johns Hopkins Univ. Honors: Guest Prof Lab Astrophys U of Leiden 1968-69; Guest Prof U of Hawaii 1968; Guest Prof Wash Univ, St Louis 1978. Appointments: Nat Acad Project Needles; IAU Commission on Project Needles. Memberships: Fellow Am Phys Soc; IAU; NY Acad of Scis. Prof, Astrophysics, Univ of Leiden, Laboratory Astrophysics, Huygens Laboratory, Wassenaarseweg 78, Leiden 2300PA, Holland.

Publications Related to IAS Residence: Interstellar grains. In *Nebulae and Interstellar Matter*, ed. by B.M. Middlehurst & L.H. Aller. U of Chicago Press, 1968; With G.A. Shah. A unified model of Interstellar Extinction and Polarization. *Ap J* 145(1966) 63; Wavelength Dependence of Polarization by small graphite flakes. *Ap J* 145(1966) 57; With A.C. Lind. Electromagnetic scattering by obliquely oriented cylinders. *J Appl Phys* 37(1966) 3195.

Greenberg, Oscar Wallace 64f M(NS), Physics

Born 1932 New York, NY. PhD 1957 Theoretical Physics Princeton Univ. Honors: Sloan Fellow 1964-1966; Guggenheim Fellow 1968-1969; Washington Acad of Scis Award in Phys Scis 1971. Appointments: Assoc Ed, *Phys Rev Lett*, 1966-68. Memberships: Am Phys Soc; AMS. Prof, Department of Physics and Astronomy, Univ of Maryland, College Park, MD 20742.

Publications Related to IAS Residence: Spin and Unitary-Spin Independence in a Paraquark Model of Baryons and Mesons. *Phys Rev Lett* 13(1964) 598-602; Introduction to the N-Quantum Approximation in Quantum Field Theory. *Phys Rev* 139(1965) 1038-B1049.

Other Publications: With M. Resnikoff. The Symmetric Quark Model of Baryon Resonances. *Phys Rev* 163(1967) 1844-1851; Generalized Free Fields and Models of Local Field Theory. *Ann Phys* 16(1961) 158-176; Quarks. *Annual Review of Nuclear and Particle Science* 28(1978) 327-386.

Greenberg, Ralph 72-73 M, Number Theory

Born 1944 Chester, PA. PhD 1971 Mathematics Princeton Univ. Memberships: AMS. Asst Prof, Dept of Math, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: A Generalization of Kummer's Criterion. *Invent Math* 21(1973) 247-254; On a Certain 1-adic Representation. *Invent Math* 21(1973) 117-124; On the Iwasawa Invariants of Totally Real Number Fields. *Am J Math* 98(1973).

Other Publications: On the Structure of Certain Galois Groups. *Invent Math* 47(1978) 85-99.

Greene, Jack P. 70-71 HS, Modern History

Born 1931 Lafayette, IN. PhD 1956 History Duke Univ. Honors: LLD (hc) Indiana University 1977; Fellow Woodrow Wilson Cntr 1974-75; Harmsworth Professor of American History Oxford Univ 1975-76; Visiting Professor Hebrew University of Jerusalem Spring 1979. Appointments: Library of Congress, Amer Rev Bicentennial Comm. Memberships: AHA; Org Am Hist, So Hist Assn; Royal Hist Soc; Royal Soc for the Arts; Am Antiquarian Soc; Mass Hist Soc. Andrew W. Mellon Prof, Humanities, Department of History, Johns Hopkins University, Baltimore, MD 21218.

Publications Related to IAS Residence: *All Men Are Created Equal*. Oxford: Clarendon Press, 1976; An Uneasy Connection: An Analysis of the Preconditions of the American Revolution. In *Essays on the American Revolution*, ed. by Stephen G. Kurtz and James H. Hutson, 32-80. Chapel Hill: U No Carolina Press, 1973; The Social Origins of the American Revolution. *Pol Sci Quart* 88(1973) 1-22.

Other Publications: *The Quest for Power: The Lower Houses of Assembly in the Southern Royal Colonies, 1689-1776*. Chapel Hill: 1963; *The Diary of Colonel Landon Carter of Sabine Hall, 1752-1778*. 2 vols. Charlottesville: 1965.

Members

Greene, Robert Everist 76s M, Differential Geometry

Born 1943 Knoxville, TN. PhD 1969 Mathematics Univ of Calif, Berkeley. Honors: Sloan Fellow. Memberships: AMS. Prof, Univ of Calif, Dept of Math, Los Angeles, CA 90024.

Publications Related to IAS Residence: Complete metrics of bounded curvature on noncompact manifolds. *Archiv der Mathematik* 31(1978); Diffeomorphisms and Volume-Preserving Embeddings of Noncompact Manifolds. *Trans AMS* (1979).

Other Publications: With H. Wu. *Function Theory on Manifolds Which Possess a Pole*. Lect Notes in Math, 699. Berlin: Springer-Verlag, 1979; *Isometric Embedding of Riemannian and Pseudo-Riemannian Manifolds*. AMS Memoirs, 97. Providence, RI: AMS, 1970.

Greenstein, Jesse Leonard 68-69 NS, Astrophysics

Born 1909 New York, NY. PhD 1937 Astronomy Harvard Univ. Honors: AAAS; NAS; Am Philos Soc; Gold Medal Royal Astron Soc 1976; Bruce Medal Astron Soc of the Pacific 1971 ; Disting Pub Svce Medal NASA 1974; Calif Scientist of the Year 1965. Appointments: Chmn, NAS Study of Astronomy in 1970's (1969-71); Adv Bd to Administrator of NASA; NSF Adv Comms. Memberships: Am Astron Soc (formerly VPRES). Lee A. DuBridge Prof, Astrophysics, Dept of Astronomy 105-24, California Institute of Technology, Pasadena, CA 91125.

Publications Related to IAS Residence: With Maarten Schmidt. The Quasi-Stellar Radio Sources 3C 48 and 3C 273. *Ap J* 140(1964) 1-34; With Stawikowski. The Isotope Ratio C^{12} / C^{13} in a Comet. *Ap J* 140(1964) 1280-1291.

Other Publications: With Kodaira and Oke. The Unusual Composition of +39° 4926. *Ap J* 159(1970) 485-512; Red and Black Degenerate Stars. *Comm on Astron & Astrophys* 1(1969) 62.

Gregori, Mina G. 68f HS, History of Art

Born 1924 Italy. PhD 1959 Univ of Bologne. Via Ginori 15, Firenze, Italy. *

Greiner, Peter Charles 73-74 M, Analysis

Born 1938 Budapest, Hungary. PhD 1964 Mathematics Yale University. Honors: Fellow Royal Soc Canada 1977; Steacie Prize 1977. Memberships: Canad Math Soc; AMS. Prof, Mathematics Department, University of Toronto, Toronto, Ontario, Canada M5S 1A1.

Publications Related to IAS Residence: With E.M. Stein. *Estimates for the δ -Neumann problem*. Math Notes, 19. Princeton NJ: Princeton Univ Press, 1977; With J.J. Kohn & E.M. Stein. Necessary and sufficient conditions for the solvability of the Lewy equation. *Proc NAS* 72(1975) 3287-3289.

Greven, Philip J., Jr. 74-75 Soc, History

Born 1935 New Orleans, LA. PhD 1965 History Harvard University. Appointments: Bd Eds *William and Mary Quarterly* ; Council Member Inst Early Amer Hist & Cult. Memberships: AHA; Colonial Soc of Mass; Inst of Early Amer Hist & Culture. Prof, Department of History, Rutgers College, New Brunswick, NJ 08903.

Publications Related to IAS Residence: *The Protestant Temperament: Patterns of Child-rearing, Religious Experience, and the Self in Early America*. New York: Knopf, 1977; *Four Generations: Population, Land and Family in Colonial Andover, Mass.* Ithaca: Cornell Univ Press, 1970.

Griess, Robert Louis, Jr. 79-80 M

Born 1945 Savannah, GA. PhD 1971 Math Univ of Chicago. Memberships: AMS. Assoc Prof, Department of Mathematics, University of Michigan, Ann Arbor, MI

Griffiths, Hubert Brian 56-58 M, Topology

Born 1927 Horwich, Lancashire, England. PhD 1951 Manchester Univ. Appointments: SSRC Committees: Math 1971-74; Statistics 1972-75; Council London Math Soc 1975-78; Chmn UK Joint Math Council 1975-78. Memberships: London Math Soc; Iranian Math Soc; AMA; Assoc of Teachers of Math; Fellow Inst of Math & Its Applications. Prof, Faculty of Mathematical Studies, The University, Highfield Southampton, England.

Publications Related to IAS Residence: On limits of systems of groups. *Proc AMS* 9(1958) 118-129; Locally trivial homology theories and the Poincaré duality theorem. *BAMS* 64(1958) 367-370; The fundamental group of a surface and a theorem of Schreier. *Acta Math* 110(1963) 3-17; A potential theoretic example of Kiang. *Proc Camb Phil Soc* 59(1963) 43-46.

Other Publications: With A.G. Howson. *Surfaces*. Cambridge: 1976; *Mathematics Curricula & Society*. Cambridge: 1974.

Griffiths, Phillip A. 68-70 M

Born 1938 Raleigh, NC. PhD 1963 Princeton Univ. Honors: DrSci(hc) Wake Forest Univ 1972. Appointments: Council AMS; Committee on prizes AMS. Memberships: AMS. Prof, Dept Math, Harvard Univ, Cambridge, MA 02138.

Publications Related to IAS Residence: On the periods of certain rational integrals I & II. *Ann Math* 90(1969) 460-95, 496-541; Holomorphic Mapping into Canonical Algebraic Varieties. *Ann Math* 93(1971) 439-58; Complex analytic properties of certain Zariski open sets on algebraic varieties. *Ann Math* 94(1971) 21-51.

Other Publications: With C. H. Clemens. The intermediate Jacobian of the cubic threefold. *Ann Math* 95(1972) 281-356.

Grodecki, Louis 49-50 HS, Mediaeval History

Born 1910 France. PhD Univ of Paris. 76, Blvd Saint-Michel, 75006 Paris, France. *

Gross, David J. 73-74, 77-78 NS, Theoretical Physics

Born 1941 Washington, DC. PhD 1966 Univ of Calif Berkeley. Honors: Jr Fellow Harvard Soc of Fellows 1966-1969; Sloan Fellow 1970-74. Memberships: Fellow APS. Prof, Physics Dept, Jadwin Hall, Princeton Univ, Princeton, NJ 08544.

Publications Related to IAS Residence: Dynamical Symmetry Breaking in Asymptotically Free Field Theories. *Phys Rev D*10(1974) 3235; A Theory of Hadronic Structure. *Phys Rev D*19(1979) 1826; Effect of Instantons on the Heavy Quark Potential. *Phys Rev D*18(1978) 4684; Phase Transitions in QCD as Tunneling Through Singular Barriers. *Phys Lett*77(1978) 270; The Effect of Instantons on the Short Distance Structure of Hadronic Currents. *Phys Rev* 18(1978) 468.

Gross, Leonard 59f M

Born 1931 Brooklyn, NY. PhD 1957 Functional Analysis Univ of Chicago. Honors: Guggenheim Fellow 1974 -75. Memberships: AMS. Prof, Dept of Mathematics, Cornell University, Ithaca, NY 14853.

Publications Related to IAS Residence: Measurable Functions on Hilbert Space. *Trans Amer Math Soc* 105(1962) 372-390.

Other Publications: Logarithmic Sobolev Inequalities. *Amer J of Math* 97(1975) 1061-1083; Existence and Uniqueness of Physical Ground States. *J of Functional Analysis* 10(1972) 52-109; Potential Theory on Hilbert Space. *J of Functional Analysis* 1(1967) 123-181.

Grossman, Nathaniel 64-66 M, Geometry

Born 1937 Chicago, IL. PhD 1964 Math Univ of Minnesota. Honors: NRC Sr Scientist in Geodesy 1978. Memberships: MAA; AMS; Amer Assoc Adv Sci; Amer Geophys Union. Prof, Dept of Mathematics, UCLA, Los Angeles, CA 90024.

Grossmann, Alexander 61-63 M(NS), Physics

Born 1930 Yugoslavia. MA 1956 Harvard Univ. *

Grosswald, Emil 51-52, 59-60 M, Number Theory

Born 1912 Bucharest, Rumania. PhD 1950 Mathematics Univ of Penn. Appointments: Committee for The Ford Award of the Math Asso Amer. Memberships: AMS; MAA; AAAS; Soc Math France; Sigma Xi. Prof, Mathematics, Temple Univ, 11 Narwyn Lane, Narberth, PA 19072.

Publications Related to IAS Residence: Partitions into prime powers. *Michigan Math J* vol 7(1960) 97-122; With Asplund and Grünbaum. On a measure of asymmetry. *Proc Cambridge Philos Soc* vol 58(1962) 217-220; With S. Kurepa. A theorem on Gap Series.

Glasnik Math-Fiz-Astronvol 16(1961) 203-204; With P. T. Bateman. Imaginary quadratic fields with unique factorization. *Illinois J Math* vol 6(1962) 187-192; Neutron transport in spherically symmetric systems. *J of Mathem and Mechanics* vol 10(1961) 1-10; Resultados viejos y nuevos en la teoría de las particiones. *Revista de la Union Matemática Argentina* vol 20(1960) 40-57; On sums involving binomial coefficients. *Amer Math Monthly* vol 40(1953) 179-181.

Other Publications: On the structure of some subgroups of the modular group. *American J of Mathem* vol 72(1950) 809-834; On some algebraic properties of the Bessel Polynomials. *Trans AMS* vol 71(1951) 197-210; and vol 144(1969) 569-570; Oscillation theorems of arithmetical functions. *Trans AMS* vol 126(1967) 1-28; The Student t-distribution . . . is infinitely divisible. *Zeitschrift für Wahrscheinlichkeitstheorie* vol 36(1976) 103-109; Die Werte der Riemannschen Zetafunktion an ungeraden Argumentstellen. *Nachrichten der Akad d Wiss Göttingen* (1970) 9-13; With P. T. Bateman. On Epstein's Zeta function. *Acta Arithm* vol 9(1964) 365-373; Sur l'ordre de grandeur des différences $\psi(x) - x$ et $\pi(x) - li x$. *Comptes Rendus Ac Sc Paris* vol 260(1965) 3813-3816; *The Bessel Polynomials*. Springer Lecture Notes, 698. Dec 1978.

Grube, G.M.A. 59-60 HS, Literary Criticism in Greece & Rome

Born 1899 Canada. MA 1926 Cambridge Univ. Trinity College, Toronto, Ont, Canada. *

Gruen, Erich Stephen 73-74 HS, Classics, Ancient History

Born 1935 Vienna, Austria. Phd 1964 History Harvard Univ. Honors: Guggenheim Fellow 1969-1970; Nomination for National Book Award 1975; Visit Res Fellow Merton College, Oxford 1978. Memberships: AHA; Am Philolog Assn; Assn of Anc Historians; Soc for the Prom of Roman Studies. Prof, Department of History, University of California, Berkeley, CA 94720.

Publications Related to IAS Residence: The Last Years of Philip I. *Greek, Roman & Byzantine Studies* 15(1974) 221-246; Rome & Rhodes in the Second Century BC. *Classical Quarterly*25(1975) 57-81; Class Conflict & the Third Macedonian War. *American Journal of Ancient History* I(1976) 29-60.

Other Publications: *Roman Politics & the Criminal Courts, 149-78 BC*. Cambridge: Harvard U Press, 1968; *The Last Generation of the Roman Republic*. Berkeley: U of California Press, 1974.

Gruenberg, Karl Walter 56-57 M, Algebra

Born 1928 England. PhD 1954 Cambridge Univ. *

Grünbaum, Branko 58 60 M

Born 1929 Osijek, Yugoslavia. PhD Mathematics Hebrew Univ. Memberships: MAA; AMS. Prof, Dept of

Members

Math, Univ of Washington, GN-50, Seattle, WA 98195.

Publications: *Convex Polytopes*. Wiley, 1967; *Arrangements and Spreads*. Amer Math Soc, 1972.

Guckenheimer, John 70-72 M

Born 1945 Baton Rouge, LA. PhD Math Univ California, Berkeley. Memberships: AMS; SIAM. Assoc Prof, Dept of Math, Univ of California, Santa Cruz, CA 95060.

Publications Related to IAS Residence: Catastrophes and Partial Differential Equations. *Ann de l'Inst Fourier* 23(1973) 31-59; Bifurcation and Catastrophe. In *Dynamical Systems*, ed. by M. M. Peixoto, 99-110. Academic Press: 1973; Review of "Stabilité Structurelle et Morphogenese" by Rene Thorn. *Bull AMS* 79(1973) 878-890; One Parameter Families of Vector Fields: Another Non-density Theorem *Dynamical Systems*, ed. by M. M. Peixoto, 111-128. Academic Press, 1973; Absolutely Omega-Stable Diffeomorphisms. *Topology* 11(1972) 195-197; Caustics, Global Analysis and its Applications. *International Atomic Energy Agency* 2(1974) 281-289.

Gudeman, Stephen Frederick 78-79 Soc, Anthropology

Born 1939 Chicago, IL. PhD 1970 Social Anthropology Univ of Cambridge. Honors: Curl Bequest Essay Prize 1971. Appointments: Secy, N Amer Comm, Royal Anthro Inst 1978-. Memberships: Am Anthro Assoc; Royal Anthro Inst; Assoc of Soc Anthro of the Commonwealth. Prof, Department of Anthropology, Univ of Minn, 215 Ford Hall, Minneapolis, MN 55455.

Publications Related to IAS Residence: An Anthropologist's View of The Black Family in Slavery and Freedom. *Soc Sci Hist* 3, 4.

Other Publications: The Compadrazgo as a Reflection of the Natural and Spiritual Person. *Proc Royal Anthro Inst for 1971*(1972) 45-71; *Relationships, Residence and the Individual: a rural Panamanian community*. Minneapolis: U of Minn Press, 1976; *The Demise of a Rural Economy: from subsistence to capitalism in a Latin American village*. London: Routledge and Kegan Paul, 1978; Anthropological Economics: the question of distribution. *Ann Rev of Anthro* 7(1978) 347-77.

Guenée, Bernard Marie 76f HS, Medieval History

Born 1927 Rennes, France. Dr d'Etat 1963 Sorbonne. Appointments: Membre du Comité natl du CNRS 1966-1971; Membre du Comité Consultatif des Univs 1972-. Prof, Sorbonne (Paris), 6 Résidence Ile-de-France-Péguy, 92340 Bourg-la-Reine, France.

Publications Related to IAS Residence: *Le métier d'historien au Moyen Age Etudes sur l'historiographie médiévale*. Publications de la Sorbonne, Série Etudes. Paris: 1977; Y a-t-il une historiographie médiévale. *Revue historique* 258(1977) 261-275; Les généalogies entre l'histoire et la politique: la fierté

d'être capétien, en France, au Moyen Age. *Annales* (1978) 450-477.

Guerlac, Henry E. 53-55 HS, History of Science

Born 1910 Ithaca, NY. PhD 1941 History Harvard. Honors: Pfizer Award Hist of Sci Soc 1963; Dexter Award Amer Chem Soc 1972; Sarton Medal Hist of Sci Soc 1973; DHumLitt(hc) Clarkson Coll of Tech 1967. Appointments: Bd of Dirs, ACLS, 1960-64; Chmn, Adv Comm on Dictionary of Sci Biog (ACLS); Pres Hist of Sci Soc 1957-60; Pres Acad Int d'Hist Sci 1959-65. Memberships: Hist of Sci Soc; Internatl Acad of Hist of Sci. Goldwin Smith Prof Emer, Hist of Sci, Cornell Univ, 16 Highgate Circle, Ithaca, NY 14850.

Publications Related to IAS Residence: John Mayow and the Aerial Nitre. *Actes du Septième Congrès International d'Histoire des Sciences Jerusalem* 1953(332-349); Lavoisier and His Biographers. *Isis* 45: 51-62; The Poets' Nitre, *Isis* 45: 243-255; A Note on Lavoisier's Scientific Education, *Isis* 47(1956); Some Aspects of Science during the French Revolution. *Scientific Monthly* 80(1955) 93-101.

Other Publications: *Lavoisier - The Crucial Year*. Ithaca: Cornell Press, 1961; *Antoine-Laurent Lavoisier, Chemist and Revolutionary*. New York: Charles Scribner's Sons, 1975; *Essays and Papers in the History of Modern Science*. Baltimore: Johns Hopkins Univ Press, 1977; Chemistry as a Branch of Physics: The Collaboration of Lavoisier and Laplace. *Hist Studies in the Physical Sciences* 7(1976) 193-276.

Guerra, Francesco 75-76 NS, Theoretical Physics

Born 1942 Napoli, Italy. "Laurea cum Laude" Physics. Prof, Theoretical Physics, Univ of Salerno, Pro Rector University of Salerno. Via Aniello Falcone 70, 80127 Napoli, Italy.

Publications Related to IAS Residence: With S. De Martino, S. De Siena and P. Sodano. Spontaneous Magnetization in Quantum Field Theory in the Displaced Gaussian Approximation to the Variational Principle for Entropy Density. *Lettere al Nuovo Cimento* 16(1976) 570.

Other Publications: With L. Rosen and B. Simon. The $P(\phi)_2$ Euclidean Quantum Field Theory as Classical Statistical Mechanics. *Annals of Mathematics* 101(1975) 111; With L. Rosen and B. Simon. Boundary Conditions in $P(\phi)_2$ *Ann Inst Henri Poincaré* 25A(1976) 231 ; With G.F. De Angeles and D. de Falco. Scalar Quantum Electrodynamics as Classical Statistical Mechanics. *Commun Math Phys* 57(1977) 201; With G.F. De Angelis and D. de Falco. A Note on the Abelian Higgs-Kibble Model on a Lattice: Absence of Spontaneous Magnetization. *Phys Rev D* 17(1978) 1624; With D. Dohrn. Nelson's Stochastic Mechanics on a Riemannian Manifold. *Lettere al Nuovo Cimento* 22(1978) 121.

Gugenheim, Victor K. A. M. 72-73 M

Born 1923 Berlin, Germany. Dept of Math, University of Illinois, Chicago Circle, Box 4348, Chicago, IL 60680. *

Guggisberg, Hans Rudolf 74-75 HS, Early Modern European and American History

Born 1930 Berlin, Germany. PhD 1956 Univ of Basel. Appointments: European Assoc for American Studies (Board member); Deutscher Verein für Reformationsgeschichte (Board member). Memberships: AHA; Swiss Hist Assoc (AGGS); Dt Verein f Reformationsgeschichte; Verband der Historiker Deutschlands; Nederlands Hist Genootschap. Prof, History, Univ of Basel, European Editor Archive for Ref Hist. Bruderholzallee 20, CH-4P59 Basel, Switzerland.

Publications Related to IAS Residence: *Geschichte der USA*. Stuttgart: 1975/76; Wandel der Argumente für religiöse Toleranz. In *Zur Geschichte der Toleranz und Religionsfreiheit*, ed. by H. Lutz. Darmstadt: 1977; Sebastian Castellio und der Ausbruch der Religionskriege in Frankreich. *ARG* 68(1977); *Geschichte der Religionsfreiheit in Dokumenten*. Stuttgart: K.F. Koehler, forthcoming.

Other Publications: *Sebastian Castellio im Urteil seiner Nachwelt*. Basel: 1956; *Das europäische Mittelalter im amerikanischen Geschichtsdenken*. Basel: 1964; *Alte und neue Welt in historischer Perspektive*. Bern: 1973.

Guillemin, Victor 78s M, Analysis

Born 1937 Boston, MA. PhD 1962 Harvard Univ. Prof, Math, MIT. 2 Exeter Park, Cambridge, MA 02140.

Gulliver, Robert D., II 80s M

Born 1945 Torrance, CA. PhD 1971 Stanford Univ. Assoc Prof, School of Math, Univ of Minnesota, 127 Vincent Hall, Minneapolis, MN 55455. *

Gundersheimer, Werner L. 70-71 HS, Early Modern Europe

Born 1937 Frankfurt Am Main, Germany. PhD 1963 History Harvard Univ. Honors: Guggenheim Fellow 1974-75; Fship Villa I Tatti 1974-75; Am Philos Soc Grant-in-Aid 1963; Jr Fellow Harvard U 1962-66; Order of the Star of Italian Solidarity 1974. Memberships: AHA; PBK; Royal Hist Soc; Ren Soc of Amer; Med Acad of Amer. Prof, History, Univ of Penn, Chairman Dept of History, 507 Rounfort Rd, Philadelphia, PA 19119.

Publications Related to IAS Residence: *Ferrara: The Style of a Renaissance Despotism*. Princeton University Press, 1973; *Art and Life at the Court of Ercole I d'Este: The 'De Triumphis religionis' of Giovanni Sabadino degli Arienti*. Geneva: Droz, 1972; *Les simulachres et historiees faces de la mort*. Dover Books, 1972; *French Humanism, 1470-1600*. New York: Harper and Row, 1970; *The Life and Works of*

Louis Le Roy. Travaux d'Humanisme et Renaissance, vol 82. Geneva: Droz, 1966.

Other Publications: Louis Le Roy's Humanistic Optimism. *Jour History of Ideas* 23: 3(1962) 324-339; Erasmus, Humanism and the Christian Cabala. *Jour Warburg and Courtauld Institutes* 26(1963) 38-52; Toward A Reinterpretation of Ferrara in the Renaissance. *Bibliothèque d'Humanisme et Renaissance* (1968) 262-282; Anne de Montmorency and Polybius History. *Studi Francesi* (1971) 462-467; The Crisis of the Late French Renaissance. In *Renaissance Studies in Honor of Hans Baron*, 791-807. Florence and Chicago: 1971; Crime and Punishment in Ferrara, 1440-1500. In *Violence and Civil Disorder in Italian Cities, 1200-1500*, ed. by L. Martines, 104-128. U of Calif Press, 1972.

Günther, Marian W.J. 60-61 M(NS), Theoretical Physics

Born 1923 Warsaw, Poland. PhD 1948 Theor Phys Univ of Warsaw. Honors: Award Polish Ministry of Higher Ed 1951 or 52. Memberships: Am Phys Soc; NY Acad Sci. Prof, Physics, Univ of Cincinnati. 310 Bryant, Apt 15, Cincinnati, OH 45220.

Publications Related to IAS Residence: The Relativistic Configuration Space Formulation of the Multi-Electron Problem Part I. *Phys Rev* 88(1952) 1411-1421; Part II. *Phys Rev* 99(1954) 1397-54; Relativistic Lee Model. *Phys Rev* 125(1962) 1061-66.

Other Publications: Mathematical Structure of the Bethe-Salpeter Equation, Reinvestigated. *Phys Rev D*9(1974) 2411-50.

Gupta, Virendra 63-64 M(NS), Theoretical High Energy Physics

Born 1933 Barh, Bihar, India. DPhil 1958 Theoretical Physics Oxford Univ. Memberships: Indian Phys Assoc. Reader, High Energy Physics, Tata Institute of Fundamental Research, Homi Bhabha Road, Bombay 400005, India.

Publications Related to IAS Residence: SU(3) and weak interactions. *Phys Rev B*135(1964) 783; With V. Singh. Sum rules for coupling constants in broken SU(3) symmetry. *Phys Rev* 136(1964) 782.

Other Publications: With R.J. Blin-Stoyle and J.S. Thomson. On the conserved polar vector current in beta-decay. *Nucl Phys* 14(1959) 685; CP nonconservation in weak interactions. *Phys Rev Lett* 14(1965) 838; With P.P. Divakaran and G. Rajasekaran. Does the electromagnetic current have an $I = 2$ component? *Phys Rev* 166(1968) 1792; With G. Rajasekaran. Inelastic electron-proton scattering and a sum rule for the Schwinger term. *Phys Rev D*3(1971) 677; With S.H. Patil. A renormalizable theory of weak interactions with a single massive spin zero charged boson and neutral pseudoscalar hadrons as intermediate bosons. *Nuclear Phys B*27(1971) 398; With B.S. Chaudhary and D.S. Narayan. A model for the Multiplicity Distribution in pp-collisions from 5 to 300 GeV/c. *Pramana*2(1974) 73; With H.S. Mani. Unified Weak and

Members

Electromagnetic Gauge Theory based on $SU(3) \times U(1)$. *Phys Rev D* 10(1974) 1310; With T. Das. Sum rules for Inclusive decays of Charmed hadrons. *Phys Rev D* 15(1977) 3336; With A. Khare. Sum rules for masses of the 2P and higher levels of Charmonium. *Phys Letters B* 70B(1977) 313; With S.M. Paranjape. Tests of the $SU(2) \times U(1)$ gauge group from neutral current phenomena. *Phys Letts B* 72B(1977) 199; With R. Rajaraman. The wavefunction at the Origin for Large-n S-wave levels. *Phys Rev D* 19(1979) 697.

Guralnik, Gerald Stanford 69-70 NS, Particle Physics

Born 1936 Cedar Falls, IA. PhD 1964 Harvard Univ. 30 Fairway Dr., Barrington, RI 02806. *

Gürsey, Feza 58-60, 63-64 M(NS), Theoretical Physics

Born 1921 Istanbul, Turkey. PhD 1950 Applied Math London Univ ; Docent's Habil 1953 Theor Physics Istanbul Univ. Honors: Sci Prize, Turkish Natl Res Council 1968; Oppenheimer Mem Awd (shared with S.L. Glashow) 1977. Appointments: Turkish AEC; Turkish Natl Res Council. Memberships: Am Phys Soc; Turkish Phys Soc; Conn Acad of Sci. J.W. Gibbs Prof. Physics Dept, Yale University, New Haven, CT 06520.

Publications Related to IAS Residence: With G. Feinberg. *Phys Rev* 114(1959) 1153; *Nuovo Cimento* 16(1960) 230; With T.D. Lee & M. Nauenberg. *Phys Rev* 135B(1964) 467.

Other Publications: *Annals Phys* 24(1963) 211; With L.A. Radicati. *Phys Rev Lett* 13(1964) 173; With M. Gunaydin. *Phys Rev D* 9(1974) 3387; in *Second Workshop on Current Problems in High Energy Particle Theory*, ed. by G. Domokos & S. Kövesi Domokos, 3, 179. Johns Hopkins Univ, 1978.

Gustin, William Sharp 50-51 M, Set Theory

Born 1918 Detroit, MI. PhD 1947 UCLA. Dept of Math, Indiana U, Bloomington, IN 47401. *

Gutiérrez, Mauricio Alvarez 71-72 M, Algebraic Topology

Born 1946 Bogota, Colombia. PhD 1971 Math Brandeis Univ. Honors: Fulbright Lect Colombia 1979. Memberships: Colombian Math Soc; AMS. Asst Prof, Mathematics Dept, Tufts University, Medford, MA 02155.

Publications Related to IAS Residence: On knot modules. *Invent Math* 17(1972) 329-335; Boundary links and an unlinking theorem. *Trans AMS* 171(1972) 491-499; Polynomial invariants of boundary links. *Rev Colombiana Mat* 8(1974) 97-109.

Other Publications: Homology and Completions. *J Algebra* 51(1978) 354-366; Homology of knot groups III. *Proc London Math Soc* in press; Concordance and homotopy I. *Pacific J Math* in press; The Seifert manifold of 2-knots. *Trans Amer Math Soc* 240(1978)

287-294; The μ - invariants for groups. *Proc AMS* 55(1976) 293-298.

Habicht, Christian see Present Faculty

Habicht, Walter 47-48 M, Algebraic Geometry

Born 1915 Schaffhausen, Switzerland. PhD 1946 Math ETH Zurich. Prof, Mathematics, Univ of Basle, 4056 Lenzgasse 37, Basle, Switzerland.

Haboush, William J. 75-76 M, Algebraic Groups

Born 1942 New York, NY. PhD 1970 Columbia Univ. Department of Mathematics, U.C.L.A., Los Angeles, CA 90024. *

Hachtroudi, Mohsen 51f M, Connection Theory, Relativity

Born 1907 Iran. PhD 1937 Sorbonne. *

Hack, Margherita 62f M(NS), Astrophysics

Born 1922 Florence, Italy. PhD 1945 Physics Univ of Florence. Honors: Member Natl Acad dei Lincei 1978. Appointments: ESA Astrophys Working Group; NASA Astronomy Working Group; ESF Astronomy Committee; IAU CDS. Memberships: Soc Astronomia Italiana; Soc Ital Fisica; European Society of Physics; IAU. Prof, Astronomy, Trieste Univ, Dir Trieste Astronom Obs, Osservatorio Astronomico, Via Tiepolo 11, Trieste 134131, Italy.

Publications Related to IAS Residence: With O. Struve. Normal Stars, Peculiar Stars. In *Stellar Spectroscopy*, 1, 2. Trieste: Astronomical Chs.

Haefeli, Verena 48-49 M, Group Theory

Born 1923 Naples, Italy. PhD 1947 Zurich. *

Haefliger, André 59-61, 72-73 M, Topology

Born 1929 Nyon, Switzerland. Dr 1958 Math Paris. Appointments: Pres Swiss Math Soc 1973-1975. Prof, Section de mathématiques, Univ of Geneva, 2-4 Rue du Lievre, Geneva 24, Switzerland.

Publications Related to IAS Residence: Knotted $(4K-1)$ -spheres in 6K-space. *Ann Math* 75(1962).

Hager, Fritz-Peter Paul 65s HS, Ancient Philosophy

Born 1939 Adelboden, Switzerland. PhD 1961 Philosophy Univ of Bern. Honors: de Karman Prize 1962. Memberships: Schweiz Philos Gesellschaft; Internat Soc of Neoplatonic Studies; Internat Soc for Metaphysics; Assoc of Members of IAS. Prof, Univ Zürich, Gastdozent Univ Basel, Postfach 103, 3715 Adelboden, Switzerland.

Publications Related to IAS Residence: *Der Geist und das Eine. Untersuchungen zum Problem der Wesensbestimmung des höchsten Prinzips in der*

griechischen Philosophie. Bern: Verlag Paul Haupt, 1970.

Other Publications: *Die Vernunft und das Problem des Bösen im Rahmen der platonischen Ethik und Metaphysik*. Bern: 1963.

Hahn, Frank John 59-60 M, Transformation Groups

Born 1929 New York, NY. PhD 1959 Univ of Ill. Deceased.

Hahnloser, Hans Robert 61-62 HS, Art History

Born 1899 Winterthur, Switzerland. PhD 1927 Univ of Vienna. Deceased.

Haimo, Deborah Tepper 72-73 M, Analysis

Born 1921 Odessa, Ukraine, USSR. PhD 1964 Analysis Harvard Univ. Appointments: Math member AID 5-member Sci Team to study grad progs of Seoul Natl Univ. Memberships: AMS; MAA; SIAM; AWM; AAUP. Prof, Mathematics, Univ of Mo, St Louis. 7201 Cornell Ave, St Louis, MO 63130.

Publications Related to IAS Residence: Series expansions with convergence in the mean for dual Laguerre temperatures. *IU Math J* 22, 3(1972) 207-215; With F.M. Cholewinski. Inversion of the reduced Poisson-Hankel transform. *J Analyse Math* 25(1972) 323-343; Series expansions for dual Laguerre temperatures. *Canad J Math* 24, 6(1972) 1145-1153.

Other Publications: Expansions in terms of the generalized heat polynomials and of their Appell transforms. *J Math Mech* 15, 5(1966) 735-758; With F.M. Cholewinski. The Weierstrass-Hankel convolution transforms. *J Analyse Math* 17(1966) 1-58; Laguerre temperatures. In *Proc of the Conf on Orthogonal Expansions*, ed. by F.M. Cholewinski, 197-226. Southern Ill U Press, 1968; With F.M. Cholewinski and A.E. Nussbaum. A necessary and sufficient condition for the representation of a function as a Hankel-Stieltjes transform. *Studia Math* 37(1970) 57-62; With F.M. Cholewinski. The C-Borel transform. *Proc AMS* 42, 2(1974) 445-451.

Haimo, Franklin 72-73 M

Born 1919 Portland, OR. PhD 1947 Mathematics Harvard Univ. Appointments: Assoc Ed *Amer Math Monthly*. Memberships: AMS; MAA. Prof, Mathematics, Washington University, Box 46, St Louis, MO 63130.

Publications Related to IAS Residence: With Michael F. Singer and Marvin D. Tretkoff. Remarks on Analytic Continuation. *Bull London Math Soc* (in press).

Other Publications: Radical and Antiradical Groups. *Rocky Mtn J Math* 3(1973) 91-106; Extensions of Endomorphisms from the Higher Centres. *Canad J Math* 19(1967) 1250-1258.

Haken, Wolfgang 63-65 M, Topology

Born 1928 Berlin, Germany. 1953 Dr rer nat Univ Kiel Germany. Memberships: AMS; DMV. Prof, Math, University of Illinois, 1805 Augusta Dr, Champaign, IL 61820.

Publications Related to IAS Residence: On homotopy 3-spheres. *III J Math* 10(1966); Trivial loops in homotopy 3-spheres. *III J Math* 11(1967).

Other Publications: Theorie der normalflächen. *Acta Math* 105(1961); Über das Homöomorphieproblem der 3-Mannigfaltigkeiten. *Math Z* 80(1962); With K. Appel. Every planar map is four colorable. *III J Math* 21(1977).

Halász, Gábor 71s M, Number Theory

Born 1941 Budapest, Hungary. Cand Math Sciences Hungarian Academy. Honors: Grünwald prize 1965, 1967; Rényi prize 1971; Mathematical prize Hung Acad 1975. Head, Function Theory Dept, Math Inst of the Hung Acad, MTA Mat Kut Int, Reáltanoda u. 13-15, 1053 Budapest, Hungary.

Publications Related to IAS Residence: On the distribution of additive and the mean values of multiplicative arithmetic functions. *Studia Scientiarum Math-ematicarum Hungarica* 6(1971) 211-233.

Other Publications: Über die Mittelwerte multiplikativer zahlentheoretischer Funktionen. *Acta Math Hung* 19 3-4(1968) 365-403; With P. Turán. On the distribution of roots of Riemann zeta and allied functions I. *J of Number Theory* 1 1 (1969) 121-137.

Hale, Mark Pendleton, Jr. 68-69 M, Group Theory

Born 1942 Chicago, IL. PhD 1969 Univ of Ill. Memberships: AMS; MAA; ACM. Assoc Prof, Math Dept, Univ of Florida, 205 Walker Hall, Gainesville, FL 32611.

Publications Related to IAS Residence: On the Existence of Trivial Intersection Subgroups. *Trans AMS* 151(1971) 487-493.

Hale, Oron James 63-64 HS, Modern European History

Born 1902 Goldendale, WA. PhD 1930 Modern History Univ of Penna. Honors: PBK; George Louis Beer Prize 1931; George Polk Award 1964; LittD (hc) Hampden Sydney College 1958; Comdrs Cross Order of Merit German Fed Rep 1969. Appointments: Secy of the Army, Adv Comm on Mil Hist; Dept of State, Advisory Comm on the publication of German Documents; Chairman, AHA Committee on the Microfilming of German Captured Documents (Natl Socialist period). Memberships: AHA; Southern Hist Assn; Conference Grp for Cent Europ Hist. W.W. Corcoran Prof of History Emer, Univ of Va. 1600 Westbrook Ave, Apt 351, Richmond, VA 23227.

Publications Related to IAS Residence: *Europe: The Great Illusion, 1900-1914*. New York: Harper & Row, 1971; *The Captive Press in the Third Reich*. Princeton University Press, 1964.

Members

Other Publications: *Publicity & Diplomacy; With Special Reference to England and Germany, 1890-1914.* New York: D. Appleton-Century, 1940.

Hall, Marshall, Jr. 36-37 M, Algebra

Born 1910 St. Louis, MO. PhD 1936 Math Yale Univ. Honors: Henry Fship 1932-33; Guggenheim Fellow 1955 & 1970; Wilbur Cross Medal Yale 1973; IBM Professorship Caltech 1973; Visiting Fellow Merton College, Oxford 1977. Memberships: MAA; AMS; London Math Soc. Prof, Department of Mathematics, California Institute of Technology, Pasadena, CA 91125.

Publications Related to IAS Residence: Group Rings and Extensions. *Ann Math* 39(1938) 220-234; A Type of Algebraic Closure. *Ann Math* 40(1939) 360-369; Projective Planes. *TAMS* 54(1943) 229-277.

Other Publications: *The Theory of Groups.* New York: Macmillan, 1959; *Combinatorial Theory.* Wylie, 1967.

Hall, Sir Noel 46s HS(EP), Economic Theory

Born 1902 Cramlington, England. MSc 1926 Econ Princeton Univ. Honors: Knighthood; LLD(hc) Lancaster Univ; Medal of NYU; Hon Fellow Brasenose Coll Oxford; Bowie Medal B.I.M. London. Appointments: Royal Commission; Spec Committees for Health Svces; UK and Ministry of Defense. Memberships: Royal Econ Soc. Homer End, Ipsden, Oxford OX9 6QS, England.

Halmos, Paul R. 39-42, 47-48, 57-58 M, Algebraic Logic

Born 1916 Hungary. PhD 1938 Univ of Ill. Dept of Math, U of California, Santa Barbara, CA 93106. *

Publications Related to IAS Residence: *Finite Dimensional Vector Spaces.* Annals of Mathematics Studies, 7. Princeton: Princeton Univ Press, 1942; *Measure Theory.* New York: Van Nostrand, 1950; The Decomposition of Measures. *Duke Math J* 8(1941) 386-392; Statistics, Set Functions and Spectra. *Recueil Math NS* 9(1941) 241-248; With Warren Ambrose and S. Kakutani. The Decomposition of Measures, II. *Duke Math J* 9(1942) 43-47; With H. Samelson. On Mono-thetic Groups. *Proc NAS* 28(1942) 254-258; With J. Von Neumann. Operator Methods in Classical Mechanics, II. *Ann Math (2)* 43(1942) 332-350; Square Roots of Measure Preserving Transformations. *Amer J Math* 64(1942) 153-166; On the Set of Values of a Finite Measure. *Bull AMS* 53(1947) 138-141; Measurable Transformations. *Bull AMS* 55(1949) 1015-1034; A Non Homogeneous Ergodic Theorem. *TAMS* 66(1949) 284-288.

Halpern, James Daniel 65-66 M, Logic and Set Theory

Born 1934 Detroit, MI. PhD Math U of Calif, Berkeley. Appointments: Exec Ctee, Assoc for Symb Logic

1974-76. Memberships: AMS. Prof, Math, U of Alabama, 2765 Altadena Lake Drive, Birmingham, AL 35243.

Publications Related to IAS Residence: With Hans Lau-chli. A Partition Theorem. *Trans AMS* 124(1966) 360-367; With Azriel Levy. The Boolean Prime Ideal Theorem does not Imply the Axiom of Choice. In *Proc of the Symposia in Pure Math*, 13, Axiomatic Set Theory: 83-104. 1971.

Other Publications: Nonstandard Combinatorics. *Proc London Math Soc* Third Series 30(1975) 40-54; With Paul E. Howard. The Law of Infinite Cardinal Addition is Weaker than the Axiom of Choice. *Trans AMS* 220(1976) 195-204.

Halpern, Martin Brent 66-67 NS, Physics

Born 1939 Newark, NJ. PhD 1964 Physics Harvard Univ. Prof, Dept of Physics, University of California, Berkeley, CA 94720.

Publications Related to IAS Residence: Conspiracy and Superconvergence in Pion Photoproduction. *Phys Rev* 160(1967) 1441; Towers as Sets of Composite Particles and Trouble with Infinite Component Field Theories. *Phys Rev* 159(1967) 1328; Formal Reconstruction of Theory From Experiment. *Phys Rev* 164(1967) 1878.

Hambleton, Ian 78-79 M, Topology

Born 1946 Toronto, Ontario, Canada. PhD 1973 Mathematics Yale Univ. Memberships: Canad Math Soc; AMS. Assoc Prof, Dept of Mathematics, McMaster University, Hamilton, Ontario, Canada L8S 4K1.

Publications Related to IAS Residence: With D.R. Anderson. Balanced Splittings of Semi-Free Actions on Homotopy Spheres. In *Proceedings of Waterloo Conference 1979.* Springer Verlag, in press.

Other Publications: Existence of free involutions on 5-manifolds. *Ind U Math J* 26(1977) 777-787; With C. R. Riehm. Splitting hermitian forms over group rings. *Invent Math* 45(1978) 19-33; With R. J. Milgram. Poincaré transversality for double covers. *Canadian J Math* 30(1978) 1319-1330.

Hamilton, Donald Ross 52f M(NS), Nuclear Physics

Born 1914 . PhD 1939 Columbia Univ. 1328 Fairway Ct., Burlington, Ont., Canada. *

Publications Related to IAS Residence: With A. Lemonick and F. M. Pipkin. Beta-Gamma Polarization Correlations. *Phys Rev* 2 92(1953) 1191-1198; With W. P. Alford and L. Gross. Upper Limits on the Neutrino Mass from the Tritium Beta Spectrum. *Phys Rev* 2 92(1953) 1521-1525.

Hammer, Jacob 38s, 39-40, 44-45, 52s HS, Mediaeval Latin and History

Born 1894 Poland. PhD 1926 Columbia Univ. Deceased.

Hammond, Nicholas Geoffrey Lempriere 52-53, 55-56, 63s, 68s HS, Greek History and Archaeology

Born 1907 Ayr, Scotland. MA(Cantab.) 1932 Classics. Honors: Fellow British Academy 1968. Appointments: Pres, Hellenic Society, London; Chmn, British Schl of Archaeology at Athens Managing Comm. Prof Emer, Greek, Univ of Bristol, UK. 3 Belvoir Terr, Trumpington Rd, Cambridge CB2 2AA, England.

Publications Related to IAS Residence: The Family of Orthogoras. *Class Quart* 6(1956) 45-53; The Philaids and the Chersonese. *Class Quart* 6(1956) 113-129; Studies in Greek Chronology of the Sixth and Fifth Centuries B.C. *Historia* 4(1955) 371-411; Strategia and Hegemonia in Fifth-Century Athens. *Class Quart* 18(1968) 111-144; *A History of Greece to 322 B.C* 1959; *Epirus*. 1967.

Other Publications: *A History of Macedonia*. 1. 1972. *The Classical Age of Greece*. 1975; *Migrations and Invasions*. 1976.

Hampe, Roland 63f HS, Greek Archaeology and Art

Born 1908 Germany. PhD 1958 Heidelberg Univ. Archäologisches Inst, Marstallhof 4, Heidelberg, Germany. *

Hamrick, Gary Calvin 70-71 M, Algebraic Topology

Born 1939 Dallas, TX. PhD 1970 Univ of Va. Dept of Math, Univ of Texas, Austin, TX 78712. *

Hamstrom, Mary-Elizabeth 56-57 M, Geometric Topology of Manifolds

Born 1927 Pittsburgh, PA. PhD 1952 Univ of Texas. *

Hancock, Roger Nelson 77-78 HS, Reason & Faith in 19th Century Philosophy

Born 1929 Lincoln, NE. PhD 1956 Yale Univ. 321 N Eagleville Rd, Storrs, CT 06268. *

Hancock, Sir William Keith 52f HS, History

Born 1898 Melbourne, Australia. MA(Oxon.) 1924. Honors: Knight Bachelor 1952; KBE 1964; Fellow Brit Acad; Corresp Fellow AAAS; Royal Hist Assoc; DLitt(hc) Rhodes, Cambridge, Birmingham, Oxford, Cape Town, Melbourne, Adelaide, ANU, WA. Appointments: British War Cabinet Offices 1941-1945; Political Mission to Uganda 1954. Memberships: AHA. Emer Prof, Australian National Univ, 49 Gelliband St, Campbell, Canberra, A.C.T. 2601, Australia.

Publications Related to IAS Residence: *Smuts: The Sanguine Years*. 1. Cambridge University Press, 1962.

Other Publications: *Survey of British Commonwealth Affairs*. 3 vols. Oxford U Press, 1937-42; *Smuts*. 2. Cambridge U Press, 1968; *Discovering Monaro*. Cambridge U Press, 1972; *Professing History*. Sydney Univ Press, 1976; *Ricasoli and the*

Risorgimento in Tuscany. London: Faber and Gwyer, 1926.

Handel, Michael 78-79 M, Topology

Born 1949 New York, NY. PhD 1975 Math U C Berkeley. Memberships: AMS. Asst Prof, Math Dept, Michigan State University, East Lansing, MI 48824.

Publications: One dimensional minimal sets and the Seifert Conjecture. *Ann Math* in press; A resolution of two stratification conjectures concerning CS sets. *Topology* 17: 167-175.

Handley, Eric Walter 71s HS, Classical Antiquity

Born 1926 Birmingham, England. MA(Cantab.) 1949. Honors: Cromer Greek Prize (jointly) 1958; Fellow British Academy 1969. Appointments: Secretary, Council of University Classical Departments, 1969-70; Chairman, 1975-8. Prof, Greek, and Dir Inst of Class Studies, University College London, Gower St, London WC1E 6BT, England.

Publications Related to IAS Residence: The poet in-spired? *J Hellenic Studies* 93(1973) 102-8; Fragments of Greek Comedy. In *Proceedings of the XIV International Congress of Papyrologists, Oxford, 24-31 July, 1974*, 133-158. London: Egypt Exploration Society, 1975.

Other Publications: ed, *The Dyskolos of Menander*. Cambridge: Harvard Univ Press, 1965; ed with John Rea. *The Telephus of Euripides*. London: University of London, 1957.

Hanf, William Porter 76-77 M, Logic

Born 1933 Riverside, CA. PhD 1962 Univ of Calif, Berkeley. Memberships: AMS; Assoc for Symbolic Logic. Prof, Math Dept, Univ of Hawaii, Honolulu, HI 96822.

Publications: The Boolean Algebra of Logic. *Bull AMS* 81(1975) 587-589.

Hanfmann, George Maxim Anossov 47-48, 71-72 HS, Classical Archaeology

Born 1911 Petersburg, USSR. DPhil 1934 Univ of Berlin; PhD 1935 Johns Hopkins Univ, Honors: Hon citation Turkish Government 1972; Harvard Univ Press Prize 1972; Archaeol Inst of America Award (gold medal) 1979; MA(hc) Harvard Univ 1949; Académie des Inscr et Belles Lettres; Amer Philosoph Soc; AAAS; Akad Mainz; Guggenheim Fellow; ACLS; Bollingen Fellow; R Soc of Antiquaries, London. Appointments: General Ed Archaeol Exploration of Sardis; Archaeol Inst of America (Exec Committee); Amer Research Inst Turkey (Director); Amer Schools Orient Research (Assoc Trustee); Hon Committee for Xth Intern Congress of Class Archaeology (1973). Memberships: Archaeol Inst Amer; German Archaeol Inst (hon); Austr Archaeol Inst (hon); Ist Studi Etruschi; Am Schools Oriental Research; Soc Hellenic Roman Studies, Great Britain; Am Res Center Egypt.

Members

John E. Hudson Prof, Archaeology, Harvard University. 29 Franklin St., Watertown, MA 02172.

Publications Related to IAS Residence: Archaeology in Homeric Asia Minor. *AJA* 52(1948) 135-155; On Some Eastern Greek Wares. In *The Aegean and the Near East: Studies presented to Hetty Goldman*, ed. by Saul S. Weinberg, 165-184. Locust Valley, NY: Augustin, 1956; *From Croesus to Constantine; the Cities of Western Asia Minor and their Arts in Greek and Roman Times*. Ann Arbor: Univ of Michigan Press, 1975; With Nancy H. Ramage. *Sculpture from Sardis: the Finds through 1975*. Cambridge: Harvard Univ Press, 1978; The Iron Age Pottery of Tarsus. In *Excavations at Gözli Kule, Tarsus*, ed. by Hetty Goldman, 3: 18-332, 401-409. Princeton: Princeton Univ Press, 1963; A Pediment of the Persian Era. In *Mansel'e armağan, Mélanges Mansel*, 289-302. Ankara: Türk Tarih Kurumu, 1974.

Other Publications: *Classical Sculpture*. Greenwich, Conn: New York Graphic Soc, 1967; *The Etruscans and their Art*. Providence: Rhode Island Museum Press, 1940; *Letters from Sardis*. Cambridge: Harvard Univ Press, 1972; *Observations on Roman Portraiture*. Revue d'études latines. Berchem: Latomus, 1953; *Roman Art; a Modern Survey of the Art of Imperial Rome*. Greenwich, Conn: New York Graphic Soc, 1964; *The Season Sarcophagus in Dumbarton Oaks*. Cambridge: Harvard Univ Press, 1952.

Hanges, Nicholas William 77-78 M, Analysis

Born 1949 Bridgeport, CT. PhD 1976 Mathematics Purdue Univ. Memberships: AMS; AMIAS. Asst Prof, Dept of Mathematics, Hill Center, Rutgers University, New Brunswick, NJ 08903.

Publications Related to IAS Residence: Parametries and Propagation of Singularities for Operators with Non-Involutive Characteristics. *Ind U Math J* 28, 1(1979) 87-97.

Other Publications: Propagation of Singularities for a Class of Operators with Double Characteristics. In *Seminar on Singularities of Solutions of Linear Partial Differential Equations*, ed. by L. Hörmander, *Ann Math Studies* 91. Princeton, N.J.: Princeton U Press, 1979; Parametries and Local Solvability for a Class of Singular Hyperbolic Operators. *Comm in Partial Differential Equations* 3, 2(1978) 105-152.

Hanner, Olof 49-50 M, Topology

Born 1922 Sweden. Fil Dr 1952 Univ of Stockholm. Dept of Math, Univ of Gothenburg, 402 20 Gothenburg 5, Sweden. *

Publications Related to IAS Residence: With H. Rådström. A Generalization of a Theorem of Fenchel. *Proc AMS* 2(1951) 589-593; Solid Spaces and Absolute Retracts. *Ark Mat* 1(1952) 375-382; Some Theorems on Absolute Neighborhood Retracts. *Ark Mat* 1(1952) 389-408.

Hanson, Andrew Jörgen 71-73 NS, Elementary Particle Physics

Born 1944 Los Alamos, NM. PhD 1971 Theoretical Physics MIT. Memberships: Am Phys Soc; Sigma Xi. Project Scientist, Inst for Adv Computation, Sunnyvale, CA. 640 Kendall Ave, Palo Alto, CA 94306.

Publications Related to IAS Residence: With T. Regge and C. Teitelboim. Constrained Hamiltonian Systems. In *Contributi del Centro Linceo Interdisciplinari di Scienze Matematiche e loro Applicazioni*, 22. Rome: Accad Naz dei Lincei, 1976; With T. Regge. The Relativistic Spherical Top. *Ann Phys* 87(1974) 498-566; With S. Fubini and R. Jackiw. New Approach to Field Theory. *Phys Rev D* 7(1973) 1733-60; Dual N-Point Functions in PGL (N-2, C)-Invariant Formalism. *Phys Rev D* 5(1972) 1948-56.

Other Publications: With T. Eguchi. Asymptotically Flat Self-Dual Solutions to Euclidean Gravity. *Phys Letters* 74B(1978) 249.

Hara, Yasuo 65-66 M(NS), Physics

Born 1934 Kamakura, Japan. PhD 1962 Physics Univ of Tokyo. Honors: Nishina Mem Prize 1977. Appointments: Comm on High Energy Physics. Memberships: Phys Soc of Japan; Am Phys Soc. Prof, Physics, Univ of Tsukuba, Head Grad Schl of Physics Univ of Tsukuba, 3-15-22, Yakumo, Meguro-ku, Tokyo 152, Japan.

Publications Related to IAS Residence: Mass Differences, Charges, and Magnetic Moments in SU(3) Bootstrap Theory. *Phys Rev* 144(1966) 1241-1249; Nonleptonic Decays of Hyperons. *Phys Rev Letters* 16(1966) 380-383; Nonleptonic Decays of K Mesons. *Phys Rev Letters* 16(1966) 875-879.

Harada, Koichiro 68-70 M, Group Theory

Born 1941 Japan. DSci 1972 Mathematics Univ of Tokyo. Memberships: AMS; Japan Mathematical Society. Prof, Mathematics, Ohio State Univ. 3453 Shattuck Ave, Columbus, OH 43210.

Publications Related to IAS Residence: With Gorenstein. Finite groups whose 2-subgroups are generated by at most 4 elements. *Mem AMS* 147(1974).

Harary, Frank 57-59 M, Combinatorics

Born 1921 New York, NY. PhD 1948 Math Univ of Calif, Berkeley. Honors: Dist Alum Brooklyn Coll 1962; DSc(hc) Univ of Aberdeen, Scotland 1975; PhD(hc) Univ of Lund, Sweden 1978; of Founder of *J of Combinatorial Theory and J of Graph Theory*. Prof, Math, and Fac Assoc Inst for Soc Res, Department of Mathematics, University of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: On the number of bicolored graphs. *Pacific J Msth* 8(1958) 743-755; On the number of dissimilar graphs between a given graph-subgraph pair. *Canad J Math* 10(1958)

513-516; On the group of a graph with respect to a subgraph. *J London Math Soc*33(1958) 457-461; Note on Carnap's relational asymptotic relative frequencies. *J Symb Logic* 23(1958) 257-260; A criterion for unanimity in French's theory of social power. In *Studies in Social Power*, ed. by D. Cartwright, 168-182. Ann Arbor: Inst for Soc Res, 1959; Status and contrastatus. *Sociometry*22(1959) 23-43; On the group of the composition of two graphs. *Duke Math J* 26(1959) 29-34; With G. Prins. The number of homeomorphically irreducible trees, and other species. *Acta Math* 101 (1959) 141-162; An elementary theorem on graphs. *Amer Math Monthly* 66(1959) 405-407; With I. C. Ross. A description of strengthening and weakening groups members. *Sociometry* 22(1959) 139-147; Graph theory and electric networks. In *Inst of Radio Engineers, Trans on Circuit Theory*, CT-6: 95-109. 1959; On the line-group of two-terminal series-parallel networks. *J Math Physics* 38(1959) 112-118; A graph theoretic method for the complete reduction of a matrix with a view toward finding its eigenvalues. *J Math Physics* 38(1959) 104-111; Exponentiation of permutation groups. *Am Math Monthly* 66(1959) 572-575; Graph theoretic methods in the management sciences. *Management Sci* 5(1959) 387-403; The number of functional digraphs. *Math Ann* 138(1959) 203-210; On the measurement of structural balance. *Behav Sci*4(1959) 316-323; With D. Cartwright. A note on Freud's "Instincts and their vicissitudes". *Internat'l J of Psychoanalysis* 40(1959) 287-290; With M. Richardson. A matrix algorithm for solutions and r-bases of a finite irreflexive relation. *Naval Res Logist Quart* 6(1959) 307-314; Some historical and intuitive aspects of graph theory. *SIAM Rev* 2(1960) 123-131; With R. Z. Norman. Dissimilarity characteristic theorems for graphs. *Proc AMS* 11(1960) 332-334; With I.C. Ross. The square of a tree. *Bell System Technical J* 39(1960) 641-647; On the consistency of precedence matrices. *J Assoc Comp Mach* 7(1960) 255-259; A matrix criterion for structural balance. *Naval Res Logist Quart* 7(1960) 195-199.

Other Publications: With R. Norman and D. Cartwright. *Structural Models*. New York: Wiley, 1965; *Graph Theory*. Reading, Mass: Addison-Wesley, 1969; With E. Palmer. *Graphical Enumeration*. New York: Academic Press, 1973.

Harder, Günter 66-67, 72-73 M, Algebraic Geometry

Born 1938 Germany. Mathematisches Institut, 53 Bonn, Wegleistr 10, Fed Rep Germany. *

Hardt, Robert Miller 76s M, Algebraic Topology

Born 1945 Pittsburgh, PA. PhD 1971 Mathematics Brown Univ. Memberships: AMS. Assoc Prof, School of Mathematics, University of Minnesota, Minneapolis, MN 55455.

Publications Related to IAS Residence: On boundary regularity of integral currents or flat chains modulo 2 minimizing the integral of an elliptic integrand. *Comm PDE* 2(1977) 1163-1232.

Other Publications: Stratification of real analytic mappings and images. *Inventiones math* 28(1975) 193-208; With Leon Simon. Boundary regularity and embedded solutions for the oriented plateau problem. *Annals of Math* in press.

Hardy, Godfrey H. 36f M

Deceased.

Publications Related to IAS Residence: With Norman Levinson. Inequalities Satisfied by a Certain Definite Integral. *Bull AMS* 43(1937) 709-716.

Haris, Stephen Joseph 70-71 M, Algebraic Number Theory

Born 1942 Budapest, Hungary. PhD thematics Johns Hopkins Univ. Memberships: AMS. Asst Prof, Dept of Mathematics, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: A Siegel formula for orthogonal groups over a function field. *Trans AMS* 190(1974).

Other Publications: Admissible Representations for split reductive groups over a function field. *Osaka J Math* 15(1978).

Harish-Chandra see Present Faculty

Harris, Bruno 60-61, 67-68, 74-75 M

Born 1932 Ploesti, Rumania. PhD 1956 Yale Univ. Memberships: AMS. Prof, Mathematics, Brown Univ, 19 Brenton Ave, Providence, RI 02906.

Publications Related to IAS Residence: On the homotopy groups of the classical groups. *Annals of Math* 74(1961); Suspensions and characteristic maps. *Annals of Math* 76(1962); K, -Groups of Rings of Algebraic Integers. *Annals of Math* 101(1975) 20-33.

Other Publications: J-homomorphisms and cobordism groups. *Inventiones Math* 7(1969); The Adams e-ho-momorphism. *Topology* 8(1969).

Harris, Morton Edward 79s M, Finite Group Theory

Born 1934 New York, NY. PhD 1960 Harvard Univ. Honors: PBK. Memberships: AMS; MAA. Prof, School of Mathematics, The University of Minnesota, Minneapolis, MN 55455.

Publications Related to IAS Residence: With D. Gorenstein. Finite groups with product fusion. *Ann of Math* 101(1975) 45-87.

Other Publications: Finite groups having an involution centralizer with a 2-component of dihedral type, I and II. *Ill J Math* 21(1977) 575-647.

Harris, Robert M. 65s HS, Art History

Born 1931 New York, NY. PhD 1960 Princeton Univ. 33 Washington Ave, Northampton, MA 01060. *

Harris, William Vernon 70-71, 78s HS, Ancient History

Members

Born 1938 Nottingham, England. DPhil(Oxon.) 1968 Ancient History. Honors: Foreign Member Istituto di Studi Etruschi ed Italici (Florence) 1973. Memberships: AHA; Am Philolog Assn; Archaeolog Inst of Amer; Assn of Ancient Historians. Prof, and Ed *Columbia Studies in the Classical Tradition*, History Department, Columbia University, New York, NY 10027.

Publications Related to IAS Residence: *War and Imperialism in Republican Rome, 327-70 BC*. Oxford: Clarendon Press, 1979; On War and Greed in the Second Century BC. *Amer Hist Rev* 76(1971) 1371-1385.

Other Publications: *Rome in Etruria and Umbria*. Oxford: Clarendon Press, 1971.

Harrison, Evelyn Byrd 61f, 65s HS, Classical Archaeology

Born 1920 Charlottesville, VA. PhD 1952 Classical Archaeology Columbia Univ. Honors: AAAS 1973. Memberships: Archaeolog Inst of Amer; Soc for Prom of Hellenic Studies; Coll Art Assn. Prof, Fine Arts, NYU, Institute of Fine Arts, 1 E 78 St, New York, NY 10021.

Publications Related to IAS Residence: The South Frieze of the Nike Temple and the Marathon Painting in the Painted Stoa. *AJA* 76(1972) 353-378; Portrait Sculpture. In *The Athenian Agora*, 1. Princeton: Amer School of Class Stud at Athens, 1953; Archaic and Archaistic Sculpture. In *The Athenian Agora*, 11. Princeton: Amer School of Class Stud at Athens, 1965.

Other Publications: Athena and Athens in the East Pediment of the Parthenon. *AJA* 71(1967) 27-58; Alka-menes' Sculptures for the Hephaisteion. *AJA* 81(1977) 137-178, 265-287, 411-426.

Harrison, Francis Llewellyn 58s HS, Mediaeval Music

Born 1905 England. DPhil(Oxon.) 1952. *

Harrison, Jenny 75-76 M, Topology

Born 1949 Atlanta, GA. PhD 1975 Topology Univ of Warwick. Honors: Miller Fship 1977-79; Marshall Scholar 1971-74. Memberships: AMS. Assistant Prof, Math Dept, Univ of Calif, Berkeley, CA 94720.

Publications Related to IAS Residence: Unsmoothable diffeomorphisms on higher dimensional manifolds. *Proc AMS* 73, 2(1979).

Other Publications: Unsmoothable diffeomorphisms. *Ann Math* 102(1975); Structure of a foliated neighborhood. *Proc Cam Phil Soc* 79(1976).

Harrold, Orville G., Jr. 58s, 64s M, Topology

Born 1909 Chicago, IL. PhD 1936 Mathematics Stanford Univ. Honors: Prize for Outstanding Research published in Southeast, Oak Ridge Institute of Nuclear Studies 1949; Guggenheim Fellow 1957-58; AAAS 1954. Appointments: Assoc Secy, AMS

1965-1976. Memberships: AMS; MAA; AAAS. Prof, Math, Fla State Univ, 1101 Lothian Dr, Tallahassee, FL 32312.

Publications Related to IAS Residence: Locally peripherally unknotted surfaces in E^3 . *Annals of Math* 69(1959) 276-290; A Characterization of Locally Euclidean Spaces. *Trans Amer Math Soc* 118(1965) 1-16.

Other Publications: Uniformly abelian groups in Euclidean Domains. *Trans Amer Math Soc* 67(1949) 120-129; With E. E. Moise. Almost locally polyhedral spheres. *Annals of Math* 57(1953) 575-578; With H. G. Griffith and E. E. Posen. A characterization of tame curves in three-space. *Trans Amer Math Soc* 79, 1(1955) 12-24.

Hartle, James B. 63-64 M(NS), Physics

Born 1939 Baltimore, MD. PhD 1964 Physics Cal Tech. Honors: Sloan Fellow 1970-72. Memberships: Am Phys Soc; Am Astron Soc. Prof, Physics Department, University of California, Santa Barbara, CA 93108.

Publications Related to IAS Residence: With D. R. Brill. Method of the Self Consistent Field in General Relativity and its Application to the Gravitational Geon. *Phys Rev* 135(1964) 271.

Hartung, Paul Gilbert 73f M, Number Theory

Born 1943 Phillipsburg, NJ. PhD 1971 Number Theory (Mathematics) Penn State. Assoc Prof, Dept of Mathematics, Bloomsburg State College, Bloomsburg, PA 17815.

Publications Related to IAS Residence: On a Hypothesis Implying the Non-Vanishing of Dirichlet's L-Series for $S > 0$ and Real Odd Characters χ . *J Reine Angew Math* 262; On the Pellian Equation. *J Number Theory* (in press).

Other Publications: Proof of the Existence of Infinitely Many Imaginary Quadratic Fields Whose Class number is not Divisible by 3. *J Number Theory* (1974); Explicit Construction of a Class of Infinitely Many Imaginary Quadratic Fields Whose Class Number is Divisible by 3. *J Number Theory* (1974).

Harvey, F. Reese 72f M, Analysis

Born 1941 Jacksonville, FL. PhD 1966 Mathematics. Honors: Sloan Fellow 1972-74. Appointments: Natl Acad of Scis ad hoc Comm on Travel Grants for 1978 Internatl Cong of Math; AMS ad hoc Comm on Committees, 1974-75. Memberships: AMS. Prof, Department of Mathematics, Rice University, Houston, TX 77001.

Publications Related to IAS Residence: With Blaine Lawson. Extending minimal varieties. *Invent Math* 28(1975) 209-226; With Blaine Lawson. On boundaries of complex analytic varieties I, II. *Ann Math* 102, 106(1975, 1977) 223-290, 312-328; Holomorphic chains and their boundaries. In *Several Complex Variables, Proc Symp Williams College*

1975, ed. by R.O. Wells, Proc of Symp in Pure Math 30, Pt 1: 309-382. Providence, RI: AMS, 1977.

Other Publications: The theory of hyperfunctions on totally real subsets of a complex manifold with applications to extension problems. *Amer J Math* 91(1969) 853-873; With John Polking. Removable singularities of solutions of linear partial differential equations. *Acta Math* 125(1970) 39-56; With Bernard Shiffman. A characterization of holomorphic chains. *Ann Math* 96(1974) 498-504; With John Polking. Fundamental solutions in complex analysis. *Duke Math J*(in press).

Harvey, William James 78-79 M, Discrete Group Theory

Born 1941 Brackley, Northants, England. PhD 1966 Mathematics Univ of Birmingham. Honors: Sr Visit Fellow SSRC 1978-79. Memberships: London Math Soc; AMS. Lect, Math Dept, King's College, Strand, London WC2, 2LS, England.

Hasenjaeger, Gisbert 64-65 M, Mathematical Logic

Born 1919 Germany. PhD 1952 Univ of Münster. *

Haskell, Thomas L. 78-79 HS, American Social and Intellectual History

Born 1939 Washington, DC. PhD 1973 Stanford Univ. Honors: Fellow Natl Humanities Inst (Yale) 1975-76; Humanities Fellow Rockefeller Found 1978-79. Memberships: AHA; Organ of Amer Historians. Assoc Prof, History Dept, Rice Univ, Houston, TX 77001. **Publications:** *The Emergence of Professional Social Science: The American Social Science Association and the 19th Century Crisis of Authority*. Urbana: U of Illinois Press, 1977.

Haspels, Caroline Henrietta Emilie 50-51 HS, Archaeology

Born 1894 Netherlands. PhD 1935 U of Utrecht. * **Publications Related to IAS Residence:** Lions. *Mnemosyne* (4) 4(1951) 230-234; Terracotta Figurine. *Vereeniging tot Bevordering der Kennis van de Antike Beschaving* 26(1951) 54-56.

Hasslacher, Brosi 73-75, 80s NS, Theoretical High Energy Physics

Born 1941 New York, NY. PhD 1971 Physics SUNY at Stonybrook. Lauritsen Lab, Cal Tech, Pasadena, CA 91125.

Publications Related to IAS Residence: With Roger F. Dashen and André Neveu. Nonperturbative methods and extended-hadron models in field theory. I. Semi-classical functional methods. *Phys Rev D* 3, 10(1974) 4114-4129; With Roger F. Dashen and André Neveu. Nonperturbative methods and extended-hadron models in field theory. II. Two-dimensional models and extended hadrons. *Phys Rev D* 3, 10(1974) 4130-4138; With Roger F. Dashen and

André Neveu. Nonperturbative methods and extended-hadron models in field theory. III. Four-dimensional non-Abelian models. *Phys Rev D* 3, 10(1974) 4138-4142; With Roger F. Dashen and André Neveu. Particle spectrum in model field theories from semiclassical functional integral techniques. *Phys Rev D* 3, 11(1975) 3424-3450. **Other Publications:** With A. Neveu. Dynamic charges in field theories. *Nuc Physics B* (1979) ; With E. Corrigan. A functional equation for exponential loop integral in gauge theories. *Phys Letters B*(1979).

Hatcher, Allen Edward 75-76, 79-80 M, Topology

Born 1944 Indianapolis, IN. PhD 1971 Mathematics Stanford Univ. Assoc Prof, Univ of Calif, Dept of Math, Los Angeles, CA 90024.

Hausmann, Jean-Claude 75-76, 78-79 M, Topology

Born 1945 Ste-Croix, Switzerland. Doctor 1974 Mathematics Univ of Geneva. Memberships: AMS. Chef de Travaux, Mathématiques, Université, BP 124, 1211 Geneva 24, Switzerland.

Publications Related to IAS Residence: Homological Surgery. *Ann Math* 104(1976) 573-584; Manifolds with a given homology and a given fundamental group. *Comment Math Helvet* 53(1978) 113-134; On odd dimensional surgery with finite fundamental group. *Proc AMS* 62(1977) 199-205; Finiteness of isotopy classes of certain knots. *Proc Am Math Soc* in press.

Hausmann, Ulrich 75-76 HS, Classical Archaeology

Born 1917 Bremen, Germany. DPhil 1944 Class Arch Univ of Berlin. Memberships: Member Deutsches Archäologisches Inst. Prof, Class Archaeology, Tübingen Univ, Ob dem Viehweide 8, D-7400 Tübingen, Germany.

Publications Related to IAS Residence: Reliefmedaillon Herakles und Hesperide. In *Deutsches Archäologisches Institut*, 10. Olympia bericht, in press; Eine Pergamenische Werkstatt. *Mitt Deutsches Archäol Inst, Istanbul, 1977/78* (in press).

Other Publications: *Kunst und Heilum. Untersuchungen z. d. griechischen Asklepiosreliefs*. Potsdam: 1948; *Griechische Weihreliefs*. Berlin: 1960; *Hellenistische Reliefbecher aus attischen und böotischen Werkstätten*. Stuttgart: 1959.

Haussherr, Reiner 73f HS, History of Art

Born 1937 Berlin, Germany. D Phil Habil 1969 History of Art Bonn Univ. Honors: Ak Wiss u. Lit Mainz. Appointments: 1973-1978 Foreign Advisory Comm, Internatl Ctr Medieval Art, New York; 1975- weiterer Vorstand, Deutscher Verein für Kunstwissenschaft, Berlin. Prof, History of Art, Univ Kiel. Kunst historisches Institut, Universität, Olshausenstr 40-60, D-2300 Kiel, Germany.

Publications Related to IAS Residence: Eine Warnung vor dem Studium von zivilem und

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kanonischem Recht in der Bible moralisée. *Frühmittelalterliche Studien* 9(1975) 390-404; Eine verspätete Apocalypsen-Handschrift und ihre Vorlage. In *Studies in Late Medieval and Renaissance Painting in Honor of Millard Meiss*, ed. by I. Lavin & J. Plummer, 1: 219-240. New York: 1977.

Other Publications: Überlegungen zum Stand der Kunstgeographie. *Rheinische Vierteljahrsblätter* 30(1965) 351-372; Kruzifixus. In *Lexikon der christlichen Ikonographie*, 2: 677-695. 1970; *Michelangelos Kruzifixus für Vittoria Colonna*. Opladen: 1971 ; Sensus litteralis und sensus spiritualis in der Bible moralisée. *Frühmittelalterliche Studien* 6(1972) 356-380; Die Skulptur des frühen und hohen Mittelalters an Rhein und Maas-Stand und Probleme der Forschung. In *Rhein und Maas-Kunst und Kultur 800-1400*, ed. by 1973, Bd 2: 387-406. Köln; *Rembrandts Jacobsse-gen-Überlegungen zur Deutung des Gemäldes in der Kasseler Galerie*. Opladen: 1976; Der typologische Zyklus der Chorfenster der Oberkirche von S Francesco zu Assisi. In *Kunst als Bedeutungsträger-Ge-denkschrift für Günter Bandmann*, 95-128. Berlin.

Havas, Peter 53-54 M(NS), Physics

Born 1916 Budapest, Hungary. PhD 1944 Physics Columbia U. Honors: Guggenheim Fellow 1953-4. Memberships: Am Phys Soc; AAAS. Prof, Dept of Physics, Temple Univ, Philadelphia, PA 19122.

Publications Related to IAS Residence: General Relativity and the Special Relativistic Equations of Motion of Point Particles. In *Recent Developments in General Relativity*, 259. Pergamon Press, 1962; With F.R. Crownfield Jr. The Classical Equations of Motion of Point Particles in Neutral Meson Fields. *Phys Rev* 4(1954) 471.

Haver, William E 75-76 M, Topology

Born 1942 Somerville, NJ. PhD Mathematics SUNY Binghamton. Memberships: MAA; AMS. Assoc Prof, Math, Va Commonwealth Univ, Chairman of Dept Math Sciences, 2610 Lanecraft Rd, Richmond, VA 23235.

Publications Related to IAS Residence: The closure of the space of homeomorphisms on a manifold-the piecewise linear case. *Fund Math* 102(1978) 25-31.

Other Publications: Locally contractible spaces that are absolute neighborhood retracts. *Proc AMS* 40(1973) 280-284; The closure of the space of homeomorphisms on a manifold. *Trans AMS* 195(1974) 401-419.

Hawkins, David 69-70 Soc

Born 1917 El Paso, TX. PhD 1940 Univ of Calif, Berkeley. Appointments: Smithsonian Council, 1971-77. Memberships: Am Philos Assoc; AAAS. Prof, Philosophy, Univ of Colo, Dir Mtn View Center for Environmental Educ, U of Colo, 511 Mtn View Rd, Boulder, CO 80302.

Publications Related to IAS Residence: Liberal Education, a Modest Polemic. In *Content and Context*, ed. by Carl Kayser. NY: The Carnegie Commission on Higher Ed, McGraw Hill, 1973; *Northumberland Children*, a film. Boulder, Colo: Mtn View Center, U of Colo, 1973.

Other Publications: Manhattan Dist History, Project Y, The Los Alamos History. LAMS 2532; *The Language of Nature*. Freeman, 1965; *The Informed Vision*. NY: Agathon, 1974; *The Science and Ethics of Equality*. Basic Books, 1977.

Hawthorn, Geoffrey 79-80 Soc, Sociology

Born 1941 Stough, England. BA 1962 Oxford Univ. Lecturer, Sociology, Social and Political Sciences Committee, University of Cambridge, Free School Lane, Cambridge CB2 3R4, England.

Publications: *The Sociology of Fertility*. Collier-Macmillan: 1970; *Enlightenment and Despair: a History of Sociology*. Cambridge University Press, 1976; ed, *Population and Development*. Cass, 1979.

Haynes, Denys Eyre Lankester 76-77 HS, Classical Archaeology

Born 1913 Harrogate, Yorkshire, England. 1st Class Parts I & II Classical Tripos Cambridge Univ. Honors: Scholar Trinity Coll, Cambridge 1932-5; Scholar Brit Schl at Rome 1936-7; Member Ger Archaeolog Inst 1956-; Geddes-Harrower Prof Aberdeen Univ 1972; Burlington Lect 1976. Appointments: Adv Govt of Jordan on Estab of New Natl Museum 1974. Merle Cottage, Dean, Charlbury, Oxford OX7 3LD, England.

Publications Related to IAS Residence: Some Observations in Early Greek Bronze Casting. *Archäologischer Anzeiger* (1962) 803-807; The Technique of the Chats-worth Head. *Revue Archéologique* (1968) 101-112.

Other Publications: With P.E.D. Hirst. *Porta Argentariorum*. London: Macmillan, 1939; *An Archaeological and Historical Guide to the Pre-Islamic Antiquities of Tripolitania*. London: Brit Museum, 1956; *The Portland Vase*. London: British Museum, 1975.

Hazeltine, Richard Deimel 69-71 NS, Physics

Born 1942 Jersey City, NJ. PhD 1968 Physics Univ of Mich. Appointments: Ed Bd, *The Physical Review*; Ed Bd, *The Physics of Fluids*. Memberships: APS; AAAS; Sigma Xi. Research Scientist, Fusion Research Center, Dept of Physics, University of Texas, Austin, TX 78731.

Publications Related to IAS Residence: *Phys Fluids* 14(1971) 361; *Phys Rev Lett* 25(1970) 427; *J Math Phys* 12(1971) 1970; *J Math Phys* 12(1971) 502; *Phys Fluids* 15(1972) 116; *Phys Fluids* 15(1972) 2211.

Other Publications: *Phys Fluids* 17(1974) 961; *Plasma Phys* 15(1973) 77; *Phys Fluids* 18(1975) 1778; *Phys Fluids* 21(1978) 1140; *Advances in Plasma Physics*. Vol 6. Interscience, 1974.

Healy, James Bruce 73-75 NS, Theoretical Particle Physics

Born 1947 Paterson, NJ. PhD 1973 Theoretical Physics Rockefeller Univ. Memberships: Am Phys Soc. Research Affiliate, Physics, Yale Univ, 492 Whitney Ave, New Haven, CT 06511.

Publications Related to IAS Residence: Renormalization constants for scalar, pseudoscalar, and tensor currents. *Phys Rev D* 11(1975) 3309-3318; Application of current-algebra techniques to soft-pion production by the weak neutral current: S, P, T Case. *Phys Rev D* 12(1975) 3501-3521; Application of current algebra to soft-pion production induced by the weak neutral current: Second-class V, A case. *Phys Rev D* 12(1975) 3522-3532; Dimuon production associated with a scalar intermediate boson carrying dileptonic quantum number. *Phys Rev D* 12(1975) 2639-2643; A symptomatic behavior of the cross section for $e^+e^- \rightarrow$ hadrons in asymptotically free field theories. *Phys Rev D* 11(1975) 580-585; Model-independent lower bounds for massless-particle scattering. *Phys Rev D* 10(1974) 644-652; Potential scattering with confined channels. *Ann Phys* 102(1976) 1-70; Theory of multichannel potential scattering with permanently confined channels. *Phys Rev D* 14(1976) 2773-2789.

Hecht, Henryk 76-77 M, Representation of Lie Groups

Born 1946 Lodz, Poland. PhD 1974 Math Columbia Univ. Assoc Prof, Department of Mathematics, Univ of Utah, 213 JWB, Salt Lake City, UT 84108.

Publications Related to IAS Residence: On Characters and Asymptotics of Representations of a Real Reductive Lie Group. *Math Ann* in press.

Hecke, Erich 38s M

Deceased.

Heckscher, William S. 36-37, 46-47, 51-53, 60-61 HS, History of Art

Born 1904 Hamburg, Germany. PhD 1936 Art History Hamburg Univ. Honors: Founder-member Soc of Indexers (London) 1957ff; Andrew Mellon Prof 1963/4; Mem Comm on "Surviving Traces of Antiquity" London Univ 1950-; Benjamin Franklin Fellow Royal Society of Arts (London); Member of the Advisory Council, the Minister of Education (The Hague, Holland) 1959-65; Recipient of a Festschrift 1964. Appointments: Ed in Chief *Netherlands Yearbook for Art Hist* 1959-60. Memberships: Member Mediaeval Acad of Amer (1972-). Consultant, Dept of Rare Books, Library, Princeton Univ, Prof Emer Utrecht Univ. 32 Wilton St, Princeton, NJ 08540.

Publications Related to IAS Residence: Relics of Pagan Antiquity in Mediaeval Settings. *J'Warburg Inst* 1(1937) 204-220; Was This the Face . . .? *J'Warburg Inst* 1(1938) 295-297; Spiritualia sub metaphoris cor-

poralium (rev Panofsky's Abbot Suger on the Abbey Church of St Denis). *U Toronto Quarterly* 16, 2(1947) 210-14; Bernini's "Elephant and Obelisk". *Art Bull* 29, 3(1947) 154-182; Aphrodite as a Nun. *The Phoenix* 7, 3(1953) 105-117; Renaissance Emblems. Observations Suggested by some Emblem-Books in the Princeton University Library. *Princeton Univ Library Chronicle* 15, 2(1954) 55-68; Dornauszieher. *Reallexikon zur deutschen Kunstgeschichte* 4(1954) 289-299; *Sixtus III Aeneas Insignes Statvas Romano Popvlo Restitvendas Censvit*. The Hague: 1955; The "Anadyomene" in the Mediaeval Tradition (Pelagia-Cleopatra-Aphrodite). A Prelude to Botticelli's "Birth of Venus" *Netherlands Yearbook Art Hist* 7(1956) 1-39; With Karl-August Wirth. Emblem, Emblembuch. *Reallexikon zur deutschen Kunstgeschichte* 5(1959) 85-228; Recorded from Dark Recollection. In *De artibus opuscula XL. Essays in Honor of Erwin Panofsky*, ed. by Millard Meiss, 1: 187-200. New York: 1961; Goethe im Banne der Sinnbilder. Ein Beitrag zur Emblematik. *Jahrbuch der Hamburger Kunstsammlungen* 7(1963) 35-54; *Ancient Art and its Echoes in Post-Classical Times*. Netherlands Classical Association, 1963.

Other Publications: In memoriam Godefridus Ioannes Hoogewerff 1884-1936. *Yearbook of the University of Utrecht* (1963) 18-25; *Shakespeare and his Nest of Clay*. Utrecht: 1965; Aby M. Warburg - 13 juni 1866-oktober 26 1929. *Hollands Maandblad* (1966) 46f; Genesis of Iconology. In *Acts of XXI Internat Cong Art Hist at Bonn*, 239-262. Berlin: 1967; Albert Einstein. Herinnering aan gesprekken. *Hollands Weekblad* 3, 127, 128(1961) 5-7; Reflections on Seeing Holbein's Portrait of Erasmus at Longford Castle. In *Rudolf Wittkower Festschrift*, 128-148. London: 1967; "Sturm und Drang." Conjectures on the Origin of a Phrase. *Simiolus* 2(1967) 95-106; The Annunciation of the Mérode Altarpiece. An Iconographie Study. In *Miscellanea Jozef Duverger*, 37-65. Ghent: 1968; Rev of Henkel and Schöne, eds, "Emblemata. Handbuch zur Sinnbildkunst des XVI and XVII Jahrhunderts" *Ren Quarterly* 23,1(1970) 58-80; *Maces. An Exhibition of Amer Colonial Acad Scepters*. Catalogue in honor of Pres Terry Sanford's inauguration. Durham, NC: 1970; *Erwin Panofsky: A curriculum vitae*. paper read at symposium marking first anniv of Panofsky's death, Record of the Art Museum 28. Princeton: 1969; Shakespeare in his Relationship to the Visual Arts: A Study in Paradox. *Res Opportunities in Ren Drama. Report of MLA Sem.* 13/14(1973) 5-71; *Boris Penson (Paintings from a Soviet Prison)*. Catalogue of 36 paintings. Durham, NC: 1973; Petites perceptions: an Account of "Sortes Warburgianae". *J Medieval and Renaissance Studies* 4, 1(1974) 101-134; With Virginia W. Callahan. Josquin des Prez, "Illibata Dei Virgo" *J des P, London* trans and interpretation(1977) 558f; Der forensische Humanist [i.e. E. Panofsky]. *Die Zeit* 26(June 1978) 47; "Melancholia (1541)"In *Joachim Camerarius*, 31-120. Munich: 1978.

Hedlund, Gustav Arnold 33-34, 38 39, 53-54 M

Members

Born 1904 Somerville, MA. PhD 1930 Mathematics Harvard Univ. Memberships: AMS; MAA; Am Assoc Adv Sci. Prof Emer, Mathematics, Yale Univ, Visiting Professor Wesleyan Univ. 309 McKinley Ave, New Haven, CT 06515.

Publications Related to IAS Residence: On the metrical transitivity of the geodesics on a surface of constant negative curvature. *Ann Math* 35(1934) 787-803; With Marston Morse. Symbolic Dynamics II. Sturmian Trajectories. *Am J Math* 62(1940) 1-42; With W. H. Gottschalk. *Topological Dynamics*. AMS Colloquium Pubs, 36. Providence, RI: AMS, 1955.

Other Publications: Fuchsian groups and transitive horocycles. *Duke Math J* 2(1936) 530-542; With Marston Morse. Manifolds without conjugate points. *Trans AMS* 51(1942) 362-386.

Hegenbarth, Friedrich 74-75 M, Topology

Born 1940 Tetschen, Germany. PhD 1974. Asst, Mathematisches Institut, Universität Dortmund, Postfach 500500, 46 Dortmund, Germany.

Publications Related to IAS Residence: Examples of Free Involutions on Manifolds. *Math Ann* 224(1976) 117-128; An Application of the ρ -invariant. In *Differential Topology, Foliations, and Gelfand-Fuks Cohomology*, *Proc Symp Rio de Janeiro 1976*, ed. by P.A. Schweitzer, Lect Notes in Math 652: 212-221. Berlin: Springer-Verlag, 1978.

Heider, Lester Joseph, S.J. 58s M, Functional Analysis

Born 1913 Carroll, IA. PhD 1951 Univ of Mich. Deceased.

Heimert, Alan E. 60-61 HS, American Intellectual History

Born 1928 Oak Park, IL. PhD 1960 Harvard U. Eliot House, Harvard Univ, Cambridge, MA 02138. *

Heins, Maurice Haskell 56-57 M, Analysis

Born 1915 Boston, MA. PhD 1940 Complex Analysis Harvard Univ. Honors: AAAS. Appointments: NRC. Memberships: AMS; London Math Soc. Distinguished Prof, Math, Univ of Maryland, 3304 Winnett Rd, Chevy Chase, MD 20015.

Publications Related to IAS Residence: *Analytic Functions*. Princeton U Press, 1960; Some constructive problems concerning analytische Gebilde. *Math Ann Bd* 136(1958) 9-22.

Other Publications: On the Lindelöf Principle. *Ann Math* 61(1955) 440-473; *Complex Function Theory*. New York: Academic Press, 1968.

Held, Julius S. 67s HS, History of Art

Born 1905 Mosbach, Baden, Germany. PhD 1930 History of Art Freiburg Univ. Honors: LLD(hc) Williams College 1972; LittD(hc) Columbia University 1977; Officier de l'ordre de la Couronne, Belgium 1974; Hon

Dir Coll Art Assoc 1975. Appointments: Pres, Amer Friends of Museum Plantin-Moretus, Antwerp. Memberships: Coll Art Assoc of Amer; Deut Ver für Kunstwissenschaft; Mediaeval Acad of Amer; Soc de l'hist de l'art français; Renaissance Soc of Amer. Visit Prof, Williams Coll. 81 Monument Ave, Bennington, VT 05201.

Publications Related to IAS Residence: *The Oil Sketches of Pieter Paul Rubens*. 2. Princeton U Press, 1979; *Rembrandt's Aristotle and other Rembrandt Studies*. Princeton Univ Press, 1969.

Other Publications: *Rubens: Selected Drawings*. London: Phaidon Press, 1959; With Donald Posner. *17th and 18th Century Art; Baroque Painting, Sculpture, Architecture*. New York: H.N. Abrams, 1971.

Held, Richard 55-56 M(NS), Psychology

Born 1922 New York, NY. PhD 1952 Experimental Psychology Harvard Univ. Honors: AAAS; NAS; Doctor of Ocular Science (hc) New England Coll of Optometry 1977. Appointments: NIH, Exper Psych Study Sect, Chmn 66-68; Bd Sci Affs Am Psych Assn 67-70; Exec Comm Intl Neuropsych Symposium 1976-. Memberships: Am Acad Optometry; Am Psych Assn; Intl Soc Devel Psychobiol; Sigma Xi; Soc Exper Psych, prof, Experimental Psychology, and Chairman Dept of Psych and Brain Scis, E10-139, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, MA 02139.

Publications Related to IAS Residence: With N. Gottlieb. Technique for studying adaptation to disarranged hand-eye coordination. *Percept mot Skills* 8(1958) 83-86; With A. Hein. Adaptation of disarranged hand-eye coordination contingent upon reafferent stimulation. *Percept mot Skills* 8(1958) 87-90; With M. Schlank. Adaptation to disarranged eye-hand coordination in the distance-dimension. *Amer J Psychol* 72(1959) 603-605; With B. White. Sensory deprivation and visual speed: an analysis. *Science* 130(1959) 860-861.

Helgason, Sigurdur 64-66, 74-75 M

Born 1927 Akureyri, Iceland. PhD 1954 Mathematics Princeton Univ. Honors: AAAS. Memberships: AMS; Royal Danish Acad Sci. Prof, Dept of Mathematics 2-182, MIT, Cambridge, MA 02178.

Publications Related to IAS Residence: A duality for symmetric spaces with applications to group representations I, II. *Advances in Math* 5(1970) 1-154; 22(1976) 187-219; The surjectivity of invariant differential operators on symmetric spaces I. *Ann of Math* 98(1973) 451-479.

Other Publications: Invariant differential equations on homogeneous manifolds. *Bull AMS* 83(1977) 751-774; *Differential Geometry, Lie Groups, and Symmetric Spaces*. New York: Academic Press, 1978.

Heller, Alex 50-51 M, Algebraic Topology

Born 1925 New York, NY. PhD 1950 Columbia U. Appointments: NRC 62-64. Memberships: AMS. Distinguished Prof, Graduate School, CUNY, 33 W 42 St, New York, NY 10036.

Publications Related to IAS Residence: Homological Resolution of Complexes with Operators. *Ann Math* 60(1954) 283-303; Homotopy Resolutions of Semi-simplicial complexes. *Trans AMS* 80(1955) 299-344; Homological Algebra in Abelian Categories. *Ann Math* 68(1958) 484-525.

Helmer, Olaf 44-45 M

PhD 1934 Univ of Berlin. *

Publications Related to IAS Residence: On Equivariant Maps of Spaces with Operators. *Ann Math* 255(1952) 223-231; Singular Homology in Fibre Bundles. *Ann Math* 2 55(1952) 232-249.

Helson, Henry 60s M, Analysis

Born 1927 Lawrence, KS. PhD 1950 Mathematics Harvard. Memberships: AMS. Prof, Mathematics Dept, University of California, Berkeley, CA 94720.

Publications Related to IAS Residence: With David Lowdenslager. Prediction theory and Fourier series in several variables. *Acta Math* 99(1958) 165-202; II. *Acta Math* 106(1961) 175-213.

Other Publications: *Lectures on Invariant Subspaces*. NY: Academic Press, 1964; With Lowdenslager. Invariant subspaces. In *Proc International Symp on Linear Spaces at Jerusalem*, 251-262. Academic Press, 1961.

Hempel, John Paul 63-64, 71-72 M, Topology

Born 1935 Salt Lake City, UT. PhD 1962 Math Univ of Wisc. Memberships: AMS. Prof, Mathematics Dept, Rice University, Houston, TX 77001.

Publications Related to IAS Residence: With D. R. McMillan. Locally nice embeddings of manifolds. *AM J Math* 88(1966) 1-19; *One sided incompressible surfaces in 3-manifolds*. Lecture Notes in Math. Springer Verlag, 1975.

Other Publications: *3-Manifolds*. Ann of Math Study, 86. Princeton U Press, 1976.

Henderson, David Wilson 64-66 M, Topology

Born 1939 Walla Walla, WA. PhD 1964 Mathematics Univ of Wisc. Honors: Sloan Fellow 1968-1972. Appointments: Ed Bd *General Topology*. Memberships: AMS; MAA. Assoc Prof, Department of Mathematics, Cornell University, Ithaca, NY 14853.

Publications Related to IAS Residence: Extensions of Dehn's lemma and the loop theorem. *Trans AMS* 120(1965) 448-469; Self-unlinked simple closed curves. *Trans AMS* 120(1965) 470-480; Relative general position. *Pac J Math* 18(1966) 513-523; Finite dimensional subsets of infinite dimensional spaces. In *Topology Seminar, U Wisconsin 1965*, ed. by R.H. Bing & R.J. Bean, Ann Math Studies 60: 141-146. Princeton, NJ: Princeton U Press, 1966; An infinite-

dimensional compactum with no positive-dimensional compact subsets-A simpler construction. *Amer J Math* 89: 105-121; Each strongly infinite dimensional compactum contains a hereditarily infinite-dimensional compact subset. *Amer J Math* 89(1967) 122-123; A lower bound for transfinite dimension. *Fundamenta Mathematica* 63(1968) 167-173; Some questions in the dimension theory of infinite-dimensional spaces. In *Symp on Infinite Dimensional Topology, Baton Rouge 1967*, ed. by R. D. Anderson, Ann Math Studies 69: 131-136. Princeton, NJ: Princeton U Press, 1972; D-dimension I. A new transfinite dimension. *Pac J Math* 26(1968) 91-108; D-dimension II. Separable spaces and compactifications. *Pac J Math* 26(1968) 109-114.

Other Publications: Infinitesimal manifolds are open subsets of Hubert space. *Topology* 9(1970) 25-34; Micro-bundles with infinite-dimensional fibers are trivial. *Inventiones Math* 11(1970) 293-303; Stable classification of infinite-dimensional manifolds by homotopy type. *Inventiones Math* 12(1971) 48-56.

Henderson, Janice A. 77-78 HS, History of Science

Born 1943 Fitchburg, MA. PhD 1973 History of Science Yale Univ. Memberships: AAAS; Conn Acad Arts & Scis; Hist of Sci Soc. 26 Knickerbocker Lane, Old Tappan, NJ 07675.

Publications: With Sharon L. Gibbs, and Derek de Solla Price. *Computerized checklist of astrolabes*. New Haven, Conn: Yale Univ, Dept of Hist of Sci and Medicine, 1973.

Henderson, William James 36s M(NS), Physics

Born 1910 Canada. PhD 1935 Cambridge Univ. *

Publications Related to IAS Residence: With L. N. Ridenour. Artificial Radioactivity Produced by Alpha-Particles. *Phys Rev* 2 51(1937) 1102; 51(1937) 1102; 52(1937) 40; 52(1937) 139; 52(1937) 889-900; With M. G. White, M. C. Henderson and L. N. Ridenour. The Production of High Energy Alpha-Particles by the Princeton Cyclotron. *Phys Rev* 2 51 (1937) 1012-1013; With L. N. Ridenour, M. C. Henderson and M. G. White. Radioactivity Induced by Alpha-Particles. *Phys Rev* 2 51(1937) 1013; With L. N. Ridenour, M. G. White and M. C. Henderson. The Radioactivity of K^{38} . *Phys Rev* 2 51(1937) 1107.

Henkin, Leon Albert 61-62 M, Logic and Foundations

Born 1921 New York, NY. PhD 1947 Math Princeton Univ. Honors: Fulbright Research Scholar 1954-55; Fulbright Travel Grant 1979; Visiting Fellow All Souls Coll Oxford 1968-69; Guggenheim Fellow 1961-62; Chauvenet Prize (MAA) 1964. Appointments: US Comm for Hist & Philos of Sci, 1962-65; US Comm on Math Instr, 1978-; MAA CUPM; MAM Comm on Educ'l Media. Memberships: Assn for Symbolic Logic (Pres; 1962-65); AMS Council; MAA; AAAS; Canad Math Cong. Prof, Mathematics Dept, Univ of Calif, Berkeley, CA 94720.

Members

Publications Related to IAS Residence: With J.D. Monk & A. Tarski. *Cylindric Algebras, Part I*. Amsterdam: North-Holland Pub Co, 1971; An extension of the Craig-Lyndon interpolation theorem. *J Symbolic Logic* 28(1963) 201-216.

Other Publications: The completeness of the first-order functional calculus. *J Symbolic Logic* 14(1949) 159-166; An algebraic characterization of quantifiers. *Fund Math* 37(1950) 63-74; Some interconnections between modern algebra and mathematical logic. *Trans AMS* 74(1953) 410-427; Some remarks on infinitely long formulas. *Proc Symposium on Founds of Math* Invited address internat symposium Warsaw, Sept 1959(1961) 167-183.

Henning, Walter B. 56s HS, Mediaeval Arabic, Iranian Studies

Born 1908 Germany. PhD 1931 U of Göttingen. Prof, Univ of Calif, Berkeley, 7 Eton Court, Berkeley, CA 94705. *

Henriksen, Melvin 56-57, 63-64 M, Functional Analysis

Born 1927 New York, NY. PhD 1951 Univ of Wisc. Univ of Manitoba, Winnipeg, RT2 3N2, Manitoba, Canada. *

Henriques, Anna Stafford 33-35 M

Born 1905 Chicago, IL. PhD 1933 Univ of Chicago. Prof Emer, College of Santa Fe. 3218 Sherry Court, Falls Church, VA 22042.

Hensley, Douglas Austin 76-77 M, Number Theory

Born 1949 New York, NY. PhD 1974 Univ of Minn. Memberships: MAA; AMS. Asst Prof, Dept of Math, Texas A&M University, College Station, TX 77843.

Publications Related to IAS Residence: An Almost-Prime Sieve. *J of Number Theory* 10, 2(1978) 250-262; Simple Continued Fractions and Special Relativity. *Proc AMS* 67, 2(1977) 219-220; Slicing the Cube in \mathbb{R}^n and Probability. *Proc AMS* in press.

Other Publications: Polynomials which take Gaussian Integer Values at Gaussian Integers. *J of Number Theory* 9, 4(1977) 510-524.

Hepp, Klaus 64-66 M(NS), Physics

Born 1936 Kiel, Germany. PhD 1962 ETH Zürich. *

Herb, Rebecca Ann 74-75 M

Born 1948 Madison, WI. PhD 1974 Math Univ of Wash. Memberships: AMS. Asst Prof, Dept of Math, University of Maryland, College Park, MD 20742.

Publications Related to IAS Residence: Character Formulas for Discrete Series on Semisimple Lie groups. *Nagoya Math J* 64(1976) 47-61; With N. R. O'Brian. A Characterization of Unipotent, Semisimple, and Regular Elements in a Reductive Algebraic Group. *Bull London Math Soc* 8(1976) 233-238.

Herde, Peter 71-72 HS, Renaissance Studies

Born 1933 Ratibor, Germany. DPhil Habil 1965 Univ of Munich. Appointments: Deutsche Forschungsgemeinschaft. Memberships: Mediaeval Acad of Amer. Prof, History, Univ of Würzburg, Cranachstr. 7, 8755 Alzenau-Wasserlos, Germany.

Publications Related to IAS Residence: Die Schrift der Florentiner Behörden in der Frührenaissance (ca. 1400-1460). *Archiv f Diplomatiek* 17(1971) 302-335; Politische Verhaltensweisen der Florentiner Oligarchie 1382-1402. *Geschichte und Verfassungsgefüge* (1973) 156-249; *Dante als Florentiner Politiker*. Wiesbaden: Steiner Verlag, 1976; *Pearl Harbor, 7 Dezember 1941: Der Ausbruch des Krieges zwischen Japan und den Vereinigten Staaten und die Ausweitung des europäischen Krieges zum Zweiten Weltkrieg*. Darmstadt: Wissenschaftliche Buchgesellschaft, 1979.

Other Publications: *Audietia litterarum contradictarum: Untersuchungen über die päpstlichen Justizbriefe und die päpstliche Delegationsgerichtsbarkeit vom 13. bis zum Beginn des 16. Jahrhunderts*. Delegationsgerichtsbarkeit vom 13. bis zum Beginn des 16. Jahrhunderts. Tübingen: Niemeyer, 1970; *Beiträge zum päpstlichen Kanzlei- und Urkundenwesen im 13. Jahrhundert*. Kallmünz: Lassleben, 1967; *Papst Cölestin V. (Peter vom Morrone)*. Stuttgart: Hiersemann, 1980.

Hermann, Robert 69-70 NS, Mathematical Physics

Born 1931 Brooklyn, NY. PhD 1955 Princeton Univ. Math Dept, Rutgers Univ, New Brunswick, NJ 08903.*

Hermassi, Elbaki 73-74 Soc

Born 1937 Tunisia. PhD 1971 Univ of Calif, Berkeley. Dept of Sociology, U. of Calif., Berkeley, CA 94720. *

Hermassi, Karen C. 73-74 Soc

Born 1943 CA. PhD 1971 Univ of Calif, Berkeley. Dept. of Sociology, U. of Calif, Berkeley, CA 94720. *

Herrera, Miguel Emilio 65-67 M, Several Complex Variables

Born 1938 Buenos Aires, Argentina. PhD 1965 Mathematics Univ of Buenos Aires. Honors: Guggenheim Fellow 1976. Appointments: Dir Sci Res Comm, Prov B Aires, Argentina. Memberships: AMS; Union Matematica Argentina. Prof, Univ of Buenos Aires, Instituto Argentino de Matematica, Viamonte 1636, 1055 Buenos Aires, Argentina.

Publications Related to IAS Residence: De Rham theorems on semianalytic sets. *Bull AMS* 73, 3: 414-418; Integration on a semianalytic set. *Bull Soc Math France* 94(1966) 141-180; With T. Bloom. De Rham cohomology of an analytic space. *Inventiones math* 7(1969) 275-296.

Other Publications: With D. Lieberman. Residues and principal values on complex spaces. *Math Annalen* 194(1971) 259-294; With D. Lieberman.

Duality and the De Rham cohomology of infinitesimal neighborhoods. *Inventiones math* 13(1971) 97-124; With N. Co-leff. *Les courants résiduels associés à des formes méromorphes*. Springer Lecture Notes, 633. 1978.

Herring, Conyers 52-53 M(NS), Theoretical Physics, Solid State

Born 1914 Scotia, NY. PhD 1937 Mathematical Physics Princeton. Honors: Oliver E Buckley Solid-State Physics Prize Am Phys Soc 1959; AAAS; Distinguished Service Citation University of Kansas 1973; NAS. Appointments: Committees of the Am Phys Soc, the Am Inst of Physics, & NRC/NAS; Sci Info Council NSF 1971-75. Memberships: Am Phys Soc; Am Soc for Info Sci; Am Assoc Adv Sci. Prof, Dept of Applied Physics, Stanford University, Stanford, CA 94305.

Publications Related to IAS Residence: Theory of the Thermoelectric Power of Semiconductors. *Phys Rev* 96(1954) 1163-1187; Role of Low-Energy Phonons in Thermal Conduction. *Phys Rev* 95(1954) 954.

Other Publications: Exchange Interactions among Itinerant Electrons. In *Magnetism*, ed. by G. Rado and H. Suhl, 4. NY: Academic Press, 1966.

Herrmann, Peter 74f HS, Greek Epigraphy

Born 1927 Reichstadt, Czechoslovakia. Honors: Ger Archeolog Inst 1977; Austrian Archeolog Inst 1972. Memberships: Mommsen-Gesellschaft. Prof, Ancient History, Univ of Hamburg. Am Langen Sal 6, D-2110 Buchholz, W. Germany.

Publications Related to IAS Residence: *Tituli Asiae Minoris*. Fasc 1, 5 Lydia. Vienna: Akademie der Wissenschaften, forthcoming.

Other Publications: *Der römische Kaisereid*. Göttingen: Vandenhoeck & Ruprecht, 1968.

Herter, Hans Lukas 73f HS, Ancient Philosophy and Classics

Born 1899 Koblenz on Rhine, Germany. DPhil 1924 Univ of Bonn. Honors: Dr(hc) Phil Sch Univ of Athens 1962; Corresp Member Austrian Acad of Scis 1958. Appointments: Expert in Classics, German Forschungsgemeinschaft. Memberships: Mommsen-Gesellschaft. Prof Emer of Classics, Univ of Bonn. Kurfürstenstr 52, D 5300 Bonn, Germany.

Publications Related to IAS Residence: The Problematic Mention of Hippocrates in Plato's Phaedrus. *Illinois Studies* 1(1976).

Other Publications: Hermes. *Rhein Museum of Philologie* 119(1976) 193 ff; Platons Naturkunde. *Rhein Museum* 121(1978) 103; Die durstigen Tauben. *Grazer Beiträge* 5(1976) 123.

Hertzog, David 57f M

Born 1932 Brooklyn, NY. PhD 1957 Univ of Chicago ; JD 1978 Univ of Miami. Prof Mathematics, and

Attorney at Law. University of Miami, PO Box 249085, Coral Gables, FL 33124.

Hervé, Michel André 57f M, Complex Analysis

Born 1921 Paris, France. Dr d'Etat 1951 Univ of Paris. Honors: Prix Servant 1968; Prix Gaston Julia 1972. Memberships: AMS; Soc Math de France. Prof, Math, Univ of Paris 6, Directeur adjoint l'Ecole Normale Supérieure, 45, rue d'Ulm, 75230 Paris CEDEX 05, France.

Publications Related to IAS Residence: *Several complex variables - Local theory*. Oxford University Press, 1963.

Herz, Carl S. 57-58 M, Harmonic Analysis

Born 1930 New York, NY. PhD Princeton Univ. Honors: Royal Soc Canada 1978. Appointments: NRC Canada. Memberships: AMS; Canad Math Soc. Prof, Dept of Math, McGill Univ, 805 Sherbrooke West, Montreal, Canada. H3A2K6.

Publications Related to IAS Residence: Spectral synthesis for the circle. *Ann Math* 68(1958) 709-712; The spectral theory of bounded functions. *Trans AMS* 94(1960) 181-232; With A. Borel. *Seminar on Complex Multiplication*. Lect Notes in Math, 21. Berlin: Springer-Verlag, 1966.

Other Publications: Bessel functions of matrix argument. *Ann Math* 61(1955) 474-523; Les théorèmes de renouvellement. *Ann Inst Fourier* 15(1965) 169-187; Remarques sur la Note précédente de M. Varopoulos. *C R Acad Sci Paris* 260(1965) 6001-6004; Lipschitz spaces and Bernstein's theorem on absolutely convergent Fourier transforms. *J Math Mech* 18(1968) 283-324; Bounded mean oscillation and regulated martingales. *Trans AMS* 193(1974) 189-205; Une généralisation de la notion de transformée de Fourier-Stieltjes. *Ann Inst Fourier* 24(1974) 145-157.

Herz, John H. 39-41 HS(EP), History

Born 1908 Düsseldorf, Germany. PhD 1931 Political Science Cologne Univ. Honors: Woodrow Wilson Award of APSA 1951; Rockefeller Fships 1953, 1963; Fulbright Fellow 1960; Order of Merit, Fed Rep of Germany 1975. Memberships: APSA; Am Soc of Internatl Law; Am Professors for Peace in the Middle East; AAUP. Prof Emer, Political Science, CUNY. 193 Nelson Rd, Scarsdale, NY 10583.

Publications Related to IAS Residence: Radio in International Politics. In *Propaganda by Short Wave*, ed. by H. L. Childs and J. B. Whitton, 1-48. Princeton U Press, 1942; Chapter 5. In *War and National Policy*, ed. by Kirk and Stebbins. New York: Farrar and Rinehart, 1942; Power Politics and World Organization. *Am Pol Sci Rev* (1942) 1039ff.

Other Publications: *Political Realism and Political Idealism*. U of Chicago Press, 1951; *International Politics in the Atomic Age*. Columbia U Press, 1959; *The Government of Germany*. New York: Harcourt, Brace, Jov, 1972; *Staatenwelt und Weltpolitik*.

Members

Hamburg: 1974; *The Nation-State and the Crisis of World Politics*. New York: McKay, 1976.

Hess, Andrew 73-74 HS, History of the Ottoman Empire in the 16th Century

Born 1932 Cleveland, OH. PhD 1966 Harvard U. 1070 Church St, Abington, PA 19001. *

Hester, William 49s M, Philosophy of Science

Born 1915 Atlanta, GA. PhD 1947 Duke Univ. *

Heurgon, Jacques 62-63 HS, Ancient History

Born 1903 Paris, France. D ès L 1945. Honors: Inst France Acad Inscript et Belles Lett 1968; Corr mem Deut Archaeol Inst 1935; Corr mem Accad Scienze Torino 1965; Doct(hc) Univ Brussels 1965; Corr mem Brit Acad 1972; Assoc mem Acad royale Belgique 1975. Prof Hon, La Sorbonne. Le Verger, Allee de la Pavillonne, 78170 Lacelle St Cloud, France.

Publications Related to IAS Residence: *Rome et la Méditerranée occidentale jusqu'aux guerres puniques*. La Nouvelle Clio, 7. Paris: Presses Univ de France, 1969; "Lars", "Largus" et "Lare Aineia". In *Mélanges A. Piganiol*, 655-664. 1966.

Hewitt, Edwin 45-46, 55-56 M, Analysis

Born 1920 Everett, WA. PhD 1942 Mathematics Harvard Univ. Honors: Sr. U.S. Scientist Prize Humboldt Foundation 1975-76. Appointments: Exec Com Math Div NRC, 1957-1960; OOR Adv Bd; Air Force Adv Bd; US Natl Cttee for Math, Chmn 1975-1977. Memberships: AMS; MAA. Prof, Dept of Mathematics GN-50, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: Rings of real-valued continuous functions, I. *TAMS* 64(1948) 45-99; On two problems of Urysohn. *Ann Math* 2 47(1946) 503-509; A remark on density characters. *Bull AMS* 52(1946) 641-643; With K. A. Ross. *Abstract Harmonic Analysis*. 1 & 2. Springer-Verlag, 1963, 1970.

Hexter, Jack H. 75-76 HS, Early Modern History

Born 1910 Memphis, TN. PhD 1937 Harvard Univ. Honors: LittD(hc) Brown 1964; HumD(hc) Washington 1973; LLD(hc) Portland 1974; LittD(hc) Cincinnati 1978; Guggenheim Fellow 1942 & 1947; AAAS. Memberships: AHA; Econ Hist Assn; Royal Hist Soc. Distinguished Historian in Residence, Department of History, Washington University, St. Louis, MO 63130.

Publications Related to IAS Residence: *Reappraisals in History*. Evanston, Ill: Northwestern U Press, 1961; Property, Monopoly, and Shakespeare's "Richard II". In *Culture and Politics From Puritanism to the Enlightenment*, ed. by P. Zagorin. Berkeley: U of Calif Press, Forthcoming.

Heyd, Michael 79-80 HS, Early Modern European History

Born 1943 Jerusalem, Israel. PhD 1974 History Princeton Univ. Memberships: Israel Hist Soc; AHA. Lecturer, Department of History, The Hebrew University, Jerusalem, Israel.

Publications: From a Rationalist Theology to Cartesian Voluntarism. *J Hist of Ideas* 40, 4(Oct-Dec 1979); *Between Orthodoxy and the Enlightenment: Jean-Robert Chouet and the Introduction of Cartesian Science in the Academy of Geneva*. Nijhoff and The Magnes Press, forthcoming.

Heydenreich, Ludwig Heinrich 61f, 72s HS, Art History

Born 1903 Leipzig, Germany. PhD 1928 Univ of Hamburg. Deceased.

Publications Related to IAS Residence: With Wolfgang Lotz. *Architecture in Italy 1400-1600*. Baltimore & Harmondsworth: 1974.

Heymann, Frederick G. 56-58, 66s HS, Czechoslovakian History

Born 1900 Berlin, Germany. PhD 1922 Sociology Univ of Frankfurt/Main. Deceased.

Publications Related to IAS Residence: *George of Bohemia, King of Heretics*. Princeton: Princeton University Press, 1965.

Hickman, Walter Braddock 41-42 HS(EP), Economics

Born 1911 Baltimore, MD. PhD 1937 Johns Hopkins Univ. Deceased.

Publications Related to IAS Residence: *Trends and Cycles in Corporate Bond Financing*. New York: National Bureau of Economic Research, 1952; *The Volume of Corporate Bond Financing since 1900; a Study*. Princeton: Princeton Univ Press, 1953.

Hida, Haruzo 79-80 M, Number Theory

Born 1952 Osaka, Japan. MA 1976 Kyoto Univ. 308 Kita 37 Nishi 3, Sapporo 060, Japan. *

Hiebert, Erwin Nick 61-62, 68-69 HS, History of Science

Born 1919 Waldheim, Saskatchewan, Canada. PhD 1954 Physical Chemistry and History of Science Univ of Wisc. Honors: AAAS; Acad Int d'Hist des Sci; Amer Assn Adv Sci. Appointments: VP Div Hist of Sci, Int'l Union of Hist and Phil of Sci; Pres Hist of Sci Society 1972-74. Memberships: Hist of Sci Soc; Am Phys Soc; Am Chem Soc. Prof, and Chairman, Department of the History of Science, Harvard University, Science Center 235, Cambridge, MA 02138.

Publications Related to IAS Residence: *Historical Roots of the Principle of Conservation of Energy*. Madison: Univ of Wisc, 1962; Historical Remarks on the Discovery of Argon: The First Noble Gas. In *Noble*

Gas Compounds, ed. by Herbert H. Hyman. Chicago: 1963; *The Problem of Organic Analysis*. In *Mélanges Alex Koyre*, 1: 303-325. Paris: 1964.

Other Publications: *The Conception of Thermodynamics in the Scientific Thought of Mach and Planck*. Freiburg: 1967; *The Impact of Atomic Energy*. Newton, Kansas: 1961.

Higham, John 73-74 HS, Modern History

Born 1920 New York, NY. PhD 1949 American History Univ of Wisconsin. Honors: Dunning Prize AHA 1956; Fellow AAAS 1972; Visiting Scholar PBK 1972-73; Amer Antiquarian Soc 1976; Soc of Amer Historians 1972. Appointments: AHA: Chmn Nom Comm 1964-65, Council & Exec Comm 1970-74, Delegate to ACLS 1977-present; Pres Org of Amer Historians 1973-74; Pres Immigration Hist Soc 1979. Prof, Department of History, Johns Hopkins University, Baltimore, MD 21218.

Publications Related to IAS Residence: *Send These to Me: Jews and Other Immigrants in Urban America*. New York: Atheneum, 1975; *Hanging Together: Divergent Unities in American History*. *J of Amer Hist* 61(1974) 5-28.

Other Publications: *Strangers in the Land: Patterns of American Nativism 1860-1925*. New Brunswick NJ: Rutgers Univ Press, 1955; *History: Humanistic Scholarship in America*. Englewood Cliffs NJ: Prentice-Hall, 1965.

Higman, Graham 68-69 M, Group Theory

Born 1917 England. PhD 1941 Oxford. *

Hijikata, Hiroaki 65-67 M

Born 1936 Kumamoto, Japan. PhD 1968 Univ of Tokyo. Prof, Dept of Math, Kyoto Univ, Kitashirakawa, Sakyo-Ku, Kyoto, Japan.

Publications Related to IAS Residence: On the structure of semi-simple algebraic groups over valuation fields I. *Japan J Math NS* 1, 2(1975) 225-300.

Other Publications: Explicit formula of the traces of Hecke operators for $\Gamma_0(N)$. *J Math Soc of Japan* 26, 1(1974) 56-82.

Hildebrandt, Stefan O. W. 80s M

Born 1936 Leipzig, Germany. Dr rer Nat 1961 Univ of Mainz. Prof, Math, Math Inst der Univ Bonn, Wegelerstr 10, D-5300 Bonn, West Germany. *

Hilding, Sven Herbert 47f M

Born 1918 Stockholm, Sweden. PhD 1948 Mathematics Univ of Stockholm. H.M. Inspector of Mathematics Sweden, Grävlingvägen 57, S-161 37 Bromma, Sweden.

Publications Related to IAS Residence: Linear Methods in the Theory of Complete Sets in Hubert Space. *Arkiv för Matematik, Astronomi och Fysik* 35A,

38(1948) 1-44; Note on the Completeness Theorems of Paley-Wiener Type. *Ann Math (2)* 49(1948) 953-955.

Hill, C. Denson 74f M, Differential Equations, Complex Variables

Born 1939 Shreveport, LA. PhD 1966 NYU. Dept of Math, SUNY, Stony Brook, NY 11790. *

Hill, John Hugh 71s HS, Mediaeval History

Born 1905 McKinney, TX. PhD 1946 Univ of Tex. Honors: DLitt (hc) Austin College 1975; Prix Albert Marfan Acad Jeux Floraux; Corr Etranger Acad Sci Inscr et Belles Lett Toulouse. Prof Emer, Univ of Houston, Box 1121, Houston, TX 77001.

Publications Related to IAS Residence: Ed, Trans. *Peter Tudebode's "Historia de Hierosolymitano Itinere"*. Philadelphia: Am Phil Soc, 1975.

Other Publications: With Laurita Hill. *Raymond IV de St Giles, Comte de Toulouse*. Toulouse: Ed Privat, 1959; ed & trans, with Laurita Hill. *Raymond D'Aiguillers' "Historia Francorum Qui Ceperunt Iherusalem"*. Philadelphia: Am Phil Soc, 1968.

Hill, Paul Daniel 60-61 M, Algebraic Topology

Born 1933 Dadeville, AL. PhD 1960 Ala Polytech Inst*

Hillgarth, Jocelyn N. 63-64 HS, Medieval History

Born 1929 London, England. PhD(Cantab.) History. Honors: Guggenheim Fellow 1968-69; ACLS Fellow 1976-77; Corr Member Real Acad de la Historia, Madrid 1977. Prof, History, Univ of Toronto, Pontifical Institute of Mediaeval Studies, 59 Queens Park Cr E, Toronto, Ontario M5S 2C4, Canada.

Publications Related to IAS Residence: *Ramon Lull and Lullism in fourteenth-century France*. Oxford-Warburg Studies. Oxford University Press, 1971.

Other Publications: Ed, *Opera S. Iuliani Toletani, I*. Corpus Christianorum, Series Latina, 115. Turnhout, Belgium: Brepols, 1976; *The Spanish Kingdoms, 1250-1516*. 2 vols. Oxford, 1976-78.

Hinrichsen, John James 70-72 M, Algebraic Topology, Partial Differential Equations

Born 1944 Ames, IA. PhD 1970 Univ of Michigan. Dept of Math, Univ of Virginia, Charlottesville, VA 22901. *

Hironaka, Heisuke 62-63 M, Geometry

Born 1931 Yamaguchi-Ken, Japan. PhD 1960 Algebraic Geometry Harvard Univ. Honors: Fields Medal 1970; Japan Acad Award 1970; Order of Culture(Japan) 1975; AAAS. Memberships: Japan Acad. Prof, Math, Harvard Univ. 20 Overlook Dr, Bedford, MA 01730.

Publications Related to IAS Residence: Resolution of singularities of an algebraic variety over a field of characteristic zero, I & II. *Ann Math* 79(1964).

Members

Hirsch, Morris William 58-60 M, Topology

Born 1933 Chicago, IL. PhD 1958 Univ of Chicago. Honors: Sloan Fellow 1964; Miller Fellow 1972. Memberships: AMS. Prof, Math Dept, U California, Berkeley, CA 94720.

Publications Related to IAS Residence: On imbedding differentiable manifolds in euclidean space. *Annals of Math* 73(1961) 566-571; The imbedding of bounding manifolds in euclidean space. *Annals of math* 74(1961) 494-497; With A. Haefliger. Immersions in the stable range. *Annals of Math* 75(1962) 231-421; Smooth regular neighborhoods. *Annals of Math* 76(1962) 524-530; With S. Smale. On involution of the 3-sphere. *American J Math* 81(1959) 893-900; On combinatorial submanifolds of differentiable manifolds. *Comm Math Helv* 36(1961) 103-111.

Other Publications: *Differential Topology*. New York: Springer-Verlag, 1976; With S. Smale. *Differential Equations, Dynamical Systems, and Linear Algebra*. New York: Academic Press, 1974; With Barry Mazur. *Smoothings of Piecewise Linear Manifolds*. Princeton: Princeton U Press, 1974; With M. Shub & C. Pugh. *Invariant Manifolds*. Lect notes in math, 583. New York: Springer-Verlag, 1977.

Hirschfelder, Joseph Oakland 36-37 M(NS), Physics

Born 1911 Baltimore, MD. PhD 1936 Theoretical Physics and Chemistry Princeton Univ. Honors: NAS; AAAS; National Medal of Science 1976; DSc Marquette University 1977; Debye Award Am Chem Soc; Sir Alfred Edgerton Gold Medal Int Combustion Soc; Honorary Life Membership Am Assoc Mech Eng. Appointments: Dir Phys Chem Div NRC; Chmn, Am Chem Soc, (Phys Chem Div); Chmn, Am Phys Soc, (Chem Phys Div). Prof, Chem, and Dir Theoret Chem Inst Univ of Wisc; Adjunct Professor Univ Calif Santa Barbara. Department of Chemistry, University Wisconsin, Madison, WI 53706.

Hirschman, Albert O. see Present Faculty

Hirschman, Isidore Isaac, Jr. 52-53 M, Harmonic Analysis

Born 1922 Washington, DC. PhD 1947 Harvard Univ. Appointments: Air Force Off of Sci Res Adv Panel. Memberships: AMS. Prof, and Chairman Math Dept Washington Univ, 13 Aberdeen PI, St Louis, MO 63105.

Publications Related to IAS Residence: The Decomposition of Waish and Fourier Series. *Mem AMS* 15(1955) 1-65.

Other Publications: On the Behaviour of Fourier Transforms at Infinity and on Quasi-Analytic Classes of Functions. *AM J Math* 72, 1(1950) 200-213; On a Formula of Kac and Achiezer. *J Mathematics and Mechanics* 16, 2(August 1966) 167-196.

Hirst, David Michael 75f HS

Born 1933 England. MA(Oxon.) 1955. Courtauld Inst of Art, University of London, 20 Portman Square, London W1H 0BE, England. *

Hirzebruch, Friedrich Ernst Peter 52-54, 59-60 M, Algebraic Topology and Complex Manifolds

Born 1927 Hamm/Westfalen, Germany. Dr rer nat habil 1955 Mathematics Univ of Münster. Honors: Silberne Medaille der ETH 1950; Member Deut Ak d Nat Leopoldina; Rheinisch-Westfälische Akad; Heidelberger Akad; Ak d W u Lit zu Mainz; Niederländische Ak d W. Appointments: Member Senats Deut Forschungsgemeinschaft, 1966-1972. Memberships: DMV; AMS; Soc Math France. Prof, Mathematisches Institut, Universität Bonn, Wegelerstrasse 10, D-5300 Bonn, Germany.

Publications Related to IAS Residence: *Neue topologische Methoden in der algebraischen Geometrie*. Ergebnisse der Math, Neue Folge, 9. Berlin: Springer-Verlag, 1956; On Steenrod's reduced powers, the index of inertia, and the Todd genus. *Proc NAS* 39(1953) 951-956; Arithmetic genera and the theorem of Riemann-Roch for algebraic varieties. *Proc NAS* 40(1954) 110-114; Der Satz von Riemann-Roch und das Toddsche arithmetische Geschlecht für algebraische Mannigfaltigkeiten. In *Proc Intl Cong Math, Amsterdam 1954, Vol II*, ed. by J.C. Gerretsen & J. de Groot, 232-234. Amsterdam: North Holland, 1956; Über die quaternionalen projektiven Räume. *Sitzungsb Bayerischen Akad Wiss, Math-Natur Klasse* (1953) 301-312; Some problems on differentiable and complex manifolds. *Ann Math* 60(1954) 213-236; On the characteristic classes of differentiable manifolds etc. In *Colloque Henri Poincaré/Paris 1954*, ed. by P. Belgodère & D. Lardeux; Der Satz von Riemann-Roch in faisceau-theoretischer Formulierung. In *Proc Intl Cong Math, Amsterdam 1954, Vol III*, ed. by J.C. Gerretsen & J. deGroot, 457-473. Amsterdam: North Holland, 1956; On the complex projective spaces. *J Math Pur Appl* 36(1957) 201-216; With A. Borel. Characteristic classes and homogeneous spaces I, II, III. *AM J Math* 80, 81, 82(1958, 1959, 1960) 458-538, 315-382, 491-504; With H. Hopf. Felder von Flächenelementen in 4-dimensionalen Mannigfaltigkeiten. *Math Ann* 136(1958) 156-172; A Riemann-Roch theorem for differentiable manifolds. *Séminaire Bourbaki* Exp 177(1959); Komplexe Mannigfaltigkeiten. In *Proc Intl Cong Math, Edinburgh 1958*, ed. by J.A. Todd, 119-136. Cambridge: Cambridge U Press, 1960; With M.F. Atiyah. Riemann-Roch theorems for differentiable manifolds. *Bull AMS* 65(1959) 276-281; With M.F. Atiyah. Quelques théorèmes de non-plongement pour les variétés différentiables. *Bull Soc Math France* 87(1959) 383-396; With M.F. Atiyah. Vector bundles and homogeneous spaces. In *Differential Geometry, Proc Symp U Arizona 1960*, ed. by C.B. Allendoerfer, Proc Symp Pure Math 3: 7-38. Providence, RI: AMS, 1961; With M.F. Atiyah. Bott periodicity and the

parallelizability of the spheres. *Proc Cambridge Phil Soc* 57(1961) 223-226.

Other Publications: Hubert Modular Surfaces (IMU Lectures Tokyo Feb-Mar 72). *L'enseignement Math* 19(1973) 183-281; Modulflächen und Modulkurven zur symmetrischen Hilbertschen Modulgruppe. *Ann Sci ENS* 11 (1978) 101-166.

Hitchin, Nigel James 71-73 M

Born 1946 Derby, England. DPhil(Oxon.) 1972 Mathematics. Memberships: AMS; London Math Soc. Res Fellow, Mathematical Institute, 24-29 St Giles, Oxford OX13LB, England.

Publications Related to IAS Residence: Harmonie Spinors. *Advances in Mathematics* 14(1974) 1-55; Compact Four-Dimensional Einstein Manifolds. *Jour of Diff Geom* 9(1974) 435-441; On the Curvature of Rational Surfaces. *Proc AMS Symp in Pure Mathematics* 27(1975).

Other Publications: With M.F. Atiyah & I.M. Singer. Self-Duality in 4-Dimensional Riemannian Geometry. *Proc R Soc Lond A* 362(1978) 425-461; With M.F. Atiyah, V.G. Drinfeld & Yu.I. Manin. Construction of Instantons. *Phys Lett* 65A: 185-187.

Hlavatý, Václav 37f, 46f M

Born 1894 Czechoslovakia. Deceased.

Publications Related to IAS Residence: *Differentialgeometrie der Kurven und Flächen und Tensorrechnung*. Groningen: Noordhoff, 1939; *Differentielle Liniengeometrie*. Groningen: Noordhoff, 1945; Covariant Partial Equations Admitting Explicit Solutions. *Comptes Rendus des Séances de l'Acad des Scis de Roumanie* 2(1938) 210-216; Hypersurfaces in a Projective Curved Space. *Ann Math (2)* 39(1938) 725-761; Contributo alla Teoria delle Connessioni. *Reale Accad d'Italia, Fondazione Alessandro Voila Atti dei Convegni*, 9, 1939(1943) 479-506; Théorie d'Immersion d'une W_m dans une W_n . *Ann de la Soc Polonaise de Math* 21 (1948) 196-206.

Hlawka, Edmund 59f M

Born 1916 Bruck a. d. Mur, Austria. DrPhil, DrHabil 1938 Univ of Vienna. Honors: Full Member Austrian Academy of Science 1959; Member Leopoldina 1956; D Heineman Award Götting Academy 1963; Award for Art and Science 1966; Award of the City of Vienna 1969. Appointments: Nat Comm for Educ at Universities in Austria. O Prof, Math, Univ of Vienna, Dir Inst for Information Processes, Margaretenstr 27/2/9, 1040 Vienna, Austria.

Publications Related to IAS Residence: Über C-Gleichverteilung. *Ann Matematica* 49(1960) 311-326; Funktionen von beschränkter Variation in der Theorie der Gleichverteilung. *Ann Matematica* 4, 54(1961) 325-334; Rhythmische Folgen auf Kompakten Gruppen I. *Sitz Ber Öst Akad d Wiss* 171(1963) 67-74.

Other Publications: Zur Geometrie der Zahlen. *Math Zeit* 49(1943/44) 285-312; Ausfüllung und

Überdeckung konvexer Körper durch konvexe Körper. *Mh Math* 53(1949) 81-131; Über Integrale auf konvexen Körpern I. *Mh Math* 54(1950) 1-36; Integrale auf konvexen Körpern II. *Mh Math* 54(1950) 81-99; Zur Theorie des Figurengitters. *Math Ann Bd* 125(1952) 183-207; Über eine Klasse von mehrfachen Integralen. *Abhandig am Math, Seminar Hamburg* 18(1952) 53-69; Zur formalen Theorie der Gleichverteilung in kompakten Gruppen. *Rediconti del Circolo Matematica* 4(1955) 33-47; Zur angenäherten Berechnung mehrfacher Integrale. *Mh Math* 66(1962) 140-151; Mathematische Modelle zur kinetischen Gastheorie. *Sitz Ber Österr Akad d Wiss* 174(1965) 287-306; On Some Concepts, Theorems and Problems in the Theory of Uniform Distribution. *Colloq Math Soc Janos Bolyai* (1974); Über die Gleichverteilung gewisser Folgen, welche mit den Nullstellen der Zetafunktion zusammenhängen. *Sitz Ber Österr Akad d Wiss* (1975); Mathematische Modelle der kinetischen Gastheorie. *Sitz Ber Rhein.-Westfäl Akad d Wiss* (1973/74).

Ho, Yu Ping 79-80 NS, Plasma Physics, Statistical Mechanics

Born 1937 Beijing, China. Grad 1959 Phys Dept Peking Univ. Research Fellow, Academia Sinica, Head Theoretical Div, Institute of Plasma Phys, Box 26, An Huei Province, Ho Fei, People's Republic of China.

Hochschild, Gerhard Paul 41f, 56-57 M, Algebra

Born 1915 Berlin, Germany. PhD 1941 Princeton Univ*

Hodgkin, Luke Howard 63-64 M, Algebraic Topology

Born 1938 England. BA 1959 Oxford Univ. Kings College, London, England. *

Hoey, Allan Spencer 38-39, 40-41 HS(H), Humanities

Born 1907 Brisbane, Queensland, Australia. PhD 1941 Yale Univ. Memberships: Classical Assoc of New England. Retired Head, Classics Dept, The Hotchkiss School. Rowen Farm, RFD 1, Cavendish, VT 05142.

Publications Related to IAS Residence: Official Policy Towards Oriental Cults in the Roman Army. *Trans Am Philolog Assoc* 70 (1939) 456-481; With R. O. Fink and W. F. Snyder. The Feriale Duranum. *Yale Class Studies* 7(1940) 1-222.

Hoffman, Alan Jerome 50-51 M

Born 1924 New York, NY. PhD 1950 Mathematics Columbia Univ. Memberships: AMS. Res Staff Member, IBM Research Cntr, Adj Prof Yale Univ, IBM Research Center, PO Box 218, Yorktown Heights, NY 10598.

Members

Publications Related to IAS Residence: Cyclic Affine Planes. *Can J Math* 4(1952) 205-301.

Hoffmann, Banesh 35-37, 47s, 47f M(NS)

Born 1906 Richmond, Surrey, England. PhD 1932 Mathematics and Physics Princeton Univ. Honors: Sci Writing Award Am Inst Physics and U.S. Steel Foundation 1973; Dist Teaching Award Queens Coll Alumni Assoc 1963; Gravity Res Fndn Prize 1964. Appointments: Chmn, Member Exec Comm, Conf on Methods in Philos & the Scis; Ed Adv Bd *The Writings of Albert Einstein*; Adv Council Natl Energy Fndn; Consult Natl Consortium on Testing. Memberships: Am Phys Soc; AMS; Internat Soc for General Relativity & Gravitation; N.Y. Acad of Sciences; Sigma Xi. Prof Emer, Queens College, CUNY, 43-17 169 Street, Flushing, NY 11358.

Publications Related to IAS Residence: With A. Einstein, L. Infeld. The Gravitational Equations and the Problem of Motion. *Annals Math* 39(1938) 65-100. **Other Publications:** With Helen Dukas. *Albert Einstein, Creator and Rebel*. Viking, 1972; With Helen Dukas. *Albert Einstein, the Human Side*. Princeton U Press, 1979; *The Tyranny of Testing*. Crowell-Collier, 1962; Kron's Non-Riemannian Electrodynamics. *Revs Mod Phys* 21 (1949) 535-40.

Hoffstein, Jeffrey Ezra 78-79 M, Analytic Number Theory

Born 1953 New York, NY. PhD 1978 MIT. Department of Pure Mathematics, Cambridge University, 16 Mill Lane, Cambridge CB2 1SB, England. *

Hofmann, Karl Heinrich 67-68 M, Topological and Lie Groups, Transformation Groups

Born 1932 Heilbronn, Germany. Dr rer nat habil 1962 Univ Tübingen Germany. Honors: Sloan Fellow 1966-68; E. Harris Harbison Award Danforth Found 1970. Appointments: Member at Large, Council AMS. Memberships: AMS; DMV; Soc math de France; Australian Math Soc. Prof, Department of Mathematics, Tulane University, New Orleans, LA 70118.

Publications Related to IAS Residence: With Paul S. Mostert. *Elements of Compact Semigroups*. Columbus Ohio: Charles E. Merrill Books, 1966; *Cohomology Theories for Compact Abelian Groups*. Berlin: Springer-Verlag, 1974.

Other Publications: With J. F. Berglund. *Compact semitopological Semigroups*. Lect Notes in Math, 42. Berlin: Springer-Verlag, 1967; *The Duality of Compact Semigroups*. Lect Notes in Math, 129. Berlin: Springer-Verlag, 1970; With M. Mislove and A. Stralka. *The Pontryagin Duality of Compact O-dimensional Semi lattices*. Lect Notes in Math, 396. Berlin: Springer-Verlag, 1974; With Paul S. Mostert. *Splitting in Topological groups*. AMS Memoirs, 43. Providence, RI: AMS, 1963; With J. Dauns. *Representation of Rings by Sections*. AMS Memoirs, 83. Providence, RI: AMS, 1968; With Dana Scott, J.D.

Lawson, M. Mislove, G. Gierz, K. Keimel. *Continuous Lattices*, forthcoming.

Hofmeister, Gerd Rolf Ernst 66-68 M, Number Theory

Born 1938 Berlin, Germany. PhD 1966 Math Univ of Bergen. Memberships: AMS; DMV. Prof, Mathematics, Univ of Mainz, FB 17, Mathematik, Joh Gutenberg-Universität, Saarstr 21, D-6500 Mainz, Germany.

Publications Related to IAS Residence: Asymptotische Abschätzungen für dreielementige Extremalbasen in natürlichen Zahlen. *Journ f die reine u angew Math* 232(1968) 77-101.

Other Publications: With N. Hämmerer. Zu einer Vermutung von Rohrbach. *Journ f die reine u angew Math* 286/287(1976) 239-247.

Holland, Leicester Bodine 41f HS (H), Architecture

Born 1882 Louisville, KY. PhD 1919 Univ of Penn. Honors: Member Am Philos Soc. Deceased.

Hollinger, David A. 77-78 HS, Intellectual History

Born 1941 Chicago, IL. PhD 1970 History Univ of Calif, Berkeley. Memberships: AHA; Org of Amer Historians; Am Stud Assoc; Hist of Sci Soc; Soc Sci Hist Assoc; Soc for Soc Studies of Sci. Prof, Department of History, University of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: Historians and the Discourse of Intellectuals. In *New Directions in American Intellectual History*, ed. by Paul Conkin and John Higham, 42-63. Baltimore: Johns Hopkins Press, 1979.

Other Publications: *Morris R. Cohen and the Scientific Ideal*. Cambridge, Mass: The MIT Press, 1975; *Ethnic Diversity, Cosmopolitanism, and the Emergence of the American Liberal Intelligentsia*. *American Quarterly* 27(1975) 133-151; T.S. Kuhn's Theory of Science and Its Implications for History. *American Historical Review* 78(1973) 370-393.

Hollingsworth, John G. 69-70 M, Topology

Born 1938 Decatur, MS. PhD 1967 Rice Univ. Dept of Math, Univ Ga, Athens, GA 30601. *

Holmberg, Erik John 63-64 HS, Classical Archaeology

Born 1907 Tåby, Sweden. DPhil 1934. Appointments: Internat Red Cross Delegate 1950-1952 (for repatriating Greek Children from Yugoslavia). Memberships: Deut Archaeol Inst; Permanent Sec Royal Soc of Arts and Sciences Gothenburg. Retired Privatdozent, and Retired Dir of a Gymnasium. Haga Kyrkogata 28 B, 411 23 Göteborg, Sweden.

Publications Related to IAS Residence: *The Neolithic Pottery of Mainland Greece*. 1964; The

Appearance of Neolithic Black Burnished Ware in Mainland Greece. *AJA* 68, 4(1964).

Other Publications: *Zur Geschichte des Cursus Publicus*. 1933; *The Swedish Excavations at Asea in Arcadia (1944)*. Athens: 1978; *Delphi and Olympia*. forthcoming.

Holmes, George Arthur 67f HS, Medieval, Renaissance History

Born 1927 Aberystwyth, Wales. PhD (Cantab.) 1952 History. Honors: FRHS. Appointments: Comm of Victoria County Hist; Fac Brit Sch at Rome; Joint Ed, *English Hist Review*. Fellow, History, St. Catherine's College, Oxford, England.

Publications Related to IAS Residence: *The Florentine Enlightenment 1400-1450*. London: Weidenfeld & Nicolson, 1969.

Other Publications: *The Estates of the Higher Nobility in Fourteenth-Century England*. Cambridge U Press: 1957; *The Good Parliament*. Oxford U Press, 1975.

Holmes, Stephen Taylor 78-79 Soc, Political Theory

Born 1948 St. Louis, MO. PhD 1976 Philosophy Yale Univ. Asst Prof, Harvard Univ, Government Department, Littauer M-22, Cambridge, MA 02138.

Publications Related to IAS Residence: Aristippus in and out of Athens. *Am Pol Sci Rev* (March 1979); A Reply to Nichols. *Am Pol Sci Rev* (March 1979).

Holsztyński, Włodzimierz 73-74 M, Topology

Born 1942 Niznyi Tagil, USSR. PhD 1965 Math Univ of Warsaw. Memberships: AMS. Prof, Math, Univ of Western Ontario, Sr Res Mathematician ERIM, 2927 Burlington Ct, Ann Arbor, MI 48105.

Publications Related to IAS Residence: With J. Slawny. Phase transitions in ferromagnetic spin systems at low temperatures. *Commun Math Phys* (1979); Precise generators of modules over monoid algebras. *AM J Math* 99(1977) 191-224.

Other Publications: Lattices with real numbers as additive operators. *Dissertationes Mathematicae* (1969); An extension and axiomatic characterization of Borsuk Theory of Shape. *Fund Math* 70(1971) 158.

Holton, Gerald 64s M(NS), Physics

Born 1922 Berlin, Germany. PhD 1948 Harvard Univ. Honors: Fellow Acad d'Hist Internatle; AAAS; APS; Robert A. Millikan Medal Award 1967; DSci(hc) Grinnell College 1976; DSci(hc) Kenyon College 1977; AAPT Dist Service Citation 1962. Appointments: NSF Adv Comm on Hist & Phil of Sci; NSF Adv Comm on Ethical & Human Value Impacts of Sci & Tech; U.S. Natl Comm on UNESCO; Gov Bds of Amer Acad; Am Inst Phys; Hist of Sci Soc; AAAS. Memberships: APS; Hist of Sci Soc; AAPT. Mallinckrodt Prof, Physics, History of Sci, Harvard Univ. 14 Trotting Horse Drive, Lexington, MA 02173.

Publications Related to IAS Residence: *Thematic Origins of Scientific Thought: Kepler to Einstein*. Harvard University Press, 1973; *The Scientific Imagination: Case Studies*. Cambridge University Press, 1978.

Holzinger, Ernst Heinrich 50-51 HS, Art History

Born 1901 Ulm, Germany. Deceased.

Homma, Tatsuo 60-62 M, Topology

Born 1926 Yokohama, Japan. PhD 1958 Mathematics Osaka Univ. Memberships: Math Soc of Japan. Prof, Info Science, Tokyo Institute of Technology, 2-12-1 Oh-Okayama Meguro-Ku, Tokyo, Japan.

Publications Related to IAS Residence: On the Imbedding of Polyhedra in Manifolds. *Yokohama Math J* 10(1962).

Other Publications: On Dehn's Lemma for S^3 . *Yokohama Math J* 5(1957).

Hondius, Jacob Johannes Ewoud 48-49 HS(H), Greek Epigraphy

Born 1897 Utrecht, Netherlands. PhD 1925 Classics Univ of Utrecht. Deceased.

Publications: Ed, *Supplementum Epigraphicum Graecum*. 9, 10, 11. Leiden: 1944, 1949, 1950.

Hooley, Christopher 70-71, 76f, 77f M, Theory of Numbers

Born 1928 Edinburgh, Scotland. ScD 1974 Cambridge University. Honors: Adams Prize University of Cambridge 1973. Memberships: London Math Soc. Prof and Head of Department, Pure Mathematics, University College, Cardiff, Wales, Rushmoor Grange, Back-well, Bristol, England.

Publications Related to IAS Residence: On a new technique and its applications to the theory of numbers. *Proc London Math Soc* 3, 38(1979) 115-151; On the intervals between numbers that are sums of two squares. *Acta Math* 127(1971) 279-297; On the Brun-Titchmarsh theorem. *J Reine Angew Math* 255(1972) 60-79.

Other Publications: *Applications of Sieve Methods to the Theory of Numbers*. Cambridge: 1976.

Hopkins, Antony Gerald 74-75 Soc; Economic History of the Underdeveloped World

Born 1938 London, England. PhD 1964 History Univ London. Honors: Delivered the John Coffin Mem Lect London Univ 1978. Appointments: SSRC Econ & Soc Hist Cttee 1977-; African Stud Assoc Council; Ed J African Hist 1972-. Memberships: Econ Hist Soc; African Studies Assoc (UK). Prof, Dept of Econ Hist, University of Birmingham, Birmingham B15 2TT, England.

Publications Related to IAS Residence: ed with Clive Dewey. *The Imperial Impact: Studies in the Economic History of Africa & India*. London: Athlone

Members

Press, 1977; Clio-antier, a Horoscope for African Economic History. In *African Studies since 1945*, ed. by C. Fyfe, 31-48. London: Longman, 1976; Imperial Business in Africa. *J African Hist* 18(1976) 29-48 and 267-90.

Other Publications: *An Economic History of West Africa*. London & NY: 1973.

Hopkins, Keith Morris 69-70, 74-75 Soc, Historical Sociology

Born 1934 Sutton, Surrey, England. MA(Cantab.) 1961. Prof, Dept of Sociology, Brunei University, Uxbridge, Middlesex, England.

Publications Related to IAS Residence: *Hong Kong, The Industrial Colony*. Oxford Univ Press, 1971; *Conquerors and Slaves*. Cambridge University Press, 1978.

Horikawa, Eiji 74-75 M, Algebraic Geometry

Born 1947 Kyoto, Japan. DSc 1974 Mathematics Univ of Tokyo. Lect, Department of Mathematics, University of Tokyo, Hongo, Bunkyo-ku Tokyo, Japan.

Publications Related to IAS Residence: Algebraic surfaces of general type with small c^2 , I, II. *Ann Math* 104; *Invent Math* 37; On algebraic surfaces with pencils of curves of genus 2. In *Complex Analysis and Algebraic Geometry*. Iwanami Shoten, 1977.

Hörmander, Lars see Past Faculty/Resigned

Horn, Alfred 52-53 M

Born 1918 New York, NY. PhD 1946 Univ of Calif, Berkeley. Memberships: AMS. Prof, Dept of Mathematics, UCLA, Los Angeles, CA 90024.

Publications Related to IAS Residence: Doubly Stochastic Matrices and the Diagonal of a Rotation Matrix. *Amer J Math* 76(1954) 620-630; On the Eigenvalues of a Matrix with Prescribed Singular Values. *Proc AMS* 5(1954) 4-7.

Horn, David 78s NS, Elementary Particles

Born 1937 Haifa, Israel. PhD 1965 Physics Hebrew Univ. Honors: Jaupart Chair of Theoret Physics of Particles and Fields Tel-Aviv Univ. Memberships: Am Phys Soc. Prof, Physics Dept, Tel-Aviv University, Tel-Aviv, Israel.

Publications Related to IAS Residence: With D. H. Novoseller. Resonance Analysis of $e^+ e^-$ Annihilation. *Phys Rev D* 18(1978); With M. Weinstein & S. Yankielowicz. Hamiltonian Approach to $Z(N)$ Lattice Gauge Theories. *Phys Rev* (in press).

Other Publications: With F. Zachariasen. *Hadron Physics at Very High Energies*. W. A. Benjamin Inc, 1973.

Horton, Wendell, Jr. 67-69 NS, Plasma Physics

Born 1942 Houston, TX. PhD 1967 Physics Univ of Calif at San Diego. Honors: PBK 1963; Sloan Fellow

1976-78. Appointments: Five Year Res Plan in Applied Plasma Physics (1973); Tokamak Fusion Test Reactor Physics Advisory Committee (1976). Memberships: Am Phys Soc 1966-; Am Geophys Soc 1967-. Prof, and Research Scientist Fusion Rsch Ctr Univ of Texas at Austin, Department of Physics, University of Texas, RLM 11.320, Austin, TX 78712.

Publications Related to IAS Residence: With J.D. Callen and M.N. Rosenbluth. Microinstabilities in Axisymmetric Mirror Machines. *Phys Fluids* 14(1971) 2019-2032; With J.D. Callen. Negative Mass Instabilities. *Phys Fluids* 13(1970) 154-165.

Other Publications: With Gladd. Critical Shear and Growth Rates for Drift Waves in a Nonuniform Current-Carrying Plasma. *Phys Fluids* 16(1973) 879-887; With Choi. Modified Kadomtsev Spectrum from Renormalized Plasma Turbulence Theory. *Phys Fluids* 17(1974) 2048-2060; Spectral Distribution of Drift-Wave Fluctuations in Tokamaks. *Phys Rev Letters* 19(1976) 1269-1273.

Hosoya, Chichiro 71-72 HS

Born 1920 Japan. PhD 1961 Kyoto University. *

Hostetter, Ingomar M. 36-37 M

Born 1899. PhD 1935 Univ of Wash. *

Publications Related to IAS Residence: Polyadic Products. *J Math Phys* 22(1943) 93-114.

Hotta, Ryoshi 71-73 M, Group Representations

Born 1941 Buzen, Fukuoka, Japan. PhD 1970 Math Osaka Univ. Asst Prof, Department of Mathematics, Hiroshima Univ, Faculty of Science, Hiroshima 730, Japan.

Publications Related to IAS Residence: With R. Par-thasarathy. Multiplicity formulae for discrete series. *Inventiones Mathematicae* 26(1974).

Other Publications: On realization of the discrete series for semisimple Lie groups. *J Math Soc of Japan* 23(1971).

Househam, Keith Ortlepp 55s, 55f M, Measure Theory

Born 1919 South Africa. MA 1948 Princeton Univ. *

Hove, Leon Charles van 49-50, 52-54 M(NS), Theoretical Physics

Born 1924 Brussels, Belgium. PhD 1946 Mathematics Univ Brussels. Honors: Francqui Prize, Belgium 1958; Heineman Prize, Amer Phys Soc 1962; Nessim Habib Prize, Fac of Sci Geneva Univ 1971; Max-Planck Medal of the German Phys Soc 1974; D(hc) Univ of Warsaw 1975; D(hc) Univ of Helsinki 1977; D(hc) Univ of Pavia 1977. Memberships: Royal Dutch Acad of Sci, Amsterdam, 1959; Royal Flemish Acad, Brussels, 1960; Royal Acad of Belgium, Brussels, 1961; AAAS Foreign Hon Mem, 1964; Swiss Soc of Natural Sci Hon Mem, 1974; Royal Swedish Acad of

Sci, Foreign Mem, 1974; Amer Phys Soc; Eur Phys Soc. Senior Physicist, and Research Director-General 1976-80, CERN, 1211 Geneva 23, Switzerland.

Publications Related to IAS Residence:

Correlations in space and time and Born approximation scattering in systems of interacting particles. *Phys Rev* 95(1954) 249; Time-dependent correlations between spins and neutron scattering in ferromagnetic crystals. *Phys Rev* 95(1954) 1374; The occurrence of singularities in the elastic frequency distribution of crystals. *Phys Rev* 89(1953) 1189; With G. Placzek and B.R.A. Nijboer. Effect of short wavelength interference on neutron scattering by dense systems of heavy nuclei. *Phys Rev* 82(1951) 392; With B.R.A. Nijboer. Sur la fonction de distribution radiale d'un gaz imparfait et le principe de superposition. *Proc Kon Ned Akad Wet* 54 B(1951) 256; Coulomb effects in pion scattering by protons under the charge independence hypothesis. *Phys Rev* 88(1952) 1358; With R. Marshak and A. Pais. Charge independence and multiple pion production. *Phys Rev* 88(1952) 1211; Temperature variation of the magnetic inelastic scattering of slow neutrons. *Phys Rev* 93(1954) 268; With G. Placzek. Crystal dynamics and inelastic scattering of neutrons. *Phys Rev* 93, 1954(1207); With G. Placzek. Interference effects in the total neutron scattering cross-section of crystals. *Nuovo Cimento* 1(1955) 233.

Other Publications: Sur l'extension de la condition de Legendre du calcul des variations aux intégrales multiples à plusieurs fonctions inconnues. *Proc Kon Ned Akad Wet* 50 B(1947) 18; Sur certaines représentations unitaires d'un groupe infini de transformations. *Mém Acad Roy Belg, Cl So, Coll in 8°* 26,6(1951)1-102; Quelques propriétés générales de l'intégrale de configuration d'un système de particules avec interaction. *Physica* 15(1949) 951; Sur l'intégrale de configuration des systèmes de particules à une dimension. *Physica* 16(1950) 137; Les difficultés de divergence pour un modèle particulier de champ quantifié. *Physica* 18(1952) 145; Quantum-mechanical perturbations giving rise to a statistical transport equation. *Physica* 21(1955) 517; Energy corrections and persistent perturbation effects in continuous spectra. *Physica* 21(1955) 901; Energy corrections and persistent perturbation effects in continuous spectra. II. The perturbed stationary states. *Physica* 22(1956) 343.

Howard, William A. 72-73 M, Mathematical Logic

Born 1926 Canada. PhD 1956 U of Chicago. Dept of Math, U of Illinois at Chicago Circle, Chicago, IL 60680. *

Howe, Roger Evans 71-72 M, Representation Theory, Automorphic Forms

Born 1945 Chicago, IL. PhD 1969 Math U of Calif at Berkeley. Memberships: AMS; MAA. Prof, Mathematics Dept, Yale University, New Haven, CT 06520.

Publications Related to IAS Residence: On the principal series of G/n over p-adic fields. *TAMS* 177(1973) 275-286; On the character of Weil's representations. *TAMS* 177(1973) 287-298; Two conjectures about reductive p-adic groups. In *Harmonic Analysis on Homogeneous Spaces, Proc Symp Williams College 1972*, ed. by C.C. Moore, Proc Symp Pure Math 26: 377-380. Providence, RI: AMS, 1973; On the spectrum of a compact solvmanifold. In *Harmonic Analysis on Homogeneous Spaces, Proc Symp Williams College 1972*, ed. by C.C. Moore, Proc Symp Pure Math 26: 245-248. Providence, RI: AMS, 1973; The Fourier transform and germs of characters (Case of G/n over a p-adic field). *Math Ann* 208(1974) 305-322; Topics in harmonic analysis on solvable algebraic groups. *Pacific J Math* 73(1977) 383-436; Tamely ramified supercuspidal representations of G/n . *Pacific J Math* 73(1977) 437-460; Some qualitative results on the representation theory of G/n over a p-adic field. *Pacific J Math* 73(1977) 479-538.

Hoyt, William L 71-72 M, Elliptic Surfaces, Automorphic Forms

Born 1928 UT. PhD 1958 Univ of Chicago. Dept of Math, Rutgers Univ, New Brunswick, NJ 08903. *

Hsiang, Wu-chung 65-66, 71-72, 79-80 M, Topology

Born 1935 Chekiang, China. PhD 1962 Princeton U. Honors: Sloan Fellow 1967; Guggenheim Fellow 1975. Prof, Math Dept, Princeton Univ, Fine Hall, Princeton, NJ 08544.

Hsiang, Wu-Yi 65-67, 68f M, Transformation Groups, Differential Topology

Born 1937 China. PhD 1964 Math Princeton Univ. *

Hu, Bei-Lok 72-73 NS, Relativity & Gravitation Physics, Mathematical Physics

Born 1947 Chungking, China. PhD 1972 Theoretical Physics Princeton Univ. Memberships: Am Phys Soc. Hon Res Fellow, Lyman Laboratory of Physics, Harvard University, Cambridge, MA 02138.

Publications Related to IAS Residence: With T. Regge. Perturbations on the Mixmaster Universe. *Phys Rev Lett* 29(1972) 1616; Scalar Waves in the Mixmaster Universe, I & II. *Phys Rev D* 8, D9(1973, 1974) 1048, 3263; Separation of Tensor Equations in a Homogeneous Space by Group Theoretical Methods. *J Math Phys* 15(1974) 1748; With S.A. Fulling, L. Parker. Conformal Energy-Momentum Tensor in Curved Space-time: Adiabatic Regularization and Renormalization. *Phys Rev D* 10(1974) 3905; With S.A. Fulling and L. Parker. Quantized Scalar Fields in a Closed Anisotropic Universe. *Phys Rev D* 8(1973) 2377.

Other Publications: With L. Parker. Anisotropy Damping through Quantum Effects in the Early Universe. *Phys Rev D* 17(1978) 933; With M.V.

Members

Fischetti & J.B. Hartle. Quantum Effects in the Early Universe I. *Phys Rev D* 20(1979); With J.B. Hartle. Quantum Effects in the Early Universe II, III. *Phys Rev D* 20(1979).

Hu, Men-Chang 73-74 M, Harmonic Analysis on Semi-Simple Lie Groups

Born 1944 Taiwan, China. PhD 1973 MIT. Dept of Math, National Tsinghua Univ, Hsinchu, Taiwan, Republic of China. *

Hu, Ning 43-45, 45f M(NS)

Born 1915 China. PhD 1944 Cal Tech. Dept of Physics, National Peking Union, Peking, China. *

Publications Related to IAS Residence: With J. M. Jauch. On the Mixed Meson Theory of Nuclear Forces. *Phys Rev* 2 65(1944) 289-290; With W. Pauli. On the Strong Coupling Case for Spin-Dependent Interactions in Scalar- and Vector-Pair Theories. *Rev Modern Phys* 17(1945) 267-286; The Relativistic Correction in the Meson Theory of Nuclear Force. *Phys Rev* 2 67(1945) 339-346.

Hu, Sze-Tsen 50-52 M, Topology

Born 1914 Huchow, China. PhD 1947 Univ of Manchester.; DSc 1959 Memberships: AMS; MAA; London Math Soc. Prof, Mathematics, UCLA. 1076 Tellern Dr, Pacific Palisades, CA 90272.

Publications Related to IAS Residence: On the realizability of homotopy groups and their operations. *Pacific J of Mathematics* 1(1951) 583-602; Cohomology rings of compact connected groups and their homogeneous spaces. *Ann Math* 55(1952) 391-419; On local structure of finite-dimensional groups. *Trans AMS* 73(1952) 383-400; The homotopy addition theorem. *Ann Math* 58(1953) 108-122.

Hua, Loo-Keng 46-48 M

Born 1910 Kingtram, Kiangsu, China. Memberships: Chmn Chinese Math Soc. VP, Academia Sinica, VP Univ of Science & Technology. Academia Sinica, Peking, China.

Publications Related to IAS Residence: Some Results on Additive Theory of Numbers. *Proc Nat Acad Sci USA* 33(1947) 136-137; On the Automorphisms of the Symplectic Group over Any Field. *Ann of Math*, 2 49(1948) 739-759.

Other Publications: With H.S. Vandiver. On the Existence of Solutions of Certain Equations in a Finite Field. *Proc Nat Acad Sci USA* 34(1948) 258-263; Geometry of Symmetric Matrices over Any Field with Characteristic Other than Two. *Ann of Math*, 2 50(1949) 8-31 ; With I. Reiner. On the Generators of the Symplectic Modular Group. *Trans Amer Math Soc* 65(1949) 415-426.

Huang, Kerson 55-57, 65-66 M(NS), Theoretical Physics

Born 1928 Nan Ning, Kwangsi, China. PhD 1953 Physics MIT. Honors: AAAS. Memberships: Am Phys Soc. Prof., Physics, MIT, Rm 6-309, Cambridge, MA 02139.

Publications Related to IAS Residence: *Phys Rev* 105(1957) 767-775; *Phys Rev* 105(1957) 776-784; *Phys Rev* 106(1957) 1135-1145; *Phys Rev* 146(1966) 1075-1079.

Other Publications: *Statistical Mechanics*. New York: John Wiley & Sons, 1965.

Huang, Su-Shu 60-61 M(NS), Astrophysics

Born 1915 China. PhD 1949 Univ of Chicago. Deceased.

Huang-Mueller, Julia 76-77 M, Analytic Number Theory

Born 1944 China. 464 Riverside Dr, New York, NY 10027. *

Huber, Heinz 60-61 M, Analysis

Born 1926 Switzerland. PhD 1952 ETH, Zürich. *

Hudson, Liam 74-75 Soc

Born 1933 Sutton, Surrey, England. PhD(Cantab.) 1961 Psychology. Honors: Martin Trust Prize 1978. Memberships: Brit Psych Soc. Prof, Psychology, Brunei Univ, 9 Marlow Mill, Marlow, Bucks, England.

Publications Related to IAS Residence: *Human Beings*. Cape, Doubleday and Triad, 1975; *The Nympholepts*. Cape, 1978.

Other Publications: *Contrary Imaginations*. Penguin, 1966; *Frames of Mind*. Penguin, 1968; *The Cult of the Fact* Harper, 1972.

Huebsch, William Martin 54-55 M, Topology

Born 1922 Buffalo, NY. PhD 1959 Univ of Notre Dame.*

Huff, Toby E. 78-79 Soc, Sociology

Born 1942 Portland, ME. PhD 1971 New School for Social Research. Honors: NEH Postdoc Fship University of California, Berkeley 1976/77. Memberships: Am Sociolog Assn; Hist of Sci Soc; Internatl Sociolog Assn; Internatl Soc for the Comparative Study of Civilizations US. Assoc Prof, Sociology, Southeastern Mass Univ, 49 Clyde St, Newtonville, MA 02160.

Publications Related to IAS Residence: Discovery and Explanation in Sociology: Durkheim on Suicide. *Philosophy of the Social Sciences* 5(1975) 241-257.

Hugenholtz, Nicholaas Marinus 58-60 M(NS), Many-body Problem

Born 1924 Wormerveer, Netherlands. PhD 1957 Theoretical Physics U of Utrecht. Prof, Institute of

Theoretical Physics, University of Groningen, Groningen, The Netherlands.

Publications Related to IAS Residence: With D. Pines. Ground-State Energy and Excitation Spectrum of a System of Interacting Bosons. *Phys Rev* 116(1959) 489-506.

Other Publications: With R. Haag, M. Winnink. On the Equilibrium States in Quantum Statistical Mechanics. *Commun Math Phys* 5(1967) 215-236.

Hughes, H. Stuart 50f HS, Modern European History

Born 1916 New York, NY. PhD 1940 Harvard. Honors: Cavaliere ufficiale al merito della Repubblica Italiana 1960; Foreign Honorary Member Istituto per la storia del Risorgimento Italiano, Rome 1962; LHD Amherst College 1967. Memberships: AHA; Soc for Ital Hist Studies, past president; Am Comm on the Hist of WWII, founding chmn. Prof, History, Univ of Calif San Diego. 8531 Avenida de las Ondas, La Jolla, CA 92037.

Publications Related to IAS Residence: *Oswald Spengler: A Critical Estimate*. NY: Scribner's, 1952.

Other Publications: *Consciousness and Society*. NY: Knopf, 1958; *The Obstructed Path*. NY: Harper & Row, 1968; *The Sea Change*. NY: Harper & Row, 1975.

Hughes, Merritt Yerkes 65-66 HS, English Literature

Born 1893 Philadelphia, PA. PhD 1921 English Harvard Univ. Honors: Guggenheim Fellow 1925-26; LittD(hc) Boston University 1954. Deceased.

Hull, Ralph 33-34, 34f M, Algebra, Number Theory

Born 1903 Watford, England. PhD 1932 Univ of Chicago. Honors: Governor General's Gold Medal Brit Columbia 1929. Appointments: NRC Cttee on Visual Instructional (TV) Aids. Memberships: MAA. 811-Sixth St, 202, Santa Monica, CA 90403.

Publications Related to IAS Residence: A Determination of All Cyclotomic Quintic Fields. *Ann of Math* (2) 36(1935) 366-372; Maximal Orders in Rational Cyclic Algebras of Odd Prime Degree. *Trans AMS* 38(1935) 515-530; The Maximal Orders of Generalized Quaternion Division Algebras. *Trans AMS* 40(1936).

Humphreys, James E. 68-69, 77s M, Algebraic Groups

Born 1939 Erie, PA. PhD 1966 Mathematics Yale Univ. Honors: PBK 1961; L.R. Ford Award MAA 1976. Memberships: AMS; MAA. Prof, Math, University of Massachusetts, GRC Tower, Amherst, MA 01003.

Publications Related to IAS Residence: Modular representations of classical Lie algebras and semisimple groups. *J Algebra* 19(1971) 51-79; *Introduction to Lie Algebras and Representation Theory*. GTM, 9. Springer-Verlag, 1972; With J.C. Jantzen. Blocks and indecomposable modules for semisimple algebraic groups. *J Algebra* (1978).

Other Publications: *Linear Algebraic Groups*. GTM, 21. Springer-Verlag, 1975; *Ordinary and modular representations of Chevalley groups*. Lect Notes in Math, 528. Springer-Verlag, 1976; Defect groups for finite groups of Lie type. *Math Z* 119(1971) 149-152; Projective modules for $SL(2, q)$. *J Algebra* 25(1973) 513-518; On the hyperalgebra of a semisimple algebraic group. In *Contributions to Algebra: A Collection of Papers Dedicated to Ellis Kolchin* 203-210. NY: Academic Press, 1977.

Hunt, Gilbert Agnew 47-49, 57-58 M

Born 1916 Washington, DC. PhD 1949 Math Princeton Univ. Prof, Department of Mathematics, Princeton University, Princeton, NJ 08540.

Publications Related to IAS Residence: Markoff processes and potentials III. *Ill J Math* 2(1958) 151-213.

Hunt, John Dixon 78s HS, Art History

Born 1936 Gloucester, England. PhD 1962 English Literature Bristol Univ. Honors: Leverhulme Trust Sr Fac Fship in European Studies 1973-74; Delmas Found Fship 1979-80. Prof, English, London Univ, Bedford College, Regent's Park, London NW1, England.

Publications: *The Pre-Raphaelite Imagination 1848-1900*. London: Routledge and Kegan Paul, 1968; *The Figure in the Landscape. Poetry, Painting and Gardening during the Eighteenth Century*. Baltimore: Johns Hopkins Press, 1976.

Hurewicz, Witold 36-38, 53f M

Deceased.

Hurwitz, Wallie Abraham 42s M

Born 1886 Fulton, MO. PhD 1910 Göttingen Univ. Deceased.

Hutchins, Francis Gilman 73-74 Soc

Born 1939 Berea, KY. PhD 1966 Political Science Harvard Univ. Honors: Guggenheim Fellow 1974-75; Sr Res Fellow Center for the Hist of the Am Indian, Newberry Library 1976-77. PO Box 202, West Franklin, NH 03235.

Publications: *The Illusion of Permanence, British Imperialism in India*. Princeton University Press, 1967; *India's Revolution, Gandhi and the Quit India Movement*. Harvard University Press, 1973.

Hwa, Rudolph C. 64-66 M(NS), High Energy Physics

Born 1931 Shanghai, China. PhD 1957 Electr Eng Univ of Ill.; PhD 1962 Physics Brown Univ. Prof, Physics, Institute of Theoretical Science, Univ of Oregon, Eugene, OR 97403.

Publications Related to IAS Residence: With V. L. Teplitz. *Homology and Feynman Integrals*. New York: W. A. Benjamin Inc., 1966.

Members

Hylleraas, Egil A. 47f M(NS), Physics

Born 1898 Norway. PhD 1933 Univ of Oslo. Deceased.

Hyman, Murray Harvey 66-68 M

Born 1939 Baltimore, MD. PhD 1966 Yale Univ. 162 Bennington Dr, East Windsor, NJ 08520.

Iakovidis, Spyros Eustace 77-78 HS, Archaeology

Born 1923 Athens, Greece. PhD 1962 History and Archaeology Univ of Athens. Honors: Hon Fellow Soc of Antiq, London. Memberships: Member Learned Societies Greece, Germany, England, France, USA. Visit Prof, Archaeology, Univ of Penn, Solonos Str 7, Athens 134, Greece.

Publications Related to IAS Residence: *Excavations at Gla, 1955-1961*. forthcoming; The Chronology of Late Helladic IIIc. *AJA* in press(1979).

Other Publications: *He mykenaike Akropolis ton Athenon*. 1962; *Perati, to nekrotapeion*. 3. 1969-70; Mykenische Ehrbauten. In *Archaeologia Homerica*, 1E. Göttingen: 1977; *Mycenaean Citadels*. Univ of Athens, 1973; On the shape of the chamber tombs at Volimidia in Messenia. In *Studies presented to A. K. Orlandos*, B: 98-111. Athens: 1964; An inscribed Mycenaean Amulet. *Kadmos* 3(1965) 149-155; Ein beschriebenes Amulet aus dem mykenischen Attika - II. *Kadmos* 5(1966) 44-46; A Mycenaean Mourning Custom. *AJA* 70(1966) 43-50; Ein beschrifteter Siegelzylinder aus Cypern, Europa. In *Festschrift E. Grumach*, 143-151. Berlin: 1967; Minoan Crete and the Emergence of Mycenaean Power. In *Festschrift for C. Merenditis*, 171-175. Athens: 1972; Rhodes and Ahijava. In *Acts of the Intern Arch Symposium "The Mycenaeans in the East Mediterranean"*, 189-192. Nicosia: 1973; The Present State of Research at the Citadel of Mycenae. *Bull of the Inst of Archaeol, Univ of London* 14(1977) 99-141; On the Use of Mycenaean Buttons. *Annual of the Br School at Athens* 72(1977) 113-119.

Ichimaru, Setsuo 69-70 NS, Plasma Physics

Born 1935 Osaka, Japan. PhD 1962 Physics and EE Univ of Illinois. Memberships: APS; AAS; IAU; Phys Soc Japan; Astron Soc Japan. Assoc Prof, Dept of Physics, Univ of Tokyo, Bunkyo-ku, Tokyo 113, Japan.

Publications Related to IAS Residence: With M. N. Rosenbluth. *Phys Fluids* 13(1970) 2778; *Phys Rev A* 2(1970) 494; *Nature* 226(1970) 731; With S. H Starr. *Phys Rev A* 2(1970) 821.

Other Publications: *Basic Principles of Plasma Physics*. Reading, Mass: W. A. Benjamin, 1973; *Phys Rev Lett* 8(1962) 231; *Ap J* 214(1977) 840.

Igi, Keiji 63-64 M(NS), High Energy Physics

Born 1933 Kurashiki City Okayama-ken, Japan. DSc 1961 Physics University of Tokyo. Memberships: Japanese Phys Soc; Am Phys Soc. Assoc Prof,

Department of Physics, University of Tokyo, Tokyo 113, Japan.

Publications Related to IAS Residence: Self-consistent calculation of the scattering amplitude and the diffraction peak. *Phys Rev* 136(1964) 773; πN scattering length and singularities in the complex J plane. *Phys Rev Lett* 9(1962) 76; With S Matsuda. New sum rules and singularities in the complex J plane. *Phys Rev Lett* 18(1967) 625; With M Fukugita. Phenomenological duality. *Phys Reports* 31C(1977) 237.

Igusa, Jun-ichi 59-60,70-71 M, Algebraic Geometry

Born 1924 Maebashi, Gumma-ken, Japan. DSc 1953 algebraic geometry Kyoto Univ. Appointments: editor *Amer J Math*. Prof, algebraic geometry, Johns Hopkins U, 14209 Greencroft Lane, Cockeysville, MD 21030.

Publications Related to IAS Residence: Arithmetic variety of moduli for genus two. *Ann Math* 72(1960) 612-649; *Theta Functions*. Springer-Verlag, 1972.

Ihara, Yasutaka 65-66 M

Born 1938 Tokyo, Japan. DSc 1967 Mathematics University of Tokyo. Prof, Dept of Mathematics, University of Tokyo, Tokyo 113, Japan.

Publications Related to IAS Residence: The congruence monodromy problems. *J Math Soc Japan* 20(1968) 107-121; Hecke polynomials as congruence ζ -functions in elliptic modular case. *Ann Math* 85(1967) 267-295; On discrete subgroups of the two by two projective linear group over p -adic fields. *J Math Soc Japan* 18(1966) 219-235; On congruence monodromy problems. *Lect Notes at Univ of Tokyo* 1-2(1968-1969).

Iitaka, Shigeru 71-72 M

Born 1942 Chiba, Japan. PhD 1970 Univ of Tokyo. Honors: Matsunaga Sci Grant 1975. Asst Prof, Dept of Math, Fac of Science, University of Tokyo, Hongo Bunkyo, Tokyo 113, Japan.

Publications Related to IAS Residence: *Algebraic Geometry I, II, III*. Tokyo: Iwanami, 1977.

Ikeda, Masatoshi G. 76f M, Algebraic Number Theory

Born 1926 Japan. PhD 1954 Osaka Univ. Dept of Mathematics, Hacettepe University, Ankara, Turkey. *

Illarionov, Andrej Fedorovich 78s NS

Born 1947 USSR. Space Research Institute, Prof-sojusnaja 88, 117810 Moscow, U.S.S.R. *

Illman, Sören Arnold 74-75 M, Topology, Compact Transformation Groups

Born 1943 Helsinki, Finland. PhD 1972 Mathematics Princeton Univ. Memberships: AMS; Finnish Math

Soc. Prof, Department of Mathematics, University of Helsinki, Hallituskatu 15, Helsinki 10, Finland.

Publications Related to IAS Residence: Approximation of simplicial G-maps by equivariantly non-degenerate maps. In *Proc Conf on Transformation Groups, Newcastle upon Tyne, August 1976*, London Math Soc Lect Note Series, 26: 279-283. Cambridge Univ Press, 1977.

Other Publications: Equivariant algebraic topology. In *Actes du Colloque International du CNRS de Strasbourg*, Ann Inst Fourier 23: 87-91. 1973; Whitehead torsion and group actions. *Ann Acad Sci Fenn Ser A I* 588(1974) 1-44; Equivariant singular homology and cohomology I. *Mem AMS* 156(1975) 1-74; Smooth equivariant triangulations of G-manifolds for G a finite group. *Math Ann* 233(1978) 199-220.

Inan, Jale 67-68 HS, Classical Archaeology, Sculpture

Born 1914 Istanbul, Turkey. DPhil 1943 Univ of Berlin. Memberships: Turk Hist Soc; Ger Archaeol Inst; Australian Archaeol Inst. Prof, and Chmn Dept Class Archaeol Univ of Istanbul; Dir Inst of Research Antalya Region, Eham Yokusu No 3, Bebek, Istanbul, Turkey.

Publications Related to IAS Residence: *Roman Sculpture in Side*. Ankara: 1975; With Elisabeth Alföldi Rosenbaum. *Römische und Frühbyzantinische Porträtplastik aus der Türkei*. Mainz: 1979; Roman Copies of Some Famous Greek Statues from Side. *Antike Plastik* 12: 69-79; Three Statues from Side. *Antike Kunst* (1970) 17ff.

Other Publications: *Antalya Bölgesi Roma Devri Portreleri*. Ankara: 1965; With Elisabeth Alföldi Rosenbaum. *Roman and Early Byzantine Portrait Sculpture in Asia Minor*. London: Brit Acad, 1966; Kremna Kazisi Raporu. *Türk Arkeoloji Dergisi* 1,2(1970) 51ff; Neue Porträtstatuen aus Perge. In *Mansel'e Armağan*, Melanges Mansel: 643ff. Ankara: 1974; Lysippos'un sandal bağlayan Hermes leykeli. *Belleter* 43, 170(1979) 397ff; Commodus oder Herakles?. *Festschrift für Frank Brommer* (1977); Der Bronzeturso im Burdur -Museum aus Bubon und Der Bronzekopf im J. Paul Getty Museum. *IstMitt* 27/28(1977/78) 267ff.

Inden, Ronald B. 77-78 Soc, Anthropology, History

Born 1940 . PhD 1972 History Univ of Chicago. Memberships: Assn for Asian Studies. Assoc Prof, Dept of History, University of Chicago, Chicago, IL 60637.

Publications: *Marriage and Rank in Bengali Culture*. Univ of Calif Press, 1975; *Kinship in Bengali Culture*. Univ of Chicago Press, 1977.

Indow, Tarow 71-72 Soc, Human Information Processing

Born 1923 Tokyo, Japan. PhD 1959 Keio Univ. Honors: Pres Intl Assoc of Color(AIC) 1973-77. Prof,

and Dir Inst of Info Sci, Department of Psychology, Keio University, Mita Minato-ku, Tokyo, Japan 108.

Publications Related to IAS Residence: Applications of multidimensional scaling in perception. In *Handbook of perception*, ed. by E.C. Carterette and M.P. Friedman. New York: Academic Press, 1974; Strategies in concept identification: Stochastic model and computer Simulation. *Japanese Psychological Research I, II* 14(1972) 168-175; 15(1973) 1-9.

Infeld, Leopold 36-38 M(NS), Physics

Born 1898 Poland. PhD 1921 Univ of Cracow. Deceased.

Publications Related to IAS Residence: With Albert Einstein. *The Evolution of Physics; the Growth of Ideas from Early Concepts to Relativity and Quanta*. New York: Simon and Schuster, 1938; With Banesh Hoffmann. On the Choice of the Action Function in the New Field Theory. *Phys Rev* (2)51(1937) 765-773; Electromagnetic and Gravitational Radiation. *Phys Rev* (2) 53(1938) 836-841; With A. Einstein and Banesh Hoffmann. The Gravitational Equations and the Problem of Motion. *Ann Math* (2) 39(1938) 65-100.

Ingham, Albert Edward 39f M

Born 1900 England. MA 1924 Cambridge Univ. Deceased.

Publications Related to IAS Residence: On the Estimation of $N(\sigma, T)$. *Quart J Math Oxford Ser* 2(1940) 291-292; A Tauberian Problem for Partitions. *Ann of Math* (2) 42(1941) 1075-1090; On Two Conjectures in the Theory of Numbers. *Amer J Math* 64(1942) 313-319.

Inkeles, Alex 74-75 Soc, Sociology

Born 1920 New York, NY. PhD 1949 Columbia Univ. Honors: ACLS Fellow 1941-42; SSRC Fellow Awd 1946-48; 1959-60; Kappa Tau Alpha Awd for best book in field of mass communication and journalism 1950; Grant Squires Prize Columbia Univ 1955; Fellow Center for Advanced Study in the Behavioral Sciences 1955-56; Fellow Foundations' Fund for Res in Psychiatry 1957-60; Sociol Res Assoc 1961-; AAAS 1962; Fellow Amer Psychol Assoc 1966; Fellow Russell Sage Foundation 1966; Prof(hc) Soc Brasil Instrucao 1970; Amer Philos Soc; Hadley Cantril Awd 1975; Fulbright Res Scholar 1977; Guggenheim Fellow 1977-78. Appointments: Consultant Prog Eval Branch, Internatl Broadcasting Div, State Dept, 1949-51; Consultant Survey of World Communications, UNESCO, 1950; Exec Cttee, Behavioral Sci Div, NRC, 1969-75; Ford Fndn Consultant for Lat Amer, Caribbean, 1967-1967; Internatl Soc Sci Council, Group of Twenty on Man's Social Condition, 1975-1977; NAS Adv, Cttee on USSR and Eastern Europe; Intl Res and Exchanges Bd, Sociology Sub-commission, USA-USSR Comm on the Soc Scis and Humanities, 1974-; Cttee on Fund Res Relevant to Educ, NRC, 1976-1977;

Members

Consultant UN Develop Prog in Indonesia, 1978. Memberships: Eastern Sociol Soc: Exec Cttee, 1955-56; Vice-Pres, 1958-59; Pres, 1960-61; Am Assoc Adv Slavic Studies, Exec Cttee, 1961-63; Am Sociol Assoc: Pres Section on Soc Psych, 1961; Member Council and Exec Cttee, 1960-63; 1975-; Member Council, Methodology Section, 1972-73; Vice-Pres, 1975-76; AAAS, Western Div: Exec Cttee, 1973-76; Membership Cttee, 1974-76; Intl Studies Assoc: Exec Council, Comparative Interdisciplinary Studies Section, 1975-; Executive Council, Sociol Res Assoc, 1966-1980, Secy-Treas, 1978-79, Pres, 1980; Am Assoc for Public Opinion Res; AAUP; Am Assoc Adv Sci; Am Educational Res Assoc; Am Psych Assoc; Am Philos Assoc; Comparative and Educational Soc; Internatl Assoc for Cross-Cultural Psych; Internatl Soc of Psychol; Internatl Polit Sci Assoc; Internatl Sociol Assoc; Internatl Studies Assoc; Internatl Soc for the Comparative Study of Civilizations; Overseas Development Council; Pacific Sociol Assoc; Peace Sci Soc; Soc for Study of Social Problems; Soc for Internal Develop; Univ Centers for Rational Alternatives; World Affairs Council; World Assoc for Public Opinion Research; World Future Soc; Am Anthropol Assoc. Prof, Sociology, Stanford Univ, Sr Fellow Hoover Inst on War, Revolution and Peace, 1001 Hamilton Ave, Palo Alto, CA 94301.

Publications Related to IAS Residence: The Emerging Social Structure of the World. *World Politics* 27, 4(1975) 467-495; Becoming Modern: Individual Change in Six Developing Countries. *Ethos* 3, 2(1975) 323-342; Problems in the Utilization of Data for Policy Making. In *Information for Action: From Knowledge to Wisdom*, ed. by Manfred Kochen, 171-176. New York: Academic Press, 1975; Remaining Orthodox: A Rejoinder to Everett Hagen's Review-Essay of Becoming Modern. *Hist of Childhood* Q3, 3(1976) 422-435; Understanding and Misunderstanding Individual Modernity. In *The Uses of Controversy in Sociology*, ed. by Lewis Coser and Otto Larsen, 103-130. New York: The Free Press, 1976; National Differences in Individual Modernity. *Comp Studies in Sociology* 1, 1(1978).

Other Publications: With David H. Smith. *Becoming Modern: Individual Change in Six Developing Countries*. Cambridge: Harvard Univ Press, 1974; *Social Change in Soviet Russia*. Cambridge: Harvard Univ Press, 1968; *What is Sociology?* Englewood Cliffs, NJ: Prentice-Hall, 1964; With Raymond A. Bauer. *The Soviet Citizen: Daily Life in a Totalitarian Society*. Cambridge: Harvard Univ Press, 1959; With Raymond A. Bauer and Clyde Kluckhohn. *How the Soviet System Works*. Cambridge: Harvard Univ Press, 1956; *Public Opinion in Soviet Russia*. Cambridge: Harvard Univ Press, 1950.

Ireland, Kenneth Frederick 65-66 M

Born 1937 Baltimore, MD. PhD 1964 Johns Hopkins Univ. R.R.5., Rusagonis, New Brunswick, Canada. *

Isard, Stephen David 72f Soc, Linguistics

Born 1940. Theoretical Psychology Unit, U of Edinburgh, 2 Buccleuch Place, Edinburgh, Scotland EH 8. *

Isbell, John Rolfe 56-57, 63-64 M, Algebra

Born 1930 Portland, OR. PhD 1951 Math Univ of Chicago. Appointments: AMS common Translation 1963-65; AMS Employment Emergency Comm; Panel on NSF postdocs 1970-71; CBMS Regional Conferences Panel 1978-. Memberships: AMS; AAUP. Prof, Dept Math, SUNY, Buffalo, NY 14214.

Publications Related to IAS Residence: Algebras of uniformly continuous functions. *Ann Math* 2 68(1958) 96-125; Spaces without large projective subspaces. *Math Scand* 17(1965) 89-105.

Other Publications: Uniform Spaces. *AMS Math Surveys* 12(1964); General functorial semantics. *Amer J Math* 94(1972) 535-596; Structure of categories. *Bull AMS* 72(1966) 619-655.

Ise, Mikio 63-65 M

Born 1932 Japan. PhD 1961 Osaka Univ. *194

Ito, Kiyosi 55s, 56s M, Probability Theory

Born 1915 Kuwana, Mie Prefecture, Japan. PhD 1945 Mathematics Tokyo Univ. Honors: Asahi Prize 1978; Japan Acad Prize 1978; Imperial Prize 1978. Memberships: Math Soc of Japan; AMS; Soc Math France. Prof, Mathematics, Gakushuin Univ, 17 Ichijoji-Hinoku-chi-cho, Sakyo-ku, Kyoto 606, Japan.

Publications Related to IAS Residence: Isotropic random current. In *Proc of 3rd Berkeley Symp on Math Stat and Prob 1954*, 2: 125-132. Berkeley: Univ of Calif Press; *Diffusion processes and their sample paths*. New York: Springer, 1965.

Other Publications: On Stochastic Differential Equations. *Mem AMS* 4(1950).

Ito, Shuntaro 71-72 HS, History of Science

Born 1930 Japan. PhD 1964 Univ of Wisconsin. 2-20-21, Nishiogi Kita Suginami-Ku, Tokyo, Japan. *

Itzykson, Claude 68-69 NS, Quantum Field Theory

Born 1938 Paris, France. DèS Sc 1967 Univ of Paris. Honors: Prix Langevin Soc Française de Physique. Memberships: French Phys Soc. Physicist, Service de Physique Theorique, Centre d'Etudes Nucléaires de Saclay, BPn° 2, Gif sur Yvette 91190, France.

Publications Related to IAS Residence: With I. Todorov. An algebraic approach to the relativistic two body problem. In *Coral Gables Conference 1969*. New York: Gordon and Breach; With H.D.I. Abarbanel. Relativistic eikonal expansion. *Phys Rev Lett* 23(1969) 53; *Soft Quanta. Ann Phys* 7(1972) 59; With V.G. Kady-shevsky and IT. Todorov. Three dimensional formulation of the relativistic two body problem. *Phys Rev D* 1(1970) 2823.

Other Publications: With J.B. Zuber. *Quantum Field Theory*. New York: McGraw Hill, forthcoming.

Ivanov, George 74f M, Algebra

Born 1947 Bojnica, Bulgaria. PhD 1972 Ring Theory Australian National Univ. Bldr, Developer & Mgt Consult, 2 Acacia St., Cabramatta NSW 2166, Australia.

Publications Related to IAS Residence: Decomposition of Modules over Serial Rings. *Communications in Algebra* 3 11(1975) 1031-1036.

Iwahori, Nagayoshi 60-62, 69s M, Lie Groups, Lie Algebras

Born 1926 Japan. Rigaku-Hakushi 1960 Univ of Tokyo. Dept. of Math, Univ of Tokyo, Bunkyo-ku, Tokyo, Japan. *

Iwasaki, Yoichi 77-78 NS, Particle Physics

Born 1941 Tokyo, Japan. PhD 1969 Science Univ of Tokyo. Assoc Prof, Inst of Physics, Univ of Tsukuba, Ibaraki 300-31, Japan.

Iwasawa, Kenkichi 50-52, 57-58, 66-67, 71s, 79s M

Born 1917 Kiryu, Japan. DSc 1945 Math Univ of Tokyo. Honors: Japan Acad Awd 1962. Memberships: AMS; MAA. Prof, Math, Princeton Univ, 12 Newlin Rd, Princeton, NJ 08540.

Publications Related to IAS Residence: Some properties of L-groups. *Proc Int Cong of Math* 2(1950) 447-450; On the rings of valuation vectors. *Ann Math* 57(1953) 331-356; Sheaves for algebraic number fields. *Ann Math* 69(1959) 408-413.

Other Publications: *Lectures on p-adic L-functions*. Ann Math Studies. Princeton Univ Press, 1972.

Jaco, William Howard 71-72, 78-79 M, Topology

Born 1940 Grafton, WV. PhD 1968 Mathematics Univ Wisc-Madison. Honors: NSF Postdoc Fship 1971-72. Appointments: AMS Cttee to Select One-hour Speakers 1978-. Memberships: AMS; MAA. Prof, Mathematics, Rice Univ, 2120 Addison, Houston, TX 77030.

Publications Related to IAS Residence: With B. Evans. Varieties of Groups and Three-manifolds. *Topology* 12(1973) 83-97; Roots, relations and centralizers in 3-manifold groups. *Geometric Topology* (1974) 283-309.

Other Publications: Finitely presented subgroups of Three-manifold groups. *Inventiones Math* 13(1971) 335-346; Heegaard splittings and splitting homomorphisms. *Trans AMS* 144(1969) 365-379; With P. Shaler. The peripheral structure of 3-manifolds. *Invent Math* 38(1976) 55-87; With P. Shaler. Seifert fibered spaces in irreducible sufficiently-large 3-manifolds. *Mem AMS* (1979).

Jacob, Ernest Fraser 59f HS, Mediaeval History

Born 1894 Horsforth, England. DPhil 1923 Oxford Univ. Honors: LittD(hc) Univ of Manchester 1956. Deceased.

Jacob, Margaret Candee 78-79 HS, European Intellectual History

Born 1943 New York, NY. PhD 1969 Early Modern European History Cornell Univ. Honors: NEH Fshp 1977-78; Louis Gottschalk Prize 1977. Memberships: Amer Soc for 18th C Studies; AHA; Past and Present Soc. Assoc Prof, Department of History, Baruch College, 17 Lexington Ave, New York, NY 10012.

Publications Related to IAS Residence: *The Radical Enlightenment: Pantheism and Republicanism in 18th century Europe*. Allen & Unwin Ltd, 1980, forthcoming.

Other Publications: *The Newtonians and the English Revolution*. Cornell Univ Press, 1976; Newtonianism and the Origins of the Enlightenment: A Reassessment. *Eighteenth Cent Studies* 11(1977) 1-25; Newtonian Science and the Radical Enlightenment. *Vistas in Astronomy* (1978); Clandestine Culture in the Early Enlightenment. In *Festschrift for Henry Guerlac*. Ithaca, NY: Cornell Univ Press, 1979.

Jacobowitz, Howard 70-71, 77-78 M, Differential Equations

Born 1944 New York, NY. PhD 1970 Math NYU. Memberships: AMS; AAAS. Assoc Prof, Mathematics Department, Rutgers University, Camden, NJ 08102. 195

Publications Related to IAS Residence: Implicit Function Theorems and Isometric Embeddings. *Ann Math* 95(1972) 191-225; Surfaces in IRP^3 . *Duke Math J* in press(1979); Curvature Operators on the Exterior Algebra. *Linear and Multilinear Algebra* in press(1979); Local Isometric Embeddings into Euclidean Four Space. *Indiana Univ Math J* 21 (1971) 249-254.

Other Publications: Induced Connections on Hypersurfaces in C^{n+1} . *Invent Math* 43(1977) 104-123; Extending Isometric Embeddings. *J Diff Geom* 9(1974) 291-307.

Jacobsohn, Boris A. 53-54 M(NS), Theoretical Physics

Born 1918 New York, NY. PhD 1947 Univ of Chicago. Deceased.

Jacobson, Nathan 33-34, 36-37 M, Lie Theory

Born 1910 Warsaw, Poland. PhD 1934 Princeton Univ. Honors: D Sci University of Chicago 1972; NAS; AAAS; Hon Mem London Math Soc 1972. Memberships: AMS; Math Soc of Japan. Henry Ford II Prof, Mathematics, Yale Univ. 2 Prospect Ct, Hamden, CT 06511.

Members

Publications Related to IAS Residence: Rational Methods in the Theory of Lie Algebras. *Ann Math* 36(1935) 875-881.

Jacoby, Alexander Robb 49s M

Born 1922 St Louis, MO. PhD 1946 Univ of Chicago.*

Jacoby, David 69-70, 75-76 HS, Medieval History

Born 1928 Antwerp, Belgium. Doct de l'Univ 1958 History Sorbonne. Honors: Prix Gustave Schlumberger de l'Acad Inscript et Belles-Lettres 1973, Paris; Socio corrispondente esterno of the Deputazione di Storia patria per le Venezie 1978. Memberships: Israeli Cttee, Assoc Internat des Études Byzantines. Prof, Department of History, Hebrew University, Jerusalem, Israel.

Publications Related to IAS Residence: Les états latins en Roumanie: phénomènes sociaux et économiques (1204-1350 environ). In Actes du XV^e Congrès international d'études byzantines, 1-51. Athens: 1976; The Encounter of Two Societies: Western Conquerors and Byzantines in the Peloponnesus after the Fourth Crusade. *Amer Hist Rev* 78(1973) 873-906; L'expansion occidentale dans le Levant: les Vénitiens à Acre dans la seconde moitié du treizième siècle. *J Medieval Hist* 3(1977) 225-264.

Other Publications: *La féodalité en Grèce médiévale. Les "Assises de Roumanie": sources, application et diffusion.* Paris-The Hague: Mouton, 1971; *Société et démographie à Byzance et en Roumanie latine (XIII^e -XV^e siècles).* London: Variorum Reprints, 1975; *Les Juifs à Venise du XIV^e au milieu du XVI^e siècle.* In *Venesia centro di mediazione (secoli XV-XVI): aspetti e problemi, Il Convegno Internazionale di Storia della Civiltà Veneziana, 1973,* 1: 163-216. Firenze: Olschki, 1977.

Jacquet, Hervé Michel 67-69 M, Group Representation, Automorphic Forms

Born 1933 Oullins, Rhone, France. PhD 1967 Univ of Paris. Honors: Petit D'Ormoy Prize Acad des Sci 1977. Memberships: AMS. Prof, Dept of Math, Columbia University, New York, NY 10027.

Publications Related to IAS Residence: With R. Langlands. *Automorphic forms on GL(2).* Lect Notes in Math, 114. Berlin: Springer-Verlag, 1970.

Other Publications: With R. Godement. *Zeta functions of simple algebras.* Lect Notes in Math, 260. Berlin: Springer-Verlag, 1972.

Jaffe, Arthur M. 67s NS, Mathematical Physics

Born 1937 New York, NY. PhD 1965 Princeton Univ. Honors: Sloan Fellow 1968-70; Guggenheim Fellow 1977; AAAS 1978-. Appointments: Ed *Comm Math Physics* ; Asst Ed *Annals of Physics* . Memberships: AMS; Am Phys Soc; Am Assoc Adv Sci; NY Acad of Sci. Prof, Mathematical Phys, Harvard Univ, Adjunct Prof Rockefeller Univ, Lyman Laboratory of Physics, Harvard Univ, Cambridge, MA 02138.

Publications Related to IAS Residence: *High Energy Behavior of Local Quantum Fields.* SLAC Pub 250. Stanford Linear Accelerator Center; With R. Powers. An Infinite Volume Limit of a $\lambda\phi^4$ Field Theory. *Comm Math Phys* 7(1968) 218.

Other Publications: With J. Glimm. A $\lambda\phi^4$ Field Theory without Cut-offs I. *Phys Rev* 176(1968) 1945; With J. Glimm. The $\lambda(\phi^4)_2$ Quantum Field Theory Without Cut-offs III, The Physical Vacuum. *Acta Math* 125(1970) 203-267; With J. Cannon. Lorentz Covariance of the $\lambda(\phi^4)_2$ Quantum Field Theory. *Comm Math Phys* 17(1970) 261-321; With J. Glimm. Positivity of the ϕ^4_3 Hamiltonian. *Fortschritte der Physik* 21(1973) 327-376; With J. Glimm. Phase Transitions for ϕ^4_2 Quantum Fields. *Comm Math Phys* 45(1975) 293-320; With J. Glimm. Multiple Meron Solutions of the Classical Yang-Mills Equation. *Phys Lett* 73B(1978) 167-170.

Jaffe, Walter Joseph 76s, 76-77 NS, Astronomy

Born 1947 Newton, MA. PhD 1974 Astronomy Univ of Leiden. Memberships: IAU. Assoc Scientist, National Radio Astronomy Observatory, Edgemont Rd, Charlottesville, VA 22901.

Publications Related to IAS Residence: Origin and Transport of Electrons in the Halo Radio Source in the Coma Cluster. *Ap J* 212(1977) 1; Upper Limits on Nuclear Radio Emission from some Coma Cluster Spirals. *Ap J* 216(1977) 212.

Jaffee, Harris Alexander 74-75 M, Algebra

Born 1948 Chicago, IL. PhD 1974 Math SUNY Stony Brook. Memberships: AMS. Vis Asst Prof, Univ of Minnesota, School of Math, Univ of Minnesota, Minneapolis, MN 55455.

Publications Related to IAS Residence: Antiholomorphic automorphisms of the exceptional symmetric domains. *J Diff Geom* 13, 1(1978).

Other Publications: Degeneration of real elliptic curves. *J London Math Soc* 2, 17(1978) 19-27.

Jahn, Helmut Otto 60-61 M(NS), Theoretical Physics

Born 1925 Berlin, Germany. Dr rer nat 1958 Univ of Göttingen. Memberships: APS; DPG; VWF. Privatdozent, Physics, Inst Neutronphys & Reaktortech, Kernforschungszent Karlsruhe, Weberstr 5, P 3640, 75 Karlsruhe 1, Germany.

Publications Related to IAS Residence: Die Darstellungen der starken Kopplung und das Resonanzproblem der pion-nucleon-Steuerung. *Nucl Phys* 26(1961) 353; Two Pictures of the strong coupling method. *Phys Rev* 124(1961) 280; Pion-nucleon processes above the first maximum according to the strong coupling method. *Phys Rev* 126(1961) 824; Non weak coupling method in meson theory. In *Proc of the Midwest Conf on Theoret Phys.* 1962.

Other Publications: With H. Kopfermann. Zur Theorie des Radialschwingungen der Elektronen in einer Elektronenschleuder. *Ann Phys* 6(1949) 305;

Kernstöss schneller Mesonen. In *Vorträge über Kosmische Strahlung*, ed. by W. Heisenberg. Berlin: J. Springer, 1953.

Jakšić, Borivoj 66-68 NS, Theoretical Physics

Born 1925 Yugoslavia. PhD 1954 Zagreb Univ. *

James, Ioan Mackenzie 55-56 M

Born 1928 London, England. DPhil(Oxon.) 1954 Mathematics. Honors: FRS 1968. Appointments: British Nat Cttee for Math. Memberships: London Math Soc; AMS. Prof, Oxford Univ, Mathematical Institute, 24-29 St Giles, Oxford, England.

James, Mervyn Evans 76-77 HS, History

Born 1921 Cardiff, Wales. MA(Oxon.) 1947. Honors: FR Hist S 1969. Memberships: Assoc Univ Teachers. Reader, Modern History, Univ of Durham, Visit Fellow All Souls College, Oxford Univ, Dept of History, University of Durham, 43/6 North Bailey, Durham DH1 3EX, England.

Publications Related to IAS Residence: English Politics and the Concept of Honour. *Past & Present Society* Supplement No 3(Dec 1978).

Other Publications: *Change and Continuity in the Tudor North*. Borthwick Publications, Univ of York, 1965; *A Tudor Magnate and the Tudor State*. Borthwick Pub, Univ of York, 1966; *Obedience and Dissent in Henrician England: The Lincolnshire Rebellion, 1536*. *Past & Present* August(1970) 3-78; *Family, Lineage, and Civil Society*. Oxford: Clarendon Press, 1974.

James, Robert Clarke 62-63 M, Functional Analysis

Born 1918 Bloomington, IN. PhD 1947 Math Cal Tech. Appointments: MAA; CUPM. Memberships: AMS; MAA; SIAM; Fed Amer Scientists; Sigma Xi; Pi Mu Epsilon; AAAS; PBK. Prof, and Chairman Dept of Math Claremont Grad Schl, 1121 Oxford Ave, Claremont, CA 91711.

Publications Related to IAS Residence: Weak Compactness and Separation. *Can J Math* 16(1964) 204-206; Characterizations of Reflexivity. *Studia Math* 23(1964) 205-216; Weakly Compact Sets. *Trans AMS* 113(1964) 129-140; Weak Compactness and Reflexivity. *Israel J Math* 2(1964) 101-119; Uniformly Non-Square Banach Spaces. *Ann Math* 80(1964) 542-550.

Other Publications: A Non-Reflexive Banach Space Isometric with its Second Conjugate Space. *Proc NAS* 37(1951) 174-177; Super Reflexive Banach Spaces. *Can J Math* 24(1972) 896-904; A Nonreflexive Banach Space That is Uniformly Nonoctahedral. *Israel J Math* 18(1974) 145-155; Nonreflexive Spaces of Type 2. *Israel J Math* 30(1978) 1-13.

Jameson, Michael H. 70f HS, Greek History, Epigraphy, Archaeology

Born 1924 London, England. PhD 1949 Univ of Chicago. 151 W. Tulpehocken St., Philadelphia, PA 19144. *

Janáček, Karel 70s HS, Classical Philology

Born 1906 Brno, Czechoslovakia. PhD 1948 Univ of Olomouc. Memberships: Chmn Union of Czech Classical Philologists. Vodova St 29, 61200 Brno, Czechoslovakia.

Jänich, Klaus Werner 66-67 M, Transformation Groups

Born 1940 Dresden, Germany. Dr rer nat 1964 Math Univ of Bonn. Prof, FB Mathematik, University of Regensburg, D-8400 Regensburg, Germany.

Publications Related to IAS Residence: On the Classification of $O(n)$ Manifolds. *Math Annalen* 176(1968) 53-76.

Janko, Zvonimir 68f M, Finite Groups

Born 1932 Bjelovar, Yugoslavia. Dr 1960 Math Univ of Zagreb. Prof, Math Institute, Heidelberg University, Heidelberg, West Germany.

Publications Related to IAS Residence: The Nonexistence of a Certain Type of Finite Simple Group. *J Algebra* 18(1971) 245-253.

Other Publications: A New Finite Simple Group of Order 86,775,571,046,077,562,880 which possesses M_{24} and The Full Covering Group of M_{22} as Subgroups. *J Algebra* 42(1976) 564-596.

Janson, Horst W. 75s HS, History of Art

Born 1913 Leningrad, USSR. PhD 1942 Fine Arts Harvard Univ. Honors: Guggenheim Fellow 1948-49, 1955-56; Charles R. Morey Award Coll Art Assn 1952, 1957. Appointments: Vice Pres Com internat hist art. Memberships: Coll Art Assn of Amer; Renaissance Soc of Amer; Amer Studies Assn. Prof, Fine Arts, New York Univ, 29 Washington Square West, New York, NY 10011.

Publications Related to IAS Residence: *Nineteenth Century Sculpture Reconsidered*. The Andrew W. Mellon Lectures, National Gallery of Art, 1974. Princeton: Princeton Univ Press, forthcoming.

Other Publications: *The Sculpture of Donatello*. Princeton UP, 1957; *Apes and Ape Lore in the Middle Ages and the Renaissance*. London: Warburg Inst, 1952; *History of Art*. New York: 1962.

Jantzen, Jens Carsten 76-77 M

Born 1948 Störtebekerkoog, Germany. Dr Rer Nat 1973 Mathematics Univ Bonn. Memberships: DMV. Wiss Rat und Prof, Univ of Bonn, Mathematisches Institut der Universität, Wegelerstr 10, D-5300 Bonn, West Germany.

Publications Related to IAS Residence: With J.E. Humphreys. *Moduln mit einem höchsten Gewicht*. Bonn: Habilitationsschrift, 1977; Blocks and

Members

indecomposable modules for semi-simple algebraic groups. *J Algebra* in press.

Janusz, Gerald Joseph 65-66 M, Algebra

Born 1940 Menominee, MI. PhD 1965 Univ of Oregon. Memberships: AMS; MAA. Prof, Dept of Mathematics, University of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: Indecomposable modules for finite groups. *Ann Math* 89(1969) 209-241; Indecomposable representations of groups with a cyclic Sylow subgroup. *Trans AMS* 125(1966) 288-295.

Other Publications: The Schur group of an algebraic number field. *Ann Math* 103(1976) 253-281.

Jastrow, Robert 49-50, 53s M(NS)

Born 1925 New York, NY. PhD 1948 Physics Columbia Univ. Honors: Medal for Excellence Columbia Univ 1962; Flemming Award to Outstanding Young Men in Fed Svce 1964; Grad Faculties Alumni Awd Columbia University 1967; Exceptional Sci Achievement Medal NASA 1968; Special Achievement Award NASA 1978. Appointments: Lunar Exploration Cttee, NASA, Chm 1959-1961. Memberships: Am Phys Soc; AAAS; Am Geophys Union; Am Meteorol Soc; Leakey Foundation; Am Astron Soc; Council on Foreign Relations. Prof, Astronomy & Geology, Columbia Univ, Prof Dartmouth Coll Earth Scis; Dir Goddard Institute for Space Studies. 22 Riverside Drive, New York, NY 10023.

Publications Related to IAS Residence: On the hard sphere model of the nucleon. *Phys Rev* 81(1951) 636; On the nucleon-nucleon interaction. *Phys Rev* 81(1951) 165; Many-body problem with strong forces. *Phys Rev* 98(1955) 1497; Saturation properties of nuclear forces. *Phys Rev* 91(1953) 460.

Other Publications: Ed, *Exploration of Space*. Macmillan: NY, 1960; Ed with A.G.W. Cameron. *Origin of the Solar System*. Academic Press: NY, 1963; *Red Giants and White Dwarfs*. N.Y.: Harper & Row, 1967; Ed with S.I. Rasool. *The Venus Atmosphere*. N.Y.: Gordon & Breach, 1967; With Malcolm Thompson. *Astronomy: Fundamentals and Frontiers*. N.Y.: John Wiley & Sons, 1972; *Until the Sun Dies*. N.Y.: W. W. Norton & Co., 1977; *God and the Astronomers*. N.Y.: W. W. Norton & Co., 1978.

Jaworowski, Jan 60-61 M, Topology

Born 1928 Augustow, Poland. PhD 1955 Mathematics Polish Acad of Scis. Memberships: AMS. Prof, Math Department, Indiana University, Bloomington, IN 47401.

Publications Related to IAS Residence: Some remarks on Borsuk's generalized cohomotopy groups. *Fund Math* 50(1962) 257-264; Generalized cohomotopy groups as limit groups. *Fund Math* 50(1962) 393-402; A generalization of a continuous choice function theorem. *Mich Math J* 9(1962) 29-31.

Other Publications: Equivariant extensions of maps. *Pacific J of Math* 45(1973) 229-244; Extensions of G-maps and Euclidean G-retracts. *Math Z* 146(1976) 143-148.

Jeanquartier, Pierre 65-66 M, Analysis

Born 1931 Les Brenets, Switzerland. DSc 1962 Mathématiques U of Lausanne. Memberships: Soc Math Suisse; Soc Math France; AMS. Prof, Mathematics, U of Geneva, 73, ch du Liaudoz, CH-1012-Lausanne, Switzerland.

Publications Related to IAS Residence: Développement asymptotique de la distribution de Dirac attachée à une fonction analytique. *C R Acad Sc Paris* 271(1970) 1159-1161.

Other Publications: Distributions et opérateurs différentiels homogènes et invariants. *Comment Math Helv* 39(1964) 205-252.

Jech, Thomas J. 73s M, Logic

Born 1944 Prague, Czechoslovakia. RNDr 1966 Math Charles Univ, Prague. Memberships: AMS; ASL. Prof, Math Dept, Penn State, Univ Park, PA 16802.

Jeffery, Lilian Hamilton 51-52 HS, Classical Archaeology and History

Born 1915 Westcliff, Essex, England. DPhil 1951 Oxford Univ. Honors: FBA 1965. Memberships: Hellenic Soc; Brit Schl of Archaeol at Athens. Lecturer, Greek History/Archaeology, Oxford Univ, Lady Margaret Hall, Oxford, OX2 6QA, England.

Publications Related to IAS Residence: *The Local Scripts of Archaic Greece*. Oxford: Clarendon Press, 1961; *Archaia Grammata: Some Ancient Greek Views*. In *Europa Festschrift Für Ernst Grunach*. Berlin: de Gruyter, 1967; The courts of justice in archaic Chios. *Ann Brit School of Archaeol at Athens* 51(1956).

Other Publications: The inscribed gravestones of archaic Attica. *BSA* 57(1962) 115-153; With A. Morpurgo-Davies. Poinikastas and Poinikazein. *Kadmos* 9(1970) 118-154; *Archaic Greece c. 700-500 BC*. NY: St Martin's Press, 1976.

Jeffrey, Richard C. 63f M, Logic

Born 1926 Boston, MA. PhD 1957 Princeton Univ. Appointments: NSF Panel on Hist & Phil of Sci. Memberships: Am Philos Assoc; Assoc for Symbolic Logic; Philos of Sci Assoc. Prof, Philosophy, Princeton Univ, 55 Patton Ave, Princeton, NJ 08540.

Publications Related to IAS Residence: *The Logic of Decision*. New York: McGraw-Hill, 1965; New foundations for Bayesian decision theory. In *Logic, Methodology & Philosophy of Science*, ed. by Y. Bar-Hillel, 289-300. Amsterdam: North Holland, 1965.

Other Publications: Probable Knowledge. In *The Problems of Inductive Logic*, ed. by I Lakatos. Amsterdam: North Holland, 1968; On interpersonal utility theory. *J Philosophy* 68(1971) 647-656;

Preference among preferences. *J Philosophy* 71 (1974) 377-391.

Jehle, Herbert 47-48 M(NS), Theoretical Physics

Born 1907 Stuttgart, Germany. Dring 1933 Berlin Inst of Technology. Honors: Fellow Am Phys Soc 1950. Appointments: Fulbright Student Selection Cttee; NSF Postdoc Cttee. Memberships: AMS; Am Astron Soc; Biophys Soc; Soc of Quantum Biol. 1208 Sherwood Rd., Charlottesville, VA 22901.

Publications Related to IAS Residence: With W. L. Bade. *Rev Mod Phys* 25(1953) 714; *Phys Rev* 75(1949) 1609; *Phys Rev D8*(1973) 991.

Other Publications: *Phys Rev D6*(1972) 441; *Acta Physica Austriaca* Suppl 18(1977); *Acta Physica Austriaca* 51(1979); *Phys Rev D11*(1975) 2147; *D15*(1977) 3727; With W. L. Bade & J. M. Yos. *Proc Nat Acad Sci* 43(1957) 341; With W. L. Bade & J. M. Yos. *Proc Nat Acad Sci* 53(1965) 1451; With W. L. Bade & J. M. Yos. *Proc Nat Acad Sci* 67(1970) 156.

Jehne, Wolfram 58-59 M, Class Field Theory, Topological Groups

Born 1926 Germany. Dr rer nat 1954 Math Univ of Hamburg. Am Mühlenburg 57, 5070 Bergisch-Blodboch, Germany. *

Jenkins, James Altister 49-50, 57-59, 61-62, 73-74 M, Theory of Functions of a Complex Variable

Born 1923 Toronto, Canada. PhD 1948 Mathematics Harvard Univ. Memberships: AMS; Soc Math de-France; DMV. Prof, Department of Mathematics, Washington Univ, St. Louis, MO 63130.

Publications Related to IAS Residence: With D. C. Spencer. Hyperelliptic trajectories. *Ann Math* 53(1951) 4-35; On univalent functions with real coefficients. *Ann Math* 71(1960) 1-15; On certain coefficients of univalent functions. In *Analytic Functions*, 158-194. Princeton Univ Press, 1960; An extension of the General Coefficient Theorem. *TAMS* 95(1960) 387-407; On the global structure of the trajectories of a positive quadratic differential. *III J Math* 4(1960) 405-412; On certain coefficients of univalent functions II. *TAMS* 96(1960) 534-545; An addendum to the General Coefficient Theorem. *TAMS* 107(1963) 125-128; Some area theorems and a special coefficient theorem. *III J Math* 8(1964) 80-99; On certain geometrical problems associated with capacity. *Math Nachrichten* 39(1969) 349-356; With Nobuyuki Suita. On analytic self-mappings of Riemann surfaces II. *Math Ann* 209(1974) 109-115; With N. Suita. On regular functions on Riemann surfaces II. *III J Math* 19(1975) 122-126.

Other Publications: Some problems in conformal mapping. *TAMS* 67(1949) 327-350; With M. Morse. Topological methods on Riemann surfaces, Pseudoharmonic functions. In *Contributions to the Theory of Riemann Surfaces*, ed. by L.V. Ahlfors, *Annals of Mathematics Studies* 30: 111-139. Princeton, NJ: Princeton U Press, 1953; With M.

Morse. The existence of pseudoconjugates on Riemann surfaces. *Fund Math* 39(1952) 269-287; Symmetrization results for some conformal invariants. *AM J Math* 75(153) 510-522; On Bieberbach-Eilenberg functions. *TAMS* 76(1954) 389-396; On a problem of Gronwall. *Ann Math* 59(1954) 490-504; With M. Morse. Curve families F^* locally the level curves of a pseudo harmonic function. *Acta Math* 91(1954) 1-42; A general coefficient theorem. *TAMS* 77(1954) 262-280; Some uniqueness results in the theory of symmetrization. *Ann Math* 61(1955) 106-115; With M. Morse. Conjugate nets on an open Riemann surface. In *Lectures on Functions of a Complex Variable, Proc Conf U Michigan 1953*, ed. by W. Kaplan, 123-185. Ann Arbor: U Mich Press, 1955; On circumferentially mean p -valent functions. *TAMS* 79(1955) 423-428; Sur quelques aspects globaux du théorème de Picard. *Ann Sci Ecole Norm Sup* (3) 72(1956) 151-161; Some theorems on boundary distortion. *TAMS* 81(1956) 477-500; Some new canonical mappings for multiply-connected domains. *Ann Math* 65(1957) 179-196; On a conjecture of Spencer. *Ann Math* 65(1957) 405-410; On the existence of certain general extremal metrics. *Ann Math* 66(1957) 440-453; *Univalent functions and conformal mapping*. Ergebnisse der Math, 18. Berlin: Springer-Verlag, 1958.

Jenkins, Joe Wiley 71-72 M

Born 1947 Sheldon, MO. PhD 1968 Math Univ of Ill. Memberships: AMS. Assoc Prof, Department of Mathematics, SUNY at Albany, Albany, NY

Publications Related to IAS Residence: Growth of connected locally compact groups. *J Fund Anal* 12, 1(1973).

Jensen, J. Hans D. 52s M(NS), Nuclear Physics

Born 1907 Germany. DrPhilNat 1932 Univ of Hamburg. Deceased.

Jeppesen, Kristian Knud 78-79 HS, Classical Archaeology

Born 1924 Copenhagen, Denmark. PhD 1959 Univ of Aarhus. Memberships: Corr mem German & Austrian Archaeol Insts. Prof, Univ of Aarhus, 1 Lindevangsvej, 8240 Risskov, Denmark.

Publications: *Acta Arch* 24(1953) 103-125; *Acta Arch* 34(1963) 1-96; *Acta Arch* 35(1964) 195-203; *Acta Arch* 38(1967) 29-58; *Acta Arch* 41(1970) 155-179; *Acta Arch* 42(1971) 110-112; *AJA* 77(1973) 336-338; *AJA* 79(1975) 67-69; *IstMitt* 26(1976) 47-99; *IstMitt* 27(1977) 169-211; *Melanges Mansel* (1974) 735-748; *Naturens Verden* 2(1976) 41-55.

Jerison, Meyer 58-59 M

Born 1922 Bialystok, Poland. PhD 1950 Mathematics Univ of Mich. Appointments: CUPM 1968-71; NSF Postdoc Fships Adv Panel 1963-66. Memberships:

Members

AMS; MAA. Prof, Mathematics, Purdue Univ, 147 Pathway Lane, West Lafayette, IN 47906.

Publications Related to IAS Residence: With L. Gillman. *Rings of Continuous Functions*. New York: Van Nos-trand, 1960; With L. Gillman. Quotient Fields of Residue Class Rings of Function Rings. *III J of Math* 4(1960) 425-436; Martingale Formulation of Ergodic Theorems. *Proc AMS* 10(1959) 531-539; With L. Gillman. Stone-Čech Compactification of a Product. *Archiv der Mat* 10(1959) 443-446.

Other Publications: With G. Rabson. Convergence Theorems Obtained From Induced Homomorphisms of a Group Algebra. *Ann Math* 63(1956) 176-190; With W. Rudin. Translation Invariant Functionals. *Proc AMS* 13(1962) 417-423; Algebras of Germs of Fourier Transforms. *Proc 2nd Symposium on General Topology, Prague* (1966) 200-204.

Jessen, Børge Christian 33 34, 49f M

Born 1907 Copenhagen, Denmark. Dphil Math Univ of Copenhagen. Appointments: IMU, Organizing cttee 1950-52, Exec cttee 1952-54. Memberships: Hon Mem Danish Math Soc 1973. Prof Emer, Math, Univ of Copenhagen, Dantes Plads 3, DK-1556 Copenhagen V, Denmark.

Publications Related to IAS Residence: Abstrakt Maal-og Integralteori, 1. *Matematisk TidsskriftB*(1934) 73-84; With S. Bochner. Distribution Functions and Positive-Definite Functions. *Ann of Math* 2 35(1934) 252-257; With Harald Bohr. Mean-Value Theorems for the Riemann Zeta-Function. *Quart J Math Oxford Ser* 5(1934) 43-47; On the Approximation of Lebesgue Integrals by Riemann Sums. *Ann of Math* 2 35(1934) 248-251; The Theory of Integration in a Space of an Infinite Number of Dimensions. *Acta Math* 63(1934) 249-323; Abstrakt Maal-og Integralteori, 2. *Matematisk Tidsskrift B*(1935) 60-74; With A. Wintner. Distribution Functions and the Riemann Zeta Function. *Trans AMS* 38(1935) 48-88; Some Analytical Problems Relating to Probability. *J Math Physics* 14(1935) 24-27; Abstrakt Maal-og Integralteori, 3, 4, 5, 6-7, 8-10. *Matematisk Tidsskrift B*(1938) 13-26.

Other Publications: With Harald Bohr. Über die Werteverteilung der Riemannschen Zetafunktion I, II. *Acta Math* 54(1930) 1-35; 58(1932) 1-55; With J Marcinkiewicz & A. Zygmund. Note on the differentiability of multiple integrals. *Fund Math* 25(1935) 217-234; With W. Fenchel. Mengenfunktionen und konvexe Körper. *Dan Math Fys Medd* 16, 3(1936) 1-31; With H. Tornehave. Mean motions and zeros of almost periodic functions. *Acta Math* 77(1945) 137-279; With E.S. Andersen. Some limit theorems on integrals in an abstract space. *Dan Mat Fys Medd* 22, 14(1946) 1-29; With E.S. Andersen. On the introduction of measures in infinite product sets. *Dan Mat Fys Medd* 25, 4(1948) 1-8; With E.S. Andersen. Some limit theorems on set-functions. *Dan Mat Fys Medd* 25, 5(1948) 1-8; With V. Borchsenius. Mean motions and values of the Riemann zeta function. *Acta Math* 80(1948) 97-166;

Harald Bohr 22 April 1887 - 22 January 1951. *Acta Math* 86(1951) 1-23; Orthogonal icosahedra. *Nordisk Mat Tidsskr* 15(1967) 90-96; The algebra of polyhedra and the Dehn-Sydler theorem. *Math Scand* 22(1968) 241-256; With J. Karpf & A. Thorup. Some functional equations in groups and rings. *Math Scand* 22(1968) 257-265; Zur Algebra der Polytope. *Nachr Akad Wiss Göttingen* 2(1972) 47-53; With A. Thorup. The algebra of polytopes in affine spaces. *Math Scand* 43(1978) 211-240.

Jevicki, Antal 76-79 NS, Quantum Field Theory

Born 1951 Subotica, Yugoslavia. PhD 1976 Physics CUNY. Memberships: Am Phys Soc. Department of Physics, Brown University, Providence, RI 02912.

Publications Related to IAS Residence: Treatment of Zero-Frequency Modes in Perturbation Expansion about Classical Field Configurations. *Nucl Phys B*117(1976) 365-376; Path Integral Quantization of Solitons. In *The Significance of Nonlinearity in the Natural Sciences, Proc of Orbis Scientiae 1977*, 17-38. New York: Plenum Pub Company, 1977; With M. B. Halpern and P. Senjanovic. Field Theories in Terms of Particle-String Variables: Spin and Internal Symmetry. *Phys Rey D*16(1977) 2476; Quantum Fluctuations of Pseudoparticles in the Nonlinear σ -Model. *Nucl Phys B*127(1977) 125-140; On the Ground State and Infrared Divergences of Goldstone Bosons in Two Dimensions. *Phys Lett* 71B(1977) 327-329; Perturbation Theory in Terms of Currents and Restoration of Continuous Symmetry in Two Dimensions. *Nucl Phys B*146(1978) 77-89; With N. Papanicolaou. Exact Analysis of Coulomb Gauge Vacuum Degeneracies in Three Dimensions. *Phys Lett* 78B(1978) 438-442; With N. Papanicolaou. Semi-Classical Spectrum of the Continuous Heisenberg Spin Chain. *Ann Phys* in press.

Other Publications: With J. L. Gervais and B. Sakita. A collective coordinate method for quantization of extended systems. *Phys Reports* 23(1976) 237.

Jewett, Robert Israel 63-64 M, Analysis

Born 1937 Providence, RI. PhD 1963 Univ of Oregon. Dept of Mathematics, Western Wash State College, Bellingham, WA 98225. *

Jin, Yong-Son 63-65 M(NS), Physics

Born 1927 Korea. PhD 1962 Univ of Hamburg. Deceased.

Joglekar, Satish D. 75-77 NS, Elementary Particle Theory

Born 1949 India. PhD 1972 SUNY, Stony Brook. Dept of Physics, Univ of Calif, Berkeley, CA 94720. *

John, James Joseph 69-70, 72-73 HS, Paleography

Born 1928 Long Prairie, MN. Dr Med Stud 1959 Paleography and Medieval History Univ of Notre

Dame. Honors: Fship Inst for Res in Humanities, Univ of Wisc 1964-65; ACLS Fellow 1972-73.

Memberships: Med Acad of Amer; AHA; Catholic Hist Assoc. Prof, McGraw Hall, Cornell University, Ithaca, NY 14853.

Publications: E. A. Lowe and Codices Latini Antiquiores. *ACLS, Newsletter* 20, 5(1969) 1-17; A Palaeographer among Benedictines: A Tribute to E. A. Lowe. *The Amer Benedictine Rev* 21(1970) 139-47; *The College of Prémontré in Mediaeval Paris*. Notre Dame, Ind, 1953; The College of Prémontré: The Students and Their Academic Life. *Analecta Praemonstratensia* 30(1954) 161-177; A Carolingian Fragment of Daniel with a Peculiar Use of the *ti*-Legature. *Medievalia et Humanistica* 14(1962) 38-46; Latin Paleography. In *Medieval Studies: An Introduction*, ed. by James M. Powell, 1-68. 1976; The Canons of Premontré at the Mediaeval University of Vienna. *Analecta Praemonstratensia* 42(1966) 48-85; The University Career of Bishop Stephen Bodeker (1384-1459) of Brandenburg. In *Studium Generale: Studies Offered to Astrik L. Gabriel*, 129-157. Notre Dame, Ind: Medieval Institute Univ of Notre Dame, 1967.

Johnson, Dennis Lee 68-70 M, Algebraic Topology

Born 1938 Los Angeles, CA. PhD 1968 UCLA. *

Johnson, Francis Edward Anthony 73-74 M, Topology

Born 1946 Liverpool, England. PhD 1972 Topology Univ of Liverpool. Memberships: AMS; London Math Soc. Lect, Dept of Math, University College London, Gower St, London WC1E 6BT, England.

Publications Related to IAS Residence: With L. Auslander. On a Conjecture of C.T.C. Wall. *J Lond Math Soc* 14(1976) 331-332; Poincaré Duality Groups of Poly-Linear Type and Their Realisations. *Math Z* 163(1978) 145-148.

Other Publications: With C.T.C. Wall. On Groups Satisfying Poincaré Duality. *Ann Math* 96(1972) 592-598; Manifolds of Homotopy Type $K(\pi, 1)$, II. *Proc Camb Phil Soc* 75(1974) 165-173.

Johnson, Kent W. 76-77 M, Algebraic Geometry

Born 1949 Washington, DC. PhD 1976 Mathematics Brown Univ. Asst Prof, Math Dept, Mt Holyoke College, South Hadley, MA 01075.

Publications Related to IAS Residence: Immersion and Embedding of Projective Varieties. *Acta Math* 140(1978) 49-74.

Johnson, Marie, see Yeaton, Marie Johnson

Johnson-Laird, Philip Nicholas 71-72 Soc, Psychology

Born 1936 Leeds, England. PhD 1967 Psychology Univ Coll London. Honors: Spearman Medal British Psych Soc 1974. Appointments: Psych Cttee, SSRC

(GB). Memberships: British Psych Soc; Exptl Psych Soc; Linguistics Assoc. Prof, Experimental Psychology, Sussex Univ, 86 Upper North St, Brighton BN1 3FL, Sussex, England.

Publications Related to IAS Residence: With G. A. Miller. *Languages and Perception*. Cambridge, Mass: Harvard Univ Press.

Other Publications: With P. C. Wason. *Thinking*. Cambridge Univ Press, 1978.

Joll, James B. 53f, 71s HS

Born 1918 Bristol, England. PhD 1946 Oxford. Prof, London School of Economics & Political Sci. 64 Prince of Wales Mansions, Prince of Wales Drive, London SW 11, England. *

Jones, Alfred Welwood 51s M, Modern Algebra

Born 1915 New York, NY. PhD 1944 Mathematics Columbia Univ. Honors: Fellow AAAS 1971. Appointments: Consultant U.S. Army Corps of Engineers; Member of IDA; Consultant Off of Tech Assessment. Memberships: SIAM; ACM; Operations Res Soc; AAAS; Inst of Mgt Scis; Soc for Gen Systems Res. Tenured Prof, Operations Research, Wayne State Univ, 5369 Hickory Bend, Bloomfield Hills, MI 48013.

Publications Related to IAS Residence: With Eringen. *Continuum Physics*. Academic Press, 1971.

Jones, Antony J. 70-71 M, Number Theory

Born 1943 Hammersmith, London, England. PhD(Can-tab.) 1969 Mathematics. Memberships: Cambridge Philos Soc. Lect, Department of Mathematics, Royal Holloway College, Egham, Surrey, England.

Publications Related to IAS Residence: Cyclic Overlattices III. *J Number Theory* 7(1975) 267-282; Cyclic Overlattices IV. *J Number Theory* 7(1975) 283-292.

Other Publications: With J.H. Conway. Trigonometric Diophantine Equations. *Acta Arith* 30(1976) 229-240; *Game Theory: Mathematical models of conflict*. Chichester: Ellis Horwood Publishers, 1979.

Jones, B. Frank, Jr. 65-66 M, Partial Differential Equations

Born 1936 Amarillo, TX. PhD 1961 Mathematics Rice Univ. Memberships: AMS; MAA. Prof, Dept of Mathematics, Rice University, Houston, TX 77001.

Publications Related to IAS Residence: Singular integrals and a boundary value problem for the heat equations. *Proc Symp in Pure Math* 10(1967) 196-207; Lipschitz spaces and the heat equation. *J Math Mech* 18(1968) 379-410.

Other Publications: An approximation theorem of Runge type for the heat equation. *Proc AMS* 2(1975) 289-292; A fundamental solution for the heat equation

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which is supported in a strip. *J Math Anal Appl* 60(1977) 314-324.

Jones, Burton W. 38-39 M, Theory of Numbers

Born 1902 Redwood Falls, MN. PhD 1928 Univ of Chicago. Honors: Disting Svce Awd MAA 1971; LLD Grin-nell Coll 1973. Appointments: Fulbright Lect in Bogota 1967 summer; Ford Foundation consultant in Chile and Colombia. Memberships: MAA; AMS; AAUP. Prof Emer, Mathematics Department, University of Colorado, Boulder, CO 80309.

Publications Related to IAS Residence: *The Arithmetic Theory of Quadratic Forms*. Carus Monograph, 10. New York: Wiley, 1950; Related Genera of Quadratic Forms. *Duke Math J* (1942) 723-756; Representations of Quadratic Forms. *Ann Math* (1949) 884-889.

Other Publications: *An Introduction to Modern Algebra*. New York: Macmillan Co., 1975.

Jones, Christopher Prestige 71-72 HS, Classical Antiquity

Born 1940 Chislehurst, Kent, England. PhD 1965 Harvard Univ. Appointments: Ed Bd, Am Philol Assoc, 1974-1976; Chm, 1976. Memberships: Am Philol Assoc; Archaeol Inst Amer. Prof, Department of Classics, University of Toronto, 16 Hart House Circle, Toronto, Ontario, Canada M5S 1A1.

Publications Related to IAS Residence: *The Roman World of Dio Chrysostom*. Harvard Univ Press, 1978; Aelius Aristides, *εἰς βασιλέα*. *J Roman Studies* 52(1972) 134-152; Two Friends of Plutarch. *Bull Cor-resp hellénique* 96(1972) 263-267; Two enemies of Lucian. *Grk, Roman & Byz Studies* 13(1972) 475-487.

Other Publications: Translation of. *Philostratus: Life of Apollonius*. Penguin Books, 1970; *Plutarch and Rome*. Oxford: Clarendon Press, 1971.

Jones, Floyd Burton 57-58 M, Topology

Born 1910 Cisco, TX. PhD 1935 Mathematics (Pure) Texas. Honors: Sr Postdoc Fellow NSF 1957-58; Fulbright Fellow 1975. Appointments: NSF Predoc Fship Screening Cttee, NAS (3 yrs); NSF Coop Fship Screening Cttee, NAS (3 yrs). Memberships: MAA; AMS; Sigma Xi. Prof Emer, Mathematics, Univ Calif Riverside, 3367 Celeste Dr., Riverside, CA 92507.

Publications Related to IAS Residence: On the existence of weak outpoints in plane continua. *Proc AMS* 9(1958) 530-532; Moore spaces and uniform spaces. *Proc AMS* 9(1958) 483-486; On the first countability axiom for locally compact Hausdorff spaces. *Colloq Math* 7(1959) 33-34; Another cutpoint theorem for plane continua. *Proc AMS* 11(1960) 556-558; Cyclic connectivity of plane continua. *Pacific J Math* 11 (1961) 1013-1016; R. L. Moore's Axiom V and Metrization. *Proc AMS* 9(1958) 487; With G. S. Young. Product spaces in n-manifolds. *Proc AMS* 10(1958) 33-34.

Other Publications: Normal and completely normal spaces. *Bull AMS* 43(1937) 671-677; Aposyndetic continua and certain boundary problems. *Am J Math* 63(1941) 545-553; Connected and disconnected plane sets and the functional equation $f(x)+f(y)=f(x+y)$. *Bull AMS* 48(1942) 115-120; Measure and other properties of a Hamel basis. *Bull AMS* 48(1942) 472-481; Concerning non-aposyndetic continua. *Am J Math* 60(1948) 403-413; Concerning aposyndetic and non-aposyndetic continua. *Bull AMS* 58(1952) 137-151; On the existence of a small connected open set with a connected boundary. *Bull AMS* 68(1962) 117-119; Stone's 2-sphere conjecture. *Am J Math* 87(1965) 497-501.

Jones, Leslie W. 45-46 HS(H), Paleography*

Jones, Lowell E. 73-74, 74f M, Differential Topology

Born 1945 Britton, SD. PhD 1970 Yale Univ. Dept of Math, SUNY, Stony Brook, Stony Brook, NY 11790. *

Jones, Stephen Lester 67-69 M, Topology

Born 1942 Austin, TX. PhD 1967 Univ of Wisconsin. *

Joos, Hans H. 61-62 M(NS), Field Theory

Born 1926 Stuttgart, Germany. Dr 1961 Universitat Hamburg. Head, Theory Group, DESY, Hamburg, Germany.

Publications Related to IAS Residence: Group-Theoretical Models of Local Field Theories. *J Math Phys* 5(1964) 155-164.

Joris, Henri E. 73-74 M, Number Theory

Born 1942 Switzerland. PhD 1971 Univ of Zurich. Dept of Math, U of Ibadan, Ibadan, Nigeria. *

Joshi, Aravind K. 71-72 Soc, Linguistics and Psychology

Born 1929 Poona, India. PhD 1960 Computer Sci Univ of Penn. Honors: Disting Visitor IEEE Computer Soc 1971; Guggenheim Fellow 1971-72; Pres Assoc for Computational Ling 1974; Fellow IEEE 1976. Appointments: NSF Adv Panel for Computer Sci 1976-. Memberships: IEEE Assoc for Computing Machinery, Ling Soc of Am; Assoc for Computational Ling. Prof, and Chmn, Department of Computer and Information Science, University of Pennsylvania, Moore School, Room 268, Philadelphia, PA 19104.

Publications Related to IAS Residence: Factorization of Verbs: An Analysis of Verbs of Seeing. In *Semantics and Communication*, ed. by C. Heidrich. Amsterdam: North Holland, 1974; Constraints on Structural Descriptions: Local Transformations. *SIAM J of Computing* June(1977); With L. S. Levy. Some Results in Tree Automata. *Math Systems Theory* 6, 3(1972).

Other Publications: With S. J. Kaplan and R. Lee. Approximate Responses from a Data Base

Management System. In *Proc of the Fifth Intl Joint Confon Artificial Intelligence*. Cambridge, Mass: Aug 1977; Some Extensions of a System of Inferencing on Partial Information. In *Pattern Directed inference Systems*, ed. by F. Hays-Roth and D. Waterman. NY: Academic Press, 1978.

Joss, Paul Christopher 71-73 NS, Astrophysics

Born 1945 Brooklyn, NY. PhD 1971 Astronomy and Space Sciences Cornell Univ. Honors: Sloan Fellow 1976-80. Memberships: AAS. Assoc Prof, Physics, MIT, Rm 37-575, Cambridge, MA 02139.

Publications Related to IAS Residence: With E. E. Salpeter and J. P. Ostriker. On the Critical Luminosity in Stellar Interiors and Stellar Surface Boundary Conditions. *Ap J* 181(1973) 429; With S.A. Rappaport. Observational Constraints on the Masses of Neutron Stars. *Nature* 264(1976) 219; With J. I. Katz, R. C. Malone and E. E. Salpeter. Models for Carbon-Rich Stars with Helium Envelopes. *Ap J* 181(1973) 409; With J. N. Bahcall. Is the Local Supercluster a Physical Association?. *Ap J* 203(1976) 23; Are Stellar Surface Heavy-Element Abundances Systematically Enhanced?. *Ap J* 191(1974) 771; With J. N. Bahcall. An Analysis of the Absorption Spectrum of PHL 957. *Ap J* 179(1973) 381; With A. H. Boozer and E. E. Salpeter. Models for Initially Homogeneous Carbon-Rich Stars. *Ap J* 181(1973) 393; Orientation-Dependent Effects in Oort's Theory of Comet Origin II. Anisotropies in the Distribution of Long-Period Comet Orbits. *Icarus* 19(1973) 147; With Y. Avni and J. N. Bahcall. A Model for the Light Curve of HZ Herculis. *Ap J* 186(1973) 767; With J. N. Bahcall and J. G. Cohen. A Search for High-Ionization Redshift Systems in the Absorption Spectra of Five Quasars. *Ap J* 184(1973) 57; With J. N. Bahcall and R. Lynds. On the Temperature of the Microwave Background Radiation at a Large Redshift. *Ap J Letters* 182(1973) 111; On the Origin of Short-Period Comets. *Astron and Astrophys* 25(1973) 271; With J. N. Bahcall. Are Galaxies Formed by Material Flowing Out of Singularities?. *Comments Astrophys and Space Physics* 4(1972) 95; With J. N. Bahcall and Y. Avni. Optical Properties of HZ Herculis. *Ap J* 191 (1974) 211; With Y. Avni, J. N. Bahcall, D. Q. Lamb, E. Schreier and H. Tananbaum. Upper Limit on 2.5-Second Pulsations from Hercules X-1. *Ap J Lett* 188(1974) 35; Y. Avni, J. N. Bahcall, N. A. Bahcall, F. K. Lamb, C. J. Pethick and D. Pines. A Steady Energy Source in Her X-1?. *Nature Phys Sci* 246(1973) 36; With J. N. Bahcall, N. A. Bahcall, T. J. Herczeg, E. M. Leibowitz, A. Segalovitz, S. Stolero, M. Veron, P. Veron, P.A. Wehinger, D. Weistrop and S. Wyckoff. Further Optical Observations of HZ Herculis. *Pub Astron Soc Pacific* 87(1975) 141.

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Jost, Res W. 49-55, 57f, 62-63, 68f M(NS), Mathematical Physics

Born 1918 Bern, Switzerland. DPhil 1946 Theoretical Physics Zurich Univ. Honors: Corr member Austrian Ak d W; Foreign Assoc Member NAS/USA. Memberships: Am Phys Soc. Prof, Theoretical Physics, ETH, Rebhaldenstrasse 32, CH-8103 Unterengstringen, Switzerland.

Members

Publications Related to IAS Residence: With Walter Kohn. *On the Relation between Phase Shift Energy Levels and the Potential*. København: 1953; With J. M. Luttinger & Murray Slotnick. Distribution of Recoil Nucleus in Pair Production by Photons. *Phys Rev* (2) 80(1950) 189-196; With A. Pais. On the Scattering of a Particle by a Static Potential. *Phys Rev* (2) 82(1951) 840-851; With Walter Kohn. Construction of a Potential from a Phase Shift. *Phys Rev* (2) 87(1952) 977-992; With A. Pais. Selection Rules Imposed by Charge Conjugation and Charge Symmetry. *Phys Rev* (2) 87(1952) 871-875; With Walter Kohn. Equivalent Potentials. *Phys Rev* (2) 88(1952) 382-385; Lineare Differenzen-gleichungen mit Periodischen Koeffizienten. *Comment Math Helv* 28(1954) 173-185; With R. Newton. Construction of Potentials from the S-Matrix for Systems of Differential equations. *N Cim* 1(1955) 590-622; Mathematical Analysis of a Simple Model for the Stripping Reaction. *ZAMP* 6(1955) 316-326; Ein Beispiel zum Nukleonverta. *Helv Phys Acta* 31 (1958) 263-272; *The General Theory of Quantified Fields*. Providence, RI: AMS, 1965; With F. Baumann. Remarks on a Conjecture of Robinson and Ruelle. In *Theoretical Physics, Essays dedicated to N. N. Bogolubov, Moscow 1969*, 285-293. Über eine Ungleichung von E.P. Wigner and M.M. Yanase. In *Quanta, Essays dedicated to Gregor Wentzel*, 13-19. Chicago: 1970.

Other Publications: Über die falschen Nullstellen der Eigenwerte der S-Matrix. *Helv Phys Acta* 20(1947) 256-266; With J.M. Luttinger. Vacuum polarisation und e^4 - Ladungsrenormalisation für Elektronen. *Helv Phys Acta* 23(1950) 201-214; With H. Lehmann. Integraldarstellung kausaler Kommutatoren. *N Cim* 5(1957) 1598-1610; Eine Bemerkung zum CTP-Theorem. *Helv Phys Acta* 30(1957) 409-416; Das Pauli Prinzip und die Lorentzgruppe. In *Theoretical Physics in the Twentieth Century*, Pauli Memorial Volume: 107-136. NY: 1960; Axiomatic Field Theory. In *Proc Sienna Int Conf on Elementary Particles*, 2: 140-144. 1963; Poisson Brackets: an unpedagogical lecture. *Revs Mod Phys* 36(1964) 572-579; Winkel- und Wirkungsvariable für allgemeine mechanische Systeme. *Helv Phys Acta* 41(1968) 965-968.

Jucker, Hans 64-65 HS, Classical Archaeology

Born 1918 Basel, Switzerland. Honors: Deut Archäolog Inst; Oesterreich Archäolog Inst. Prof, Classical Archaeology, Univ of Bern, Sonnenbergstrasse 37, CH-3013 Bern, Switzerland.

Publications Related to IAS Residence: Bronzehenkel und Bronzehydria in Pesaro. *Studia Oliveriana* 13/ 14(1966); Altes und Neues zur Grächwiler Hydria. *Antike Kunst* (1973) 63-69; Der Ring des Kaisers Galba. *Chiron* 5(1975) 349-364; Die Behauptung des Balbinus. *Archäolog Anzeiger* (1966) 501-514.

Julia, Bernard L 76s NS, Theoretical Particle Physics

Born 1952 Paris, France. Dd'Etat 1978 Univ of Paris. Research Assoc, CNRS, Laboratoire de Physique Théorique ENS, 24 rue Desmond, 75005 Paris, France.

Publications: Dyon Solutions to the Yang-Mills Field equation. *Phys Rev D*(1975); The N=8 Supergravity. *Phys Lett B* (1979).

Jurji, Edward J. 36-38 HS(H), Arabic/Islamic Studies

Born 1907 Latakia, Syria. PhD 1936 Oriental Studies Princeton Univ. Honors: Fulbright Res Prof Univ of Madras 1960; Edward F. Gallahue Grantee in World Religions 1964. Appointments: Chm Sesquicentennial Comp Relig Conf, Princeton Theol Sem, 1963; Consultant Staff, Random House Dictionary of the English Language, 1966, 1968; Consultant Natl Geographic Soc, 1971, 1978. Memberships: Soc for Sci Study of Religion; Intl Assoc for Hist of Religions. Prof Emer, History of Religions, Princeton Theological Seminary. 89 Castle Howard Court, Princeton, NJ 08540.

Publications Related to IAS Residence: Editor, *Great Religions of the Modern World*. Princeton Univ Press, 1947.

Jussila, Olli K. 64-65 M, Algebraic Topology, Algebraic Geometry

Born 1937 Finland. PhD Univ of Oulu. Dept of Math, Univ of Helsinki, Helsinki, Finland. *

Kabir, Prabahan Kemal 56-57 M(NS), Physics

Born 1933 Calcutta, Bengal, India. PhD 1957 Cornell Univ. Memberships: Am Phys Soc. Prof, Physics Department, University of Virginia, Charlottesville, VA 22901.

Publications Related to IAS Residence: With G. Feinberg & S. Weinberg. Transformation of Muons into Electrons. *Phys Rev Lett* 3(1959) 527; With T.D. Lee, J. Steinberger, G. Feinberg & C.N. Yang. Possible Detection of Parity Nonconservation in Hyperon Decay. *Phys Rev* 106(1957) 1367.

Other Publications: The Ortho (pmp) Molecule and M-Absorption in Hydrogen. *Zeits f Phys* 191(1966) 447; What is Not Invariant Under Time-Reversal. *Phys Rev D*2(1970) 540; With G.V. Doss & B.G. Kenny. The Tests of TCP Invariance in Neutral Kaon Decays. *Proc Roy Soc Lond A*325(1971) 101.

Kac, Mark 51-52 M

Born 1914 Krzemieniec, Poland. PhD 1937 John Casi-mir Univ. Honors: Parnas Found Fellow 1938-9; Guggenheim Fellow 1946-47; Chauvenet Prize MAA 1950 & 1968; DSc (hon) Case Inst of Tech; Alfred Jurzykow-ski Found Awd in Sci 1976; Birkhoff Prize AMS & SIAM 1978. Appointments: 1955-58 Ed of *Trans AMS*; 1965-66 Vice Pres AMS; 1966-67 Chmn Div Math Sciences NRC/NAS. Prof, Mathematics, Rockefeller University, 1230 York Ave, New York, NY 10021.

Publications Related to IAS Residence: With J. C. Ward. A combinatorial solution of the two dimensional Ising model. *Phys Rev* 88(1952) 1332-1337.

Kadison, Richard Vincent 50-52 M, Functional Analysis, Operator Theory

Born 1925 New York, NY. PhD 1950 Univ of Chicago. Math Dept E1, Univ of Pa, Philadelphia, PA 19104. *

Publications Related to IAS Residence: Isometries of Operator Algebras. *Ann Math* (2) 54(1951) 325-338; With B. Fuglede. On a Conjecture of Murray and Von Neumann. *Proc NAS* 37(1951) 420-425; With B. Fuglede. On Determinants and a Property of the Trace Infinite Factors. *Proc NAS* 37(1951) 425-431; With B. Fuglede. Determinant Theory in Finite Factors. *Ann Math* (2) 55(1952) 520-530; A Generalized Schwarz Inequality and Algebraic Invariants for Operator Algebras. *Ann Math* (2) 56(1952) 494-503; Infinite Unitary Groups. *Trans Amer Math Soc* 72(1952) 386-399; With I. M. Singer. Some Remarks on Representations of Connected Groups. *Proc NAS* 38(1952) 419-423; Infinite General Linear Groups. *Trans Amer Math Soc* 76(1954) 66-91.

Kaegi, Walter E., Jr. 70f HS, Byzantine History

Born 1937 New Albany, IN. PhD 1965 Harvard Univ. Dept of History, Univ of Chicago, 1126 E 59th St, Chicago, IL 60637. *

Kagan, Richard Lauren 76-77 HS, Early Modern Europe

Born 1943 Newark, NJ. PhD(Cantab.) 1968 History. Memberships: AHA; Soc for Spanish & Portuguese Hist Stud. Assoc Prof, Dept of History, Johns Hopkins University, Baltimore, MD 21218.

Publications Related to IAS Residence: Pleitos y Poder Real: La Chancillería de Valladolid, 1500-1700. In *Cuadernos de Investigación Histórica*, 2: 291-316. Madrid.

Other Publications: *Students & Society in Early Modern Spain*. Baltimore: 1974.

Kahane, Jean-Pierre 63f M

Born 1926 Paris, France. Docteur es Sciences 1956 Univ de Paris. Memberships: Soc Math France; AMS; London Math Soc. Prof, Math, Bâtiment 425 (Math), Université de Paris-Sud à Orsay, 91405 Orsay, France.

Publications Related to IAS Residence: With Masako and Shin-ichi Izumi. Théorèmes Élémentaires. *J Anal Math Jerusalem* 16(1965) 235-246; With H. Helson. A Fourier Method ... *J Anal Math Jerusalem* 15(1965) 245-262; 'Lacunary Taylor and Fourier Series'. *Bull AMS* 70(1964) 1.

Other Publications: *Some Random Series of Functions*. Heath Math Monographs. Heath, 1968; *Séries de Fourier Absolument Convergentes*. Berlin: Springer, 1970.

Kahane, Penuel P. 59-60, 61-62 HS, Greek Archaeology

Born 1904 Berlin, Germany. PhD 1937 Univ of Basel. Chief Curator, Arch Museum, Hanania House, Gaza Rd, Jerusalem, Israel. *

Kahil, Lilly Louise 54-55, 67f, 74f, 77f, 78f HS, Classical Archaeology

Born 1926 Zurich, Switzerland. D és L 1954 Sorbonne. Honors: Corr member Deut Archäologs Inst 1965-; Corr member Österreich Archäolog Inst 1975-. Appointments: Secy Genl LIMC 1972-; Com Consult des Univ (France), 1975-1976; Com National du CNRS 1977-. Prof, Classical Archaeology, University of Fri-bourg, Directeur de Recherche titulaire au CNRS, 6, rue Frédéric Bastiat, 75008 Paris, France.

Publications Related to IAS Residence: *La céramique grecque*. Etudes thasiennes, fasc 7. Paris: E. de Boc-card, 1960; With S. Charitonidis & R. Ginouvès. *Les Mosaïques de la Maison du Ménandre à Mytilène*. Berne: Francke, 1970; L'Artémis de Brauron: Rites et Mysteres. *Antike Kunst* 2(1977) 86-99; *Corpus Vaso-rum Antiquorum*, Genève. fasc 2. Musée d'Art et d'His-toire.

Other Publications: *Les enlèvements et le retour d'Hé-lène dans les textes et les documents figurés*. Paris: E. de Boccard, 1955; Sculpture, céramiques et lampes. In *Laodicée du Lycos: le nymphée*, ed. by Jean Des Gagniers et al, 3 & 4. Quebec: Presses de l'Université Laval, 1969.

Kähler, Erich G. von 49s HS(EP), Philosophy of History

Born 1885 Prague, Czechoslovakia. PhD 1911 Univ of Vienna. Deceased.

Kahn, Franz Daniel 58f M(NS), Astrophysics

Born 1926 Nürnberg, Germany. DPhil 1950 Natural Sciences Oxford Univ. Honors: Prizewinner Soc of German Scientists and Physicians 1958. Appointments: UK Sci Res Council Astron Cttees. Memberships: Royal Astron Soc. Prof, Univ of Manchester, Astronomy Department, The University, Manchester M13 9PL, England.

Publications Related to IAS Residence: The Formation of Stars. In *Die Entstehung von Sternen*. New York: Springer, 1960; With L. Woltjer. Intergalactic Matter and the Galaxy. *Ap J* 130(705) 1959.

Other Publications: Acceleration of Interstellar Clouds. *Bull Astr Inst Netherlands* 12(187) 1954; Cocoon Around Early-Type Stars. *Astron Astrophys* 37(1974) 149.

Kahn, Peter J. 69-71 M, Topology

Born 1939 Santiago, Chile. PhD 1964 Princeton Univ. Honors: Humboldt Sr Scientist Award 1974-75.

Members

Memberships: AMS; MAA. Prof, Mathematics, White Hall, Cornell Univ, Ithaca, NY 14853.

Publications Related to IAS Residence: The Nonfinite Homotopy Type of Some Diffeomorphism Groups. *Topology* 11(1972) 1-49; The Concordance-Homotopy Groups of Geometric Automorphism Groups. *Springer Lecture Notes in Math* 215(1971).

Other Publications: The Homotopy Dimension of Nilpotent Spaces. *Proc of Symposia in Pure Math* 32(1978) 217-219.

Kakutani, Shizuo 40-42 M, Analysis, Topology

Born 1911 Japan. PhD 1941 Osaka U. Prof, Math Dept, Yale Univ, New Haven, CT 06520. *

Publications Related to IAS Residence: Concrete Representation of Abstract (M)-Spaces. *Ann Math* (2) 42(1941) 994-1024; A Generalization of Brouwer's Fixed Point Theorem. *Duke Math J* 8(1941) 457-459; With H. F. Bohnenblust. Representation of (M)-Spaces. *Ann Math* (2) 42(1941) 1025-1028; With Warren Ambrose and P. R. Halmos. The Decomposition of Measures, II. *Duke Math J* 9(1942) 43-47; An Extreme-mum Problem in Product Space. *Ann Math* (2) 43(1942) 742-756; A Proof that there Exists a Circumscribing Cube around Any Convex in R^3 . *Ann Math* (2) 43(1942) 739-741; Representation of Measurable Flows in Euclidean 3-Space. *Proc NAS* 28(1942) 16-21; With Warren Ambrose. Structure and Continuity of Measurable Flows. *Duke Math J* 9(1942) 25-42; With P. Erdős. On Non-Enumerable Graphs. *Bull AMS* 49(1943) 457-461; With G. W. Mackey. Two Characterizations of Real Hilbert Space. *Ann Math* (2) 45(1944) 50-58; With G. W. Mackey. Ring and Lattice Characterizations of Complex Hilbert Space. *Bull AMS* 52(1946) 727-733.

Kalinowski, Lech 64-65 HS, History of Art

Born 1920 Cracow, Poland. PhD 1949 History of Art Jagiellonian Univ. Memberships: Com Internat d'Hist de l'Art/CIHA, Paris, 1969-. Prof, Jagiellonian Univ, Szymanowskiego 4/9, 30-047 Cracow, Poland.

Publications Related to IAS Residence: Ikonologia czy ikonografia? *Zeszyty Naukowe UJ CCCII, Prace z historii sztuki* 10(1972) 5-33.

Other Publications: *Max Dvořák i jego metoda badań nad sztuce*. Warszawa: 1974.

Kalisch, Gerhard K. 55-56 M, Analysis

Born 1914 Breslau, Germany. PhD 1942 Math Univ of Chicago. Memberships: AAAS; AMS; MAA; Sigma Xi. Prof, Dept of Math, U of Calif, Irvine, CA 92717.

Publications Related to IAS Residence: On Uniform Spaces and Topological Algebra. *Bull AMS* 52(1946) 936-939; On p-adic Hilbert Spaces. *Ann Math* 2 48(1947) 180-192; On Similarity, Reducing Manifolds, and Unitary Equivalence of Certain Volterra Operators. *Ann Math* 66(1957) 481-494.

Other Publications: A Functional Analysis Proof of Titchmarsh's Theorem on Convolution. *J of Math Anal & Applies* 5, 2(Oct 1962) 176; On Operators with

Large Point Spectrum. *Scripta Math* 29(1972) 371-378; Integral Representations of Piecewise Holomorphic Functions. *Pac J Math* 72(1977) 105-114.

Källén, Anders Olof Gunnar 53-54 M(NS), Field Theory

Born 1926 Sweden. PhD 1951 Lund Univ. Deceased.

Kallianpur, Gopinath 52-53 M, Probability Theory

Born 1925 Mangalore, India. PhD 1951 Mathematical Statistics Univ of N Carolina, Chapel Hill. Honors: Fellow IMS; Member Council of Bernoulli Society; Fellow NAS of India. Appointments: Editor, *Sankhyā*; Member, Ed Bd *J of Multivariate Anal*; Assoc Ed, *J of Applied Math & Optimization*. Prof, Math, Univ of Minnesota, 1301 Wildwood Dr, Chapel Hill, NC 27514.

Publications Related to IAS Residence: With H. Robbins. On the Sequence of Sums of Independent Random Variables. *Duke Math J* (1954); An Ergodic Property of the Brownian Motion. *Proc NAS* (1953).

Kalnajs, Agris Janis 79-80 NS, Astronomy

Born 1937 Riga, Latvia, USSR. PhD 1965 Astronomy Harvard Univ. Honors: Bart J. Bok Prize 1965. Memberships: Am Astron Soc; Astron Soc of Australia; Internat'l Astron Union; Royal Astron Soc. Sr Fellow, Mt. Stromlo Observatory, Private Bag, Woden PO, A.C.T. 2606, Australia.

Kamber, Franz W. 67-68 M, Differential Geometry, Algebraic Topology

Born 1936 Olten, Switzerland. PhD 1965 Univ of Zürich. Honors: Miller Research Fellow UC Berkeley 1965-67; Associate Member Center for Advanced Study, Univ of Ill 1979-80. Memberships: AMS; Swiss Math Soc. Prof, Dept of Mathematics, Univ of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: A Lefschetz formula on flat manifolds. *Notices AMS* 14(1967) 162; On the characteristic homomorphism of a discrete uniform subgroup of a nilpotent Lie group. *Bull AMS* 74(1968) 690-694; With Ph. Tondeur. Flat manifolds. *Springer Lecture Notes in Math* 67(1968); With Ph. Tondeur. Flat manifolds with parallel torsion. *J Diff Geom* 2(1968) 385-389.

Other Publications: With Ph. Tondeur. Invariant differential operators and cohomology of Lie algebra sheaves. *Mem AMS* 113(1971) 125 pp; With Ph. Tondeur. Characteristic invariants of foliated bundles. *Manuscripta Mathematica* 11(1974) 51-89; With Ph. Tondeur. Non-trivial characteristic invariants of homogeneous foliated bundles. *Ann Sci Ec Norm Sup* 8(1975) 433-486; On the linear independence of certain cohomology classes of $B\Gamma_q$. In *Studies in Algebraic Topology*, ed. by G.-C. Rota, Adv Math Suppl Study 5: 213-263. New York: Academic Press, 1979; With Ph. Tondeur. G-foliations and their characteristic classes. *Bull AMS* 84, 6(1978) 1086-

1124; With Ph. Tondeur. Semi-simplicial Weil algebras and characteristic classes. *Tohoku Math Jour* 30(1978) 373-422; *Foliated Bundles and Characteristic Classes*. Lect Notes in Math, 493. Berlin: Springer-Verlag, 1975.

Kampen, Egbertos R. van 33-34 M

Born 1908 Netherlands. Doct 1928 Univ of Leiden. Deceased.

Publications Related to IAS Residence: Locally Compact Abelian Groups. *Proc NAS* 20(1934) 434-436; Locally Bicomact Abelian Groups and Their Character Groups. *Ann of Math* 2 36(1935) 448-463.

Kampen, Nicolaas G. van 52s, 52-53 M(NS), Theoretical Physics

Born 1921 Leiden, Netherlands. PhD 1951 Univ of Leiden. Memberships: Royal Acad of Arts and Sci, Amsterdam. Prof, Institute for Theoretical Physics, University of Utrecht, Utrecht, Netherlands.

Publications Related to IAS Residence: S-matrix and causality condition. *Phys Rev* 89(1953) 1072; 91(1953) 1267; The connection between the R-matrix and the S-matrix. *Rev Mex Fis* 2(1953) 233; The symmetry relation of the S-matrix in the complex plane. *Physica* 20(1954) 115.

Other Publications: An asymptotic treatment of diffraction problems. I. *Physica* 14(1948) 575; Contribution to the quantum theory of light scattering (Dissertatie). *Kong Danske Vid Selsk Mat-fys Medd* 26 15(1951); Quantum statistics of irreversible processes. *Physica* 20(1954) 603; The dispersion equation for plasma waves. *Physica* 23(1957) 641; A power series expansion of the master equation. *Can Journ Phys* 39(1961) 551; Condensation of a classical gas with long-range attraction. *Phys Rev* 135(1964) 362; Fluctuations in non-linear systems. Chapter V. In *Fluctuation Phenomena in Solids*, ed. by Burgess. New York: Academic Press, 1965; With B.U. Felderhof. *Theoretical Methods in Plasma Physics*. Amsterdam: North-Holland, 1967; Relativistic Thermodynamics. *J Phys Soc Japan* 26 suppl(1969) 316; The case against linear response theory. *Physica Norvegica* 5(1971) 279; A cumulant expansion for stochastic linear differential equations I. *Physica* 74(1974) 215; The expansion of the master equation. In *Advances Chemical Physics*, ed. by I. Prigogine and S.A. Rice, 34. New York: Wiley, 1976; Stochastic differential equations. *Physics Reports* 24C(1976) 171.

Kane, Richard M. 79-80 M, Algebraic Topology

Born 1944 Danbury, CT. PhD 1973 Univ of Waterloo. Asst Prof, Dept of Math, Univ of Alberta, Edmonton T6G 2G1, Canada. *

Kann, Robert A. 42s, 42-45, 45f HS(EP), Modern European History

Born 1906 Vienna, Austria. JD 1930 Univ of Vienna; PhD 1946 Columbia Univ. Honors: Guggenheim Fellow 1949-50; SSRC Fac Res Fellow 1960; DPhil(hc) University of Salzburg 1971. Appointments: Chmn Conference Grp Central Europ Hist AHA 1964. Memberships: AHA; APSA; Austrian Acad. Prof Emer, Rutgers Univ. 143 Loomis Ct, Princeton, NJ 08540.

Publications Related to IAS Residence: *The Multinational Empire: Nationalism and National Reform in the Habsburg Monarchy 1848-1918*. 2. New York: Columbia U Press, 1950; The Law of Nations and the Conduct of War in the Early Times of Standing Army. *J Pol* 6/1(February 1944) 77-105; With A. Lauterbach and D.A. Hubbard. *Modern War, its Economic and Social Aspects*. Princeton: Institute for Advanced Study, 1941.

Other Publications: *The Habsburg Empire: a Study in Integration and Disintegration*. New York: F. A. Praeger, 1957; *A History of the Habsburg Empire 1526-1918*. Berkeley: Univ of Cal Press, 1974; *Erzherzog Franz Ferdinand Studien*. Vienna: Verlag F. Gesch, 1976; *A Study in Austrian Intellectual History: from Late Baroque to Romanticism*. New York: F. A. Praeger, 1960; *The Problem of Restoration: a Study in Comparative Political History*. Berkeley: Univ of Cal Press, 1968.

Kannai, Yakar Israel 68s, 68f M, Analysis

Born 1942 Tel-Aviv, Israel. PhD 1968 Mathematics Hebrew Univ. Appointments: Member Ed Bd *J Math Econ & Comm Part Diff Equations*. Memberships: AMS. Assoc Prof, Dept of Mathematics, Weizmann Institute of Science, Rehovot, Israel.

Publications Related to IAS Residence: On the Asymptotic Behavior of Resolvent Kernels, Spectral Functions and Eigenvalues of Semi-Elliptic Systems. In *Ann Scuola Norm Sup*, 23: 563-634. Pisa: 1969; Countably Additive Measures in Cores of Games. *J Math Anal Appl* 27(1969) 227-240; On Closed Coverings of Sim-plexes. *Siam J Appl Math* 19(1970) 459-461.

Other Publications: Continuity Properties of The Core of a Market. *Econometrica* 88(1970); Off Diagonal Short Time Asymptotics for Fundamental Solutions of Diffusion Equations. *Comm Part Diff Equat* 2(1977).

Kantorovitz, Shmuel 63-64 M, Functional Analysis

Born 1935 Casablanca, Morocco. PhD 1962 Math Univ of Minn. Honors: NSF Research Grants 1961-1978. Memberships: AMS. Prof, and Chmn, Department of Mathematics, Bar-Ilan University, Ramat-Gan, Israel.

Publications Related to IAS Residence: Classification of Operators by Means of Their Operational Calculus. *Trans AMS* 115(1965) 194-224; A Jordan Decomposition for Operators in Banach Space. *Trans AMS* 120(1965) 526-550.

Other Publications: The Semi-Simplicity Manifold of Arbitrary Operators. *Trans AMS* 123(1966) 241-252; The C^k -classification of Certain Operators in L_p , I, II.

Members

Trans AMS 132, 146(1968, 1969) 323-333, 61-67; Commutators, C^k -classification, and Similarity of Operators. *Trans AMS* 156(1971) 193-218; With K.J. Pei. Pairs of Operators Satisfying the Volterra Commutation Relation. *Indiana U Math J* 23(1974) 1177-1197; Characterization of C^n -operators. *Indiana U Math J* 25(1976) 119-133; With R.J. Hughes. Boundary Values of Holo-morphic Semi-groups of Unbounded Operators and Similarity of Certain Perturbations. *J Functional Analysis* 29(1978) 253-273.

Kaplan, Lewis David 54-56 M, Numerical Weather Prediction

Born 1917 New York, NY. PhD 1951 Meteorology U of Chicago. Honors: Exc Sci Achievement Medal NASA 1968; Second Half Century Awd Am Meteorol Soc 1970. Appointments: Various panels NAS, NASA, NOAA; Radiation Comm of Internatl Assn of Meteorol and Atmos Phys. Memberships: Am Meteorol Soc Fellow; AAAS; Am Geophys Union; Optical Soc of Amer; Royal Meteorol Soc. Prof, Meteorology, U of Chicago. Apt 526, 4545 Connecticut Ave NW, Washington, DC 20008.

Kaplan, Samuel 47-48, 56-57 M

Born 1916 Detroit, MI. PhD 1942 Math Univ of Mich. Memberships: AMS; AAUP. Prof, Dept of Math, Purdue Univ, West Lafayette, IN 47907.

Publications Related to IAS Residence: Extensions of the Pontrjagin Duality I, II. *Duke Math J* 15, 17(1948, 1950) 649-658, 419-435; The Second Dual of the Space of Continuous Functions II. *Trans AMS* 93(1959) 329-350; A zero-dimensional topological group with a one-dimensional factor group. *Bull AMS* 54(1948) 969-968.

Other Publications: Homology properties of arbitrary subsets of Euclidean Spaces. *Trans AMS* 62(1947) 248-271; Cartesian products of reals. *Amer J* 74(1952) 936-954; Second Dual of the space of continuous functions I, III, IV. *Trans AMS* 86, 101, 113(1957, 1961, 1964) 70-90, 34-51, 512-546.

Kaplansky, Irving 46-47 M

Born 1917 Toronto, Ontario, Canada. PhD 1941 Math Harvard Univ. Honors: PhD(hc) Waterloo Univ 1968; NAS; DSc(hc) Queens Univ 1969; AAAS. Memberships: AMS; MAA. Prof, Dept of Math, Univ of Chicago, Chicago, IL 60637.

Publications Related to IAS Residence: With Richard F. Arens. Topological representation of algebras. *Trans AMS* 63(1948) 457-481; Groups with representations of bounded degree. *Canad J Math* 1(1949) 105-112; Normed algebras. *Duke Math J* 16(1949) 399-418; Primary ideals in group algebras. *Proc NAS* 35(1949) 133-136; Elementary divisors and modules. *Trans AMS* 66(1949) 464-491; Forms in infinite dimensional spaces. *Anais Acad Brasil Ci* 22(1950) 1-17; Quelques resultats sur les anneaux d'operateurs. *C R Acad Sci Paris* 231 (1950) 485-486;

The Weierstrass theorem in fields with valuations. *Proc AMS* 1(1950) 356-357; Topological representation of algebras II. *Trans AMS* 68(1950)62-75; Locally compact rings II. *Amer J Math* 73(1951) 20-24; Projections in Banach algebras. *Ann Math* 2 53(1951) 235-249; Projective modules. *Ann of Math* 2, 68(1958) 372-377; On the dimension of modules and algebras X. A right hereditary ring which is not left hereditary. *Nagoya Math J* 13(1958) 85-88; Lie algebras of characteristic p. *Trans AMS* 89(1958) 149-183; Some aspects of analysis and probability. In *Surveys in Applied Mathematics*, 4: 1-34. John Wiley and Sons Inc, 1958.

Other Publications: *Commutative Rings*. 2. U of Chicago Press, 1974; *Infinite Abelian Groups*. 2. U of Mich Press, 1969.

Karel, Martin Lewis 72-74 M, Automorphic Forms

Born 1944 Baltimore, MD. PhD 1972 Math Univ of Chicago. Memberships: AMS. Asst Prof, Dept of Math, University of North Carolina, Chapel Hill, NC 27514.

Publications Related to IAS Residence: Fourier Coefficients of Certain Eisenstein Series. *Ann Math* 99 (1974) 176-202; Eisenstein Series and Fields of Definition. *Comp Math* 37(1978) 121-169; Functional Equations of Whittaker Functions on P-adic Group. *Am J Math* (in press).

Karliner, Inga 74-76 NS, Particle Physics

Born 1946 Poland. PhD 1974 Physics Stanford U. Asst Physicist, LBL, Bldg 50 Rm 2129, Berkeley, CA 94720.

Karoubi, Max 68-69 M

Born 1938 Tunis, Tunisia. PhD Univ of Paris. Memberships: AMS; SMF. Prof, University of Paris 7. 2 Place Jussieu, 75005 Paris, France.

Publications Related to IAS Residence: Espaces clas-sifiants en K-théorie. *TAMS* 197(1970) 15-115; Graded Brauer Groups and K-theory with local coefficients. *Pub Math IHES* 38(1970); K-théorie algébrique et K-théorie topologique. *Math Scand* 28 (1971) 265-307.

Other Publications: *K-theory: An introduction*. Grun-delehren, 226. Springer Verlag, 1978;.

Karp, Leon 79-80 M, Differential Geometry

Born 1950 New York, NY. PhD 1976 NYU. Fine Hall, Princeton Univ, Princeton, NJ 08540. *

Karplus, Robert 48-50 M(NS), Theoretical Physics

Born 1927 Vienna, Austria. PhD 1948 Chemical Physics Harvard Univ. Honors: Guggenheim Fellow 1960-61, 1973-74; Fulbright Res Grant 1960-61; Am Assoc Physics Teachers Disting Svce Citation 1972; Disting Svce Award Nat Sci Teachers Assn 1978. Memberships: Fellow, Am Phys Soc; Am Assoc Phys

Teach; Nat Sci Teach Assoc; Nat Assoc Res in Sci Teaching. Prof, Physics, Univ of Calif, Berkeley, Assoc Dir Lawrence Hall of Science; Chair Grp in Sci & Math Education. 57 Overhill Rd, Orinda, CA 94563.

Publications Related to IAS Residence: With Norman Kroll. Fourth-Order Corrections in Quantum Electrodynamics and the Magnetic Moment of the Electron. *Phys Rev* 77(1950) 536-549; With Maurice Neumann. Non-Linear Interactions Between Electromagnetic Fields. *Phys Rev* 80(1950) 380-385.

Other Publications: *Introductory Physics: A Model Approach*. New York: W.A. Benjamin, 1969; *Physics and Man*. New York: W.A. Benjamin, Inc, 1970; With Herbert D. Thier. *A New Look at Elementary School Science*. Chicago: Rand McNally, 1967; *Science Curriculum Improvement Study*. Chicago: Rand McNally, 1970-72; With James Eakin. *SCIS Final Report*. Berkeley, CA: Lawrence Hall of Sci, 1976.

Kashiwara, Masaki 77-78 M

Born 1947 Japan. PhD 1975 Kyoto Univ. Department of Mathematics, MIT, Cambridge, MA 02139. *

Kastler, Daniel 70-71 NS, Algebraic Field Theory

Born 1926 France. *

Kato, Mitsuyoshi 68-70 M, Topology

Born 1942 Japan. AB 1965 Waseda Univ. *

Katz, Jonathan Isaac 73-76 NS, Astrophysics

Born 1951 New York, NY. PhD 1973 Astronomy Cornell Univ. Honors: Sloan Fellow 1977-79. Memberships: Amer Phys Soc; Amer Astron Soc. Assoc Prof, Astron & Geophys, Department of Astronomy, UCLA, Los Angeles, CA 90024.

Publications Related to IAS Residence: The Structure of DQ Herculis. *Ap J* 200(1975) 298; Two Kinds of Stellar Collapse. *Nature* 253(1975) 698; Nonrelativistic Compton Scattering and Models of Quasars. *Ap J* 206(1976) 910.

Other Publications: The 35-day Periodicity in Her X-1. *Nature Phys Sci* 246(1973) 87; Synchronous Rotation in Magnetic X-Ray Binaries. *Ap J* (in press).

Katz, Michael Barry 73-74 Soc, Social History

Born 1939 Wilmington, DE. EdD 1966 Hist Harvard Univ. Honors: Guggenheim Fellow 1977-78; Albert C. Corey Award; AHA & Can Hist Assoc 1978; MA (hc) Univ of Pennsylvania 1978. Appointments: History Panel, NEH. Memberships: AHA; OAH; Soc Sci Hist Assoc; Hist Ed Soc; Canadian Hist Assoc. Prof, Education, History, and Public Policy, Univ of Penn. 428 S 47th St, Philadelphia, PA 19143.

Publications Related to IAS Residence: *The People of Hamilton, Canada West: Family and Class in a Mid-Nineteenth Century City*. Cambridge: Harvard Univ Press, 1975.

Other Publications: *The Irony of Early School Reform: Educational Innovation in Mid-Nineteenth Century Massachusetts*. Harvard Univ Press, 1968; *Class, Bureaucracy, and Schools: The Illusion of Educational Change in America*. Praeger, 1941.

Katzenellenbogen, Adolf 53s HS, Art History

Born 1901 Frankfurt, Germany. PhD 1933 Art History Univ of Hamburg. Deceased.

Publications Related to IAS Residence: *The Sculptural Programs of Chartres Cathedral: Christ, Mary, Ec-clesia*. Baltimore: 1959.

Kauffmann, Georg 73-74 HS, History of Art

Born 1925 Kiel, Germany. DHabil 1958 History of Art Univ Bonn. Honors: Member Rheinisch-Westfälische Ak d W in Düsseldorf 1975; Erweiterter Vorstand Deut Ver für Kunstw EV 1978. Appointments: Nationalkomitè Com Internatl d'Hist de l'Art 1976; Membre titulaire du Com Internation d'hist de l'Art, 1978. Memberships: Ver Deut Kunsthist EV. Prof, and Director Institut f Kunstgeschichte Univ Münster, Piusallee 116, D-44 Münster, Germany.

Publications Related to IAS Residence: Zum Verhältnis von Sprache und Bildender Kunst in der Renaissance. In *Plenarvortrag des Ersten Internationalen Kon-gresses für Renaissanceforschung*. Wolfenbüttel: 1978.

Kauffmann, Johannes 65s HS, History of Art

Born 1896 Kiel, Germany. PhD1919Univ of Kiel.Honors: Hon Chmn Verb deut Kunsthistoriker 1960-; Hon Member Deut Ver f Kunstw 1972-; Hon Member Kuratori-ums Zentralinst Kunstgeschichte-München 1973-; Hon Member Comite Internat d'Hist de l'Art 1965-. Appointments: Chmn Verb deut Kunsthistoriker 1952-60; Chmn Kuratoriums Zentralinst Kunstgeschichte-Munchen 1952-73; Chmn Beiratsf die Museender Stif-tung Preuss Kulturbesitz 1953-65; Member Vorstands Deutsch Kunsthistor Inst Florence 1953-66; Member Kuratoriums Bibliotheca Hertziana-Rome 1954-60; Vice Pres Deut Forschungsgemeinschaft Bonn 1958-66. Memberships: Royal Soc of Arts, London; Corr Member Rhein-Westfälischen Ak d W. Prof Emer, Univ of Berlin. Römerstr 118, 5300 Bonn-Nord, Germany.

Publications Related to IAS Residence: Giov Lor Bernini, die figürlichen Kompositionen Berlin 1970. In *Festschrift f Theodor Müller*. Munich: 1965; Die Schützenbilder des Frans Hals. In *Festgabe zu Walter Fried-länders 90 Geburtstag*. Berlin: 1965; Friederich Schinkel u seine Stellung in der Architekturgeschichte. In *Akten Internat Kongress f Kunstgeschichte Bonn 1964*. Berlin: 1966; Erwin Panofsky 30.3.1892-14.3.1968 Gedenkrede in der Bibliotheca Hertziana Rome. *Kunstchronik* 21(1968) 260-66; Anmerkungen zu Rembrandts Potipharbildern. In *Neue Rembrandtforschung*, 50-7. Berlin: 1973; *Probleme griechischer Säulen*. Opladen:

Members

Ak d W-Düsseldorf, 1976; Jacob van Ruijsdaels "Mühle von Wijck". In *Festschrift Otto von Simson*, 379-97. Berlin: 1977; Rembrandts "Belsa-zar". In *Festschr f Wolfgang Braunfels*, 167-76. Tübingen: 1977; Albrecht Dürer un 1500. In *Studies in Med and Ren painting in honor of Millard Meiss*, 261-73. New York: 1977.

Kaufman, Bruria 48-50 M(NS), Physics

Born 1918 New York, NY. PhD 1948 Columbia Univ. *
Publications Related to IAS Residence: Crystal Statistics. II: Partition Function Evaluated by Spinor Analysis. *Phys Rev (2)* 76(1949) 1232-1243; With Lars Onsager. Crystal Statistics. III: Short Range Order in a Binary Ising Lattice. *Phys Rev (2)* 76(1949) 1244-1252; With A. Einstein. Sur l'État Actuel de la Théorie Générale de la Gravitation. In *Louis de Broglie, Physicien et Pen-seur*, 321-336. Paris: 1953; With A. Einstein. Algebraic Properties of the Field in the Relativistic Theory of the Asymmetric Field. *Ann Math (2)* 59(1954) 230-244.

Kawada, Yukiyosi 52-54 M, Number Theory

Born 1916 Tokyo, Japan. DSc 1940 Univ of Tokyo. Prof, Sophia Univ, 6-37-17, Nagasaki, Toshima-ku, Tokyo, Japan.

Publications Related to IAS Residence: *Algebraic number theory*. Kyōritsu Syuppan, 1957; On the structure of the Galois group of some infinite extensions. I, II. *J Fac Sci Univ Tokyo (1)* 7(1954) 1-18, 87-106; With J. Tate. On the Galois cohomology of unramified extensions of function fields in one variable. *Amer J Math* 77(1955) 197-217; Class formations. I. *Duke Math J* 22(1955) 165-177; With I. Satake. Class formations. II, VI. *J Fac Sci U Tokyo (1)* 7, 8(1956, 1960) 353-389, 229-262; Class formations. III, IV, V. *J Math Soc Japan* 7, 9, 12(1955, 1957, 1960) 453-490, 395-405, 34-64; Cohomology of group extensions. *J Fac Sci Univ Tokyo (1)* 9(1963) 417-431; Abstract class formations. *Bol Soc Mat São Paulo* 15(1960) 5-23; Class formations. In *Number Theory Institute, Stony Brook 1969*, ed. by D. J. Lewis, Proc Symp in pure math: 96-114. Providence, RI: AMS, 1971.

Kawai, Takahiro 77-78 M, Analysis

Born 1945 Tsushima, Aichi, Japan. DSc 1973 Math Kyoto Univ. Honors: Iyanaga Prize of Math Soc Japan 1977. Memberships: Math Soc of Japan; AMS. Assoc Prof, Analysis, Research Institute for Mathematical Sciences, Kyoto University, Kyoto 606, Japan.

Publications Related to IAS Residence: *Seminar on Micro-local Analysis*. Ann Math Studies, 93. Princeton U Press, 1979; Micro-analyticity of the S-matrix and related functions. *Commun Math Phys* in press; On a class of linear partial differential equations whose formal solutions always converge. *Ark för Mat* in press.

Other Publications: With M. Sato & M. Kashiwara. *Microfunctions and pseudo-differential equations*. Lect

Notes in Math, 287, Pt II. Berlin: Springer-Verlag, 1973.

Kawakubo, Katsuo 70-71 M

Born 1942 Iiyama Nagano, Japan. PhD 1973 Mathematics Tokyo Univ. Memberships: Math Soc of Japan. Assoc Prof, Department of Mathematics, Osaka University, Toyonaka Osaka, Japan.

Publications Related to IAS Residence: Knotted fixed point sets of semi-free S^1 -actions. *Osaka J Math* 8(1971) 385-392; With F. Uchida. On the index of a semi-free S^1 -action. *J Math Soc Japan* 23(1971) 351-355; Invariants for semi-free S^1 -actions. *Bull AMS* 77(1971) 987-991; With F. Raymond. The index of manifolds with toral actions and geometric interpretations of the $\sigma(\infty, (S^1, M^n))$ invariant of Atiyah and Singer. *Invent math* 15(1972) 53-66; Topological S^1 and Z_{2k} actions on spheres. *Springer Lecture Notes* 298(1972); The index and the generalized Todd genus of Z_p -actions. *Am J Math* 97(1973) 182-204.

Other Publications: Inertia groups of low dimensional complex projective spaces and some free differentiable actions on spheres. I. *Proc Japan Acad*(1968); On the inertia groups of homology tori. *J Math Soc Japan* (1969); Smooth structures on $S^p \times S^q$. *Proc Japan Acad* (1969); Smooth structures on $S^p \times S^q$. *Osaka J Math* (1969); Free and semi-free differentiable actions on homotopy spheres. *Proc Japan Acad* (1969); On homotopy spheres which admit differentiable actions II. *Osaka J Math* (1970).

Kawanaka, Noriaki 76-77 M, Group Representation

Born 1946 Yoshiwara, Shizuoka, Japan. PhD 1975 Science Osaka Univ. Memberships: Math Soc of Japan. Lect, Department of Mathematics, Faculty of Science, Osaka University, Toyonaka, Osaka 560, Japan.

Publications Related to IAS Residence: On the irreducible characters of the finite unitary groups. *J Math Soc Japan* 29(1977) 425-450.

Kawarabayashi, Ken 63-64 M(NS), Physics

Born 1932 Kyoto, Japan. PhD 1962 Physics Univ of Tokyo. Memberships: Japanese Phys Soc; Am Phys Soc. Assoc Prof, Institute of Physics, University of Tokyo, Meguro-Ku, Tokyo, Japan.

Publications Related to IAS Residence: Some Remarks on ω and ϕ Meson Widths and R-Conjugation Invariance in Strong Interactions. *Phys Rev* 134(1964) 877; Mass Sum Rules for Vector Mesons and Properties of ω and ϕ Mesons. *Phys Rev* 136(1964) 714.

Other Publications: With Walter W. Wada. Renormalization Effects of Leptonic Decay Coupling Constants in Broken SU(3) Symmetry. *Phys Rev* 137(1965) 1002.

Kawauchi, Akio 78-80 M, Topology

Born .1948 Soma City, Fukushima Pref, Japan. DSc 1977 Mathematics Osaka City Univ. Memberships: AMS; Japan Math Soc. Instr, Dept of Math, Osaka City Univ, Sugimoto-cho, Osaka, Japan.

Publications Related to IAS Residence: On a 4-manifold homology equivalent to a bouquet of surfaces. *Trans AMS* in press.

Other Publications: On quadratic forms of 3-manifolds article. *Invent math* 43(1977) 177-198.

Keen, Linda 64-65 M, Complex Analysis

Born 1940 New York, NY. PhD Mathematics New York Univ. Honors: AAUW Fship; NSF Fship; Invited Address AMS Annual Meeting, Wash., DC 1975. Memberships: AMS; AWM. Prof, Lehman Coll, Dept of Mathematics, CUNY Graduate Center, 33 W 42 St, New York, NY 10036.

Publications Related to IAS Residence: Canonical Polygons for Finitely Generated Fuschian Groups. *Acta Math* 115(1966); Intrinsic Moduli on Riemann Surfaces. *Ann Math* 84, 3(1966).

Other Publications: On Fricke Moduli. In *Advances in The Theory of Riemann Surfaces, Proc Conf Stony Brook 1969*, ed. by L.V. Ahlfors et al, Ann Math Studies 66: 205-224. Princeton, NJ: Princeton U Press, 1971; Collars on a Riemann Surface. In *Discontinuous Groups and Riemann Surfaces, Proc Conf U Maryland 1973*, ed. by L. Greenberg, Ann Math Studies 79: 263-268. Princeton, NJ: Princeton U Press, 1974; With H. E. Rauch & A. T. Vasquez. Moduli of Punctured Tori and the Accessory Parameter of Lame's Equation. *Trans AMS* (1979).

Kelley, Allen F., Jr. 65-66 M, Ordinary Differential Equations

Born 1933 Franklin, NH. PhD 1963 Univ of Cal, Berkeley. *

Kelley, Donald R. 69-70, 77-78 HS, European History

Born 1931 Elgin, IL. PhD 1962 History Columbia Univ. Honors: Fulbright 1958-59; ACLS fellow 1967-68; Guggenheim fellow 1974-75; NEH Fellow 1977-78. Appointments: NEH fship committee. Memberships: Renaissance Soc; Mediaeval Acad; AHA. Prof, Dept History, University of Rochester, Rochester, NY 14627.

Publications Related to IAS Residence: *François Hot-man, A Revolutionary's Ordeal*. Princeton: 1973; The Development and Context of Bodin's Method. In *Jean Bodin: Verhandlungen der internationalen Bodin Ta-gung*, ed. by H. Denzer, 123-. Munich: 1973; Martyrs, Myths and the Massacre: the Background of St Bartholomew. *Amer Hist R77*(1972) 1323-42; History, English Law and the Renaissance. *Past and Present* 65(1974) 24-51; Murd'rous Machiavel in France. *Pol Sci Q85*(1970) 545-59; The Rise of Legal History in the Renaissance. *History and Theory* 9(1970) 174-94; Philology and the Mirror of History. *J Interdis History* 1(1970) 125-36.

Other Publications: The Metaphysics of Law: An Essay on the Very Young Marx. *Amer Hist R* 83(1978) 350-67; Gaius Noster: Substructures of Western Social Thought. *Amer Hist R* (spring 1979); La nouvelle historiographie. In *Histoire compar&e des litte'ratures de langues europe'ennes 1400-1600*. forthcoming.

Kelley, John L 45-46 M, Homology

Born 1916 KS. PhD 1940 Univ of Virginia. Dept of Math, Univ of California, Berkeley, Berkeley, CA 94720. *

Publications Related to IAS Residence: With Edward J. McShane, Franklin V. Reno. *Exterior Ballistics*. Denver: Univ of Denver Press, 1953; With R. F. Arens. Characterizations of the Space of Continuous Functions over a Compact Hausdorff Space. *TAMS* 62(1947) 499-508; With E. Pitcher. Exact Homomor-phism Sequences in Homology Theory. *Ann Math* 2 48(1947) 682-709.

Kellogg, Alfred Latimer 51-52 HS, Paleography

Born 1915 Cleveland, OH. PhD 1941 Yale Univ. Honors: Hon Fellow Yale University 1940; Guggenheim Fellow 1953-54; Am Philos Soc Summer Fship 1965. Memberships: MLA; Dante Soc of Amer; Internat Arthurian Soc; Modern Humanities Research Assn. Prof, English, Rutgers University, 224 Lawrence Ave, Highland Park, NJ 08904.

Publications Related to IAS Residence: St Augustine and the Parson's Tale. *Traditio* 8(952) 424-430; Seith Moyses by the Devel. *Revue Beige Phil d'Hist* 31 (1953) 61-64; The Fraternal Kiss in Chaucer's 'Sum-moner's Tale'. *Scriptorium* 7(1953) 115.

Other Publications: *Essays in Middle English Literature: Chaucer, Langland, Arthur*. New Brunswick: Rutgers Univ Press, 1972.

Kelly, George Armstrong 79-80 Soc, Political Theory

Born 1932 Pittsburgh, PA. PhD 1967 Political Science Harvard Univ. Appointments: Consultant, Assembly on Univ Goals and Governance AAAS, 1971. Memberships: APSA; Internatl Polit Sci Assoc; Am Soc for Polit and Legal Phil; Conf for the Study of Political Thought; Am Hegel Soc; Council on For Rels. 163 East 81st St, New York, NY 10028.

Publications Related to IAS Residence: Who Needs a Theory of Citizenship?. *Daedalus* (Fall 1979) 21-36; Conceptual Sources of the Terror. *Eighteenth-Century Studies* (in press); Bailly and the Champ de Mars Massacre. *J of Modern Hist* (in press).

Other Publications: *Lost Soldiers: The French Army and Empire in Crisis, 1947-1962*. Cambridge, Mass: MIT Press, 1965; *Idealism, Politics and History: Sources of Hegelian Thought*. Cambridge: Cambridge University Press, 1969; *Hegel's Retreat From Eleusis: Studies in Political Thought*. Princeton: Princeton University Press, 1978.

Members

Kelly, John Beckwith 50-51 M, Theory of Numbers

Born 1921 New York, NY. PhD 1948 MIT. Prof, Math Dept, Arizona State U, Tempe, AZ 85281. *

Kelly, Paul Joseph 55-56 M, Geometry

Born 1915 Riverside, CA. PhD 1942 Mathematics Univ of Wisconsin. Memberships: AMS; MAA. Prof, Dept of Mathematics, Univ of California, Santa Barbara, CA

Publications Related to IAS Residence: A Congruence Theorem For Trees. *Pacific J Math* 7(1957) 961-968; With E. Straus. Inversion and Conformal Convexity. *Proc AMS* 8(1957) 572-577.

Other Publications: With H. Busemann. *Projective Geometry and Projective Metrics*. NY: Academic Press, 1953; With Max L. Weiss. *Geometry and convexity: a study of mathematical methods*. Pure and applied mathematics. New York: Wiley, 1978; With Norman E. Ladd. *Geometry*. Fundamental mathematical structures. Chicago: Scott Foresman, 1965.

Kemp, Robert R.D. 57-58 M, Ordinary Differential Equations

Born 1932 Toronto, Ontario, Canada. PhD 1956 Mathematics MIT. Memberships: Canad Math Soc. Prof, Department of Mathematics and Statistics, Queen's University, Kingston, Ontario, Canada.

Publications Related to IAS Residence: A singular boundary value problem for a non-self-adjoint differential operator. *Can J Math* 10(1958) 447-462; With N. Levinson. On $u'' + [1 + \lambda g(x)]u = 0$ for $f_0 \int_0^\infty |g(x)| dx < \infty$. *Proc AMS* 10(1959) 82-86.

Other Publications: On a class of non-self-adjoint operators. *Can J Math* 12(1960) 641-659; On a class of singular differential operators. *Can J Math* 13(1961) 316-330; With S. J. Lee. Finite dimensional perturbations of differential expressions. *Can J Math* 28(1976) 1082-1104.

Kendig, Keith Milo 65-67 M, Algebraic Geometry

Born 1938 Los Angeles, CA. PhD 1965 Mathematics UCLA. Assoc Prof, Algebraic Geometry, Math Dept, Cleveland State University, Cleveland, OH 44115.

Publications Related to IAS Residence: *Elementary Algebraic Geometry*. GTM, 44. Springer-Verlag.

Kennan, George see Past Faculty/Professors Emeriti

Kennedy, Edward Stewart 50s, 54s, 58s, 61-62 HS, History of the Exact Sciences

Born 1912 San Angel, D.F., Mexico. PhD 1939 Mathematics Lehigh Univ. Memberships: AMS; MAA. Res Prof, Inst for the History of Arabic Science, Univ of Aleppo, Syria. Dept of Mathematics, American University of Beirut, Beirut, Lebanon.

Publications Related to IAS Residence: A Survey of Islamic Astronomical Tables. *Trans Amer Philos*

Soc 46, 2(1956); With M. Saffouri and A. Ifram. *Al-Biruni on Transits*. AUB Oriental Series, 32. Beirut: 1959; Ramifications of the World-Year Concept in Islamic Astrology. In *Proc 10th Intl Congress of the History of Science*, 23-43. Ithaca: 1965; Late Medieval Planetary Theory, *Isis* 57(1966) 365-378.

Kennedy, Paul Michael 78-79 HS, Modern History

Born 1945 Wallsend, Northumberland, England. DPhil(Oxon.) 1970 Modern History. Honors: FRHS 1974; Theodor Heuss Research Fellow, Oxford 1968; Alexander von Humboldt Foundation Fellow 1972. Reader, History, School of English & American Studies, University of East Anglia, Norwich NR4 7TJ, England.

Publications Related to IAS Residence: *The War Plans of the Great Powers, 1880-1914*. London: George Allen & Unwin, 1979.

Other Publications: *Pacific Onslaught 1941-1943*. New York: Ballantine, 1972; *Conquest: The Pacific War 1943-1945*. New York: Ballantine, 1973; *The Samoan Tangle: A Study in Anglo-German-American Relations 1878-1900*. New York: Barnes & Noble, 1974.

Kent, John Philip Cozens 70-71 HS, History

Born 1928 London, England. PhD 1951 Ancient History Univ College, London. Appointments: Pres Brit Assoc of Numismatic Socs, 1974-1978. Memberships: Soc of Antiquaries of London; Royal Numismatic Soc; Brit Numismatic Soc. Deputy Keeper, Dept of Coins & Medals, British Museum, London WC1, England.

Publications Related to IAS Residence: *Roman Imperial Coinage*. 8. London: Spink & Son, forthcoming.

Other Publications: *Late Roman Bronze Coinage*. London: 1960; *The Coins & the Date of the Burial in The Sutton Hod Ship-Burial*. 1. London: 1975; *Roman Coins*. Thames & Hudson, 1978.

Kerckhoff, Steven Paul 78-79 M, Topology

Born 1952 Madison, WI. PhD 1978 Princeton Univ. Department of Mathematics, Univ of Calif, Berkeley, CA 94720. *

Kervaire, Michel Andre 57-58, 61s M

Born 1927 Poland. PhD 1955 ETH. Faculty of Sciences, Math Sect, University of Geneva, 2-4 rue du Lievre, 1211 Geneva 24, Switzerland. *

Kessler, Clive Samuel 72-73 Soc, Anthropology

Born 1942 Sydney, Australia. PhD 1974 Anthropology London. Memberships: Member, 1977-1980, Southeast Asia Council Assoc for Asian Studies. Asst Prof, Anthropology Department, Barnard College, New York, NY 10027.

Publications Related to IAS Residence: *Islam and Politics in a Malay State: Ke I an tan 1838-1969*. Ithaca NY: Cornell University Press, 1978.

Kessler, Herbert Leon 70s HS, History of Art

Born 1941 Chicago, IL. PhD 1965 Hist of Art Princeton. Appointments: Ed Bd, *Dictionary of the Middle Ages*. Memberships: Medieval Acad of Amer; Coll Art Assoc; Int'l Center of Medieval Art. Prof, Dept Chmn, Hist of Art, Johns Hopkins Univ. 2430 20th St NW, Washington, DC 20009.

Publications Related to IAS Residence: *The Illustrated Bibles from Tours*. Princeton: 1977; Hie Homo For-matur. *Art Bull* 53: 143-60.

Other Publications: Ancient Science and Medieval Art. In *Aufstieg und Niedergang der Romischen Welt*. Tubingen: 1979.

Ketchum, Pierce W. 36-38 M, Complex Analysis

Born 1903 Salt Lake City, UT. PhD 1926 Physics University of Illinois. Memberships: AMS; MAA; SIAM; ACM. Prof Emer, Math, Univ of Illinois. 1005 S. Orchard St, Urbana, IL 61801.

Publications Related to IAS Residence: On the Simultaneous Expansion of Several Analytic Functions. *Tohoku Math J* 43(1937) 246-251; Infinite Systems of Linear Equations and Expansions of Analytic Functions. *Duke Math J* 4(1938) 668-677; With G.S. Ketchum. On a Certain Class of Non-Linear Expansions of an Arbitrary Analytic Function. *Ann Math* 2 39(1938) 58-64; On the Possible Rate of Growth of an Analytic Function. *Trans AMS* 49(1941) 211-228.

Khare, Ravindra Sahai 74-75 Soc, Social Anthropology

Born 1936 Lakhimpur-Kheri Uttar Pradesh, India. PhD 1962 Anthropology Lucknow University, India. Honors: NSF Post doc Fellow 1964. Appointments: Chmn, In-ternat Comm on Anthropology of Food and Food Problems. Memberships: Am Anthro Assn; Royal Anthro Inst; Indian Soc Assn; Assoc for Asian Studies. Prof, Department of Anthropology, University of Virginia, Charlottesville, VA 22903.

Publications Related to IAS Residence: *The Hindu Hearth and Home*. Carolina Academic Press, 1976; *Culture and Reality*. Simla: Indian Institute of Advanced Study, 1976.

Other Publications: *The Changing Brahmins*. Univ of Chicago Press, 1970.

Khuri, Nicola N. 59s, 59-60, 62-63 M(NS), Particle Physics

Born 1933 Beirut, Lebanon. PhD 1957 Physics Princeton Univ. Appointments: Trustee Amer Univ of Beirut. Memberships: Am Phys Soc; AAAS. Prof, Physics, Rockefeller University, New York, NY 10021.

Publications Related to IAS Residence: With R. Blan-kenbecler, M. L. Goldberger and S. B. Treiman.

Man-delstam Representation for Potential Scattering. *Ann Physics* 10(1960) 62; With S.B. Treiman. Pion-Pion Scattering and $K_{\pm} \rightarrow 3\pi$ Decay. *Phys Rev* 119(1960) 1115; Extension of the Regge Representation. *Phys Rev* 130(1963) 429; Crossing Symmetric Watson-Sommerfeld Transformation. *Phys Rev Letters* 12(1963) 420; Regge Poles, Power Series, and a Crossing-Symmetric Watson-Sommerfeld Transformation. *Phys Rev* 132(1963) 914.

Kiang, Tsai-han 36-37 M, Topology

Born 1902 Tsing-teh, Anwei, China. PhD 1930 Harvard Univ. Memberships: Chinese Math Soc; Peking Math Soc. Prof, Dept Mathematics, Peking University, Peking, People's Republic of China.

Kidd, Ian Gray 71-72, 79-80 HS, History of Ancient Philosophy

Born 1922 Goretty, Chandernagore, India. MA 1947 Classics St. Andrews.; BA(Oxon.) 1949. Memberships: Soc For Prom of Hellenic Studies; Classical Assoc. Prof, Greek, and Provost St. Leonard's College, Univ of St. Andrews, Dept of Greek, St. Andrews, Fife, Scotland UK.

Publications Related to IAS Residence: ed with L. Edelstein. The Fragments. In *Posidonius*, Cambridge Classical Texts and Commentaries 13, 1. Cambridge University Press, 1972.

Other Publications: Stoic Intermediates and The End for Man; and Posidonius on Emotions. In *Problems In Stoicism*, ed. by A. A. Long. Athlone Press, 1971; Posidonius and Logic. In *Les Stoïciens et Leur Logique*, ed. by J. Brunschwig, 273-283. Paris: 1978; Moral Actions and Rules in Stoic Ethics. In *The Stoics*, ed. by J. M. Rist. University of California Press, 1978; The Impact of Philosophy on Graeco-Roman Literature. In *Literature and Western Civilization*, ed. by D. Daiches, 1. London: Aldus Books, 1972; The Relation of Stoic Intermediates to the Summum Bonum, with Reference to Change in the Stoa. *Classical Quarterly* NS 5(1955) 181-194; Philosophy and Science in Posidonius. *Antike Und Abendland* Band 24(1978) 7-15.

Kimball, Spofford Harris 35-36 M

Born 1901. PhD 1932 Harvard Univ. *

Kimura, Tatsuo 75-77 M

Born 1947 Tokyo, Japan. PhD 1978 Univ of Tokyo. Instr, Algebra, Nagoya Univ, 5-15-5 Yahara, Nerimaku, Tokyo, Japan.

Publications Related to IAS Residence: Classification of irreducible prehomogeneous vector spaces and their relative invariants. *Nagoya Math J* 65(1977) 1-155.

Kinderlehrer, David S. 79f M

Members

PhD 1968 Univ of Calif, Berkeley. Univ of Minnesota, Dept of Math, 127 Vincent Hall, Minneapolis, MN 55455. *

Kindleberger, Charles Poor 77s Soc, Economics

Born 1910 New York, NY. PhD 1937 Columbia Univ. Honors: D(hc) Univ of Paris 1966; D(hc) Univ of Ghent 1971; Bernhard Harms Prize Inst für Weltwirtschaft, Kiel, Germany 1978. Appointments: VP, Amer Econ Assoc, 1966; Member, President's Adv Cttee on Intl Monetary Arrangements, 1965-66. Memberships: Amer Econ Assoc; Royal Econ Soc (England); Amer Acad of Arts and Sci. Ford Prof Emer, Economics, MIT, Bedford Rd, Lincoln Center, MA 01773.

Publications Related to IAS Residence: *Economic Response, Comparative Studies in Trade, Finance and Growth*. Cambridge, Mass: Harvard Univ Press, 1978; *Manias, Panics and Crashes, A History of Financial Crises*. New York: Basic Books, 1978; *International Short-Term Capital Movements*. NY: A.M. Kelley, 1965; *The Dollar Shortage*. Cambridge & NY: MIT Press & Wiley, 1950; *International Economics*. 5th ed. Homewood, Ill: R.D. Irwin, 1973; *The Terms of Trade: A European Case Study*. Cambridge: MIT Press, 1956; *Economic Development* 3rd ed. NY: McGraw Hill, 1977; *Foreign Trade and the National Economy*. West-port, CT: Greenwood Press, 1962; *Economic Growth in France and Britain, 1851-1950*. Cambridge: Harvard Univ Press, 1964; *American Business Abroad: Six Lectures on Direct Investment*. New Haven: Yale Univ Press, 1969; *Power and Money*. NY: Basic Books, 1970; *The World in Depression, 1929-1939*. Berkeley: U of Calif Press, 1973.

Other Publications: *The International Corporation: A Symposium*. Cambridge: MIT Press, 1970; With Andrew Shonfield. North America and Western European Economic Policies. In *Proc of Conf Held by the Internatl Econ Assoc, 1971*. With Tamir Agmon. *Multinationals from Small Countries*. Cambridge: MIT Press, 1977.

King, Henry Churchill 74-76 M, Topology

Born 1948 Corning, NY. PhD 1974 Math Univ of Calif, Berkeley. Asst Prof, Math Dept, University of Maryland, College Park, MD 20742.

Publications Related to IAS Residence: With S. Akbulut. Real Algebraic Structures on PL Manifolds. *BAMS* 83: 281-282; Topological Type of Isolated Singularities. *Ann Math* 107(1978) 385-397; Real Analytic Germs and Their Varieties at Isolated Singularities. *Invent Math* 37(1976) 193-199; Approximating Submanifolds of Real Projective Space by Varieties. *Topology* 15(1976) 81-85; The Number of Critical Points in Morse Approximations. *Compositio Math* 34(1977) 285-288.

King, James Richard 71-72 M, Complex Manifolds

Born 1943 San Diego, CA. PhD 1969 Math Univ of Calif, Berkeley. Appointments: AMS Translations Committee. Memberships: AMS; Soc Math de France. Assoc Prof, Dept of Mathematics, University of Washington, C138 Padelford Hall GN-50, Seattle, WA 98195.

Publications Related to IAS Residence: With Phillip Griffiths. Nevanlinna Theory and Holomorphic Mappings between Algebraic Varieties. *Acta Math* 130(1973) 145-220; Global Residues and Intersections on a Complex Manifold. *Trans AMS* 192(1974) 163-199.

Other Publications: The Currents Defined by Analytic Varieties. *Acta Math* 127(1971) 185-220.

Kingdon, Robert McCune 65-66 HS, European History (Renaissance-Reformation)

Born 1927 Chicago, IL. PhD 1955 History Columbia Univ. Honors: Fellow Rotary Foundation 1951-52; Fship ACLS 1960-61; Guggenheim Fellow 1969-1970; Fship Folger Shakespeare Library 1973-74. Appointments: NEH Select Comms; Council for Internat Ex of Scholars, 1978--. Memberships: Am Soc for Reformation Res (Pres, 1970-1971); Center Ref Research (Pres, Board of Directors, 1967--); Internat Fed of Soc and Inst for Study of the Renaissance (Sec-Treas, 1967-). Prof, History, and Dir, Institute for Research in the Humanities, University of Wisconsin, Madison, WI 53706.

Publications Related to IAS Residence: *Geneva and the Consolidation of the French Protestant Movement, 1564-1572: a contribution to the history of Congregationalism, Presbyterianism, and Calvinist resistance theory*. Madison: University of Wisconsin Press, 1967.

Other Publications: *Geneva and the Coming of the Wars of Religion in France, 1555-1563*. Geneva: Droz, 1956; With J.-F. Bergier. *Registres de la Compagnie des Pasteurs de Geneve au temps de Calvin*. 2 vols. Geneva: Droz, 1962, 1964; With Theodore de Beze. *Du droit des magistrats*. Geneva: Droz, 1971.

Kinoshita, Shin'ichi 59-61 M, Topology

Born 1925 Osaka, Japan. PhD 1958 Mathematics Osaka Univ. Memberships: AMS; Math Soc of Japan. Prof, Department of Mathematics, Florida State University, Tallahassee, FL 32306.

Publications Related to IAS Residence: On the Alexander polynomials of 2-spheres in a 4-sphere. *Ann Math* 74(1961) 518-531; On quasi-translations in a 3-space. *Fund Math* 56(1964) 69-79.

Other Publications: On some contractible continua without fixed point property. *Fund Math* 40(1953) 96-98; With T. Homma. On homeomorphisms which are regular except for a finite number of points. *Osaka Math j* 77(1955) 29-38; On knots and periodic transformations. *Osaka Math J* 10(1958) 43-52; With C. Sik-kema. On arc and ball pairs and quasi-translations in the 3-sphere. *Mich Math J* 17 (1970)

165-173; On elementary ideals of polyhedra in the 3-sphere. *Pacific J Math* 42(1972) 89-98.

Kinoshita, Toichiro 52-54 M(NS), Physics

Born 1925 Tokyo, Japan. PhD 1952 Physics Tokyo Univ. Memberships: Am Phys Soc. Prof, Physics, Laboratory of Nuclear Studies, Cornell University, Ithaca, NY 14853.

Publications Related to IAS Residence: With Y. Nambu. The Collective Description of Many-Particle Systems, A Generalized Theory of Hartree Fields. *Phys Rev* 94(1954) 598.

Other Publications: Ground State of the Helium Atom. *Phys Rev* 105(1957) 1490; With A. Sirlin. Radiative Corrections to Fermi Interactions. *Phys Rev* 113(1959) 1652; Mass Singularities of Feynman Amplitudes. *J Math Phys* 3(1962) 650; With J. J. Loeffel and A. Martin. Upper Bounds for the Scattering Amplitude at High Energy. *Phys Rev* 135(1964) 1464; With N. N. Khuri. The Real Part of the Scattering Amplitude and the Behavior of the Total Cross Section at High Energies. *Phys Rev* 137(1965) 720; With S. J. Brodsky and H. Terazawa. Two-Photon Mechanism of Particle Production by High Energy Colliding Beams. *Phys Rev D* 4(1971) 1532; With P. Cvitanovic. Sixth Order Magnetic Moment of the Electron. *Phys Rev D* 10(1974) 4007; With E. Eichten, K. Gottfried, J. Kogut, K. D. Lane, T.-M. Yan. Spectrum of Charmed Quark-An-tiquark Bound States. *Phys Rev Lett* 34(1975) 369; With A. Ukawa. Structure of Leading Infrared Divergences in Non-Abelian Gauge Theories. *Phys Rev D* 16(1977) 332.

Kirby, Robion Cromwell 68f, 69f M, Topology

Born 1938 Chicago, IL. PhD 1965 Math Univ of Chicago. Honors: Veblen Prize AMS 1971; Guggenheim Fellow 1974. Appointments: Council & Exec Comm, AMS 1974-78; NSF Adv Panel, 1973-76. Memberships: AMS. Prof, Math Dept, University of Calif, Berkeley, CA 94720.

Publications Related to IAS Residence: Stable homeomorphisms and the Annulus conjecture. *Ann Math* 89(1969) 575-582; With L. C. Siebenmann. Topological Manifolds, Smoothings, and Triangulations. In *Ann Math Studies*, 88. Princeton U Press.

Other Publications: A calculus for framed links in S^3 . *Inv Math* 45(1978) 35-56; With R. D. Edwards. Deformations of spaces of imbeddings. *Ann Math* 93(1971) 63-88; On the set of non-locally flat points of a sub-manifold of codimension one. *Ann Math* 88(1968) 281-290.

Kirchner, Walther 55-56 HS, Russian History

Born 1905 Berlin, Germany. PhD 1944 History UCLA. Honors: Pres Soc for Reformation Res 1958/59; Fulbright Prof Copenhagen 1952-53; Member Max Planck Inst fur Geschichte (Gottingen) 1961; Disting Scholarship Award Southern Conference, AAASS

1977. Appointments: Natl Archives (Sov-Amer Publication Project). Memberships: AHA; AAA Slavic Studies; Hansischer Geschichtsverein; Soc Reformation Research. H. Rodney Sharp Prof Emer, History, Univ of Del, Co-Ed Jahrbucher fur Geschichte Osteuropas. 115 Lafayette Rd, Princeton, NJ 08540.

Publications Related to IAS Residence: *Western Civilization*. NY: Barnes & Noble, 1958/61; *Commercial Relations between Russia and Europe, 1400-1800*. Indiana Univ Press, 1966; *Studies in Russian-American Commerce, 1820-1860*. Leiden: Brill, 1975; Entrepreneurial Activity in Russian-Western Trade Relations during the Sixteenth Century. *Harvard Explorations in Entrepreneurial History* 8: 1956.

Other Publications: *A Siberian Journey: the Journal of Hans Jakob Fries 1774-1776*. London: F. Cass, 1974; Zur Geschichte der Pest in Europa: Ihr letztes Auftreten im russischen Heer. *Saeculum* 20(1969).

Kirshner, Julius 72-73 HS, History

Born 1939 New York, NY. PhD 1970 Medieval History Columbia Univ. Honors: Marraro Prize 1974; Higby Prize 1978; NEH Fellow 1978; Fellow Harvard Inst Renaissance Studies Villa I Tatti 1978. Memberships: Med Acad Amer; Renaissance Soc Amer. Assoc Prof, Department of History, Univ of Chicago, 1126 E. 59th St, Chicago, IL 60637.

Publications Related to IAS Residence: Les travaux de Raymond de Roover sur des scolastiques. *Annales Economies Societe's Civilizations* (March-April 1975) 318-338; Ars imitatur naturam: A Consilium of Baldus on Naturalization in Florence. *Vator* 5(1974) 289-331; Conscience and Public Finance: A Questio disputata of John of Legnano on the Public Debt of Genoa. In *Philosophy and Humanism: Renaissance Essays in Honor of Paul Oskar Kristeller*, 420-439. Columbia Univ Press, 1976; Pursuing Honor while Avoiding Sin. The Monte delle doti of Florence. *Studi Senesi* 87(1977) 175-256.

Kiselman, Christer Oscar 65-66 M, Complex Analyrn

Born 1939 Stockholm, Sweden. PhD Univ of Stockholm. Appointments: Swedish Natl Comm for Math July 1978-. Memberships: AMS; Soc Math de France; Swedish Math Soc. Prof, Department of Mathematics, Uppsala Univ, Thunbergsvagen 3, Uppsala S-752 38, Sweden.

Publications Related to IAS Residence: On Entire Functions of Exponential Type and Indicators of Analytic Functionals. *Acta Math* 177(1967) 1-35.

Other Publications: The Partial Legendre Transformation for Plurisubharmonic Functions. *Invent Math* 49(1978) 137-148.

Kiskis, Joseph E., Jr. 77-78 NS, High Energy Theory

Born 1947 Lynwood, CA. PhD 1974 Physics Stanford Univ. Honors: Fship NSF 1969-1972; PBK 1969. Op-

Members

penheimer Fellow, Theoretical Physics, Los Alamos Scientific Lab, T-8 MS 453, Los Alamos, NM 87545.

Publications Related to IAS Residence: Disconnected Gauge Groups and the Global Violation of Charge Conservation. *Phys Rev D* 17(1978) 3196; Fermion Zero Modes and Level Crossing. *Phys Rev D* 18(1978) 3690.

Other Publications: With T. De Grand, R. L. Jaffe, K. Johnson. Masses and Other Parameters of the Light Hadrons. *Phys Rev D* 12(1975) 2060; Fermions in a Pseudoparticle Field. *Phys Rev D* 15(1977) 2329.

Kister, James M. 62-64 M, Topology

Born 1930 Cleveland, OH. PhD 1959 Mathematics Univ of Wisc. Appointments: Mg Ed, Mich Math J 1978. Memberships: AMS. Prof, Math Dept, Univ of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: Microbundles are fibre bundles. *Ann Math* 80(1964) 190-199; With R. H. Bing. Taming complexes in hyperplanes. *Duke Math J* 31(1964) 491-512; Differential periodic actions on E^8 without fixed points. *Am Math J* 85(1963) 316-320.

Other Publications: Examples of periodic maps on Euclidean spaces without fixed points. *Bull AMS* 67(1961) 471-475; Small Isotopies in Euclidean Spaces & 3-Manifolds. *Bull AMS* 65(1959) 371-373; With J. Cheeger. Counting topological manifolds. *Topology* 9(1970) 149-151.

Kitzinger, Ernst 66-67 HS, History of Art

Born 1912 Munich, Germany. DPhil 1934 History of Art Univ of Munich. Honors: DLitt Swarthmore College 1969. Appointments: US Cttee for Byzantine Studies Chm 1962-66; US Nat Cttee for the Hist of Art 1969-. Memberships: Coll Art Assoc; Archaeol Inst of Amer; Mediaeval Acad of Amer. A. Kingsley Porter Univ Prof, Harvard Univ, Rm 2, Busch-Reisinger Museum, Cambridge, MA 02138.

Publications Related to IAS Residence: On the Interpretation of Stylistic Changes in Late Antique Art. *Bucknell Review* 15, 3(1967) 1ff; The Cleveland Marbles. *Bulletin of the Cleveland Museum of Art* (1967) 67ff.

Other Publications: With W.E. Kleinbauer. *The Art of Byzantium and the Medieval West: Selected Studies*. Bloomington: Indiana Univ Press, 1976; *Byzantine Art in the Making*. Cambridge Mass: Harvard Univ Press, 1977.

Klee, Victor L. 51 52 M

Born 1925 San Francisco, CA. PhD 1949 Mathematics U Va. Honors: DSc(hc) Pomona College 1965; L.R. Ford Award MAA 1972; Ann Award for Disting Svce to Math MAA 1977; Natl Sigma Xi Lect 1969; Invited Speaker Internat Cong of Math 1974. Appointments: Adv Ed W. H. Freeman & Co.; MAA President, 1971-73; AMS Assoc Secy, 1955-58, Exec Comm 1969-70; SIAM Council, 1966-68; AAAS Chmn Sect A, 1975. Memberships: AMS; MAA; SIAM;

Assoc for Computing Machinery; Operations Res Soc of Am; Math Prog Soc; Stereolog Soc. Prof, Mathematics and Applied Mathematics, and Adjunct Prof Computer Science, Mathematics Department, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: Convex Bodies and Periodic Homeomorphisms in Hubert Space. *Trans AMS* 74(1953) 10-43; The Critical Set of a Convex Body. *Am J Math* 75(1953) 178-188; With R.D. Anderson. Convex Functions and Upper Semicontinuous Collections. *Duke Math J* 19(1952) 349-357; Convex Sets in Linear Spaces. III. *Duke Math J* 20(1953) 105-112; Invariant Metrics in Groups (Solution of a Problem of Banach). *Proc AMS* 3(1952) 484-487; On a Theorem of Béla Sz.-Nagy. *Am Math Monthly* 60(1953) 618-619.

Other Publications: Convex Sets in Linear Spaces. *Duke Math J* 18(1951) 443-466; Some Topological Properties of Convex Sets. *Trans AMS* 78(1955) 30-45; Some Characterizations of Convex Polyhedra. *Acta Math* 102(1959) 79-107; Convexity of Chebyshev Sets. *Math Ann* 142(1961) 292-304; With L. Danzer and B. Grünbaum. Helly's Theorem and its Relatives. *AMS Proc Symp Pure Math* 7(1963) 101-180; The Number of Vertices of a Convex Polytope. *Can J Math* 16(1964) 701-720; With D. Walkup. The D-Step Conjecture for Polyhedra of Dimension $d < 6$. *Acta Math* 117(1967) 53-78; The Greedy Algorithm for Finitary and Cofinitary Matroids. *AMS Proc Symp Pure Math* 19(1971) 137-152; With G. Minty. How Good is the Simplex Algorithm?. In *Inequalities III*, 159-175. New York: Academic Press, 1972; With D. Doehlert. Experimental Designs by Level Reduction of the d -dimensional Cuboctahedron. *Discrete Math* 2(1972) 309-334; With C. Jeffries and P. van den Driessche. When is a Matrix Sign Stable?. *Can J Math* 29(1977) 315-326.

Kleene, Stephen Cole 39-40, 65-66 M, Mathematical Logic

Born 1909 Hartford, CT. PhD 1934 Princeton Univ. Honors: ScD(hc) Amherst College 1970. Appointments: US Natl Comm for Math, Hist & Philos of Sci, Div of Math NRC (Chm Designate 1969-72). Memberships: Assoc for Symbolic Logic (Past Pres); AMS; Internat'l Union for History & Philos of Sci (Past Pres). Prof, Dept of Math, Univ of Wisconsin, Madison, WI 53706.

Publications Related to IAS Residence: Recursive Predicates and Quantifiers. *Trans AMS* 53(1943) 41-73; *Mathematical Logic*. John Wiley and Sons, 1967.

Other Publications: *Introduction to Metamathematics*. North Holland and Noordhoff, 1952; Representation of Events in Nerve Nets and Finite Automata. *Automata Studies* (1956) 3-41.

Klein, Martin Jesse 72f HS, History of Science

Born 1924 New York, NY. PhD 1948 Theoretical Physics MIT. Honors: NAS 1977; AAAS 1979; Acad internatle d'hist des Sci 1971. Memberships: Am Phys Soc; Hist of Sci Soc; Am Assoc Physics Teachers;

AHA; AAAS. Eugene Higgins Prof, History of Physics, Box 2036 Yale Station, New Haven, CT 06520.

Publications Related to IAS Residence: Einstein on Scientific Revolutions. *Vistas in Astronomy* 17(1975) 113-120; The Maxwell-Boltzmann Relationship. In *Transport Phenomena-1973*, ed. by J. Kestin, 297-308. Amer Inst Physics, 1973.

Other Publications: *Paul Ehrenfest*. Amsterdam: North-Holland, 1970.

Klein, Oskar Benjamin 49f M(NS), Atomic Physics, Relativity Theory

Born 1894 Sweden. PhD 1921 Stockholm Högskola. Deceased.

Klemola, Tapio 62-63 M

Born 1934 Pori, Finland. PhD Mathematics Univ of Helsinki. Memberships: AMS. Assoc Prof, Dept de Math & Stat, Université de Montreal, CP 6128, SUCC A, Montreal, Canada H3C 3J7.

Publications Related to IAS Residence: On the stability of the Cohomology of complex structures. *Trans AMS* 157(1971) 87-97.

Klingen, Helmut P. 65-66 M, Automorphic Functions

Born 1927 Viersen, Germany. PhD Habil 1957 Univ Goettingen. Memberships: AMS. Prof, Mathematisches Institut, Univ Freiburg, Albertstr, 7800 Freiburg, Germany.

Publications Related to IAS Residence: Bemerkungen zur Konvergenz von Poincarischen Reihen. *Nachs Akadem Wiss Göttingen* (1966); Über Poincarische Reihen zur Siegelshen Modulgruppe. *Math Annalen* 168(1967) 157-170; Zum Darstellungssatz für Siegel-she Modulformen. *Math Zeitschrift* 102(1967) 30-43.

Klingenberg, Wilhelm P. 56-58, 64-65, 67-68 M

Born 1924 Rostock, Germany. PhD 1950 Math Kiel Univ. Prof, Dept Math, Bonn Univ, Wegelerstr 10, D-5300-Bonn-2, West Germany.

Publications Related to IAS Residence: Contributions to Riemannian Geometry in the Large. *Ann Math* 69(1959) 654-666; Manifolds with Restricted Conjugate Locus. *Ann Math* 78(1963) 527-547; Closed Geodesies. *Ann Math* 89(1969) 68-91.

Other Publications: *Lectures on Closed Geodesies*. Grundlehren der Math Wissenschaften, Band 238. Berlin: Springer, 1978.

Klink, William H. 69-70 NS, Elementary Particles

Born 1937 Chicago, IL. PhD 1964 Physics Johns Hopkins Univ. Prof, Dept of Physics and Astronomy, Univ of Iowa, Iowa City, IA 52242.

Publications Related to IAS Residence: Multiparticle Partial Wave Amplitudes and Inelastic Unitarity: I General Formalism, Racah Coefficients for the Poincaré Group. *Phys Rev D* 4(1971) 2260; With

C. Cronström. Generalized $O(1,2)$ Expansions of Multiparticle Amplitudes. *Ann Phys* 68(1972) 218; Mixed Basis D Functions and Clebsch-Gordon Coefficients of Non Compact Groups. *J Math Phys* 11(1970) 3210.

Knapp, Anthony William 68-69, 75-76 M, Lie Groups

Born 1941 Morristown, NJ. PhD 1965 Mathematics Princeton Univ. Honors: Invited address at Internatl Cong of Mathematicians 1974. Memberships: AMS. Prof, Department of Mathematics, Cornell Univ, Ithaca, NY 14853.

Publications Related to IAS Residence: With E. M. Stein. Intertwining Operators for Semisimple Groups. *Ann Math* 93(1971) 489-578; With G. Zuckerman. Classification of Irreducible Tempered Representations of Semisimple Lie Groups. *Proceedings NAS* 73(1976) 2178-2180; With N. R. Wallach. Szegő Kernels Associated with Discrete Series. *Invent Math* 34(1976) 163-200; With K. Okamoto. Limits of Holomorphic Discrete Series. *J Funct Anal* 9(1972) 375-409; With E. M. Stein. Intertwining Operators for $SL(n, \mathbb{R})$. In *Studies in Mathematical Physics, Essays in Honor of Valentine Bargmann*, ed. by E. H. Lieb, B. Simon, and A. S. Wightman, 239-267. Princeton, NJ: Princeton Univ Press, 1976.

Other Publications: Singular Integrals and the Principal Series, III, IV. In *Proceedings of the NAS*, ed. by E. M. Stein, 71: 4622-4624. 1974; 72: 2459-2461. 1975; Commutativity of Intertwining Operators, I, II. *Bull AMS* 79(1973) 1016-1018; 82(1976) 271-273.

Knapp, Robert E. 72-73 M, Differential Geometry

Born 1947 Grand Forks, ND. PhD 1972 Princeton Univ. Division of Math-Sciences, Purdue U, West Lafayette, IN 06526. *

Knauer, Georg Nicolaus 73-74 HS, Classics

Born 1926 Hamburg, Germany. DPhil 1952 Klassische Philologie Univ Hamburg. Memberships: Am Philol Assoc; Renaissance Soc of Amer. Prof, Classical Studies, and Dept Chmn, 720 Williams Hall CU, University of Pennsylvania, Philadelphia, PA 19104.

Knebusch, Manfred 75-76 M, Algebraic Geometry

Born 1939 Lübz, Germany. Dr rer nat 1964 Hamburg. Prof, Fachbereich Mathematik, Universität Regensburg, 8400 Regensburg, West Germany.

Publications Related to IAS Residence: On Algebraic Curves Over Real Closed Fields I. *Math Zeitschrift* 150(1976) 49-70.

Other Publications: With Jón Kr. Arason. Über die Grade quadratischer Formen. *Math Ann* 234(1978) 167-92; Signatures on Frobenius Extensions. *Number Theory and Algebra* (1977) 167-86; Generic splitting

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of quadratic Forms. II. *Proc London Math Soc* 34(1977) 1-31; With M.J. Wright. Bewertungen mit reeller Henselisierung. *J reine angew Math* 286/7(1976) 314-321; Real closures of commutative rings, II. *ibid* 278-313; Generic splitting of quadratic forms, I. *Proc London Math Soc* 33(1976) 65-93; Real closures of commutative rings. I. *J reine angew Math* 274-5(1975) 61-89; Generalization of a Theorem of Artin-Pfister to Arbitrary Semilocal Rings, and Related Topics. *J Algebra* 36(1975) 46-67; Annullatoren von Pfisterformen über semilokalen Ringen. *Math Z* 140(1974) 41-62; Specialization of quadratic and symmetric bilinear forms, and a norm theorem. *Acta Arith* 24(1973) 279-99; With A. Rosenberg and R. Ware. Grothendieck and Witt Rings of Hermitian Forms over Dedekind Rings. *Pacific J Math* 43(1972) 657-73; On the Uniqueness of Real Closures and the Existence of Real Places. *Comm Math Helv* 47(1972) 260-9; On the Extension of Real Places. *Comm Math Helv* 48(1973) 354-69; With A. Rosenberg and R. Ware. Structure of Witt Rings and Quotients of Abelian Group Rings. *Am J Math* 94(1972) 119-55; With W. Scharlau. Quadratische Formen und quadratische Reziprozitätsgesetze über algebraischen Zahlkörpern. *Math Z* 121(1971) 346-68; Ein Satz über die Werte von quadratischen Formen über Körpern. *Inv Math* 12(1971) 300-03; With W. Scharlau. Über das Verhalten der Witt-Gruppe bei galoischen Körpererweiterungen. *Math Ann* 193(1971) 189-96; Runde Formen über semilokalen Ringen. *Math Ann* 193(1971) 21-34; With W.-D. Geyer, G. Harder and W. Scharlau. Ein Residuensatz für symmetrische Bilinearformen. *Inv Math* 11(1970) 319-28; Isometrien über semilokalen Ringen. *Math Z* 108(1969) 255-68.

Kneser, Martin L. 63-64 M, Pure Mathematics

Born 1928 Greifswald, Germany. Dr rer nat Humboldt-Universität Berlin. Appointments: IMU Exec Comm 1975--. Memberships: DMV; AMS. Prof, Mathematics, Univ Göttingen, Merkelstr 39, 34 Göttingen, Federal Republic of Germany.

Publications Related to IAS Residence: Starke Approximation in algebraischer Gruppen I. *J Reine Angew Math* 218(1965) 190-203; Galois-Kohomologie halbeinfacher algebraischer Gruppen über p -adischen Körpern I, II. *Math Z* 88, 89(1965) 40-47, 250-272.

Knight, Frank Bardsley 75s M, Probability

Born 1933 Chicago, IL. PhD 1959 Princeton Univ. Memberships: AMS; MAA; Inst of Math Stat. Prof, Dept of Math, Univ of Ill, Urbana, IL 61801.

Publications: Random Walks and a Sojourn Density Process of Brownian Motion. *TAMS* 109(1963) 56-86; A Predictive View of Continuous Time Processes. *Ann of Prob* 3(1975) 573-596.

Knoepfler, Denis 75-76 HS, Greek Epigraphy and History

Born 1944 Bienne, Bern, Switzerland. Thèse de 3^e cycle 1970 Greek History Paris-Sorbonne. Memberships: Assoc des Etudes Grecques, Paris; Groupe Romand des Etudes Grecques et Latines Switzerland. Asst Prof, Ancient History and Classical Archaeology, Univ of Neuchâtel. 1, rue de la Serre, 2000 Neuchâtel, Switzerland.

Publications Related to IAS Residence: With R. Etienne. *Hyettos de Béotie et la Chronologie des Archontes Fédéraux*. Bull Corr Hellénique, 3. Paris: DeBoccard, 1976; Autour d'une Stèle Mégarienne. In *Mélanges d'histoire ancienne et d'archéologie classique offerts à Paul Collarb*, 269-276. Paris-Lausanne: 1976.

Other Publications: La Date de L'Annexion de Styra Par Erétrie. *Bull Corr Hellénique* 95(1971) 223-244; Contributions à L'Épigraphie de Chalcis I. *Bull Corr Hellénique* 101 (1977) 297-312; II. 103(in press).

Knopp, Marvin Isadore 59-60, 75f, 78s M, Number Theory

Born 1933 Chicago, IL. PhD 1958 Mathematics Univ of Ill. Honors: NSF Grants 1960-1976; Fulbright 1975. Memberships: AMS. Prof, Mathematics, Temple Univ, 731 Hazelhurst Ave, Merion, PA 19066.

Publications Related to IAS Residence: On Abelian Integrals of the Second Kind & Modular Functions. *Am J Math* 84(1962) 615-628; Construction of Automorphic Forms on H-groups and Supplementary Fourier Series. *Trans AMS* 103(1962) 168-188; Rational Period Functions of the Modular Group. *Duke Math J* 45(1978) 47-62.

Other Publications: With S.Y. Hussein. Eichler Cohomology & Automorphic Forms. *III J Math* 15(1971) 565-577; Some New Results on the Eichler Cohomology of Automorphic Forms. *Bull AMS* 80(1974) 607-632; A Corona Theorem for Automorphic Forms & Related Results. *Am J Math* 91(1969) 599-618.

Knorr, Wilbur Richard 78-79 HS, History of Science, Ancient Mathematics

Born 1945 Brooklyn, NY. PhD 1973 History of Science Harvard Univ. Honors: ACLS Fellow 1978-79; NEH Summer Stipend 1978; NATO (NSF) Postdoc Fellow 1974-75; Harvard Grad Prize Fship 1966-71. Memberships: Hist of Sci Soc; AMS. Dept of Hist, Stanford Univ, Stanford, CA 94305.

Publications Related to IAS Residence: Archimedes and the Pre-Euclidean Proportion Theory. *Archives Internationales d'Histoire des Sciences* (1979); Archimedes and the "Elements": Proposal for a Revised Chronological Ordering of the Archimedean Corpus. *Archive for History of Exact Sciences* 19(1978) 211-290.

Other Publications: Archimedes' Neusis-Constructions in Spiral Lines. In *Centaurus*, 22: 77-98. Copenhagen: 1978; Archimedes' Lost Treatise on Centers of Gravity of Solids. In *Mathematical Intelligencer*, 1, 2. Heidelberg/New York: Springer, 1978; Archimedes and the Spirals: The Heuristic

Background. *Historia Mathematica* 5(1978) 43-75; Archimedes and the Measurement of the Circle: A New Interpretation. *Archive for History of Exact Sciences* 15, 2(1976) 115-140; Problems in the Interpretation of Greek Number Theory: Euclid and the Fundamental Theorem of Arithmetic. *Studies in the History and Philosophy of Science* 7, 3(1976) 353-368; *The Evolution of the Euclidean Elements*. Dordrecht, Netherlands: D Reidel Publishing Co, 1975.

Kobayashi, Shoshichi 56-58, 66s M, Differential Geometry

Born 1932 Kofu, Japan. PhD 1956 Math Univ of Wash. Honors: Sloan Fellow 1964-66; Guggenheim Fellow 1977-78. Memberships: AMS; Math Soc Japan; Soc Math France; Swiss Math Soc. Prof, Dept of Mathematics, Univ of California, Berkeley, CA 94720.

Publications Related to IAS Residence: Geometry of Bounded Domains. *Trans AMS* 92(1959) 267-290; On the Automorphism Group of a Certain Class of Algebraic Manifolds. *Tohoku Math J* 11(1959) 184-190.

Other Publications: *Foundations of Differential Geometry*. 1 & 2. New York-London: Interscience Publishers-Wiley & Sons, 1963.

Kobayasi, Minoru 54s, 54-55 M(NS), Theoretical Nuclear Physics

Born 1908 Osaka, Japan. PhD 1942 Physics Osaka Univ. Prof Emer, Physics, Kyoto Univ, 7 Kinugasayama Kita-ku, Kyoto 603, Japan.

Koch, Adrienne 44-45 HS(EP), American History

Born 1912 . PhD 1942 Columbia Univ. Deceased.

Publications Related to IAS Residence: Ed. with William Peden. *The Selected Writings of John and John Quincy Adams*. New York: Knopf, 1946; *Jefferson and Madison; the Great Collaboration*. New York: Knopf, 1950; *Philosopher-Statesmen of the Republic*. In *Literary History of the United States*, 146-162. New York: 1948.

Kochen, Simon Bernard 66-67, 78-79 M, Logic

Born 1934 Antwerp, Belgium. PhD 1959 Mathematics Princeton Univ. Honors: Cole Prize in Number Theory (with J. Ax) AMS 1968. Prof, Math, Princeton Univ, Fine Hall, Princeton, NJ 08540.

Publications Related to IAS Residence: With J. Ax. Diophantine problems over local fields. *Ann Math* 83(1966) 437-456; With E. Specker. The Problem of Hidden Variables in Quantum Mechanics. *J Math & Mechanics* 17(1967) 59-88.

Kock, Winston E. 35-36 M(NS), Physics

Born 1909 Cincinnati, OH. PhD 1934 Univ of Berlin. Honors: Naval Ordn Awd 1946; Navy Disting Pub Svce Medal 1964; DSc(hc) Univ of Cincinnati 1952;

Hon Fellow Indian Acad of Sci. Appointments: Dir NASA Electron Res Cntr Cambridge MA 1964-66; US Defense Dept Adv Panel Electronics 1959-, Memberships: Am Phys Soc; AAAS; Am Acoustic Soc; IEEE; Sigma Xi. Dir, Herman Schneider Lab, Univ of Cincinnati, Cincinnati, OH 45221.

Publications Related to IAS Residence: Certain Subjective Phenomena Accompanying a Frequency Vibrato. *J Acoust Soc Amer* 8(1936) 23-25; With B. Hoffmann and M.H.L. Pryce. A Geometrical Interpretation of the Method of Symmetrical Components. *J Math Physics* 15(1936) 187-190; A New Interpretation of the Results of Experiments on the Differential Pitch Sensitivity of the Ear. *J Acoust Soc Amer* 9(1937) 129-134; The Vibrating String Considered as an Electrical Transmission Line. *J Acoust Soc Amer* 8(1937) 227-233; Unified Field Theories. *Current Science* 6(1938) 546-548; *Sound Waves and Light Waves*. Doubleday & Co., 1965; *Lasers and Holography*. Doubleday & Co., 1969; *Seeing Sound*. Wiley, 1971; *Applications of Holography*. Plenum Press, 1971; *Radar, Sonar and Holography*. Academic Press, 1973; *Acoustic Holography*. In *Physical Acoustics*, 10. Academic Press, 1973; *The Creative Engineer*. Plenum Press, 1978; *Microwave Holography*. In *Holographic Non-Destructive Testing*, ed. by R. K. Erf. Academic Press, 1974; *Bistatic Microwave or Acoustic Holography Using Incoherent Illumination*. *Proc IEEE* (1973).

Kocka, Jürgen 75-76 HS, Modern History

Born 1941 Haindorf, Sudeten, Germany. Habil 1972 Univ of Münster. Ord Prof, History, Univ of Bielefeld, Freiligrath Str 15, Bielefeld 48, West Germany.

Publications Related to IAS Residence: *White Collar Workers in America 1890-1940. A Social-Political History in International Perspective*. London: Sage, 1979.

Other Publications: *Unternehmensverwaltung und Angestelltenschaft am Beispiel Siemens, 1847-1914*. 1969.

Kodaira, Kunihiko 49-50, 51-52, 56s, 57s, 58s, 59s, 60s, 61s M, Complex Manifolds

Born 1915 Tokyo, Japan. PhD 1949 Univ of Tokyo. Honors: Fields Medal 1954; Japan Acad Prize 1957; Cultural Medal 1957; NAS; AAAS. Memberships: Japan Acad; Corr member, Ak d W Göttingen. Prof, Mathematics, Gakushuin Univ, 3-19-8 Nakaochiai, Shinjuku-ku, Tokyo 161, Japan.

Publications Related to IAS Residence: With D.C. Spencer. On deformations of complex analytic structures, I-II. *Ann Math* 67(1958) 328-466; With L. Nirenberg and D.C. Spencer. On the existence of deformations of complex analytic structures. *Ann Math* 68(1958) 450-459; On compact analytic surfaces. In *Analytic Functions, Proc Conf IAS 1957*, Princeton Math Series 24: 121-136. Princeton, NJ: Princeton U Press, 1960; On ordinary differential equations of any even order and the corresponding eigenfunction expansions. *Am J Math* 72(1950) 502-

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544; With D.C. Spencer. Arithmetic genera of algebraic varieties. *Proc NAS* 38(1953) 641-649; With D.C. Spencer. A theorem of completeness for complex analytic fibre spaces. *Acta Math* 100(1958) 281-294; With D.C. Spencer. A theorem of completeness of characteristic systems of complete continuous systems. *Am J Math* 81(1959) 477-500; With G. de Rham. *Harmonic integrals*. Princeton, NJ: IAS, 1950; Green's forms and meromorphic functions on compact analytic varieties. *Canad J Math* 3(1951) 108-128; With W.-L. Chow. On analytic surfaces with two independent meromorphic functions. *Proc NAS* 38(1952) 319-325; With D.C. Spencer. Existence of complex structure on a differentiable family of deformations of compact complex manifolds. *Ann Math* 70(1959) 145-166; On compact complex analytic surfaces, I. *Ann Math* 71(1960) 111-152; Characteristic linear systems of complete continuous systems. *Am J Math* 78(1956) 716-744; A theorem of completeness of characteristic systems for analytic families of compact submanifolds of complex manifolds. *Ann Math* 75(1962) 146-162; A theorem of completeness for analytic systems of surfaces, with ordinary singularities. *Ann Math* 74(1961) 591-627; On deformations of some complex pseudo-group structures. *Ann Math* 71(1960) 224-302; With D.C. Spencer. Multifoliate structures. *Ann Math* 74(1961) 52-100; On the theorem of Riemann-Roch for adjoint systems on Kählerian varieties. *Proc NAS* 38(1952) 522-527; The theorem of Riemann-Roch for adjoint systems on 3-dimensional algebraic varieties. *Ann Math* 56(1952) 298-342; With S. Kakutani. A non-separable translation invariant extension of the Lebesgue measure space. *Ann Math* 72(1950) 574-579.

Other Publications: On Kähler varieties of restricted type (an intrinsic characterization of algebraic varieties). *Ann Math* 60(1954) 28-48; On a differential-geometric method in the theory of analytic stacks. *Proc NAS* 39(1953) 1268-1273; Harmonic fields in Riemannian manifolds (generalized potential theory). *Ann Math* 50(1949) 587-665; On the structure of compact complex analytic surfaces, I-IV. *Am J Math* 86(1964) 751-798; 88(1966) 682-721; 90(1968) 55-83, 1048-1066; On compact analytic surfaces, II-III. *Ann Math* 77(1963) 563-626; 78(1963) 1-40.

Kogut, John Benjamin 71-73, 79s NS, High Energy Theory

Born 1945 Brooklyn, NY. PhD 1971 Theoretical Physics Stanford Univ. Honors: Sloan Fship 1976-1978. Memberships: Am Phys Soc. Prof, Physics, Loomis Lab, Univ of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: Electroproduction and the "Size" of a Virtual Photon. *Phys Rev D* 5(1972) 1152; With H. D. I. Abarbanel. Effect of Virtual Photon Mass on Transverse Momentum Distributions in Inclusive Processes. *Phys Rev D* 5(1972) 2050; With G. Frye and L. Susskind. Hard and Soft Processes in Hadrodynamics. *Phys Letters* 40B(1972) 469; With J. Manassah. Pion

Condensation and Neutron Star Cooling. *Phys Letters* 41A(1972) 129; With D. K. Sinclair and L. Susskind. Hadronic Final States of Deep Inelastic Processes in Simple Quark Parton Models. *Phys Rev D* 7(1973) 3637; With J. D. Bjorken. Correspondence Arguments for High Energy. *Phys Rev D* 8(1973) 1341; Resonance and Parton Model Descriptions of Final States of Deeply Inelastic Reactions. *Phys Rev D* 8(1973) 3029; With A. Casher and L. Susskind. Theory of Non-Strange Currents and Mesons. *Phys Rev D* 8(1973) 4448; With L. Susskind. Everything You Always Wanted to Know About Partons, But Were Afraid to Ask. *Physics Reports* 8C(1973) 75; With K. G. Wilson. The Renormalization Group and the ϵ -Expansion. *Physics Reports* 12C(1975) 75; Pion Condensation and Properties of Neutron Stars. *Ann NY Acad of Scis* 224(1972) 266; Problems and Progress in Constituent Theories of Hadrons. In *AIP Conf Proc, Particles and Fields*, 458-481. 1974.

Kohn, Hans 48s, 55f HS, Modern European History

Born 1891 Prague, Czechoslovakia. DJuris 1923 German Univ of Prague. Deceased.

Publications Related to IAS Residence: *The Age of Nationalism*. New York: Harper, 1962; The Heritage of Masaryk. *Ann Am Ac* 258(1948) 70-73; Arndt and the Character of German Nationalism. *Amer Hist R* 54(1949) 787-803; Father Jahn's Nationalism. *R Pol* 11(1949) 419-432; Nationalism and the Open Society. In *The Twentieth Century; a Mid-Way Account of the Western World*, 19-31. New York: 1949; The Paradox of Fichte's Nationalism. *J Hist Ideas* 10(1949) 319-343; Prelude to Totalitarian Terror. In *Internationalism and Democracy*, 23-33. Syracuse: 1949; Napoleon and the Age of Nationalism. *J Mod Hist* 22(1950) 21-37; Romanticism and the Rise of German Nationalism. *R Pol* 12(1950) 443-472; The Eve of German Nationalism, 1789-1812. *J Hist Ideas* 12(1951) 256-284.

Kohn, Joseph John 57-58, 61-62, 76-77 M, Differentiable and Complex Analytic Manifolds

Born 1932 Prague, Czechoslovakia. PhD 1956 Princeton Univ. Princeton Univ, Fine Hall, Princeton, NJ 08540. *

Koike, Masao 76-77 M

Born 1948 Okayama, Japan. DSc 1976 Nagoya Univ. Lect, Dept of Math, Nagoya Univ, Chikusa-ku, Nagoya 464, Japan.

Publications: Congruences Between Cusp Forms and Linear Representations of the Galois Group. *Nagoya Math J* 64(1976) 63-85.

Kolchin, Ellis Robert 41 42 M

Born 1916 New York, NY. PhD 1941 Mathematics Columbia Univ. Memberships: AMS; MAA; Am Assoc Adv Sci. Prof, Department of Mathematics, Columbia University, New York, NY 10027.

Publications Related to IAS Residence: Extensions of differential fields, I. *Ann Math* 43(1942) 724-729.

Other Publications: *Differential Algebra and Algebraic Groups*. Pure and Applied Math, 54. New York and London: Academic Press, 1973.

Komura, Yukio 74-75 M, Functional Analysis

Born 1931 Japan. PhD 1963 Univ of Tokyo. Univ of Ochanomizu, Otawaka, Bunkyo, Tokyo, Japan. *

Kondô, Motokiti 62-63, 70-71 M, Foundations of Mathematics

Born 1906 Japan. PhD 1940 Hokkaido Univ. Fac of Science, Tokai U, Kitakanome, Hiratsuka, 259-12, Japan. *

Kondo, Takeshi 69-71 M

Born 1935 Muroran, Hokkaido, Japan. PhD 1963 Mathematics Univ of Tokyo. Prof, Department of Mathematics, University of Tokyo, College of General Education, Meguro-Ko 3-8-1, Komaba, Tokyo 153, Japan.

Publications Related to IAS Residence: On Alternating Groups IV. *J Math Soc Japan* 23(1971) 527-547.

Konefsky, Samuel J. 57-59 HS, Political Science

Born 1915 USSR. PhD 1944 Columbia Univ. Deceased.

Konvitz, Milton R. 59-60 HS, History of Ideas

Born 1908 Safad, Israel. JD 1930 NYU.; PhD 1933 Philos Cornell Univ. Honors: Litt D Rutgers U 1954; DCL U of Liberia 1962; LHD Hebrew Union College 1966; LLD Syracuse U 1971; LHD Yeshiva U 1972; LLD Jewish Theological Seminary 1972; Litt D Dropsie Univ 1975; Commander Order Star of Africa Liberia 1957; Grand Band 1960; Distinguished Alumni Award NYU Washington Sq Coll 1964; Mordecai ben David Distinguished Award Yeshiva Univ 1965; Morris J Ka-plun Internation Prize Hebrew Univ 1969; Center for Advanced Study in Behavioral Scis Fellow 1964-65; NEH Fellow 1975-76; Guggenheim Fellow 1953-54; Fund for Republic Fellow 1955; Ford Foundation Faculty Fellow 1952-53. Appointments: Dir Liberian Codification Project 1952--; Gen Counsel, Newark Housing Authority, 1938-43; NJ State Housing Authority, 1943-45; Pub Rep, Natl War Labor Bd, Reg II, 1943-46; Mem Enforcement Comm & Hearing Commnr, Wage Stabilization Bd, 1952-53; Asst Gen Counsel, NAACP, 1943-46; Natl Adv Comm, ACLU; AAUP Council, 1961-64. Memberships: Industrial Relations Research Assn; Amer Philosophical Assn; Intern Soc of Labor Law & Soc Legisl; AAUP. Prof Emer, Law, and Industrial & Labor Relations, Cornell Univ, 16 The Byway, Ithaca, NY 14850.

Publications Related to IAS Residence: *A Century of Civil Rights*. Ithaca: Cornell Univ Press, 1961; *American Pragmatists*. Meridian, 1960.

Koplik, Joel 76-77, 78-79 NS, Particle Theory

Born 1948 Brooklyn, NY. PhD 1974 Physics Univ of Calif, Berkeley. Schlumberger-Doll Research Cntr, PO Box 307, Ridgefield, CT 06877.

Publications Related to IAS Residence: Some Aspects of the Planar Perturbation Series. *Nucl Phys* B123(1977) 109; The Faddeev-Popov Procedure and Gribov Copies. *Nucl Phys* B132(1978) 239.

Koppel, Moshe 79-80 M, Mathematical Logic, Number Theory

Born 1956 New York, NY. PhD 1979 NYU. 83-19 Beverly Rd, Kew Gardens, NY 11415. *

Koppelman, Walter 66-67 M, Several Complex Variables

Born 1929 Vienna, Austria. PhD 1957 NYU. Deceased.

Korenblum, Boris 77s M, Complex Analysis

Born 1923 Odessa, USSR. DSc 1955 Mathematics Moscow Univ. Memberships: AMS; MAA. Prof, Dept of Mathematics, SUNY at Albany, Albany, NY 12222.

Publications Related to IAS Residence: A Beurling-type Theorem. *Acta Math* 138(1977) 265-293.

Other Publications: An Extension of the Nevanlinna Theory. *Acta Math* 135(1975) 187-219.

Kosinski, Antoni A. 62-64, 66-67 M

Born 1930 Warsaw, Poland. PhD 1956 Mathematics Warsaw Univ. Memberships: AMS. Prof, Math, Rutgers Univ. RD 5, Cherrybrook Dr, Princeton, NJ 08540.

Publications Related to IAS Residence: On the Inertia Group of π -Manifolds. *Am J Math* 89(1967); Toda Brackets in Differential Topology. *Comment Math Helv* 46(1971).

Kostant, Bertram 53-55, 66-67 M, Harmonic Analysis, Group Theory

Born 1928 Brooklyn, NY. PhD 1954 U of Chicago. Honors: NAS; AAAS. Memberships: AMS. Prof, Math, MIT. 5 Merrill Rd, Newton Center, MA 02159.

Publications Related to IAS Residence: Holonomy and the Lie Algebra of Infinitesimal Motions of a Riemannian Manifold. *Trans AMS* 80(1955) 528-542; On the Conjugacy of Real Cartan Subalgebras. *Proc NAS* 41(1955) 967-970.

Other Publications: Whittaker Vectors. *Invent Math* (1978); Quantization & Unitary Representation. In *Lectures in Modern Analysis and Applications III*, ed. by C.T. Taam, Lect Notes in Math 170: 87-207. Berlin: Springer-Verlag, 1970; Polarization and Unitary Representations of Solvable Lie Groups. *Invent Math*

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(1971); Existence & Irreducibility. In *Lie Groups and Their Representations, Proc Summer School, Budapest, 1971*, ed. by I. M. Gelfand, 231-330. New York: Halsted Press, 1975; Polynomial Rings. *Am J Math* (1963).

Koszul, Jean-Louis 60f M

Born 1921 Strasbourg, France. PhD Univ of Paris. Honors: Dr(hc) Univ Lausanne 1976. Appointments: Com Consultatif des Univs; Ctr Internati de Math Pures & App. Memberships: Soc Math France. Prof, Math, Univ of Grenoble. Institut Fourier BP 116, 38402 Saint Martin D'Hères, France.

Publications Related to IAS Residence: Homologie et Cohomologie des Algèbres de Lie. *Bul Soc Math France* (1950) 1-63.

Other Publications: *Lectures on Fibre Bundles and Differential Geometry*. Bombay: Tata Institute, 1960; *Lectures on Groups of Transformation*. Bombay: Tata Institute, 1964; Homologie des complexes de formes différentielles d'ordre supérieur. *Ann Sc Ecole Normale Sup* (1974).

Kottwitz, Robert E. 76-77 M, Automorphic Forms, Number Theory

Born 1950 Lynn, MA. PhD 1976 Harvard Univ. Univ of Washington, Dept of Math, Seattle, WA 98195. *

Koyré, Alexandre 55f, 56-57, 57f, 58-64 HS, History of Science

Born 1892 USSR. Dès L 1929 Univ of Paris. Deceased.

Kozłowski, George A., Jr. 69-71 M, Topology

Born 1941 Hartford, CT. PhD 1968 Math Univ of Mich, Ann Arbor. Honors: PBK 1963. Memberships: AMS. Assoc Prof, Dept of Mathematics, Auburn Univ, Auburn, AL 36830.

Publications: Factorization of Certain Maps up to Homotopy. *Proc AMS* 26(1969) 88-92; With Jack Segal. Locally Well-behaved Paracompacta in Shape Theory. *Fund Math* 95(1976) 55-71; Maps of ANR's Determined on Null-Sequences of AR's. In *Studies in Topology*, ed. by Nick M. Stavarakas and Keith Allen, 277-284. New York: Academic Press, 1975; Images of ANR's. *Trans AMS* (in press).

Kraft, Konrad 61-62 HS, Roman History, Numismatics

Born 1920 Germany. PhD 1954 Univ of Bern. Deceased.

Kraljević, Hrvoje 74-75 M, Structure & Representations of Semisimple Lie Groups

Born 1944 Yugoslavia. PhD 1973 Univ of Zagreb. Nova ves 86, 41000 Zagreb, Yugoslavia. *

Kramers, Hendrik Anthony 47s, 51f M(NS), Quantum Theory of Matter

Born 1894 Netherlands. Dr 1919 Math & Phys Sciences Leiden Univ. Deceased.

Krautheimer, Richard 64s, 77f HS, History of Art

Born 1897 Fürth, Germany. Honors: Hon Degrees: U of Louisville 1956; U of Marburg 1967; U of Siena 1975; U of Frankfurt 1965; Pont Ist Arch Crist Rome 1968. Samuel F. B. Morse Prof, NYU Inst Fine Arts. Via Gregoriana, 28 Rome, Italy.

Publications Related to IAS Residence: *Early Christian and Byzantine Architecture*. Pelican Hist of Art. Baltimore: Penquin Books, 1965; *Rome: Profile of a City, 312-1308*. Princeton Univ Press, forthcoming.

Other Publications: *Corpus Basilicarum Christianarum Romae, I-V*. Vatican City and New York: 1937-1977; *Lorenzo Ghiberti*. Princeton: Princeton Univ Press, 1956.

Kreezer, George Lawrence 46s, 46-47 M(NS), Psychology

Born 1902 . PhD 1928 Cornell Univ. *

Kreisel, Georg 55-57 M, Mathematical Logic

Born 1923 Graz, Austria. MA 1949 Cambridge Univ. Philosophy Dept, Stanford Univ, Stanford, CA 94305*

Krieger, Leonard 63s, 69-70 HS, Modern Europe

Born 1918 Newark, NJ. PhD 1949 History Yale Univ. Appointments: AAAS Member Council, Exec Bd Soc Sci Prize Comm. Memberships: AHA; Internat Soc for Hist of Ideas; Am Soc Poli & Legal Phil. Prof, Department of History, University of Chicago, Chicago, IL 60637.

Publications Related to IAS Residence: The Idea of Authority in the West. *Am Hist Rev* 82 (1977); *An Essay on the Theory of Enlightened Despotism*. Chicago: University of Chicago Press, 1975.

Other Publications: *The German Idea of Freedom*. 1957; *The Politics of Discretion*. 1965; *Kings and Philosophers, 1689-1789*. 1970; *Ranke: The Meaning of History*. 1977; With John Higham and Felix Gilbert. *History*. 1965; ed with Fritz Stern. *Responsibility of Power*. 1967.

Kristeller, Paul Oskar 54-55,61f, 68-69 HS, Philosophy

Born 1905 Berlin, Germany. DPhil 1928 Philosophy Heidelberg Univ. Honors: Dott di filosofia (hc) Padua 1962; DLitt (hc) Middlebury College 1972; DHumLitt (hc): Columbia U 1974; Catholic U 1976; U of Rochester 1977; Serena Medal British Academy 1958; Commendatore nell'Ordine al Merito Italy 1971; Fellow Mediaeval Academy; AAAS; Am Philos Soc. Appointments: Ren Comm ACLS 1944-50; Bd Member Ren Soc since 1954, Pres 1957-59; Vice Pres of Mediaeval Acad 1965-68, 1974-75, Pres

1975-76. Memberships: Am Philos Assoc; Am Soc for Church Hist; Am Assoc of Teachers of Italian; Soc for Ancient Greek Philos; Soc for Neoplatonic Studies; Ren Soc; Mediaeval Acad. Frederick J. E. Woodbridge Prof Emer, Philosophy, Columbia Univ, 1161 Amsterdam Ave, New York, NY 10027.

Publications Related to IAS Residence: Methods of Research in Renaissance Manuscripts. *Manuscripta* 19(1975) 3-14; L'état présent des études sur Marsile Ficin. In *Platon et Aristote à la Renaissance*, 59-77. Paris: 1976; Bartholomaeus, Musandinus and Maurus of Salerno and Other Early Commentators of the Articella. *Italia Medioevale e Umanistica* 19(1976) 57-87.

Other Publications: Philosophy and Medicine in Medieval and Renaissance Italy. In *Organism, Medicine, and Metaphysics, Essays in Honor of Hans Jonas*, 29-40. Dordrecht, 1978.

Kritzcek, James 66s, 68f HS, Medieval European and Islamic History

Born 1930 St. Cloud, MN. PhD 1954 Oriental Languages and Literatures Princeton Univ. Honors: Litt D St. John's Univ 1966; Knight Commander Order of the Holy Sepulchre of Jerusalem 1976. Appointments: Amer Grad & Prof Comm; Catholic Comm on Intellect & Cult Affs. Memberships: Mid East Studies Assoc; Amer Oriental Soc; Amer Medieval Acad; Amer Soc for Study of Religion. Adj Prof, History, York Univ, 4 Devonshire Pl, Toronto, Ontario M5S 2E1, Canada.

Publications Related to IAS Residence: With W. H. Lewis. *Islam in Africa*. New York: 1969; With Louis Gardet and others. *Orientations pour un dialogue entre chrétiens et musulmans*. Rome: 1969.

Other Publications: With R. B. Winder. *Peter the Venerable and Islam*. Princeton: Princeton U Press, 1964; With Giles Constable. *The World of Islam*. London: 1960; *Petrus Venerabilis*. Rome: 1956.

Krolik, Julian Henry 77-79 NS, Astrophysics

Born 1950 Detroit, MI. PhD 1977 Physics Univ of Calif, Berkeley. Memberships: Member Am Astron Soc. Prof, Dept of Astrophysics, MIT, Cambridge, MA 02139.

Publications Related to IAS Residence: The Radiation Pressure-Driven Rayleigh Taylor Instability=Analysis and Application to QSO Emission Line Clouds. *Ap J* 228(1979) 13; With C. F. Mc Kee and C. B. Tarter. Radio-Frequency Heating of Emission Line Gas near Compact Extragalactic Radio Sources. In *Pittsburgh Conference on BL Lac Objects*, ed. by A. M. Wolfe. Univ of Pittsburgh, 1979.

Królikowski, Wojciech 61s, 61f M(NS), Physics

Born 1926 Warsaw, Poland. DSc (Habil.) Warsaw Univ. Honors: Polish Acad of Scis. Appointments: Phys Comm, Polish Acad of Scis. Memberships: Union of Polish Teachers; Polish Phys Soc; European Phys Soc. Full Prof, Institute of Theoretical Physics,

Warsaw University, Hoza 69, 00-681 Warszawa, Poland.

Publications Related to IAS Residence: Some remarks on global Symmetry. *Nucl Phys* 26(1961) 91; On single-strange mesons. *Nucl Phys* 28(1961) 81; On weak pion interaction in non-leptonic hyperon decays. *Nuovo Cim* 20(1961) 797; Search for a rotational Symmetry of the universal Fermi interaction. *Nuovo Cim* 24(1961) 969; General formalism obeying intrinsic exclusion principle. *Phys Rev* 126(1962) 1195.

Kroll, Norman Myles 48-49, 68s M(NS), Physics

Born 1922 Tulsa, OK. PhD 1948 Columbia Univ. Physics Dept, Univ of Calif, at San Diego, La Jolla, CA 92038. *

Krommes, John A. 75-77 NS, Plasma Physics

Born 1949 Pottsville, PA. PhD 1975 Astrophysics Princeton U. Memberships: Am Phys Soc. Research Staff & Lect, Plasma Physics Lab, Princeton Univ, P.O. Box 451, Princeton, NJ 08544.

Publications Related to IAS Residence: Turbulence Clumps and the Bethe Salpeter Equation. In *Proc Third Kiev Theory Conf*. Vienna: International Atomic Energy Agency, in Press; With B.I. Cohen, W.M. Tang, and M.N. Rosenbluth. Nonlinear Saturation of the Dissipative Trapped Ion Mode by Mode Coupling. *Nucl Fus* 16(1976) 971; With M.N. Rosenbluth, and W.M. Tang. Stability of Ripple Assisted Neutral Beam Injection Against Loss Cone Modes. *Nucl Fus* 17(1977) 667.

Other Publications: With C. Oberman. Anomalous Transport due to Long-lived Fluctuations in Plasma Part I A General Formalism for Two time Fluctuations. *J Plasma Phys* 16(1976) 193; Anomalous Transport due to Long lived Fluctuations in Plasma Part II Hydro-dynamic Contributions to Transport in Two Dimensional Strongly Magnetized Systems. *J Plasma Phys* 16(1976) 229; With R.G. Klera, and C. Oberman. Plasma Transport in Stochastic Magnetic Fields I General Considerations and Test Particle Transport. *Princeton University Report No 1389* in Press; Plasma Transport in Stochastic Magnetic Fields II Principles and Problems of Test Electron Transport. *Suppl Prog Theor Phys* 64(1978) 137.

Krusemeyer, Mark I. 72-74 M

Born 1952 Morristown, NJ. PhD 1972 Univ of Utrecht. Dept of Mathematics, Columbia Univ, New York, NY 10027. *

Ku, Hsu-Tung 67-68, 77f M, Transformation Groups

Born 1933 Chia-i, Taiwan, China. PhD 1967 Math Tulane Univ. Memberships: AMS. Assoc Prof, Math, University of Mass at Amherst, 7 Maplewood Terr, Hadley, MA 01035.

Publications Related to IAS Residence: With M. C. Ku. Free differentiable actions of S^1 and S^3 on

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homotopy 11-spheres. *Trans AMS* 138(1969) 223-228; With M. C. Ku. Semifree differentiable actions of S^1 on homotopy $(4K + 3)$ -spheres. *Mich Math J* 15(1968) 471-476; Group actions on A_k -manifolds. *Trans AMS* (in press).

Other Publications: With M. C. Ku. Characteristic spheres of free differentiable actions of S^1 and S^3 on homotopy spheres. *Trans AMS* 156(1971) 493-504; With L. N. Mann, J. C. Su and J. L. Sicks. Degree of symmetry of a product manifold. *Trans AMS* 146(1969) 133-149; With M. C. Ku. Gaps in the relative degree of symmetry. In *Transformation groups*, London Math Soc Lect Note Series 26: 121-138. 1977; With M. C. Ku. Characteristic invariants of free differentiable actions of S^1 and S^3 on homotopy spheres. In *Proc Conf on Transformation groups*, Lecture Notes in Math, 298: 19-40. Springer-Verlag.

Kubert, Daniel S. 79-80 M, Algebraic Number Theory

Born 1949 Philadelphia, PA. PhD 1973 Harvard Univ. Asst Prof, Cornell Univ, 316 Highland Rd, Ithaca, NY 14850. *

Kubota, Kinuko 77-78 HS, American Thought

Born 1913 Japan. BA 1949 Univ of Tokyo. Prof, Faculty of Law & Politics, Seikei Univ, Mitakashi, Inokashira, Tokyo 181, Japan. *

Kubota, Tomio 63-64 M, Number Theory

Born 1930 Tokyo, Japan. DSc 1958 Math Nagoya Univ. Memberships: Math Soc Japan. Prof, Department of Mathematics, Faculty of Science, Nagoya University, Chikusaku, Nagoya, Japan.

Publications Related to IAS Residence: On the field extension by complex multiplication. *Trans AMS* 118(1965) 113-122.

Kudla, Stephen S. 75-76 M, Algebra

Born 1950 Caracas, Venezuela. PhD 1975 SUNY, Stony Brook. Department of Mathematics, University of Maryland, College Park, MD 20742. *

Kuga, Michio 61-63, 76-77 M, Number Theory, Automorphic Functions

Born 1928 Yokohama, Japan. PhD 1961 Math Univ of Tokyo. Memberships: AMS; Math Soc of Japan. Prof, Mathematics, SUNY, Stony Brook, 45 Hawkins Rd, Stony Brook, NY 11790.

Publications: With S. Ihara. Family of families of abelian varieties. In *Algebraic Number Theory, Int Symp Kyoto 1976*. Tokyo: Japan Society of Promotion of Science, 1977.

Kuhn, Reinhard 79-80 HS, Comparative Literature

Born 1930 Berlin, Germany. PhD 1957 French Princeton Univ. Honors: Fulbright Res Prof Paris 1964-65; NEH Sr Fellow 1972-73; Camargo Fellow 1978-79. Memberships: MLA; AATF; Modern

Humanities Research Assoc; Acad of Lit Studies; Am Comp Lit Soc. Prof, French and Comparative Literature, Brown Univ, Dept of Comp Lit, Providence, RI 02912.

Kuhn, Thomas S. 72f, 73-79 HS/Soc, History of Modern Physics

Born 1922 Cincinnati, OH. PhD 1949 Physics Harvard Univ. Honors: Guggenheim Fellow 1954-55; Fellow Cntr Adv Study Behav Sci 1958-59; Phi Beta Kappa; Sigma Xi; Am Philos Soc; AAAS; Behrman Awd for Disting Achievement in Humanities Princeton Univ 1977; Hon DHL Rider College 1978. Appointments: Bd Dirs SSRC 1964-66; Bd *Dict of Sci Biog* 1964-. Memberships: Am Philos Assoc; AHA; Hist Sci Soc [council 1953-68, pres 1968-70]; Acad Internat Hist Sci. Member with Long-Term Appointment, Schools of Hist Studies and Soc Sci, Inst for Advanced Study, Princeton, NJ 08540.

Publications: *The Copernican Revolution: Planetary Astronomy in the Development of Western Thought*. 1957; *The Structure of Scientific Revolution*. 1962; With others. *Sources for History of Quantum Physics: an Inventory and Report*. 1967; *The Essential Tension*. 1977; *Black-Body Theory and the Quantum Discontinuity, 1894-1912*. Oxford: Clarendon Press, 1978.

Kuiper, Nicolaas H. 69-70 M

Born 1920 Rotterdam, Netherlands. Dr 1946 Leyden Univ. Honors: Member Royal Netherlands Acad of Science. Appointments: Exec Comm IMU 1970-74. Dir, Institute des Hautes Etudes Scientifiques, 35 route de Chartres, 91440 Bures-sur-Yvette, France.

Publications Related to IAS Residence: On conformally flat spaces in the large. *Ann Math* 50, 4(1949) 916-924; On compact conformally Euclidean spaces of dimension 2. *Ann Math* 52, 4(1950) 478-490; On linear families of involutions. *Am J Math* 72(1950) 425-441; Einstein Spaces and Connections I and II. *Proc Ned Akad Wett, Amsterdam* 53, 10: 1560-76; Minimal total absolute curvature for immersions. *Inv. Math* 10(1970) 209-238; The differential topology of separable Banach manifolds. In *Actes Cong Intl Math, Nice 1970, Vol. II*, 85-90. Paris: Gauthier-Villars, 1971.

Other Publications: On C^1 Isometric Imbeddings I. *Indag Math* 17(1955) 545-556, 683-89; The homotopy type of the unitary group of the Hubert space. *Topology* 3(1965) 19-30.

Kuksewicz, Zdzislaw 74-75 HS, Medieval History

Born 1930 Grodno, Poland. Dr habil 1968 Hist of Philos Instit of Philos & Sociology. Appointments: Member Bd Comm of Philos; Vice-Pres Internat SocStudies on Med Philos. Prof, Philosophy, Dep Dir Instit of Philos & Sociology; Lodz University, Miedzynarodowa 60-60, 03-922 Warsaw, Poland.

Publications Related to IAS Residence: Ferrandus Hispanus "De specie intelligibili". *Medioevo-Rivista di*

storia della filosofia medievale 3(1977) 187-236; Commentarium super Libros De anima by an anonymous Averroist of the XIVth century Erfurt. *Studia Mediewistyczne* 17(1977) 65-122.

Other Publications: *De Siger de Brabant à Jacques de Plaisance - la théorie de l'intellect chez les averroistes des XIIIe et XIVe siècles*. Wrocław: Ossolineum, 1968; *Averroisme bolonais au XIVe siècle*. Wrocław: Ossolineum, 1965; *Zarys Historii filozofii sredniowiecznej (History of Medieval Philosophy)*. Warszawa: PWN, 1973; *Philosophy of Man - Theory of Soul*. History of Medieval Philosophy in Poland, 5. Wrocław: Ossolineum, 1975.

Kulkarni, Ravi S. 71-73 M

Born 1942 Sholapur, India. PhD 1968 Math Harvard Univ. Memberships: AMS. Assoc Prof, Dept of Math, Indiana University, Bloomington, IN 47401.

Publications Related to IAS Residence: *Index theorems and curvature invariants*. Sémin de Math, 49. l'Univer de Montreal, 1972; Equivalence of Kähler manifolds and other equivalence problems. *J Diff Geom* 9(1974) 401-408; Conformally flat manifolds. *Proc NAS* 69(1972) 2675-2676; Congruence of hypersurfaces. *J Diff Geom* 8(1973) 95-102; A finite version of Schur's theorem. *Proc AMS* 53, 2(1975) 440-442; Conformal geometry in higher dimensions. *Bull AMS* 81(1975) 736-738; On the principle of uniformization. *J Diff Geom* in press.

Other Publications: Curvature and metric. *Ann Math* 91(1970) 311-331; Groups with domains of discontinuity. *Math Ann* in press; Complexifications of differentiable manifolds. *Invent Math* 44(1978) 49-64.

Kunze, Ray A. 62-63 M, Group Representations

Born 1928 Des Moines, IA. PhD 1957 Math Univ of Chicago. Appointments: Council of the AMS. Memberships: AMS; MAA. Prof, Department of Math, Univ of Calif, Irvine, CA 92217.

Publications Related to IAS Residence: Uniformly Bounded Representations IV: Analytic Continuation of the Principal Series for Complex Classical Groups of Types B_n , C_n , D_n . *Adv Math* 11(1973) 1-73.

Kuratowski, Kazimierz 48-49 M, Topology and Set Theory

Born 1896 Warsaw, Poland. PhD 1921 U of Warsaw. Honors: LLD(hc) University of Glasgow 1959; PhD(hc) Sorbonne; PhD(hc) Univ of Prague, Univ of Wrocław 1958; Member Polish Math Soc; Vice-President Polish Academy of Sciences 1957-1968; Hon member Acad of Sci of the Soviet Union 1966; FRS Edinburgh 1966. Appointments: Vice-Pres IMU, 1963-1966. Memberships: Polish Math Soc; AMS. Chairman, Scientific Council, Instytut Matematyczny PAN, Sniadeckich 8, 00-950 Warszawa, Poland.

Publications Related to IAS Residence: With J. von Neumann. On some analytic sets defined by transfinite induction. *Ann Math* 38(1937) 521-525.

Other Publications: *Topology*. 2 vols Acad Press, 1966; With A. Mostowski. *Set Theory*. North Holland, 1976; *Introduction to Set Theory and Topology*. Pergamon Press, 1967.

Kurepa, Djuro R. 59f M

Born 1907 Glina, Yugoslavia. DSc 1935 Math Univ of Paris. Honors: Award of Work 1965; Avnoj Prize 1976; Hon member of Balkan Math Union 1977. Appointments: Pres Council of Instruction of Serbia, 1968-72. Memberships: Soc Math de France; AMS; Assoc of Symbolic Logic; Soc of Mathematicians, Physicists and Astronomers of Croatia of Serbia. Zagrebačka 7, 11000 Belgrade, Yugoslavia.

Publications Related to IAS Residence: Sur une proposition de la théorie des ensembles. *Comptes Rendus Acad Sci Paris* 249(1959) 2698-99.

Other Publications: *Theory of sets*. Zagreb: 1961.

Kuriyan, Jacob George 66-68 NS, Particle Physics, Group Theory

Born 1941 India. PhD 1966 Syracuse Univ. Dept of Meteorology, UCLA, Los Angeles, CA 90024. *

Kuroda, Sigekatu 56-57 M

Born 1905 Japan. PhD 1945 Tokyo Univ. Deceased.

Kuroda, Wataru 79f HS, History of Modern Philosophy

Born 1928 Tokyo, Japan. BA 1951 Philosophy Univ of Tokyo. Prof, Philosophy, Univ of Tokyo, Kamakura-shi 248, 2-20-22 Yuigahama, Japan.

Kurth, James R. 76-77 Soc, Industrial Structure, Comparative Politics

Born 1938 Appleton, WI. PhD 1968 Harvard Univ. Department of Political Science, Swarthmore College, Swarthmore, PA 19081. *

Kusaka, Shuichi 43s M(NS), Physics

Born 1915 Japan. PhD 1942 Univ of Calif, Berkeley. Deceased.

Publications: With W. Pauli. On the Theory of a Mixed Pseudoscalar and a Vector Meson Field. *Phy Rev* 2 63(1943) 400-416.

Kutzko, Philip C. 79f M, Representation Theory of p-adic Groups

Born 1946 New York, NY. PhD Univ of Wisc. Assoc Prof, Univ of Iowa, Dept of Math, Iowa City, IA 52240*

Kuyk, Willem 67f M

Born 1934 Amsterdam, Netherlands. PhD 1960 Free Univ, Amsterdam. Appointments: Belgian Natl Comm; FNRS, Awards Committee. Memberships: AMS; Dutch Math Soc; Belgian Math Soc; Canad Math

Members

Cong. Full Prof, Univ of Antwerp, RUCA, Groenenborgerlaan 171, 2020 Antwerpen, Belgium.

Publications Related to IAS Residence: Generic Approach to the Galois Embedding and Extension Problem. *J of Algebra* 9, 4(1960) 393-407; Extensions de corps hilbertiens. *J of Algebra* 14, 1(1970) 112-124; With H. W. Lenstra. Abelian Extensions of Arbitrary Fields. *Ann Math* 276(1975) 99-104.

Kwan, John Y. 73-75 NS, Astrophysics

Born 1949 Hong Kong. PhD 1973 Physics California Inst of Tech. Memberships: AAS; IEEE. Member Technical Staff, Bell Laboratories, Murray Hill, NJ 07974.

Publications Related to IAS Residence: With R. Kirshner. The Envelopes of Type II Supernovae. *Ap J* 197, 415(1975); With R. Kirshner. Distances to Extragalactic Supernovae. *Ap J* 193, 27(1974); With T. Thuan. On the Interpretation of the Interferometric Maps of H₂ O Masers Near HII Regions. *Ap J* 194, 293(1974); With N. Scoville. Radiative Trapping and Population Inversions of the SiO Masers. *Ap J letters* 194, 197(1974); With N. Scoville. Infrared Sources in Molecular Clouds. *Ap J* 206, 718(1976); With N. Scoville. Radiative Trapping and Hyperfine Structure: HCN. *Ap J letters* 195, L85(1975).

Kwun, Kyung Whan 64-65 M, Topology

Born 1929 Seoul, Korea. PhD 1953 Topology Univ of Mich. Memberships: AMS. Prof, Math, Mich State Univ, 4607 Manitou Drive, Okemos, MI 48864.

Laan, Harry van der 74-75 NS, Astrophysics

Born 1936 Blijham, Groningen, Netherlands. PhD 1963 Astronomy Cambridge Univ. Honors: Woodrow Wilson Fellow 1963; Commonwealth Scholar 1963-65; George Darwin Lecturer Royal Astron Soc 1977. Appointments: Pres, 1976-79 Radio Astr Comm, Intl Astron Un; Member, Sci Tech Cttee 1978-1982, Euro Southern Observatory. Memberships: IAU; Amer Astron Soc; Royal Astron Soc (UK). Prof, Astronomy, Univ of Leiden, Chm Netherlands Foundation for Radio Astron, Sterrewacht, P.O. Box 9513, 2300 RA Leiden, Netherlands.

Labute, John Paul 75-76 M, Number Theory

Born 1938 Tecumseh, Canada. PhD 1965 Mathematics Harvard Univ. Honors: Woodrow Wilson Fellow 1960. Memberships: AMS; MAA. Assoc Prof, Mathematics Department, McGill University, 805 Sherbrooke St, W, Montreal, Quebec H3A 2K6, Canada.

Publications Related to IAS Residence: Free Lie Algebras as Modules over their Enveloping Algebras. *Proc AMS* 68, 2(1978) 135-139.

Other Publications: Classification of Demuskin Groups. *Can J Math* 19(1967) 106-132.

Lacher, Robert Christopher 67-68, 72s M, Topology

Born 1940 Atlanta, GA. PhD 1966 Math Univ of Ga. Honors: Sloan Fellow 1970-72. Memberships: AMS. Prof, Department of Mathematics, Florida State University, Tallahassee, FL 32306.

Publications Related to IAS Residence: Finiteness theorems in the study of mappings between manifolds. In *Proc Okla Top Conf 1972*, 79-96. U of Okla, 1972; Cell-like mappings and their generalizations. *Bull AMS* 83(1977) 495-552; Resolutions of generalized manifolds. In *Proc Conf Geometric Topology*. Warsaw: 1978; Cell-like mappings of ANR's. *Bull AMS* 74(1968) 933-935; Cell-like spaces. *Proc AMS* 29(1969) 598-602; Cell-like mappings, I, II. *Pacific J Math* 30(1969) 717-731; 35(1970) 648-660; With K. Kuratowski. A theorem on the space of monotone mappings. *Bull Pol Acad Sci* 12(1969) 797-800; Cellularity criteria for maps. *Mich Math J* 17(1970) 385-396; Suspending homotopy 3-spheres and embedding mapping cylinders in S⁴. *Proc AMS* 27(1971) 584-586; With D.R. McMillan, Jr. Partially acyclic mappings between manifolds. *Amer J Math* 94(1972) 246-266; Some mappings theorem. *Trans AMS* 195(1974) 291-303; k-sphere mappings on S^{k+1}. In *Proc Utah Geom Top Conf 1974*, Springer Lecture Notes, #438: 332-335. 1975; With J. L. Bryant. A Hopf-like invariant for mappings between odd-dimensional manifolds. *Gen Top Appl* 8, 1(1978) 47-62; With Alden Wright. Mapping cylinders and 4-manifolds. *Topology of Manifolds* (1970) 424-427; With J. L. Bryant. Mapping cylinder neighborhoods of one-complexes in four-space. *Trans AMS* 164(1972) 333-339; With J. L. Bryant and B. J. Smith. Free spheres with mapping cylinder neighborhoods. In *Proc Utah Conf Geom Top 1974*, Springer Lecture Notes, 438: 58-65. 1975; With J. L. Bryant. Embeddings with mapping cylinder neighborhoods. *Topology* 14(1975) 191-201; With J. L. Bryant. Blowing up homology manifolds. *J London Math Soc* 2, 16(1977) 372-376; With J. L. Bryant. Resolving O-dimensional singularities in generalized manifolds. *Math Proc Camb Phil Soc* 83(1978) 403-413; With J. L. Bryant and J. W. Cannon. The structure of generalized manifolds with singular set of trivial dimension. In *Geometric Topology, Georgia, 1977*, ed. by J. C. Cantrell. Academic Press.

Other Publications: Locally flat strings and half-strings. *Proc AMS* 18(1967) 119-130; With J. C. Cantrell. Local flattening of a submanifold. *Quart J Math Oxford ser (2)* 20(1969) 1-10; With M. A. Gutierrez. Semifree group actions and homology spheres. In *Proc Utah Conf Geom Top 1974*, Lecture Notes 438: 240-244. Springer, 1975; With R. Geoghegan. Compacta with the shape of finite complexes. *Fundamenta Math* 92(1976) 25-28; With Robert McArthur and George Buzyna. Catastrophic changes in circulation flow patterns. *Amer Scientist* 65, 5(1977) 614-621.

Lacombe, Daniel 57-59 M, Logic

Born 1925 Brest, France. Prof, Math, Université Paris VII. "Le Val Vert" apt A3254, 77210 Avon, France.

Ladner, Gerhart Burian 49-51, 60-61, 74f HS, Mediaeval History and Art

Born 1905 Vienna, Austria. PhD 1930 Art History Univ of Vienna. Honors: DHumLitt Loyola Univ 1970; Guggenheim Fellow 1950-51; Bollingen Fellow 1961-62; Haskins Medal 1961; AAAS; Amer Philos Soc. Appointments: Consulting Ed: Columbia Records of Civilization; *Thought* (New York); *Viator*, (Univ of California). Memberships: Mediaeval Acad of Amer (Pres 1977-78); AHA; Austrian Acad of Sci (corr Fellow); Amer Cath Hist Assoc (Pres 1963); College Art Assoc. Emer Prof, History, Univ of California, Los Angeles, 572 Crestline Drive, Los Angeles, CA 90049.

Publications Related to IAS Residence: *The Idea of Reform*. Harvard Univ Press, 1959; *Die Papstbildnisse des Altertums und des Mittelalters*. 2. Rome: Pontificio Istituto di Archeologia Gistiana, 1970; Justinian's Theory of Law and the Renewal Ideology of the Leges Barbarorum. In *Proc Amer Philos Soc*, 119: 191-200. 1975.

Other Publications: *Ad Imaginem Dei: The Image of Man in Medieval Art*. Latrobe, Pa.: 1965; *Theologie und Politik vor dem Investiturstreit*. Darmstadt: 1968; The Concept of the Image in the Greek Fathers and the Byzantine Iconoclastic Controversy. *Dumbarton Oaks Papers* 7(1953) 1-34; The Philosophical Anthropology of Saint Gregory of Nyssa. *Dumbarton Oaks Papers* 12(1958) 59-94; On Roman Attitudes Toward Barbarians in Lure Antiquity. *Viator* 7 (1976) 1-26.

Laffi, Umberto 75f HS, Ancient History

Born 1939 Belluno, Italy. Prof Ord, Storia Greca & Romana, Istituto di Storia Antica, Università di Pisa, Via Galvani 1, 56100 Pisa, Italy.

Publications Related to IAS Residence: The Greek Inscriptions of Zeus Temple at Aizansi in Phrygia. *Athenaeum* (in press).

Lagos, Miguel 79s, 79f NS, Physics

Born 1946 Santiago, Chile. DSc 1975 Univ of Chile. Assoc Prof, Univ Católica de Chile, Inst de Física, Casilla 114-D, Santiago, Chile. *

Lambek, Joachim 59-60 M, Algebra, Logic

Born 1922 Canada. PhD 1950 McGill Univ. *

Lampe, William Austyn 74-75 M, Logic

Born 1941 St. Louis, MO. PhD 1969 Math Pennsylvania State Univ. Memberships: AMS; Assoc Symb Logic. Assoc Prof, Department of Mathematics, University of Hawaii, Honolulu, HI 96822.

Publications Related to IAS Residence: With R. Freese & W. Taylor. Congruence Lattices of Algebras of Fixed Similarity Type, I, II. *Pac J Math* in press.

Other Publications: The independence of certain related structures of a universal algebra I, II, III, IV. *Alg Univ* 2(1972) 99-112, 270-283, 286-295, 296-302.

Lancel, Serge Henri 78-79 HS, Archaeology and History of North Africa in Antiquity

Born 1928 San Miguel del Padron, Cuba. State Doctorate 1972 Histoire et Archéologie de L'Afrique antérieure Sorbonne. Honors: Chevalier des Arts et Lettres 1975. Appointments: Commission de l'Afrique du Nord du Comité des Travaux Historiques. Memberships: Société des Etudes Latines (Paris); Société Nationale des Antiquaires de France (Paris). Ord Prof, Latin, Univ of Grenoble III, Directeur des Antiquités historiques de la région Rhône-Alpes, 11, Bd Maréchal-Leclerc, 38000 Grenoble, France.

Publications Related to IAS Residence: *Byrsa II, fouilles françaises à Carthage 1977-1978*. forthcoming; *Actes de la Conférence de Carthage en 411, t IV*. forthcoming.

Other Publications: Actes de la Conférence de Carthage en 411, t I et II 1972 et III 1975. In *Sources Chrétiennes*, 194, 195 et 224: 1243. *Byrsa I, fouilles françaises à Carthage 1974-1976*. Rome: l'Ecole Française de Rome. 1978.

Landau, Henry J. 59-60, 67s M, Harmonie Analysis

Born 1931 Lwow, Poland. PhD 1957 Mathematics Harvard Univ. Memberships: AMS. Technical Staff, Math Research Dept, Bell Laboratories, Murray Hill, NJ 07974.

Publications Related to IAS Residence: Necessary Density Conditions for Sampling and Interpolation of Certain Entire Functions. *Acta Math* 117(1967) 37-52; Sampling, Data Transmission, and The Nyquist Rate. *Proc IEEE* 55(1967) 1701-1706; A Sparse Regular Sequence of Exponentials Closed on Large Sets. *Bull AMS* 70(1964) 566-569; On the Completeness of a Set of Translates. *J Approx Theory* 5(1972) 438-440.

Other Publications: With H.O. Pollak. Prolate Spheroidal Wave Functions, Fourier Analysis and Uncertainty, II & III. *Bell System Technical Jnl* 40(1961) 65-84; With R. Osserman. *Bell System Technical Jnl* 41(1952) 1295-1336; On Analytic Mappings of Riemann surfaces. *J d'Analyse Math* 7(1960) 249-279; On Szego's Eigenvalue Distribution Theorem and Nonhermitian Kernels. *J D'Analyse Math* 28(1975) 335-357.

Landis, Dale L. 73-74 M, Topology and Analysis

Born 1944 Allentown, PA. PhD 1973 Math Lehigh Univ. Memberships: AMS; MAA; SIAM. Member technical staff Analytic Sciences Corp, 3 San Jose Terrace, Stoneham, MA 02180.

Publications Related to IAS Residence: With Morse, Marston. Tractions in Critical Point Theory. *Rocky Mtn J of Math* 5(1975) 379-99.

Other Publications: With Morse, Marston. Geodesic joins and Fréchet curve classes. *Rend di Mat* 8(1975) 161-185.

Members

Landovitz, Leon Fred 57-58 M(NS), Meson Theory
Born 1932 Brooklyn, NY. PhD 1957 Columbia Univ. *

Landweber, Peter S. 67-68 M, Algebraic Topology

Born 1940 Washington, DC. PhD 1965 Math Harvard Univ. Honors: NSF Postdoc Fellow 1967-68; NATO Postdoc Fellow 1974-75. Memberships: AMS; MAA; Sigma Xi. Prof, Dept of Mathematics, Rutgers University, New Brunswick, NJ 08903.

Publications Related to IAS Residence: On equivariant maps between spheres with involutions. *Ann of Math* 89(1969) 125-137.

Other Publications: Cobordism operations and Hopf algebras. *Trans AMS* 129(1967) 94-110; Homological properties of comodules over $MU \cdot MU$ and $BP \cdot BP$. *Am J Math* 98(1976) 591-610.

Lanford, Oscar Erasmus, III 70f NS, Physics

Born 1940 New York, NY. PhD 1966 Physics Princeton Univ. Honors: Sloan Fship 1969-71. Memberships: AMS. Prof, Department of Mathematics, University of California, Berkeley, CA 94720.

Publications Related to IAS Residence: Entropy and equilibrium states in classical statistical mechanics. In *Statistical Mechanics and Mathematical Problems*, ed. by A. Lenard. Seattle: Battelle, 1971.

Other Publications: With D. Ruelle. Observables at infinity and states with short range correlations. *Commun Math Phys* 13(1969) 194-215; Time evolution of large classical systems. In *Proc 1974 Battelle Rencontres on Dynamical Systems*, ed. by J. Moser, Springer Lecture Notes in Physics 35: 1-111. 1975.

Lang, Serge 52-53, 75s M, Number Theory

Born 1927 Paris, France. PhD 1951 Princeton U. Honors: Cole Prize 1975; Prix Carrière ca. 1960. Memberships: AMS. Prof, Math, Yale U, 12 Hillhouse Ave, New Haven, CT 06520.

Publications Related to IAS Residence: With Hale Trotter. *Frobenius distribution of G_{12} extensions*. Lect Notes in Math, 504. Berlin: Springer-Verlag, 1976.

Lang, William Edward 78-79 M, Algebraic Geometry

Born 1952 Fruitland, MD. PhD 1978 Mathematics Harvard Univ. Honors: NSF Postdoc Fship 1979. Memberships: AMS. 4800 W 111th St, Bloomington, MN 55437.

Langlands, Robert P. see Present Faculty

Lannes, Jean E. 79-80 M, Topology

Born 1947 Pauligne, France. PhD 1975 Orsay-Paris XI. 7, les clos de Bures, 91440 Bures-sur-Yvette, France.*

Lapedes, Alan S. 79-80 NS, Physics

Born 1951 NJ. PhD 1978 Cambridge Univ. Dept of Applied Math & Theoretical Physics, Silver St., Cambridge CB3 9EW, England. *

Larmore, Lawrence L. 78f M, Algebraic Topology

Born 1941 Washington, DC. PhD 1961 Math Northwestern Univ. Memberships: AMS. Prof, Math Dept, California State Univ at Dominguez Hills, Carson, CA 90747.

Publications: Twisted cohomology theories and the single obstruction to lifting. *Pac J Math* 41(1972) 755-769; Isotopy groups. *Trans AMS* 239(1978) 67-97; With Emery Thomas. Group extensions and principal fibrations. *Math Scand* 30(1972) 227-248.

Lascoux, Jean Pierre 59-61, 66-67 M(NS), Physics

Born 1928 France. PhD 1958 Birmingham Univ. *

Lashof, Richard K. 60f M, Topology

Born 1922 Philadelphia, PA. PhD 1954 Math Columbia Univ. Honors: Senior NSF Fellow 1959-60, 1970-71. Appointments: NRC. Memberships: AMS; MAA. Prof, Math, Univ of Chicago, Visit Prof Center for Advanced Studies Univ of Virginia, 3505 Fort Hill Dr, Alexandria, VA 22310.

Publications Related to IAS Residence: With E. Dyer. Homology of iterated loop spaces. *Am J Math* 84(1962) 35-88.

Other Publications: With M. Rothenberg. G-smoothing Theory. In *Algebraic & Geometric Topology Proc AMS Summer Conf, Stanford 1976*, ed. by R. J. Milgram, Proc Symp Pure Math 32: 211-266. Providence, RI: AMS, 1978; The total curvature of immersed manifolds I & II. *Am J Math* 79(1957) 300-318; *Mich Math J* 5(1958) 5-12.

Laslett, Thomas Peter Ruffell 58-59 HS

Born 1915 England. MA (Cantab.) 1943. Appointments: Dir Cambridge Grp for Hist of Population & Soc Structure; Min of Educ Working party on the Brit Univ of the Air 1965; Ed Bd *Amer Pol Sci Rev* 1970-74. Reader, Politics & Hist of Soc Structure, and Fellow, Trinity College, Cambridge, England.

Publications Related to IAS Residence: *John Locke's Two Treatises of Government: A Critical Edition*. Cambridge Univ Press, 1965; With John Harrison. *The Library of John Locke*. Oxford Univ Press, 1971; *The World We Have Lost*. Scribner's, 1966; *Household and Family in Past Time*. Cambridge Univ Press, 1974; *Bastardy and its Comparative History*. Harvard Univ Press, forthcoming; Mean size of household in England over three centuries. *Population Studies* (1969); L'idée de nation. *Annales de Philosophie Politique* 8(1969); Scottish weavers and cobblers who bought books in the 1750s. *Local Population Studies* 3(1969); The conversation between the generations. In *Lectures of the Royal Institute of Philosophy*, ed. by Vesey, 3.

1970; Age at menarche in Europe since the 16th century. *J Interdisciplinary Hist* 2, 2(1971); Childhood in England in the nineteenth century. *Ann Demographie Hist*(1972); With K. Oosterveen. Long term trends in bastardy in England. *Population Studies* 27 2(1973); With E.A. Hammel. Comparing household structure over time and between cultures. *Comparative Studies in Society and History* 63(1974); Parental deprivation in the past. *Local Population Studies* 13(1974); With James Birren, et al. Societal development and aging. *The Encyclopaedia of Aging*(1976); Philippe Ariès and "La famille". *Encounter* (1976); Characteristics of the Western family considered over time. *J Family Hist* (1977); Le rôle des femmes dans l'histoire de la famille occidentale. In *Symposium on Le Fait Féminin*, ed. by Sullerot. Paris: 1978; Family and collectivity. *Sociology and Social Research* (1979).

Lassner, Jacob 79-80 HS, Islamic History

Born 1935 Brooklyn, NY. PhD 1963 Yale Univ. Prof, Dept Chairman, Near East & Asian Studies, Wayne State Univ. *

Lassus, Jean 67-68 HS, Archaeology

Born 1903 France. D ès L 1941 Christian archeology Sorbonne. Honors: Officier Légion d'Honneur; Commandeur de Palmes Académiques; Médaille La Résistance; Chevalier Arts et Lettres. Appointments: CNRS Comms; Directeur d'Antiquités Africaines. Memberships: Corr Acad Inscript; Acad D'Aix en Provence. Honorary Prof, Univ of Paris, Directeur D'études l'Ecole Pratique Des Hautes Études, Villa Maisongoutte Loubassane, 13100 Aix en Provence, France.

Publications Related to IAS Residence: *Les Portiques D'Antioche*. Princeton, NJ: Committee for the excavation of Antioch, 1972; *L'illustration Byzantine Du Livre Des Rois*. Bibliothèque Cahiers Archéologiques. Paris: 1973.

Other Publications: *Sanctuaires Chrétiens De Syrie*. Paris: 1944; *Inventaire Archéologique De La Région De Hama*. 2 vols. 1936; *The Early Christian and Byzantine World*. Landmarks of the World Art. London: Hamlyn, 1966; *Le Fort Byzantin De Timgad*. Collection d'Antiquités Africaines. CNRS, forthcoming.

Latte, Kurt 58-59 HS, Roman Religion, Greek and Roman Literature

Born 1891 Germany. PhD 1954 Univ of Heidelberg. Deceased.

Latter, Robert H. 79-80 M, Harmonie Analysis

Born 1946 Santa Barbara, CA. PhD 1977 Math UCLA. Honors: NSF Math Sc Postdoc Fship 1979. Memberships: AMS. Asst Prof, Dept of Math, Univ of Michigan, Ann Arbor, MI 48109.

Publications: A characterization of $H^p(R^n)$ in terms of atoms. *Studia Math* 62(1978) 93-101; With J.

Garnett. The Atomic decomposition for Hardy Spaces in several complex variables. *Duke Math J* 45(1978) 815-845; With A. Uchiyama. The Atomic decomposition for parabolic H^p spaces. *TAMS* 253(1979) 391-398.

Laue, Max von 35f, 48f M(NS), Physics

Born 1979 Germany. Honors: Nobel Prize for Physics 1914. Deceased.

Publications Related to IAS Residence: *Theorie der Supraleitung*. 2nd ed. Berlin: Springer, 1949.

Lauterbach, Albert 40-41 HS(EP), Political Economy

Born 1904 Austria. Dr Rel Pol 1925 Univ of Vienna. Honors: Smith-Mundt award for Chile 1956; Fulbright for Chile 1959-60; SSRC Research Grant; Carnegie Corp Research Grant; Hon Member Inst of Econ, Univ of Chile; Hon Prof Catholic Univ of Chile. Appointments: VPRES, Assoc for Comp Econ 1966. Memberships: AAUP; Am Econ Assn Soc for Internatl Develop; Am Assn for UN; Lat Amer Studies Assn. Prof Emer, Political Economy, Sarah Lawrence Coll, Liesingbach St 19, A-1100 Vienna, Austria.

Publications Related to IAS Residence: *Economics in Uniform: Military Economy and Social Structure*. Princeton University Press, 1943; *Germany's Challenge to America's Defense*. Planning Pamphlets, 4. Washington, DC: Nat Econ and Soc Plan Assoc, 1941; Militarism in the Western World. *J Hist Ideas* 30 4(October 1944).

Other Publications: *Enterprise in Latin America: Business Attitudes in a Developing Economy*. Cornell University Press, 1966; *Man, Motives, and Money: Psychological Frontiers of Economics*. 2nd edition. Cornell University Press, 1959; *Economic Security and Individual Freedom*. Cornell University Press, 1948; *Psychologie Des Wirtschaftslebens*. Hamburg: Rowohlt, 1962; *Kapitalismus Und Sozialismus In Neuer Sicht*. Hamburg: Rowohlt, 1963; *Psychological Challenges to Modernization. Aspects of International Development*. New York: Elsevier, 1974; *Increasing The Wealth of Nations: The Quest For Economic Development*. Public Affairs Press, 1957; *Managerial Attitudes in Chile*. Santiago: Universidad de Chile, 1961.

Laval, Guy 76s, 77s, 77f NS

Born 1935 France. PhD 1967 Univ of Paris. Directeur de Recherche CNRS, Centre de Physique Théorique, Ecole Polytechnique, 91120 Palaiseau, France. *

Lavine, Richard B. 71-72 NS, Mathematical Physics

Born 1938 Philadelphia, PA. PhD 1964 Mathematics MIT. Memberships: AMS; MAA. Prof, Department of Mathematics, University of Rochester, Rochester, NY 14627.

Publications Related to IAS Residence: Absolute continuity of positive spectrum for Schrödinger operators with long range potentials. *J Func Analysis*

Members

12(1973) 30-54; Completeness of the wave operators in the repulsive n-body problem. *J Math Phys* 14(1973) 376-379.

Other Publications: Scattering theory for long range potentials. *J Func Analysis* 5(1970) 368-382; Commutators and Scattering Theory I: repulsive interactions. *Comm Math Phys* 20(1971) 301-323.

Lawrence, Marion 41-42 HS(H), Fine Arts

Born 1901 Longport, NJ. PhD 1932 Art History Radcliffe Coll. Deceased.

Publications Related to IAS Residence: The Sarcophagi of Ravenna. In *Monographs on Archaeology and Fine Arts*, 2, 10. New York: College Art Association, 1945; Rev of Antioch-on-the-Orontes, III. *Art Bul* 24(1942) 185-188; Season Sarcophagi of architectural type. *AJA* 62(1958) 273-95; Ships, monsters and Jonah. *AJA* 66(1962) 289-96; The Velletri Sarcophagus. *AJA* 69(1965) 207-22; City-Gate Sarcophagi. *Art Bull* 9(1927) 1-45; Columnar Sarcophagi in the Latin West. *Art Bull* 14(1932) 103-85.

Lawson, H. Blaine, Jr. 72-73 M, Differential Geometry

Born 1942 Norristown, PA. PhD 1968 Mathematics Stanford Univ. Honors: Steele Prize 1975; Sloan Fship 1970. Appointments: Natl Comm for Math. Memberships: AMS. Prof, Mathematics Dept, Univ of California, Berkeley, CA 94720.

Publications Related to IAS Residence: Foliations. *Bull AMS* 80(1974) 369-418; With F. R. Harvey. On boundaries of complex analytic varieties I, II. *Ann Math* 102, 106(1975, 1977) 223-290, 213-238; With R. Harvey. Extending Minimal Varieties. *Invent math* 28(1975) 209-226; With S. T. Yau. Scalar Curvature, Non-abelian group actions and the degree of symmetry of exotic spheres. *Comm Math Helv* 49(1974) 232-244.

Other Publications: Codimension-1 foliations of spheres. *Ann Math* 94(1971) 494-503; With J. Simons. On stable currents and their application to global problems in real and complex geometry. *Ann Math* 98(1973) 427-450; Complete Minimal surfaces in S^3 . *Ann Math* 92(1970) 335-374.

Lawton, Wayne Michael 74-75 M, Global Analysis, Number Theory

Born 1950 Manchester, CT. PhD 1972 Wesleyan Univ. 16 Hazel Dr, Branford, CT 06405. *

Lax, Peter David 59-60 M

Born 1926 Budapest, Hungary. PhD 1949 Mathematics New York Univ. Honors: Docteur (hc) Univ of Paris 1979; DSc(hc) Kent State Univ 1976; Chauvenet Prize 1974; Ford Award 1966. Appointments: President's Committee on the National Medal of Science; Pres AMS 1979-80. Memberships: MAA; AAS; AMS; SIAM; NAS. Prof, Mathematics,

NYU, Dir Courant Inst, NYU. 300 Central Park West, New York, NY 10024.

Publications: With Ralph Phillips. *Scattering Theory*. Academic Press, 1967; With R. Phillips. *Scattering Theory for Automorphic Functions*. Princeton Univ Press, 1976; *Hyperbolic Systems of Conservation Laws and the Mathematical Theory of Shock Waves*. Conference Board of the Mathematical Sciences, Monograph No 11. SIAM, 1973; With S. Burstein & A. Lax. *Calculus with Applications and Computing, I*. Springer, 1976.

Lazard, Michel Paul 66-67 M, Algebra

Born 1924 Paris, France. PhD 1964 Math Paris. Memberships: AMS; Soc Math France. Prof, Math, Univ of Paris, 2 rue Boutarel, Paris 75004, France.

Publications: Commutative Formal Groups. *Springer Lecture Notes in Math* 443.

Lazarov, Connor 74-75 M, Geometry, Topology

Born 1938 Detroit, MI. PhD 1966 Mathematics Harvard Univ. Memberships: AMS. Prof, Mathematics, Lehman Coll, CUNY. 19 Hillside Ave, Croton-On-Hudson, NY 10520.

Publications Related to IAS Residence: With J. Pasternak. Residues and Characteristic Classes for Riemannian Foliations. *J Diff Geometry* 11(1976); A Permanence Theorem for Exotic Classes. *J Diff Geom* in press.

Other Publications: With A. Wasserman. Cobordism of Regular $O(n)$ -Manifolds. *Ann of Math* 93, 2(1971); With A. Wasserman. Complex Actions of Lie Groups. *AMS Memoir* 137(1973).

Lazerowitz, Alice Ambrose 46s M, Philosophy of Mathematics

Born 1906 Lexington, IL. PhD 1932 Philosophy Univ of Wisconsin; PhD 1938 (Cantab.) Philosophy of Mathematics. Honors: VP Eastern Div Am Philosoph Assoc 1966; Pres Eastern Div Am Philosoph Assoc 1975; LLD(hc) Millikin Univ 1958. Memberships: AAUP; Ed *J Symbolic Logic* 1953-68. Emeritus Prof, Philosophy, Smith College, Newhall Rd, Conway, MA 01341.

Publications Related to IAS Residence: The Problem of Justifying Inductive Inference. *J Philosophy* 44, 10(1947) 253-272.

Le Glay, Marcel 69-70, 75-76 HS, Ancient History

Born 1920 Arleux (Nord), France. DèsL 1966 Paris-Sorbonne. Appointments: Cons Sup de la Recherche Archéologique; Com consultatif des Univs. Memberships: Conseil de L'U.E.R. Histoire de L'Univ de Paris X. Prof, Roman Hist, Univ of Paris X, Chaillose, F. 89710 Senan, France.

Publications Related to IAS Residence: Les Gallo-Romains. In *Histoire de France*, ed. by G. Duby. Paris: 1970; La Gaule Romanisée. In *Histoire de La France Rurale*, ed. by G. Duby. Paris: 1974; *La*

Religion Romaine. Paris: A. Colin, 1971; Le Commandement des Cohortes Voluntarium. *Ancient Society* 3(1972) 209-221; Gentilices Romains a Lugdunum. In *Mél A. Bruhl Rev Arch de l'Est*, 24: 537-544. 1973; Hadrien et Viator sur les Champs de Bataille de Numidie. In *Mél d'Hist Ancienne offerts à W. Seston*, 277-283. 1974; Hadrien et L'Asclepieion de Pergame. *BCH* (1976) 347-372; Magie et Sorcellerie a Rome au dernier siecle de la Republique. In *Mél J. Heurgon*, 525-550. Rome: 1976; Le Culte de Rome et de Salus a Pergame, ou L'annonce du Culte Imperial. In *Festschrift für Prof F. K. Dörner*, 546-564. 1978.

Other Publications: ed with J. Gage, H.G. Pflaum, P. Wuilleumier, A. Chastagnol. *L'Année Epigraphique*. Paris: Presses Universitaires de France, 1970; 1972; 1973; 1974; 1975; 1976; 1978; Les Syncrétismes dans L'Afrique Ancienne. In *Les Syncrétismes dans les religions de l'Antiquité*. Leiden: Coll de Besançon Oct 1973, 1975; La Dexiosis dans les Mystères de Mithra. In *Acta Iranica*, Actes de 2^e Congres Intern d'Et Mithr Teheran 1975: 279-303. 1978; With A. Audin. *Etudes d'Archéologie et d'Epigraphie Lyonnaise*. Ly-on-Paris: 1976; Recherches et Découvertes Epigraphiques dans L'Afrique Romaine Depuis 1962. *Chiron* 4(1974) 629-646; Les Discours d'Hadrien a Lambese. Akt des XI Intern kongr Szekesfehervar 1976: 545-558. Budapest: 1978; Un "Pied de Sarapis" a Timgad, en Numidie. In *Hommages a M.J. Vermaseren*, 2: 573-589. Leiden: E.J. Brill, 1978.

Leake, Chauncey Depew 50s, 52s HS, History of Science & Medicine

Born 1896 Elizabeth, NJ. PhD 1923 Univ of Wisc. Memberships: Pres, Hist of Sci Soc, 1937-9. Deceased.

Publications Related to IAS Residence: With P. Roma-nell. *Can We Agree? A Scientist and a Philosopher Argue about Ethics*. Austin: Univ of Texas Press, 1950; *The Old Egyptian Medical Papyri*. Lawrence: Univ of Kansas Press, 1952; The Expanding Tradition of Health Service. *Texas Reports on Biology and Medicine* 10(1952) 691-702; Leonardo da Vinci (1452-1519): Artist and Scientist. *Texas Jour of Sci* 4(1952) 3-18.

Leal-Buitrago, Francisco 78-79 Soc, Sociology

Born 1937 Bogotá, Colombia. PhD 1974 Univ of Wisconsin. Memberships: Lat Amer Studies Assoc; Internatl Soc Assoc. Prof, Dept of Political Science, Univ of Los Andes, Calle 117 No 6-55 Int 9, Bogotá D E, Colombia.

Publications: With G. Hoskin and H. Kline. *Legislative Behavior in Colombia*. Internat Studies Series. Buffalo: 1976; Analisis Histórico del Desarrollo Político Na-cional 1930-1970. In *Estudio del Comportamiento Legislativo en Colombia*, 1. Bogotá : Ediciones Tercer Mundo, 1973; Política e Intervención Militar en Colombia. *Revista Mexicana de Sociología* Año 32, 32(1970).

Lebergott, Stanley 73-74 Soc, Economic History

Born 1918 Detroit, MI. MA 1939 U of Mich. Honors: Rockefeller Public Service Awd 1957. Appointments: President's Comm on Fed Statistics 1971. Memberships: Am Econ Assn; Am Stat Assn Conf on Research in Income and Wealth; Econ Hist Assn. Prof, Dept of Economics, Wesleyan Univ, Middletown, CT 07.

Publications Related to IAS Residence: *The American Economy, Income, Wealth and Want*. Princeton: Princeton U Press, 1976.

Other Publications: *Manpower in Economic Growth*. New York: McGraw, 1964; *Men without Work*. Englewood Cliffs: Prentice Hall, 1964; *Wealth and Want*. Princeton: Princeton U Press, 1977.

Lech, Christer 54-55 M

Born 1926 Stockholm, Sweden. PhD 1960 Math Univ of Stockholm. Prof, Dept of Math, Univ of Stockholm, Box 6701, S-11385 Stockholm, Sweden.

Publications Related to IAS Residence: On the associativity formula for multiplicities. *Ark for Mat* 3(1956).

Other Publications: Inequalities related to certain couples of local rings. *Acta Math* 112(1964).

Lee, Benjamin W. 61-62 M(NS), Physics

Born 1935 Korea. PhD 1961 Univ of Penn. Deceased.

Lee, Chester C. Y. 57-58 M, Automaton Theory

Born 1926 Shanghai, China. PhD 1954 Math Univ of Washington. Honors: Mackay Lecturer UC Berkeley 1963-1964. Appointments: AEC Consultant, 1964-. Memberships: IEEE Fellow, 1970-. Pres, Computer Systems Labs, Inc, 808 Shrewsbury Ave, Tinton Falls, NJ 07724.

Publications: Analysis of Switching Networks. *BST J* 34(Nov, 1955); An Algorithm for Path Connections and its Applications. *IRE Trans on Electronic Computers* 10(Sept, 1961); With M.C. Paull. Content Addressable Distributed Logic Memory. *IEEE Proceedings* 51, 6(June, 1963).

Lee, Edward Prentiss 68-70 NS, Plasma Physics

Born 1942 Tulsa, OK. PhD Physics Univ of Chicago. Memberships: Am Phys Soc. Physicist, Lawrence Livermore Lab, 6247 Acacia Ave, Oakland, CA 94618.

Publications Related to IAS Residence: With S.A. Colgate and M.N. Rosenbluth. Radio Emission From A Turbulent Plasma. *APJ* 62(1970) 649-664; With R.D. Hazeltine, M.N. Rosenbluth. Resistive Plasma Rotation And Shock Formation in Toroidal Geometry. *PF* 14(1971) 361; With R.D. Hazeltine, M.N. Rosenbluth. Rotation of Tokamak Equilibria. *PR Letts* 25(1970) 427.

Lee, Rensselaer Wright 39s, 42-45, 46s, 47-48 HS, History of Art

Members

Born 1898 Philadelphia, PA. PhD English Princeton U. Honors: LHD Northwestern Univ 1971; Medal for Outstanding Service Amer Acad Rome 1970; Amer Philos Soc; AAAS. Appointments: Exec Bd, Renaissance Soc of Amer; Adv Councils Columbia U, Harvard U, Yale U, NYU Inst of Fine Arts; Pres, Amer Acad in Rome, Union Acad Internatle, Archaeol Inst of Amer. Memberships: Renaissance Soc of Amer (former Pres); College Art Assn (former Pres). Marquand Prof Emer, Art and Archaeology, Princeton Univ, 120 Mercer St, Princeton, NJ 08540.

Publications Related to IAS Residence: *Ut Pictura Poe-sis; the Humanistic Theory of Painting*. NY: W. W. Norton, 1967; *Names on Trees: Ariosto into Art*. Princeton: 1977.

Other Publications: Ariosto's Roger and Angelica in Sixteenth-Century Art. In *Studies in Honor of Millard Meiss*. NY: 1977; Armida's Abandonment: A Study in Tasso Iconography Before 1700. In *Essays in Honor of Erwin Panofsky*. NY: 1961.

Lee, Robert 73-74 Soc, Sociology of Religion

Born 1928 Portland, OR. PhD 1974 Religion Harvard Univ. Honors: Kent Fellow 1968-74. Memberships: Am Acad of Religion; Assn for Asian Studies; Soc for Values in Higher Educ. Visit Prof, Boston Univ, 521 Kendall Rd, Knoxville, TN 37919.

Publications Related to IAS Residence: The Individuation of the Self in Japanese History. *Japanese J of Relig Studies* 4(March, 1977) 5-39.

Lee, Ronnie 68-70, 73f M

Born 1942 China. PhD 1968 Univ of Mich. Prof, Mathematics, Yale Univ, 384 Sperry Rd, Bethany, CT 06525.

Publications Related to IAS Residence: Computation of Wall groups. *Top* 10: 149-176; Semicharacteristic classes. *Top* 12: 183-199; Fixed points, sets of group actions on Euclidean space. *Top* 14: 339-445.

Other Publications: The group $K_3(Z)$ is cyclic of order forty eight. *Ann Math* 104(1976) 31-60.

Lee, Tsung Dao see Past Faculty/Resigned

Lee, Yee-Chun 80s NS, Theoretical Plasma Physics

Born 1945 China, . PhD 1970 Physics Dartmouth Coll. Honors: Amer Inst Physics Citation 1974. Memberships: Amer Phys Soc. Member with Long-Term Appointment, Inst for Advanced Study, Princeton, NJ 08540.

Publications: With P.K. Kaw. Parametric Instabilities of Ion Cyclotron Waves in a Plasma. *Phys Fluids* 15(1972) 911; With R.B. White and K. Nishikawa. Nonlinear Mode Coupling and Relaxation Oscillations. *Phys Rev Lett* 29(1972) 13-15; With P.K. Kaw. Parametric Excitation of Lower Hybrid Instabilities. *Phys Fluids* 16(1973) 155; With K. Nishikawa and P.K. Kaw. Nonlinear Stabilization of Oscillating Two-Stream Instability. *Phys Fluids* 16(1973) 1380; With

C.S. Liu. Plasma Diffusion Across a Magnetic Field Due to Thermal Vortices. *Phys Rev Lett* 30(1973) 361; With J.F. Drake. Temporally Growing Raman Instabilities in an Inhomogeneous Plasma. *Phys Rev Lett* 31(1973) 1197; With C.S. Liu. Theory of Dielectric Function in a Magnetized Plasma. *Phys Rev Lett* 30(1973) 361; With P.K. Kaw. Temporal Electrostatic Instabilities in Inhomogeneous Plasmas. *Phys Rev Lett* 32(1974) 135; With G.J. Morales and R.B. White. Nonlinear Schro-dinger-Equation Model of the Oscillating Two-Stream Instability. *Phys Rev Lett* 32(1974) 457; With J.F. Drake, P.K. Kaw, G. Schmidt, C.S. Liu and M.N. Rosenbluth. Parametric Instabilities of Electromagnetic Waves in Plasmas. *Phys Fluids* 17(1974) 778; With G.J. Morales. Ponderomotive Force Effects in a Non-uniform Plasma. *Phys Rev Lett* 33(1974) 1016; With G.J. Morales. Effect of Localized Electric Fields on the Evolution of the Velocity Distribution Function. *Phys Rev Lett* 33(1974) 1534; With T. Samec and B.D. Fried. Adiabatic Invariance and Charged Particle Confinement in a Geometric Mirror. *Phys Rev Lett* 35(1975) 1763; With G.J. Morales. Nonlinear Filamentation of Lower Hybrid Cones. *Phys Rev Lett* 35(1975) 930; With H. Schamel and G.J. Morales. Parametric Excitation of Ion Density Fluctuations in the Relativistic Beam-Plasma Interaction. *Phys Fluids* 19(1976) 849; With J.W. VanDam. The Effect of Pump Cutoff on Parametric Instabilities in an Inhomogeneous Plasma. *J Plasma Phys* 2(1975) 63; With C.S. Liu and H.H. Chen. Self-focusing and Filamentation of Laser Light in Plasmas. *Fourth Conf on Plasma Phys and Controlled Nucl Fusion Research, Tokyo, Japan IAEA CN-33/ C12(1974)*; With G.J. Morales. Spiky Turbulence Generated By a Propagating Electrostatic Wave of Finite Spatial Extent. *Phys Fluids* 19(1976) 690; With J.F. Drake and N.L. Tsintsadze. Parametric Instabilities in a Strongly Relativistic, Plane-Polarized Electromagnetic Waves. *Phys Rev Lett* 36(1976) 196; With J.F. Drake, K. Nishikawa and N.L. Tsintsadze. Breaking of Large Amplitude Waves as a Result of Relativistic-Electron Mass Variation. *Phys Rev Lett* 36(1976) 196; With J.F. Drake. Relativistic Effects in Resonance Absorption. *Phys Fluids* 19(1976) 1772; With B.D. Fried and J. VanDam. Free Boundaries for Plasmas in Surface Magnetic Field Configurations. *Phys Fluids* 19(1976) 1909; With G.J. Morales. Generation of Density Cavities and Localized Electric Fields in a Nonuniform Plasma. *Phys Fluids* 20(1977) 1135; With K. Nishikawa. Variation Principle for Nonlinear Wave Propagation. In *Plasma Physics; Nonlinear Theory and Experiments*. New York: Plenum Press, 1977; With W.F. Divergillio, A.Y. Wong and H.K. Kim. Self-Generated Magnetic Fields in the Microwave Plasma Resonant Interaction. *Phys Rev Lett* 38(1977) 541; With T.K. Samec and B.D. Fried. Higher Order Adiabatic Invariants and Non-Adiabatic Diffusion for Geometric Mirrors. *Phys Fluids* 20(1977) 815; With J.F. Drake. Kinetic Theory of Tearing Instabilities. *Phys Fluids* 20(1977) 1341; With T. Tange. Model Analysis for Shear Stabilization of Drift Waves. *J Phys*

Soc Japan 43(1977); With T. Hatori and T. Tange. Quasilinear Theory of Drift Waves Instabilities in a Sheared Magnetic Field. *J Phys Soc Japan* 43(1977) 655; With J.F. Drake. Nonlinear Evolution of Collisionless and Semi-Collisional Tearing Modes. *Phys Rev Lett* 39(1977) 453; With R.E. Aamodt, C.S. Liu and M.N. Rosenbluth. Nonlinear Dynamics of Drift-Cyclotron Instability. *Phys Rev Lett* 39(1977) 1660; With K. Mima. Modulational Instability of Strongly Dispersive Drift Waves and Formation of Convective Cells. *Phys Rev Lett* (in press).

Leenhardt, Jacques 79-80 Soc, Sociology of Art and Literature

Born 1942 Geneva, Switzerland. Doctorat 1972 Univ de Paris. Memberships: Vice-Pres Res Comm on Communication, Culture and Knowledge of the Internati Sociol Assoc. Dir, du Groupe de Soc de la Litt, Ecole des Hautes Etudes en Sciences Sociales, 10 Rue Monsieur le Prince, 75006 Paris, France.

Publications: *Lecture Politique du Roman*. Paris: Minuit Ed, 1973.

Lees, Jack Alexander 70-71 M, Topology, Geometry

Born 1941 Lowell, MA. PhD 1967 Math Univ of Chicago. Honors: NATO Fellow 1969-70; NSF Fellow 1970-71. Memberships: AMS; Assoc For Computing Machinery. Sr Develop Engineer, Schlumberger Well Services, 5000 Gulf Freeway, Houston, TX 77001.

Publications Related to IAS Residence: The Surgery Obstruction Groups of C.T.C. Wall. *Advances in Math* 11(1973) 113-156.

Other Publications: Locally Flat Imbeddings of Topological Manifolds. *Ann Math* 2, 89(1969) 1-13; Immersions and Surgeries of Topological Manifolds. *Bull AMS* 75(1969) 529-34.

Lees, Milton 58-60 M, Partial Differential Equations

Born 1932 Oakland, CA. PhD 1958 Univ of Cal. *

Lehmann, Harry Paul 57-58 M(NS), Theoretical Particle Physics

Born 1924 Guestrow, Germany. Dr Rer Nat 1950 Physics Univ Jena. Honors: Max Planck Medal 1967. Prof, Univ of Hamburg, II. Institute für Theor. Physik, 149 Luruper Chaussee, Hamburg 50, Germany.

Publications Related to IAS Residence: *N Cim* 10(1958) 579; *Supplemento Del N Cim* 14(1959) 153.

Lehmann, Hartmut R. W. 73-74 HS, Modern History

Born 1936 Reutlingen, Germany. DrPhil 1959 Univ of Vienna ; DHabil 1967 Univ of Cologne Memberships: Verb Hist Deut. Full Prof, Medieval and Modern History, Univ of Kiel, Sternwartenweg 3, D-2300 Kiel, Germany.

Publications Related to IAS Residence: Hexenverfolgungen und Hexenprozess im Alten Reich zwischen Reformation und Aufklärung.

Jahrbuch des Instituts für deutsche Geschichte in Tel Aviv 7(1978) 13-70.

Other Publications: *Pietismus und weltliche Ordnung vom 17 bis zum 20 Jahrhundert*. 1969.

Lehmer, Derrick Henry 33-34 M

Born 1905 Berkeley, CA. PhD 1930 Brown Univ. Prof, Dept of Math, Univ of California, Berkeley, CA 94720.

Publications Related to IAS Residence: A Machine for Combining sets of Linear Congruences. *Math Ann* 109(1934) 661-667; Lacunary Recurrence Formulas for the Numbers of Bernoulli and Euler. *Ann Math* (2) 36(1935) 637-649; On Lucas's Test for the Primality of Mersenne's Numbers. *J London Math Soc* 10(1935) 162-165.

Lehner, Joseph 75f M, Automorphic Forms

Born 1912 New York, NY. PhD 1941 Analytic number theory Univ of Penn. Honors: Citation for work on Manhattan project 1947. Memberships: AMS; MAA; London Math Soc. Prof, Mathematics, Univ of Pittsburgh, 523 Devonshire St, Pittsburgh, PA 15213.

Publications: *Discontinuous groups and automorphic functions*. Math Surveys, 8. Providence, RI: AMS, 1964; With A.O.L. Atkin. Hecke operators on $\Gamma_0(m)$. *Math Ann* 185(70) 134-160; Chapter 3. In *Discrete Groups and Automorphic Functions, Proc Conf Cambridge 1975*, ed. by W.J. Harvey, NATO Adv Study Inst. New York: Academic Press, 77; With G. M. Wing. Transport Theory of Neutrons. *Comm Pure Appl Math* 8(55) 217-234.

Lehning, Arthur 73s HS

Born 1899 Utrecht, Netherlands Honors: Dr(hc) Univ of Amsterdam 1976. Amstel 264, Amsterdam 1017 AK, Netherlands.

Publications Related to IAS Residence: Ed, *Michel Bakounine et ses relations slaves 1870-1875*. Archives Bakounine, 5. Leiden: Brill, 1974.

Other Publications: *The International Association 1855-1859: A contribution to the preliminary history of the First International*. Leiden: Brill, 1938; *From Buonarroti to Bakunin. Studies in international socialism*. Leiden: Brill, 1970; Ed, *Michel Bakounine et l'Italie 1871-1872*. Archives Bakounine. Leiden: Brill, 1961; Ed, *Michel Bakounine et les conflicts dans l'Internationale 1872*. Archives Bakounine. Leiden: Brill, 1965; Ed, *Michel Bakounine. Gosudarstvennost' i anarchiia/Étatisme et Anarchie 1873*. Archives Bakounine. Leiden: Brill, 1967; Ed, *Michel Bakounine et ses relations avec Sergei Nečaev 1870-1872*. Archives Bakounine. Leiden: Brill, 1971; Ed, *Michel Bakounine sur la guerre franco-allemande et la révolution sociale en France 1870-1871*. Archives Bakounine. Leiden: Brill, 1977.

Leibenstein, Harvey 78-79 Soc, Economics

Born 1922 USSR. PhD 1951 Princeton Univ. Dept of Economics, Harvard U, Cambridge, MA 02138. *

Members

Leibler, Richard Arthur 46 48 M

Born 1914 Chicago, IL. PhD 1939 Univ of Ill. Memberships: AMS; IMS. US Dept of Defense, 5662 Vantage Pt Rd, Columbia, MD 21044.

Leigh, Ralph Alexander 67f HS, 18th Century Studies

Born 1915 London, England. DLitt(Cantab.) French Literature. Honors: FBA 1969; CBE 1977; Silver Medal of the Town of Paris (France) 1978; DésL(hc) University of Neuchâtel 1978. Appointments: Brit Acad Grants Cttee. Memberships: Modern Humanities Research Assoc; Assoc of Univ Teachers of French; Brit Soc for 18th century studies; Bibliographical Soc. Prof, French Literature, Cambridge Univ, Fellow, Trinity College, Cambridge, England.

Publications Related to IAS Residence: ed, *Correspondence Complète de Jean-Jacques Rousseau*. Oxford: Voltaire Foundation, Taylor Institution.

Leigh, Robert D. 41s HS(EP), Government

Born 1890 Nelson, NE. PhD 1926 Columbia Univ. Deceased.

Leipnik, Roy Bergh 48-50 M, Functional Analysis, Measure Theory

Born 1924 Los Angeles, CA. PhD 1949 Univ of Calif, Berkeley. Math Dept, U C Santa Barbara, Santa Barbara, CA 93106. *

Publications Related to IAS Residence: Axiomatic Perron Inversion. *Proc Internatl Cong of Mathematicians, Cambridge, Mass, 1950* 1(1952) 462; Note on Preservation of Measurability. *Proc AMS* 1(1950) 694.

Leite Lopes, José 49-50, 69-70 NS, Theoretical Physics

Born 1918 Recife, Pernambuco, Brazil. PhD 1946 Physics Princeton Univ. Honors: Guggenheim Fellow 1949-50; Brazilian Res Council Fellow Cal Tech 1956-57. Appointments: National Research Council, Brazil. Memberships: NAS, Brazil; Brazilian Physical Soc, Pres 1967-71; Am Assn Adv Sci; French Physical Soc. Prof, Physics, Univ of Strasbourg, Centre de Recherches Nucléaires, 67037-Strasbourg-Cedex, France.

Publications Related to IAS Residence: Nota Sobre o Momento Magnético do Nucleon. *An Acad Brasil Cienc* 21(1949) 30; The Nucleon Magnetic Moment in Meson Pair Theories. *Phys Rev* 78(1950) 36; Formalismo Canônico Covariante da eletrodinâmica de Maxwell. *An Acad Brasil Cienc* 22(1950) 349; On the Particle Picture of Quantized Bose Fields. *An Acad Brasil Cienc* 23(1951) 39.

Other Publications: With R.P. Feynman. On the Pseudoscalar Meson Theory of the Deuteron. In *Symposium on New Research Techniques in Physics*,

251. Rio de Janeiro: Acad Bras Cienc, 1954; With J. Goldenberg. Shell Effect on Photonuclear Reactions. *Phys Rev* 199(1955) 1053; Capture of Negative Muons by Light Nuclei. *Phys Rev* 109(1958) 509; Note on the Interaction of Elementary Particles. *An Acad Brasil Cienc* 29(1958) 251; A Model of the Universal Fermi Interaction. *Nuclear Physics* 8(1958) 234; Weak Interactions and the Vector Dominance Model. *Nucl Phys* B38(1972) 555; Quarks for Leptons and Hadrons. *Rev Bras Fis* 5, 1(1975); With Ch. Ragiadakos. Muon-Number Non-Conservation and Heavy Leptons. *Lett Nuovo Cimento* 16(1976) 261; With N. Fleury. A Model for Leptons. *Lett Nuovo Cimento* 19(1977) 7; With S. Barshay. Nonconservation of Muon Number on a Model of Lepton Structure. *Phys Letters* 68 B(1977) 174; With J. Martins Simoes. The Muon Magnetic Moment in a Model of Lepton Structure. *CRN/HE* 78-5.

Leites, Edmund 79-80 HS, History of Philosophy

Born 1939 Chicago, IL. PhD 1972 Harvard Univ. Asst Prof, Phil, Queens Coll, CUNY. 280 Riverside Dr, New York, NY 10025. *

Lelong, Jacqueline, see Ferrand, Jacqueline Lelong Lelong, Pierre 56f M

Born 1912 Paris, France. Honors: Officier de la Légion d'honneur 1967. Appointments: Advisor for the Science policy of Pres de Gaulle 1959-1961; Pres Council for Science of the French govt 1962-1964. Memberships: AMS; Soc Math France. Prof, University Paris VI, 9 Place de Rungis, Paris 13, France.

Publications Related to IAS Residence: Intégration of a differential form on an analytic complex subvariety. *Proc NAS* 43(1957) 246-248; *Intégration sur un ensemble analytique complexe* 85(1957) 239-262.

Lemaine, Gérard 76-77 Soc, Sociology of Science

Born 1931 Bernay Eure, France. Lic 1954 Psych. Memberships: Soc Française Psych; Soc Française Sociolog; PAREX: A European programme of cooperative research in the history and social studies of science; Internat Council Sci Policy Studies; Soc for Social Studies of Sci; Europ Assoc of Exper Soc Psych. Dir d'Etudes, Sociology of Science, Ecole des Hautes Etudes en Sciences Sociales, Member Lab de Psychologie Sociale Université de Paris VII 10, rue Monsieur le Prince, 75006 Paris, France.

Publications Related to IAS Residence: *NOOPOLIS: Les Laboratoires de Recherche Fondamentale, de l'atelier à l'usine*. Paris: Groupe d'Etudes et de Recherches sur la Science, 1979; Social Differentiation. In *Differentiation between social groups: Studies in the social psychology of intergroup relations*, ed. by H. Tajfel. London, 1978.

Other Publications: *Stratégies et choix dans la recherche: A propos des travaux sur le sommeil*. Paris: Mouton, 1977.

Lemaître, Georges 35s M

Born 1894 Belgium. PhD 1927 MIT. *

Lenard, Andrew 65-66, 72-73 M(NS), Mathematical Physics

Born 1927 Balmazujvaros, Hungary. PhD 1953 Physics State Univ of Iowa. Memberships: Am Phys Soc; AMS. Prof, Mathematical Physics, Department of Mathematics, Indiana University, Bloomington, IN 47401.

Publications Related to IAS Residence: With F.J. Dyson. Stability of Matter I and Stability of Matter II. *J Math Physics* 8(1967) 423; 9(1968) 698; States of Classical Statistical Mechanical Systems of Infinitely Many Particles I and II. *Arch for Rat Mechanics & Analysis* 59(1975) 219; 59(1975) 241.

Other Publications: *J Func Anal* 10(1972) 410; *J Math Phys* 5(1964) 930; 2(1961) 682; 3(1962) 778; 4(1963) 533.

Leonard, Henry S. 60-61 M, Symbolic Logic

Born 1905 Newton, MA. PhD 1931 Harvard Univ. Deceased.

Leopold, Richard William 60 61 HS, History

Born 1912 New York, NY. PhD 1938 History Harvard Univ. Honors: Pres Org of Amer Historians 1976-77; Pres Soc for Historians of Am For Rels 1970; PBK 1933; John H. Dunning Prize AHA 1940. Appointments: Sec of Navy's Adv Comm on Naval Hist, 1955-; Chmn, 1978-; State Dept, Adv Comm on For Rels of US, 1957-64; Chmn, 1964; Dept of Army, Adv Comm on Military Hist, 1967-71; AEC, Hist Adv Comm, 1973-76; Marine Corps, Commandant's Adv Comm on Marine Corps Hist, 1975-76; Natl Archives Adv Council, 1978-; Harry S. Truman Library Inst, Bd of Dirs, 1978-. Memberships: AHA; Acad of Pol Sci, Southern Hist Assoc; Soc for Historians of Am For Rels; Soc of Am Archivists. William Smith Mason Prof, American History, Dept of History, Northwestern University, Evanston, IL 60201.

Publications Related to IAS Residence: *The Growth of American Foreign Policy: A History*. Knopf, 1962; The Emergence of America as a World Power: Some Second Thoughts. In *Change and Continuity in Twentieth Century America*, ed. by John Braeman, Robert H. Bremner, Everett Walters. Ohio State U Press, 1964.

Other Publications: *Robert Dale Owen: A Biography*. Harvard U Press, 1940; *Elihu Root and the Conservative Tradition*. Little, Brown, 1954.

Leopoldt, Heinrich-Wolfgang 56-58 M, Algebraic Number Theory

Born 1927 Germany. PhD 1954 Univ of Hamburg. Math Inst d Univ, Englestr 7, 7500 Karlsruhe, Germany. *

Lepenes, Wolf D. 79-80 Soc, Sociology of Art, Literature

Born 1941 Germany. Doctorate 1971 Sociology Free Univ of Berlin. Memberships: ISA; DGS; Deutsche Ges f die Erforschung des 18 Jht; Société Française d'Etude du 18e siècle. Prof, Inst für Soziologie, Freie Univ Berlin, Garystr 21, 1 Berlin 33, Germany.

Lepore, Joseph Vernon 48-49, 50f M(NS), Theoretical Physics

Born 1922 Detroit, MI. PhD 1948 Theoretical Nuclear Physics Harvard Univ. Honors: AEC Post Doc Fellow 1948-1950. Memberships: Am Phys Soc. Staff Sr Scientist, Theoretical Physics, Lawrence Berkeley Laboratory. 712 Moraga Rd, Moraga, CA 94556.

Publications Related to IAS Residence: With K. M. Watson. Radiative Corrections to Nuclear Forces in the Pseudoscalar Meson Theory. *Phys Rev* 76(1949) 1157-63; Polarization of Neutrons and Protons by Scattering. *Phys Rev* 79(1950) 137-42; With W. Heckrotte, L. R. Henrich. Photoproduction of Neutral Mesons from Deuterium. *Phys Rev Letters* 85(1952) 490-1; Symmetrical Pseudoscalar Meson Theory of Nuclear Forces. *Phys Rev* 88(1952) 750-1.

Other Publications: With Sidney Fernbach, Warren Heckrotte. Theory of Polarization of Nucleons Scattered Elastically by Nuclei. *Phys Rev* 97(1955) 1059-70; With Graham H. Campbell and Robert J. Riddell, Jr. Evaluation of Phase Space Integrals. *J Math Phys NY* 8(1967) 687-91; With Robert J. Riddell, Jr. Relativistic Spin O Wave Equation. *J Math Phys* 13(1972) 405; With Robert J. Riddell, Jr. Theory of Transition Radiation from a Smoothly Varying Boundary. *Phys Rev D* 13(1976) 2300.

Lepowsky, James Ivan 75-76 M, Lie Theory

Born 1944 New York, NY. PhD 1970 Math MIT. Honors: Sloan Fellow 1977-79; Jr Fac Fship Yale Univ 1975-76. Memberships: AMS; MAA. Assoc Prof, Dept of Mathematics, Rutgers University, New Brunswick, NJ 08903.

Publications Related to IAS Residence: With H. Garland. Lie algebra homology and the Macdonald-Kac formulas. *Invent Math* 34(1976) 37-76; Generalized Verma modules, loop space cohomology and Macdonald-type identities. *Ann Sci l'Ecole Norm Sup* 12(1979); Generalized Verma modules, the Cartan-Helgason theorem, and the Harish-Chandra homomorphism. *J Algebra* 49(1977) 470-495; A generalization of the Bernstein-Gelfand-Gelfand resolution. *J Algebra* 49(1977) 496-511; With V. Deodhar. On multiplicity in the Jordan-Hölder series of Verma modules. *J Algebra* 49(1977) 512-524; Minimal K-types for certain representations of real semisimple groups. *J Algebra* 51(1978) 173-210; With H. Garland. The Macdonald-Kac formulas as a consequence of the Euler-Poincaré principle. In *Contributions to Algebra: A Collection of Papers Dedicated to Ellis Kolchin*, ed. by Bass, Cassidy and Kovacic, 165-173. New York: Academic Press, 1977.

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Other Publications: With S. Milne. Lie algebraic approaches to classical partition identities. *Advances in Math* 29(1978) 15-59; Construction of the affine Lie algebra $A_1^{(1)}$. *Comm Math Physics* 62(1978) 43-53; Macdonald-type identities. *Advances in Math* 27(1978) 230-234; Existence of conical vectors in induced modules. *Ann Math* 102(1975) 17-40; Algebraic results on representations of semisimple Lie groups. *Trans AMS* 176(1973) 1-44.

Lepper, Francis Alfred 76f HS, Roman History

Born 1913 Oxford, England. MA(Oxon.) 1939 Lit Hum. Sr Fellow & Tutor, Ancient History, Corpus Christi College, Oxford, England.

Publications: *Trajan's Parthian war*. Oxford classical and philosophical monographs. London: Oxford Univ Press, 1948.

Lepsius, Mario Rainer 73-74 Soc

Born 1928 Rio de Janeiro, Brazil. Dr 1955 Economics Univ of Munich. Appointments: Pres, Ger Sociol Assoc 1971-74; Member, Gov Comm for Report on German Nation in Divided Germany 1972-73. Memberships: Ger Sociol Soc; Am Sociol Soc; Acad of Sci, Heidelberg. Prof, Sociology, Univ of Mannheim. Mozartstr 23, 694 Weinheim, Germany.

Publications Related to IAS Residence: From Fragmented Party Democracy to Government by Emergency Decree and National Socialist Takeover: Germany. In *The Breakdown of Democratic Regimes*, ed. by Juan J. Linz and Alfred Stepan. Baltimore: Johns Hopkins Univ Press, 1978.

Lepson, Benjamin 50-52 M, Analysis, Theory of Functions

Born 1924 New York, NY. PhD 1950 Mathematics Columbia Univ. Honors: AEC Fship Columbia Univ 1948-50; AAAS Fellow 1963; Sigma Xi 1950; Res Pub Award US Naval Res Lab 1969. Appointments: NSF Reviewer in Math & Comp Sci; Rev for "Mathematical Reviews"; Inst of Math Statistics. Memberships: AMS; MAA. Consultant and Research Mathematician, US Naval Res Lab, Wash DC. 9429 Curran Rd, Silver Spring, MD 20901.

Publications Related to IAS Residence: Differential Equations of Infinite Order, Hyperdirichlet Series and Entire Functions of Bounded Index. In *Proc Symposia in Pure Math*, 2: 298-307. Providence: AMS, 1968; On Hyperdirichlet Series and on related questions of the General Theory of Functions. *TAMS* 72(1952) 18-45; On Irregular Points of Normal Convergence and M-Convergence for Series of Analytic Functions. In *Proceedings of the 1950 International Congress of Mathematicians*, 1: 416-417. Providence: AMS, 1952; Entire Functions of Extreme Rates of Growth. *J Math Anal* 36(1971) 371-376; Upper Bounds for Dirichlet Kernels and for Tchebycheff Polynomials of the Second Kind. *J Math Anal* 48(1974) 139-149.

Other Publications: With L.A. Beach, P. Shapiro, R.C. O'Rourke and W.R. Faust. Solutions of the

Constant Velocity Transport Problem. *Nuclear Sci & Engin* 6(1959) 66-75; Bounds for Skewness and Improved Moment Inequalities for Unimodal Distributions. *Adv in App Prob* 8(1976) 238-239; Statistical Fluctuations of Energy Losses of Charged Particles Passing Through Matter. *Adv in App Prob* 8(1976) 233-234.

Leray, Jean 50-60 Fall Terms M, Partial Differential Equations

Born 1906 France. Doctorat 1933 Univ of Paris. Appointments: Member with Long-Term Appointment School of Math IAS 1950, 1951-55, 1956-61. College de France, 11, Place Marcelin-Berthelot, 75231 Paris 05, France. *

Publications Related to IAS Residence: Les Solutions Élémentaires d'une Équation aux Dérivées Partielles, à Coefficients Constants. *C R Acad Sci Paris* 234(1952) 1112-1115; The Physical Facts and the Differential Equations. *Amer Math Monthly* 61, 2(1954) 5-7.

LeRider, Georges Charles 70f HS

Born 1928 Saint Hernin, France. D d 'État Greek Hist & Numismatics. Honors: Chevalier de l'Ordre National du Mérite 1969; Chevalier de l'Ordre National de Légion d'Honneur 1977. Appointments: Comité National du CNRS. Memberships: Comm internatle de Numismatique. Administrateur Général, Bibliothèque Nationale, 58 Rue Richelieu, F-75002 Paris, France.

Publications Related to IAS Residence: *Le Monnayage d'argent et d'or de Philippe II frappé en Macédoine de 359 à 294*. 1977.

Leslie, Joshua A. 65-66, 69-70 M, Topology

Born 1933 Jamaica. PhD 1960 Univ of Paris. Prof, Dept of Math, Northwestern University, Evanston, IL

Publications Related to IAS Residence: On a Differential Structure for the Group of Diffeomorphisms. *Top* 61 (1967) 260-271; Two Classes of Classical Subgroups of Diff(M). *J of Diff Geom* 5, 3 & 4(1971) 427-435.

Levelt, Willem T. M. 71-72 Soc, Psychology

Born 1938 Amsterdam, Netherlands. PhD 1965 Psychology Leyden Univ. Honors: Royal Dutch Acad of Scis. Appointments: Soc Sci Comm, European Sci Foundation. Memberships: Psychonomic Soc. Prof, Experimental Psychology, Nijmegen Univ, Head Max-Planck-Projektgruppe für Psycholinguistik, Andreaslaan 31, Nijmegen, Netherlands.

Publications Related to IAS Residence: An Introduction to the theory of formal languages and automata. In *Formal Grammars in Linguistics and Psycholinguistics*, 1. Applications in linguistic theory. 2. Psycholinguistic applications. The Hague: Mouton, 1974.

Other Publications: *On binocular rivalry*. The Hague: Mouton, 1968.

Levey, Martin H. 59-60 HS, History of Mathematics

Born 1913 Philadelphia, PA. PhD 1952 Dropsie Univ. Deceased.

Levi, Doro 38-39, 41-45 HS(H), Archaeology

Born 1898 Trieste, Italy. Laurea 1920 U of Florence. Honors: Prize for Archaeology from the Accad dei Lincei 1963; Member Nat Acad of Lincei; Acad of Athens; Acad of Scis of NY; Hon member German Archaeol Inst, Berlin; Hon Vice Pres Archaeol Soc, Athens; member Pontifical Arch Institute; American, Austrian Institutes. Appointments: Committee for creation of Section of officers for protection of Art Monuments (Pres of section for Italy); Director Office of Min of Educ for Cult Rels with For countries. Prof and Supt, Art and Antiquities, Italian Ministry of Instruction, Italian Archaeological School, Parthenon St 14, Athens, Greece.

Publications: The allegories of the months in classical art. *Art Bull* 23(1941) 251; The evil eye and the lucky hunchback. In *Antioch-on-the-Orontes*, 3: 220. Princeton: Princeton Univ Press, 1941; The amphitheater at Cagliari. *Am J Arch* 2a series 46(1942); An archaic Etruscan statuette. *Record of the Princeton Museum of Historic Art* 1(1942) 9.

Levi-Civita, Tullio 36f M

Born 1873 Italy. PhD 1894 Univ of Padua. Deceased.

Publications Related to IAS Residence: The Relativistic Problem of Several Bodies. *Amer J Math* 59(1937) 9-22.

Levine, Steven Z. 79-80 HS, Art History

Born 1947 Boston, MA. PhD 1974 Art History Harvard Univ. Honors: Junior Fellow, Soc of Fellows Harvard 1972-75; Kress Fellow 1979-80. Memberships: Coll Art Assoc. Asst Prof, History of Art Dept, Bryn Mawr College, Bryn Mawr, PA 19010.

Publications Related to IAS Residence: The Window Metaphor and Monet's Windows. *Arts Magazine* 54(Nov 1979) 98-104.

Other Publications: *Monet and His Critics*. New York and London: 1976; Portrait and Painting in the Second Empire. *Arts Magazine* 53(Nov 1978) 90-93.

Levinson, Norman 35-37 M

Born 1912 . PhD 1935 MIT. Deceased.

Publications Related to IAS Residence: *Gap and Density Theorems*. New York: Amer Math Soc, 1940; On a Problem by Pólya. *Amer J Math* 58(1936) 791-799; On a Theorem of Ingham. *J London Math Soc* 11 (1936) 6-7; On Certain Theorems of Pólya and Bernstein. *Bull AMS* 42(1936) 702-706; On Non-Harmonic Fourier Series. *Ann Math* (2)37(1936) 919-936; On the Closure of $\{e^{ia_n x}\}$. *Duke Math J* 2 (1936)

511-516; On the Non-Vanishing of Certain Functions. *Proc NAS* 22(1936) 228-233; With G. H. Hardy. Inequalities Satisfied by a Certain Definite Integral. *Bull AMS* 43(1937) 709-716; A Theorem Relating Non-Vanishing and Analytic Functions. *J Math Physics* 16(1957) 185-190; General Gap Tauberian Theorems, I. *Proc London Math Soc* 244(1938) 289-306; On the Growth of Analytic Functions. *TAMS* 43(1938) 240-257.

Levitine, George 77-78 HS, Art History

Born 1916 USSR. PhD 1952 Harvard Univ. Prof, and Chairman, Dept of Art, Univ of Maryland, College Park, MD 20742. *

Levy, David M. 51-53 M(NS), Psychology

Born 1892 Scranton, PA. MD 1918 Rush Inst. *

Publications Related to IAS Residence: With Audrey Hess. Problems in Determining Maternal Attitudes toward Newborn Infants. *Psychiatry* 15(1952) 273-286.

Levy, Harry 37 38 M

Born 1902 . PhD 1924 Princeton Univ. Deceased.

Publications Related to IAS Residence: Conformal Invariants in Two Dimensions, I & II. *Časopis pro Pěstování Matematiky a Fysiky* 69(1939/40) 50-56.

Levy, Maurice Marc 50-52, 55f, 62f M(NS), Theoretical Physics

Born 1922 Tlemcen, Algeria. D ès Sc 1949 Physiques Univ of Paris. Honors: Officier de l'Ordre National du Mérite 1967; Chevalier Légion d'Honneur 1975; Prix Robin Soc Française de Phys 1957. Appointments: Chmn Eur Space Agency (1973-1975); Prés of French Space Agency (1974-76); Director of Research Programmes, Ministry of Industry France (1971-1973). Memberships: Soc Française Phys; Am Phys Soc; Eur Phys Soc; Soc Ital Fisica. Prof, Theoret & High Energy Physics, Université P et M Curie, Laboratoire de Physique Théorique et Hautes Energies, 4 Place Jussieu, 75230 Paris cedex 5, France.

Publications Related to IAS Residence: Sur la théorie relativiste des forces nucléaires: I - Théorie générale. *Comptes-rendus* 234(1952) 815; II - Equivalence avec le formalisme de Bethe et Salpeter. *Comptes-rendus* 234(1952) 922; III - Corrections relativistes à l'interaction produite par un champ scalaire. *Comptes-rendus* 234(1952) 1255; IV - Calcul de l'interaction neutron-proton produite par un champ pseudoscalaire. *Comptes-rendus* 234(1952) 1671; V - Les propriétés du système neutron-proton aux faibles energies. *Comptes-rendus* 234(1952) 1744; The non-adiabatic treatment of the relativistic two body problem. *Phys Rev* 88(1952) 72; The Symmetrical pseudoscalar meson theory of nuclear forces. *Phys Rev* 86(1952) 806; Meson theory of nuclear forces and low energy properties of the neutron-proton

Members

system. *Phys Rev* 88(1952) 725; With D.R. Yennie and D.G. Ravenhall. Electromagnetic structure of nucleons. *Rev Mod Phys* 29(1957) 144; High-energy behavior of scattering amplitudes in quantum electrodynamics. *Phys Rev* 130(1963) 791.

Lewin, Moshe 72-73 HS, History; 20th Century Russia

Born 1921 Wilno, Poland. Doctorate 1964 Hist Paris-Sorbonne. Prof, Dept of History, University of Pennsylvania, 207 College Hall, Philadelphia, PA 19104.

Publications Related to IAS Residence: *Political Undercurrents in Soviet Economic Debates*. Princeton University Press, 1974; The Disappearance of Planning in the Plan. *Slavic Rev* (June 1973).

Other Publications: *Russian Peasant and Soviet Power*. NY: Norton, 1977; *Lenin's Last Struggle*. New York: Pantheon, 1967.

Lewis, Bernard 69s, 74-80 HS/Soc, Islamic History

Born 1916 London, England. PhD 1939 London Univ. Honors: FBA 1963; Corr Member Inst d'Egypte 1969; Hon Member Turk Hist Soc 1972; Citation of Honor Turk Ministry of Culture 1973; Amer Philos Soc; Hon Doctor Hebrew Univ 1974; Fellow Univ Coll London 1976; Harvey Prize 1978. Memberships: Royal Asiatic Soc; Royal Inst Internatl Affairs; Amer Oriental Soc. Cleveland E Dodge Prof, Near East Studies, Princeton Univ, Member with Long-Term Appointment, Inst for Advanced Study, Princeton, NJ 08540. *

Publications: *The Origins of Ismailism*. Cambridge: 1940; *British Contributions to Arabic Studies*. London: 1941; *Handbook of Diplomatic and Political Arabic*. London: 1947; *The Arabs in History*. London: 1950; *Notes and Documents from the Turkish Archives*. Jerusalem: 1952; *The Emergence of Modern Turkey*. London: 1961; *The Kingly Crown*, trans from Ibn Gabirol. London: 1961; ed with P.M. Holt. *Historians of the Middle East*. London: 1962; *Istanbul and the Civilization of the Ottoman Empire*. Norman: 1963; *The Middle East and the West*. Bloomington and London: 1964; *Race and Color in Islam*. New York: 1971; *Islam in History*. London: 1973; *Islam from the Prophet Muhammad to the Capture of Constantinople*. 2 vols. New York: 1974; *History - Remembered, Recovered, Invented*. Princeton: 1975; Ed, *Islam and the Arab World*. New York: 1976; *Studies in Classical and Ottoman Islam (7th-16th Centuries)*. London: Variorum Reprints, 1976; With Amnon Cohen. *Population and Revenue in the Towns of Palestine in the Sixteenth Century*. Princeton: 1978; ed with others. *The Cambridge History of Islam*. Cambridge: 1970; The Great Powers, the Arabs and the Israelis. *For Affairs* (1969) 642-52; Sources for the economic history of the Middle East. In *Studies in the economic history of the Middle East from the rise of Islam to the present day*, ed. by M. A. Cook, 78-92. London: 1970; Race and colour in Islam. *Encounter* 35(1970) 18-36; Russia in the Middle East. *The*

Round Table (1970) 257-263; Joseph Schacht. *BSOAS* 33(1970) 378-81; On the Revolutions in Early Islam. *Studia Islamica* 32(1970) 215-231; Semites and Anti-Semites. *Survey* (2), 79(1971) 169-84; An Interpretation of Fatimid History. *Colloque international sur l'histoire du Caire* (1972) 287-297; On That Day, a Jewish apocalyptic poem on the Arab conquests. *Mélanges d'Islamologie, volume dédié à la mémoire de Armand Abel* (1974) 197-200; Daftar. *Encyclopaedia of Islam* 2(2nd ed) 78-81; Assassins of Syria and Ismailis of Persia. In *La Persia nel Medioevo*, 573-580. Rome: Accad Naz Lincei, 1971; Corsairs in Iceland. *Révue de l'Occident Musulman et de la Méditerranée* (1973) 139-144; Politics and War [in Islam]. In *The Legacy of Islam*, ed. by J. Schacht and C. E. Bosworth, 2nd ed: 156-208. OUP, 1974; On Some Modern Arabic Political Terms. In *Orientalia Hispanica*, ed. by J. M. Barrai, 1, Arabica-Islamica: 465-471. E. J. Brill, 1974; Ali Pasha on Nationalism. *Middle East Studies* 10, 1 (January 1974) 77-79; An Anti-Jewish Ode: The Qasida of Abu Ishaq Against Joseph Ibn Nagrella. In *Salo Wittmayer Barron Jubilee Volume*, 657-668. Jerusalem: Amer Acad for Jewish Research, 1975; Gibbon on Muhammad. *Daedalus* 105, 3(Summer 1976) 89-101; The Anti-Zionist Resolution. *For Affairs* 55, 1(October 1976) 54-64; The African Diaspora and the Civilization of Islam. In *The African Diaspora: Interpretive Essays*, ed. by M. L. Kilson and Robert A. Rotberg. Harvard Univ Press, 1976; The Palestinians and the PLO. *Commentary* (January 1975) 32-48; Return of Islam. *Commentary* (January 1976) 39-49; Cold War and Décente in the 16th Century. *Survey* 3/4 (100/101)(Summer/Autumn 1976) 95-96; Settling the Arab-Israeli Conflict. *Commentary* 63, 6(June 1977) 50-56; Right and Left in Lebanon. *New Republic* 177, 11(September 10, 1977) 20-23; Turkey. *Washington Rev* 1, 1 (January 1978) 103-106; Turkey Turns Away. *New Republic* (February 18, 1978) 18-21; Turkey - A Loyal United States and NATO Ally. In *NATO, Turkey and United States Interests*, 22-27. Amer For Policy Inst, 1978; The Egyptian Perspective. *Commentary* 66, 1(July 1978).

Lewis, Daniel Clark, Jr. 34-35 M

Born 1904 Millville, NJ. PhD 1932 Mathematics Harvard Univ. Honors: PBK; Sigma Xi. Appointments: Ed *Am J Math* 48-53; *Math Reviews* 39-63. Memberships: AMS; MAA. Prof Emer, Johns Hopkins Univ, Visiting Professor Mathematics Towson State University, 5205 Putney Way, Baltimore, MD 21212.

Publications Related to IAS Residence: On a Theorem of Féraud. *Bull AMS* 41(1935) 123-130; Stability in Causal Systems. *Philosophy of Science* 2, 3(1935) 304-333; On Line Integrals and Differential Equations, Especially those of Dynamics. *Bull AMS* 43(1937) 277-282; Invariant Manifolds Near an Invariant Point of Unstable Type. *Am J Math* 60, 3(1938) 577-587; Contributions to the Transformation Theory of Dynamics. *TAMS* 46, 3(1939) 374-388; Formal Power Series Transformations. *Duke Math J*

5, 4(1939) 794-805; Polynomial Least Square Approximations. *Am J Math* 69, 2(1947) 273-278; Comments on the Classical Theory of Integral Equations. *J Wash Acad Sci* 40, 3(1950) 65-71; Metric Properties of Differential Equations. *Am J Math* 71, 2(1949) 294-312; Differential Equations Referred to a Variable Metric. *Am J Math* 73, 1(1951) 48-58; A Connection between Taylor's Theorem and Linear Differential Equations. *Am Math Monthly* 59, 10(1952) 692-693; Inequalities for Complex Linear Differential Systems of the Second Order. In *Proc NAS*, 38, 1: 63-66. 1952; Simple Operational Equations with Constant Coefficients. *Math Magazine* 27(1954) 177-188; Periodic Solutions of Differential Equations Containing a Parameter. *Duke Math J* 22, 1(1955) 39-56; Families of Periodic Solutions of Systems Having Relatively Invariant Line Integrals. In *Proc AMS*, 6, 2: 181-185. 1955; On the Perturbation of a Periodic Solution when the Variational System has Non-trivial Periodic Solutions. *J Rat Mech Anal* 4, 5(1955) 795-815; On the Role of First Integrals in the Perturbation of Periodic Solutions. *Ann Math* 63, 3(1956) 535-548; Poincaré's Theorem Generalized for the Perturbation of Invariant Manifolds. *Boletín de la Sociedad Matemática Mexicana* (1960) 205-219; Autosynartetic Solutions of Differential Equations. *Am J Math* 83, 1(1961) 1-32; Reversible Transformations. *Pacific J Math* 11, 3(1961) 1077-1087; With R.W. Bass. Continuous Groups and Autosynartetic Solutions. In *International Symposium on Nonlinear Differential Equations and Nonlinear Mechanics, Colorado Springs 1961*, ed. by J.P. LaSalle & S. Lefschetz, 91-98. New York: Academic Press, 1965; Autosynartetic Families of Solutions. In *Ibid*, 99-104; With Pin-chas Mendelson. Contributions to the Theory of Optimal Control. A General Procedure for the Computation of Switching Manifolds. *TAMS* 110, 2(1964) 232-244; Some General Methods for Detecting the Existence of Periodic Solutions. *Studies in Applied Mathematics* 5(1969) 156-158.
Other Publications: With G. D. Birkhoff. Chromatic Polynomials. *TAMS* 60, 3(1946) 355-451; With D. W. Hall. Coloring Six Rings. *TAMS* 64, 1(1948) 184-191; A Generalized Moebius Inversion Formula. *Bull AMS* 78, 4(1972) 558-561.

Lewis, David Malcolm 51-52, 64-65 HS, Greek History and Epigraphy

Born 1928 London, England. PhD 1952 Classics Princeton Univ. Honors: FBA 1973. Lect, Greek Epigraphy, Christ Church, Oxford OX1 1DP, England.
Publications Related to IAS Residence: With R. Meiggs. *Selection of Greek Historical Inscriptions*. Oxford: 1969.
Other Publications: *Sparta and Persia*. Leiden: 1978.

Lewis, Donald J. 52 53 M

Born 1926 Adrian, MN. PhD 1950 Math Univ of Mich. Memberships: AMS; LMS; AAUP. Prof, Math Dept, University of Michigan, Ann Arbor, MI 48109.

Publications: With H. Davenport. Simultaneous equations of additive type. *Phil Trans Royal Soc A* 264(1969) 557-595; With H. Davenport. Non-homogeneous cubic polynomials. *JLMS* 39(1964) 657-671; Cubic homogeneous polynomials over p-adic fields. *Ann Math* 56(1952) 473-478.

Lewis, Harold W. 47-48, 50-51 M(NS), Physics

Born 1923 New York, NY. PhD 1948 Physics Univ of Calif. Prof, Dept of Physics, Univ of California, Santa Barbara, CA 93106.

Lewis, John Trevor 69-70 M, Analysis

Born 1932 Swansea, Glamorganshire, Wales. PhD 1955 Applied Math Queen's Univ, Belfast. Honors: Royal Irish Acad 1977. Appointments: Natl Comm on Math; Natl Sub Comm on Math Instruction. Prof, and Director School of Theoret Physics, Dublin Inst for Advanced Studies, 10 Burlington Rd, Dublin 4, Ireland.

Publications Related to IAS Residence: With E. B. Davies. An Operational Approach to Quantum Probability. *Comm Math Phys* 17(1970) 239.

Other Publications: With J. V. Pulè. The Equilibrium States of the Free Boson Gas. *CMP* 36(1974) 1; *Dilations of Irreversible Evolutions in Algebraic Quantum Theory*. Comm Dublin IAS, A 24. 1977.

Lewis, Robert R. 56-58 M(NS), Theoretical Physics

Born 1927 New Haven, CT. PhD 1954 Physics Univ of Michigan. Memberships: APS. Prof, Dept of Physics, Univ of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: With R. B. Curtis. *Phys Rev* 107(1957) 543; With R. B. Curtis. *Phys Rev* 107(1957) 1381; *Phys Rev* 110(1958) 910; With J. Bernstein. *Phys Rev* 112(1958) 232.

Other Publications: *Phys Rev Letters* 3(1959) 420; *Phys Letters* 59B(1975) 70; *Phys Rev A* 18(1978) 2421.

Lewy, Hans 56f M, Partial Differential Equations

Born 1904 Breslau, Germany. PhD 1926 Univ of Göttingen. *

Li, Ming Chiang 65-67 NS, Physics

Born 1935 China. PhD 1965 Univ of Md. Dept of Physics, Virginia Polytechnic Inst, Blacksburg, VA 24060. *

Li, Peter W.-K. 79-80 M, Differential Geometry

Born 1952 Hong Kong. PhD 1979 U of Calif, Berkeley. Stanford Univ, Dept of Math, Stanford, CA 94305. *

Li, Wen-Ching Winnie 78s M, Number Theory

Born 1948 Taiwan, China. PhD 1974 Math Univ of California, Berkeley. Memberships: AMS; AMIAS.

Members

Asst Prof, Math, Univ of Illinois at Chicago Circle, 1151 W Polk St, Chicago, IL 60607.

Publications Related to IAS Residence: On the representations of $GL(2)$, Part I: ϵ -factors and n -closeness. Part II: ϵ -factors of the representations of $GL(2) \times GL(2)$. *J Reine Angew Math* (in press); L-series of Rankin type and their functional equations. *Math Ann* (in press); With R.L. Graham and S.-Y. R. Li. On the structure of null-designs. *SIAM J App Math* (in press).

Other Publications: New forms and functional equations. *Math Ann* 212(1975) 285-315.

Liang, Chao-Chu 74-75 M

Born 1946 China. PhD 1974 Cornell Univ. Asst Prof, Dept of Math, Univ of Kansas, Lawrence, KS 66045.

Liao, San Dao 52-54 M, Algebraic Topology

Born 1920 China. PhD 1952 Univ of Chicago. *

Libgober, Anatoly S. 77-78 M, Topology

Born 1949 Moscow, USSR. PhD 1977 Tel Aviv Univ. Memberships: AMS. Asst Prof, Dept of Math, University of Illinois at Chicago Circle, Box 4348, Chicago, IL 60680.

Publications Related to IAS Residence: On the fundamental group of the space of cubic surfaces. *Math Z* 162(1978) 63-67.

Other Publications: A Geometrical procedure for killing the middle dimensional homology groups of algebraic hypersurfaces. *Proc AMS* 66(1977) 198-202; On the topology of some even-dimensional Algebraic Hyper-surfaces. *Topology* (in press).

Licht, Arthur Lewis 65-66 M(NS), Physics

Born 1934 Hartford, CT. PhD 1963 Physics U of Maryland. Memberships: Am Phys Soc. Assoc Prof, Dept of Physics, U of Illinois at Chicago Circle, PO Box 4348, Chicago, IL 60680.

Publications Related to IAS Residence: Background Dependence of Local States. *J Math Phys* 9(1968) 1468; Coherent Superposition of Local States. *J Math Phys* 9(1968) 1476.

Other Publications: With A. Pagnamenta. Wave Functions and Form Factors For Relativistic Composite Particles. *Phys Rev D* 2(1979) 1150; With A. Pagnamenta. Lipkin's Third Component and Valence-Core Exchange. *Nucl Phys B* 92, 1(1975).

Lichtenbaum, Stephen 73 M, Number Theory

Born 1939 Brooklyn, NY. PhD 1964 Harvard Univ. Honors: Guggenheim Fellow 1973-74. Memberships: AMS. Prof, Dept of Mathematics, Cornell University, Ithaca, NY 14853.

Publications: On the values of zeta and L-functions I. *Ann Math* 96(1972); With J. Coates. On 1-adic zeta functions. *Ann Math* 98(1973).

Lieb, Hans Wolfgang 74-75 HS, Roman History

Born 1930 Schaffhausen, Switzerland. PhD 1956 Univ of Basel. Director, Staatsarchiv Schaffhausen, Rathausbogen 4, 8200 Schaffhausen, Switzerland.

Publications: Der Praeses aus Sbeitla. *Antiquitas* 1/2(1956) 239-262; Expleta statione. In *Festschrift Eric Birley*, 139-144. Britain and Rome: Kendal, 1965; Lexicon topographicum der römischen und frühmittelalterlichen Schweiz 1. *Antiquitas* 1/15(Bonn) 1967; Zum Clemensfeldzug. *Beihefte der Bonner Jahrbücher* 19(1967) 94-97; Zur zweiten Colonia Raurica. *Chiron* 4(1974) 415-423; Zur Herkunft der Tabula Peutingeriana. *Die Abtei Reichenau Sigmaringen*(1974) 31-33.

Lieberman, David Ira 66-68 M, Algebraic Geometry

Born 1941 Newark, NJ. PhD 1966 Mathematics M.I.T Honors: PBK 1963; NSF Grad Fellow 1963-66; NSF Postdoc Fellow 1966-68; Sloan Fellow 1972-75. Memberships: AMS. Dep Dir, IDA, Thanet Rd, Princeton, NJ 08540.

Publications Related to IAS Residence: Higher Picard Varieties. *Am J Math* 90(1968) 1165-1199; Moduli of Intermediate Jacobians. *Am J Math* 91(1969) 671-682; Numerical and Homological Equivalence. *Am J Math* 90(1968) 366-374.

Other Publications: With M. Herrera. Duality and DeRham Cohomology of Infinitesimal Neighborhoods. *Inv Math* 13(1971) 97-124; With J.B. Carrell. Holomorphic Vector Fields and Kahler Manifolds, *Inv Math* 21(1973) 303-309; Compactness of the Chow Scheme and Automorphisms of Kahler Manifolds. *Springer Lecture Notes* 670(1978); With R. Wiisker & C. Peters. A Theorem of Local Torelli Type. *Math Ann* 231(1977-1978) 39-45.

Lieberman, Judy 74-76 NS, Elementary particles

Born 1947 Boston, MA. PhD 1974 Theoretical physics Rockefeller Univ. Student, Harvard Med School, 211 Mason Terr, Brookline, MA 02146.

Lijn, Gaston van der 35-36 M

Born 1908 Belgium. PhD 1931 Univ of Brussels. Deceased.

Publications Related to IAS Residence: Un Théorème Topologique sur les Champs de Surfaces. *Mathesis* 50(1936) 21-24.

Lima, Elon Lages 62-63 M, Topology

Born 1929 Maceió, Alagoas, Brazil. PhD 1958 Math Univ of Chicago. Honors: Guggenheim Fellow 1964. Appointments: Pres, Brazilian Math Soc, 1973/1975; Mem Deliberative Council NRC. Full Prof, Instituto de Matemática Pura E Aplicada, Rua Luis De Camões 68, Rio De Janeiro, Brazil.

Publications Related to IAS Residence: Commuting Vector Fields on 2-Manifolds. *Bull AMS*(1963); On the Local Triviality of the Restriction

Map. *Comm Math Helv* 38(1964); Commuting Vector Fields on S^2 . *Proc AMS* 15(1964) 138-141.

Other Publications: Commuting Vector Fields on S^3 *Ann Math* 81(1965) 70-81; Common Singularities of Commuting Vector Fields. *Comm Math Helv* 39(1964).

Limić, Nedžad 68-70 NS, Physics

Born 1936 Yugoslavia. PhD 1964 Univ of Zagreb. *

Lin, Charles S. C. 69-71 M, Functional Analysis

Born 1936 Taipei, Taiwan. PhD 1967 Univ of California, Berkeley. Honors: Member, Inst of Math, Academia Sinica 1977. Memberships: AMS; Sigma Xi. Assoc Prof, Dept of Mathematics, University of Illinois, Chicago, IL 60680.

Publications Related to IAS Residence: A Stationary Approach to Perturbation of Operators in Banach Spaces. *J Math Anal & Appl* 32(1970) 352-369; On Smoothness of Gentle Perturbation. *J Math Anal & Appl* 33(1971) 674-682.

Other Publications: Perturbation of the Unilateral Shift. *Bull AMS* 77(1971) 621-624; Perturbation of Isometries on Hubert Spaces. *Indiana Univ Math Jour* 21(1971) 363-372.

Lin, Chia-Chiao 59-61, 65f M(NS), Astrophysics

Born 1916 China. PhD 1944 Aeronautics Cal Tech. Honors: LLD Chinese Univ of Hong Kong 1973; The Timoshenko Medal Am Soc of Mech Engineers 1975; Award in App Math & Numerical Anal NAS 1976; AAAS; NAS; Am Phil Soc. Appointments: Member, Comm on Fluid Mechanics, NACA (Predecessor of NASA); Member, Comm on Support of Res in Math Scis (COSRIMS) of the NAS, (66-68); SIAM Pres 72-74, Bd of Tr 78-80. Memberships: AAS; AMS; Am Phys Soc; Inst of Aerospace Sci (Fellow). Institute Prof, Dept of Mathematics, MIT, Cambridge, MA 02139.

Publications Related to IAS Residence: Some mathematical problems in the theory of the stability of parallel flows. *J Fl Mech* 10, Part 3(1961) 430-438; Hydrodynamics of Helium II. In *Estratto da Rendiconti della Scuola Internazionale di Fisica - E. Fermi*, 21 Corso. 1971; With Frank H. Shu. On the spiral structure of disk galaxies, II. Outline of a theory of density waves. *PNAS* 55(1966) 229-234; Star migration, solar vicinity, and the density wave theory of spiral structure. In *Astronomical Papers Dedicated to Bengt Strömberg*, ed. by C. Yuan, 369-386. Copenhagen University Observatory, 1978.

Other Publications: Density wave theory of spiral structure. In *Astrophysics & General Relativity*, ed. by F. H. Shu, 2: 239-329. Gordon & Breach, 1971; *The Theory of Hydrodynamic Stability*. Cambridge Univ Press, 1955; Turbulent flow, theoretical aspects. In *Handbuch der Physik*, ed. by W. H. Reid, 8/2. 1963; *Statistical Theories of Turbulence*. Princeton Aeronautical Paperbacks, 10. Princeton Univ Press, 1961; Lee A. Segel. *Mathematics Applied to*

Deterministic Problems in the Natural Sciences. MacMillan, 1974.

Lindberg, David C. 70-71 HS, History of Science
Born 1935 Minneapolis, MN. PhD 1965 History and Philosophy of Science Indiana Univ. Honors: Guggenheim Fellowship 1977-78; Member, Inst for Res in Humanities Univ of Wisconsin 1975. Appointments: Member, US Natl Comm, Internatl Union for Hist & Phil of Sci; Advisory Ed, *Isis*. Memberships: Hist of Sci Soc; Brit Soc for the Hist of Sci; Mediaeval Acad of Amer; Renaissance Soc of Amer. Prof, History of Science, Univ of Wisc, Madison, 5038 Marathon Dr, Madison, WI 53705.

Publications Related to IAS Residence: *Theories of Vision from al-Kindi to Kepler*. Chicago: Univ of Chicago Press, 1976; *A Catalogue of Medieval and Renaissance Optical Manuscripts*. Subsidia Mediaevalia, 4. Toronto: Pontifical Institute of Mediaeval Studies, 1975; Alkindi's Critique of Euclid's Theory of Vision. *Isis* 62(1971) 469-89.

Other Publications: ed, *John Pecham and the Science of Optics: Perspectiva communis*. Madison, Wis: Univ of Wis Press, 1970; ed, *Science in the Middle Ages*. Chicago: Univ of Chicago Press, 1978.

Lindberg, John 46-48 HS(EP), Economics

Born 1901 Sweden. PhD 1924 U of Stockholm. *

Publications Related to IAS Residence: *Foundations of Social Survival*. New York: Columbia Univ Press, 1953.

Linderski, Jerzy 70-71, 77-78 HS, Ancient History, Classics

Born 1934 Lwów, Poland. PhD 1960 Ancient History Univ of Cracow (Poland). Honors: Guggenheim Fellow 1977-78. Memberships: Am Philolog Assoc; Assoc of Ancient Historians; Soc for Prom of Roman Studies (London); Soc for Prom of Hellenic Studies (London); Am Numismatic Soc. Prof, Department of History, University of Oregon, Eugene, OR 97403.

Publications Related to IAS Residence: The Augural Law. In *Aufstieg und Niedergang der römischen Welt*, part 2, 16, 3. Berlin: 1979; The Aedileship of Favonius, Curio the Younger and Cicero's Election to the Augurate. *Harv Stud Class Phil* 76(1972) 181-200; A Non-Misunderstood Text Concerning Tages. *La Parola del Passato* 32(1978) 195-196; Amianus. *Zeitschrift für Papyrologie und Epigraphik* 30(1978) 158.

Other Publications: *Roman State and the Collegia. Studies in the History of Roman Associations in the Late Republican Period*. Cracow, 1961; *Roman Electoral Assemblies from Sulla to Caesar*. Wroclaw, 1966; The Textile Industry of the City of Rome and its Organization. *Przeglad Historyczny* 47(1956) 253-282; The Collegia Centonariorum. *Przeglad Historyczny* 48(1957) 24-37; Notes on CIL I² 364. *La Parola del Passato* 13(1958) 47-50; Asconius' Bericht über die Rechtstellung der Kollegien gegen Ende der Republik. *Eos* 50, 2(1959/1960) 133-141; Zum Namen Competalis. *Glotta* 39(1960) 145-149; Ciceros

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Rede pro Caelio und die Ambitus- und Vereinsgesetzgebung der ausgehenden Republik. *Hermes* 89(1961) 106-119; Two Speeches of Q. Hortensius. *La Parola del Passato* 16(1961) 304-311; Etruskische Etymologien: zilath und purth. *Glotta* 41(1962) 150-159; Suetons Bericht über die Vereinsgesetzgebung unter Caesar und Augustus. *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte* 79(1962) 396-402; Cicero and Sallust on Vargunteius. *Historia* 12(1963) 511-512; Alfred the Great and the Tradition of Ancient Geography. *Speculum* 39(1964) 434-439; Constitutional Aspects of the Consular Elections in 59 BC. *Historia* 14(1965) 423-442; Were Pompey and Crassus Elected in Absence to their First Consulship?. In *Mélanges offerts à Kazimierz Michalowski*, 523-526. Warsaw: 1966; Der Senat und die Vereine. In *Gesellschaft und Recht im Griechisch-Römischen Altertum*, 1: 94-132. Berlin: 1968; The Surnames and the Alleged Affinity of C. Caelius Rufus. *Eos* 56, 1(1966/1968) 146-150; Three Trials in 54 BC: Sufenas, Cato, Procius and Cicero, Ad Atticum 4. 15. 4. In *Studi in Onore di Eduardo Volterra*, 2: 281-302. Milano: 1971; Römischer Staat und Götterzeichen: zum Problem der obnuntiatio. *Jahrbuch der Universität Düsseldorf* (1969/1970/1971) 309-322; A. Gabinius A.F. Capito and the First Voter in the Legislative Comitia Tributa. *Zeitschrift für Papyrologie und Epigraphik* 12(1973) 247-252; The Mother of Livia Augusta and the Aufidii Lurcones of the Republic. *Historia* 23(1974) 463-480; The Quaestorship of Marcus Antonius. *Phoenix* 28(1974) 213-223; Two Quaestorships. *Classical Philology* 70(1975) 35-38; Libiis or Libens. *Latomus* (1975) 209-211.

Linforth, Ivan M. 49-50 HS, Sophocles

Born 1879 San Francisco, CA. PhD 1905 Univ of Calif. Deceased.

Publications Related to IAS Residence: Religion and Drama in "Oedipus at Colonus." *Univ of Calif Publications in Classical Philology* 14, 4(1951) 75-191.

Link, Arthur Stanley 54 55 HS

Born 1920 New Market, VA. PhD 1945 US History Univ of North Carolina. Honors: PBK 1941; Rosenwald Fellowships 1942-43, 1944-45; Guggenheim Fellow 1950-51; Bancroft Prize 1957, 1961; Rockefeller Fellow 1962-63; LittD Bucknell University 1961; LHD Washington College 1962; LittD University of North Carolina 1962; LittD Washington and Lee University 1965; DHum Davidson College 1965; AAAS 1972; Am Philos Soc 1966. Appointments: Beveridge Prize Committee, AHA 1955-58; Exec Comm, Mississippi Valley Hist Assoc 1959-62; Southern Hist Assoc, VP 1967-68, Pres 1968-69 Member Exec Council 1969-72. Memberships: AHA; Org Amer Historians; Soc of Amer Historians; Bd of Eds, *J of Southern Hist*, 1955-58, 1963-66, *J of Amer Hist*, 1967-70; Natl Hist Publications Comm, 1968-72; Adv Comm for ACLS

American Studies Program, 1969-73; Bd of Trs, Westminster College, Pa, 1970; Corr Member Mass Historical Soc, 1977. George Henry Davis '86 Prof, American History, and Dir The Papers of Woodrow Wilson, Firestone Library, Room 2-6F, Princeton Univ, Princeton, NJ 08540.

Publications Related to IAS Residence: *Wilson: The New Freedom*. Princeton Univ Press, 1957; The Cotton Crisis, The South, and Anglo-American Diplomacy, 1914-1915. In *Studies in Southern History in Memory of Albert Ray Newsome, 1894-1951*, ed. by J.C. Sitterson, 122-38. Chapel Hill: UNC Press, 1957.

Linz, Juan J. 73-74 Soc, Social Science

Born 1926 Bonn, Germany. PhD 1959 Sociology Columbia Univ. Honors: Dr(hc) University of Granada, Spain 1976; Guggenheim Fellow 1963-64; Member AAAS 1976. Appointments: Pres World Assn of Pub Opin Res, 1974-76; Chmn, Council for European Studies, 1973-74; Chmn Cttee Polit Sociol Internatl Social Assn&IPSA 1971-; Res Comm for the Internatl Sociology Assn & IPSA 1971-; ISA, Assoc Member Exec Cttee, 1974-78, 1978-82, Member Exec Cttee, 1978-82. Pelatiah Perit Prof, Polit & Soc Sci, Yale University, President DATA, Madrid. Department of Sociology, Yale University, New Haven, CT 06520.

Publications Related to IAS Residence: Totalitarian and Authoritarian Regimes. In *Handbook of Political Science*, ed. by Fred Greenstein and Nelson Polsby, 3: 175-411. Reading, MA: Addison Wesley, 1975; Some notes to the comparative study of Fascism in sociological, historical perspective. In *Fascism, A Reader's Guide*, ed. by Walter Laquer, 3-121. Univ of Calif Press, 1976.

Other Publications: With Alfred Stepan. Crisis, Breakdown and Reequilibration. In *Breakdown of Democratic Regimes*, 1. Baltimore: Johns Hopkins Univ Press, 1978.

Lipgens, Walter 66-67 HS, Modern History

Born 1925 Germany. PhD 1960 Heidelberg Univ. Historische Institut der Universität des Saarlandes, Saarbrücken, Germany. *

Lipshitz, Leonard Michael 76-78 M, Logic

Born 1947 Johannesburg, South Africa. PhD 1972 Mathematics Princeton Univ. Memberships: AMS; ASL. Assoc Prof, Dept of Mathematics, Purdue University, West Lafayette, IN 47907.

Publications Related to IAS Residence: With J. Becker, J. Denef and L. Van Den Dries. Ultraproducts and Approximation in Local Rings I. *Invent Math* 51(1979) 189-203; Undecidable Existential Problems for Addition and Divisibility in Algebraic Number Rings II. *Proc AMS* 64(1977) 122-128; With Mark Nadel. The Additive Structure of Models of Arithmetic. *Proc AMS* 68(1978) 331-336; Diophantine Correct Models of Arithmetic. *Proc AMS* 73(1979) 107-108.

Other Publications: The Undecidability of the Word Problem for Projective Geometries and Modular Lattices. *Trans AMS* 193(1974) 171-180; The Diophantine Problem for Addition and Divisibility. *Trans AMS* 235(1978) 271-283; With D. Saracino. The Model Companion of the Theory of Commutative Rings without Nilpotent Elements. *Proc AMS* 38(1973) 381-387.

Little, Lester K. 69-70 HS, Medieval European History

Born 1935 Providence, RI. PhD 1962 History Princeton Univ. Memberships: AHA; Mediaeval Acad of Amer; Soc Internaz di Studi Francescani. Prof, Department of History, Smith College, Northampton, MA 01063.

Publications Related to IAS Residence: *Religious Poverty and the Profit Economy in Medieval Europe*. Ithaca: Cornell Univ Press, 1978; *Pride Goes before Avarice: Social Change and the Vices in Latin Christendom*. *American Historical Review* 76(1971) 16-49.

Other Publications: With Barbara H. Rosenwein. Social Meaning in the Monastic and Mendicant Spiritualities. *Past and Present* 63(1974) 4-32.

Littman, Robert J. 77s HS, Ancient History

Born 1943 Newark, NJ. PhD 1970 Columbia Univ. Memberships: AHA; Am Philological Assoc; Assoc of Ancient Historians; Soc for the Prom of Hellenic Studies; Soc for the Prom of Roman Studies. Assoc Prof, Classics, Department of European Languages, University of Hawaii, Honolulu, HI 96822.

Publications Related to IAS Residence: Kinship in Athens. *Ancient Society* 10(in press).

Other Publications: *The Greek Experiment: Imperialism and Social Conflict 800-400 B. C.* London & New York: 1974.

Liu, Chuan-Sheng 71-74, 74f NS, Plasma Physics

Born 1939 Chuan Hsien, Kwanhsi, China. PhD 1968 Physics Univ of Calif, Berkeley. Appointments: Exec Comm, Plasma Phys Div, Am Phys Soc; Advisory panels for Dept of Energy. Prof, Physics, Univ of Maryland, Acting Dir Lab of Plasma and Fusion Energy Reserch, Dept of Physics & Astronomy, University of Maryland, College Park, MD 20740.

Liulevicius, Arunas L. 61-62 M, Algebraic Topology

Born 1934 Šakiai, USSR. PhD 1960 Mathematics Univ of Chicago. Honors: NSF Postdoc Fship 1961; Sloan Fship 1967-68. Appointments: AMS Summer Inst Org Comm. Memberships: AMS. Prof, Dept of Mathematics, U of Chicago, Chicago, IL 60637.

Publications Related to IAS Residence: A proof of Thom's theorem. *Comment Math Helv* 37(1962) 121-131; Notes on homotopy of Thom spectra. *Am J Math* 86(1964) 1-16; Stable homotopy of projective spaces. *Trans AMS* 109(1963) 540-552.

Other Publications: Factorization of cyclic reduced powers. *Mem AMS* 42(1962); With J.F. Adams. Homology comodules. *Trans AMS* 134(1968) 375-382; The Hurewicz homomorphism for MU and BP. *J London Math Soc* (2) 5(1972) 539-545; Immersions up to co-bordism. *Ill J Math* 19(1975) 149-164; Homotopy rigidity of linear actions. *Bull AMS* 84(1978) 213-221.

Livesay, George Roger 63-65 M, Topology

Born 1924 Ashley, IL. PhD 1952 Mathematics Univ of Illinois. Memberships: AMS. Prof, and Associate Chairman, Dept of Mathematics, Cornell Univ, Ithaca, NY 14853.

Publications Related to IAS Residence: With W. Browder. Fixed Point Free Involutions On Homotopy Spheres. *Tohoku Math J* 25(1973) 69-88; With W. Browder and J. Levine. Finding a Boundary For an Open Manifold. *Amer J Math* 87(1965) 1017-1028.

Other Publications: Fixed Point Free Involutions on the 3-Sphere. *Ann Math* 72(1960) 603-611; Involutions with Two Fixed Points on the Three-Sphere. *Ann Math* 78(1963) 582-593; With C. B. Thomas. Free Z_2 and Z_3 Actions on Homotopy Spheres. *Topology* 7(1968) 11-14.

Livingston, Arthur Eugene 52-53 M, Analysis

Born 1923 . PhD 1950 Univ of Oregon. Deceased.

Publications Related to IAS Residence: A Generalization of an Inequality Due to Beurling. *Pacific J Math* 4(1954) 251-257; The Lebesgue Constants for Euler (E,p) Summation of Fourier Series. *Duke Math J* 21(1954) 309-313; A Necessary Condition for the Convergence of $\int_a^\infty f(x)dx$. *Amer Math Monthly* 61(1954) 250-251; The Zeros of a Certain Class of Indefinite Integrals. *Proc AMS* 5(1954) 296-300.

Livingston, Marilynn L. 74-75 M, Analytic Number Theory

Born 1940 Canada. PhD 1966 U of Alberta. Dept of Math Studies, Southern Illinois U, Edwardsville, IL 62025. *

Lloyd, Stuart P. 51-52 M(NS)

Born 1923 Kansas City, MO. PhD 1951 Physics Univ of Illinois. Memberships: AMS; MAA; AAAS; Inst of Math Statistics. Member Technical Staff, Bell Laboratories, Room 3C-342B, Whippany, NJ 07981.

Publications Related to IAS Residence: Explicit $\gamma\text{-}\gamma$ Angular Correlations II, Polarization Correlations. *Phys Rev* 88(1952) 906-908.

Other Publications: An Index of Genealogical Relatedness. *Adv in App Prob* 5(1973) 417-438; An Index of Genealogical Relatedness Derived from a Genetic Model. *Ann Prob* 1 (1973) 758-771 ; Two Lifting Theorems. *Proc AMS* 42 (1974) 128-134; On the Mean Ergodic Theorem of Sine. *Proc AMS* 56(1976) 121-126; Rate vs. Fidelity for the Binary

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Source. *Bell Sys Tech J* 56(1977) 427-437; Bicausal Isomorphism of Bernoulli Processes. *Zeit. f. Wahrsch* 37(1977) 183-189.

Lockwood, William W. 39-41, 41f HS(EP)

Born 1906 Shanghai, China. PhD 1950 Harvard Univ. Deceased.

Publications Related to IAS Residence: Future of the China Trade. *Ann Am Ac* 211(1940) 130-137; American-Japanese Trade: Its Structure and Significance. *Ann Am Ac* 215(1941) 86-92; War and Economic Welfare in Japan. In *War as a Social Institution*, 212-223. New York: American Historical Association, 1941.

Loday, Jean-Louis 76-77 M, Algebra and Topology

Born 1946 France. Thèse D'Etat 1975 Strasbourg (F). Memberships: AMS; SMF. Chargé de Recherche, 241 CNRS, Inst de Recherche Math Avancée, 7 r. Descartes, 67084 Strasbourg, France.

Publications Related to IAS Residence: Cohomologie et groupe de Steinberg relatif. *J Algebra* 54(1978) 178-202.

Other Publications: K-théorie algébrique et représentations de groupes. *Ann Sc Ec Norm Sup* 9(1976) 309-377.

Loeffel, Jean-Jacques 66-67, 78f NS

Born 1932 Switzerland. PhD 1962 ETH, Zürich. Inst of Theoret Physics, Univ of Lausanne, Bsp Dorigny, CH-1015 Lausanne, Switzerland. *

Lohoué, Noël 79f M, Harmonie Analysis

Born 1939 Bayangan, Cameroons. Maître de Recherche, CNRS, 30 Blvd Pasteur, 94260 Fresnes, France. *

Łojasiewicz, Stanisław 60s M

Born 1926 Warsaw, Poland. Memberships: Polish Acad Sci; Polish Math Soc; AMS. Prof, Analysis, Jagellonian Univ, Ujejskiego 6 m.3, 30102 Kraków, Poland.

Publications Related to IAS Residence: *Ensembles Semi-analytiques*. Bures-sur-Yvette: IHES, 1965.

Other Publications: Sur le problème de la division. *Studia Math* 18(1959); Triangulation of semi-analytic sets. *Ann Scuola Norm Sup Pisa, ser III* 18(1964).

Long, Anthony Arthur 70s, 79s HS, Ancient Philosophy

Born 1937 Manchester, England. PhD 1964 Greek lit Univ of London. Honors: Cromer Greek Prize Brit Acad 1968. Appointments: Ed *Classical Quarterly* since 1975; Treas Brit Council Univ Classical Depts 1971-77; Council Brit Classical Assoc 1974-7; Council for Prom of Hellenic Studies 1972-75 and centenary cttee 1978-79. Memberships: Classical Assoc; Soc for Prom of Hellenic Studies; Aristotelian Soc. Gladstone

Prof, Dept of Greek, University of Liverpool, Liverpool L69 3BX, England.

Publications Related to IAS Residence: The Logical Basis of Stoic Ethics. *Proc of Aristot Soc* (1970/71); ed with A. P. D. Mourelatos. Empedocles' Cosmic Cycle in the Sixties. *The Presocratics ; The Hellenistic Philosophers*. Cambridge Univ Press, forthcoming.

Other Publications: *Language and Thought in Sophocles*. London: 1968; ed, *Problems in Stoicism*. London: 1971; *Hellenistic Philosophy: Stoics, Sceptics, Epicureans*. London: 1974.

Long, Clarence D., Jr. 41-43, 45f HS(EP), Economics

Born 1908 South Bend, IN. PhD 1935 Princeton Univ. Honors: Guggenheim Fellow 1941-43. Appointments: Sr Staff Council of Econ Advisers to the President 1953-54, 1956-57. US Congressman 2nd Dist, Maryland; Chmn For Opns Approp Subcommittee, 1015 Boyce Ave, Ruxton, MD 21204. *

Publications Related to IAS Residence: *The Labor Force in Wartime America*. New York: Natl Bureau of Econ Research, 1944; The Concept of Unemployment. *Q J Econ* 57 (1942) 1-30.

Long, Herbert Strainge 51-52, 65-66 HS

Born 1919 Dexter, NY. PhD 1942 Classics Princeton Univ. Honors: Award of Merit of the Am Philolog Assoc 1965; LittD Hamilton Coll 1972. Appointments: Comm on Award of Merit of the Am Philolog Assoc. Memberships: Classical Assoc of Middle West & South. Prof, Classics, Case Western Reserve Univ, 2820 Chad-bourne Rd, Cleveland, OH 44120.

Publications Related to IAS Residence: *Diogenis Laertii Vitae Philosophorum*. Oxford: Clarendon Press, 1964.

Long, Robert L. 70-72 M

Born 1940 Akron, OH. PhD 1970 Math Univ of Illinois. Asst Prof, Dept of Math, Univ of Florida, Gainesville, FL 32601.

Longair, Malcolm Sim 78f NS, Astrophysics

Born 1941 Dundee, Scotland. PhD Radio Astronomy Cambridge Univ. Appointments: NASA Space Telescope Science Working Group; Astronomy II Committee (infrared, optical and U-V Astronomy-Chairman 1979-1981); UK Space Telescope Advisory Committee; ESA Astrophysics Working Group; ESA Space Telescope Working Group. Memberships: Royal Astron Soc. Univ Lect, Physics and Theoretical Physics, Cambridge Univ, Cavendish Laboratory, Madingley Rd, Cambridge CB3 0HE, England.

Publications Related to IAS Residence: With R.A. Sunyaev. *Matter and Radiation in the Universe, 2 Volumes*. New York & Moscow: Cambridge Univ Press and Nauka, forthcoming; With G. Hine. The Optical Spectra of Radio Galaxies. *Monthly Notices of*

Royal Astron Soc in press; With M. Seldner. The Cross-correlation and Luminosity Functions for Radio Galaxies. *Ap J* in press.

Łopuszanski, Jan Thaddaeus 64-65 M(NS),
Theoretical Physics

Born 1923 Lwów, Poland. PhD 1955 Statistical Physics Jagellonian Univ. Honors: Several Awd's of the Polish Ministry of Ed; Polish Phys Soc; Chevalry Cross The Order of Polonia Restituta 1965; Corr Mem Polish Acad Sci 1976. Appointments: Member Cttee in Physics of the Polish Acad of Scis. Memberships: Polish Phys Soc; Polish Math Soc; Scientific Soc of Wroclaw; Amer Phys Soc; Euro Phys Soc; Intl Assoc Mathematical Physics; AMIAS. Prof, Quantum Field Theory, Univ of Wroclaw, Dir Inst of Theoretical Physics Univ of Wroclaw, Ul Braci Gierymskich 79, 51640 Wroclaw, Poland.

Publications Related to IAS Residence: With H. Reeh. On Quantum Field Theory with Degenerate Vacuum and a Special Type of Symmetry. *J Math Phys* 7(1966) 148-154; With H. Reeh. A Remark on a Reducible Quantum Field Theory with a One Parameter Symmetry Group. *J Math Phys* 7(1966) 1821-1823; With H. Reeh. On Goldstone's Theorem. *Phys Rev* 140B(1965) 926-927.

Other Publications: Some Remarks on the Asymptotic Behaviour of the Cosmic Ray Cascade for Large Depth of the Absorber. *Suppl Nvovo Cimento* 2, 10(1955) 1150-1160; 2, 10(1955) 1161-1167; A Criterion for the Free Character of Fields. *J Math Phys* 2(1961) 743-747; Symmetries Induced by Conserved Vector Currents in the Theory of a Scalar Field. *Commun Math Phys* 12(1969) 80-90; Physical Symmetries in a Theory of Several Scalar Real Fields. *Commun Math Phys* 14(1969) 158-164; On Some Properties of Physical Symmetries. *J Math Phys* 12(1971) 2401-2412; With R. Haag & M. Sohnius. All Possible Generators of Super-Symmetries of the S-Matrix. *Nucl Phys* B88(1975) 257-274; With A. Pawlikowski. *Fizyra Statystyczna*. Warszawa: PWN, 1969.

Lorenzen, Paul Peter Wilhelm 57-58 M,
Mathematical Logic

Born 1915 Kiel, Germany. Honors: Dr(hc) Univ of Rio de Janeiro. Memberships: Ak d W Göttingen; Inst Int de Phil Paris; Acad Int de Phil Scis Brüssel. Prof, Philosophy, Univ of Erlangen, Spardorfer Strasse 59, 8520 Erlangen, West Germany.

Publications Related to IAS Residence: *Einführung in die operative Logik und Mathematik*. Berlin/Göttingen/Heidelberg: Springer, 1955; *Formale Logik*. Berlin: de Gruyter, 1958; *Die Entstehung der exakten Wissenschaften*. Berlin/Göttingen/Heidelberg: Springer, 1960; *Metamathematik*. Mannheim: Bibliographisches Institut, 1962; *Logik und Grammatik*. Mannheim: Bibliographisches Institut, 1965; *Differential und Integral. Eine konstruktive Einführung in die klassische Analysis*. Frankfurt a.M: Akademische Verlagsgesellschaft, 1965; With

Wilhelm Kamiah. *Logische Propädeutik oder Vorschule des vernünftigen Reden*. Mannheim: Bibliographisches Institut, 1967; *Methodisches Denken. Gesammelte Aufsätze*. Frankfurt a.M: Suhrkamp, 1968; *Normative Logic and Ethics*. Mannheim: Bibliographisches Institut, 1969; With Oswald Schwemmer. *Konstruktive Logik, Ethik und Wissenschaftstheorie*. Mannheim: Bibliographisches Institut, 1973; *Konstruktive Wissenschaftstheorie*. Frankfurt a.M: Suhrkamp, 1974; *Theorie der technischen und politischen Vernunft*. Frankfurt: Suhrkamp, 1978; *Dialogische Logik*. Darmstadt: Wissenschaftl. Buchgesellschaft, 1978.

Lotz, Wolfgang 65f HS, History of Art

Born 1912 Heilbronn, Germany. PhD 1937 History of Art Hamburg Univ. Honors: Member Pontif Acad Archeolog Rome 1977; Acad Olimpica Vicenza 1969; Serena Medal Brit Acad 1978. Appointments: Coun Internat Hist Art; German UNESCO-Comm; Chm Consiglio Sci; Centro Internaz Studi Di Architettura Andrea Palladio Vicenza. Memberships: Coll Art Assoc of Amer; Soc of Archit Historians; Deut Kunsthist Ver. Dir, Bibliotheca Hertziana, Via Gregoriana 28, 00187 Roma, Italy.

Publications Related to IAS Residence: With L. H. Heydenreich. Architecture in Italy 1400-1600. In *Pelican History of Art*. Baltimore: Harmondsworth, 1974; Dies-panische Treppe. *Römisches Jahrbuch für Kunstgeschichte* 12(1969) 39-94.

Loveday, Alexander 46s HS(EP), Relation Between
Economic Control and Political Freedom

Born 1888. Deceased.

Publications Related to IAS Residence: *The Only Way; a Study of Democracy in Danger*. London: Hodge, 1950.

Low, Francis E. 50-52, 67-68 M(NS), Physics

Born 1921 New York, NY. PhD 1949 Physics Columbia. Honors: AAAS; NAS. Appointments: NAS-NRC Committees. Memberships: Amer Phys Soc. Prof, Physics, and Dir Lab for Nuclear Science, MIT, 6-313, Cambridge, MA 02139.

Publications Related to IAS Residence: With K. Brueckner. Singular Potentials and the Theory of the Effective Range. *Phys Rev* 83(1951) 461-462; With E. E. Salpeter. On the Hyperfine Structure of Hydrogen and Deuterium. *Phys Rev* 83(1951) 478; With M. Gell-Mann. Bound States in Quantum Field Theory. *Phys Rev* 84(1951) 350-354; Natural Line Shape. *Phys Rev* 88 (1952) 53-57; With M. Goldberger. Photon Scattering from Bound Atomic Systems at Very High Energy. *Phys Rev* 176(1968) 1778; With M. Gell-Mann, M. L. Goldberger and N. M. Kroll. Amelioration of Divergence Difficulties in the Theory of Weak Interactions. *Phys Rev* 170(1969) 1518.

Lowan, Arnold N. 33-34 M

Members

Born 1898 . PhD 1933 Columbia Univ. Deceased.

Publications Related to IAS Residence: Heat Conduction in a Semi-Infinite Radioactive Solid. *Amer J Math* 56(1934) 396-400; On the Operational Treatment of Certain Mechanical and Electrical Problems. *Philos Mag* 7 17(1934) 1134-1144; Heat Conduction in a Semi-Infinite Solid of Two Different Materials. *Duke Math J* 1(1935) 94-102; On the Cooling of the Earth. *Amer J Math* 57(1935) 174-182; On Transverse Oscillations of Beams under the Action of Moving Variable Loads. *Philos Mag* 7 19(1935) 708-715.

Lowenstein, John Hood 79f NS, Quantum Field Theory

Born 1941 Newark, NJ. PhD 1966 Physics Univ of Ill. Memberships: Am Phys Soc. Assoc Prof, Dept of Physics, New York Univ, 4 Washington Pl, New York, NY 10003.

Publications Related to IAS Residence: Diagonalization of the Chiral Invariant Gross-Neveu Hamiltonian. *Phys Rev Lett* 43(1979) 1698; Derivation of the Chiral Gross-Neveu Spectrum for Arbitrary SU(N) Symmetry. *Phys Lett* (in press).

Lowinsky, Edward E. 52-54, 54f HS, History of Art

Born 1908 Stuttgart, Germany. PhD 1933 Music Univ of Heidelberg. Honors: Guggenheim Fellow 1947-48, 1976-77; Bollingen Foundation grants 1952-54, 1960-61; Colvin Research Prof Univ of Chicago 1964-65; Otto Kindeldey Awd for *The Medici Codex* The Amer Musicol Soc 1969; AAAS 1973; For member Royal Netherlands Acad 1974; Awd of Amer Soc of Composers Authors and Publishers 1978. Appointments: Amer Musicolog Soc: Member Comm on Internatl Rels, 1947-48; Member of Council, 1950-52, 1954-56, 1962-64, 1967-69; Member of Exec Bd, 1967-68; Soc for Ethnomusicol: Member of Council, 1957-64; Ren Soc of Amer Representative in Musicol 1962-68; Fulbright Grant program: Member cttee on Musicol 1967-68; Chm in 1968; Intl Cttee for the New Josquin Edition: Member, 1973; Honorary Member, 1974-; Planning Group for an American Study Center in Venice: Member 1973-. Memberships: Amer Musicol Soc; Renaissance Soc Amer; Music Lib Assoc; Intl Musicol Soc; Netherlands Soc Musicol. Ferdinand Schevill Distinguished Service Prof Emeritus, Department of Music, University of Chicago, 5835 S University Ave, Chicago, IL 60637.

Publications Related to IAS Residence: Music in the Culture of the Renaissance. *J Hist of Ideas* 15(1954) 509-53; The Medici Codex: A Document of Music, Art and Politics in the Renaissance. *Ann musicol* 5(1957) 61-178; English Organ Music of the Renaissance. *Musical Quarterly* 39(1953) 373-95; 528-53; Conflicting Views on Conflicting Signatures. *J of Am Musicol Soc* 7(1954) 181-204.

Other Publications: *Orlando di Lassos Antwerpener Motettenbuch und seine Beziehungen zum Motettenschaffen seiner niederländischen Zeitgenossen*. The Hague: Martinus Nijhoff, 1937;

Secret Chromatic Art in the Netherlands Motet. Columbia U Studies in Musicol, 6. New York: Columbia U Press, 1946; *Tonality and Atonality in Sixteenth-Century Music*. Berkeley and Los Angeles: Univ of Calif Press, 1961; *The Medici Codex of 1518, A Choirbook of Motets Dedicated to Lorenzo de' Medici Duke of Urbino*. Monuments of Renaissance Music, 3, 5. Chicago: U of Chicago Press, 1968; *Josquin des Prez. Proc Internatl Josquin Festival-Conf*. London: Oxford U Press, 1976.

Lowry, Bates 71s HS, Art History

Born 1923 Cincinnati, OH. PhD 1956 Univ of Chicago. Dept of History of Art, Univ of Massachusetts, Boston, MA 02125. *

Luban, Marshall 62-63 M(NS), Physics

Born 1936 Seattle, WA. PhD 1962 Physics Univ of Chicago. Honors: Guggenheim Fellow 1966-7. Appointments: Israel Nat Council for Res and Development; VP Israel Phys Soc 1978. Memberships: Amer Phys Soc; Israel Phys Soc. Prof, Dept of Physics, Bar-Ilan University, Ramat-Gan, Israel.

Publications Related to IAS Residence: Quantum Hard-Sphere Gas I, II. *Phys Rev* 138A(1965) 1028, 1033.

Other Publications: Critical Behavior at onset of k-space instability on the λ -line. *Phys Rev Lett* 35(1975) 1678.

Lubin, Jonathan 66-67 M, Algebra

Born 1936 New York, NY. PhD 1963 Mathematics Harvard Univ. Prof, Mathematics, Brown Univ, 24 John St, Providence, RI 02906.

Lubkin, Saul 65-66, 70-71 M, Algebraic Geometry

Born 1939 Brooklyn, NY. PhD 1963 Mathematics Harvard Univ. Honors: Sloan Fellow 1968-1970; Senior Visiting Fellow Science Research Council (UK) 1979; Hon Res Fellow Harvard Univ 1968-1970. Memberships: AMS Prof, Dept of Mathematics, University of Rochester, Rochester, NY 14627.

Publications Related to IAS Residence: A p-adic proof of Weil's conjectures. *Ann Math* (2)87(1968) 105-194; On a conjecture of Andre Weil. *Am J Math* 89(1967) 443-548; Finite generation of lifted p-adic homology with compact supports. Generalization of the Weil conjectures to singular, non-complete algebraic varieties. *J Number Theory* 11, 3(1979) 412-464; P-adic cohomology theorems. *Ann Math* in press.

Other Publications: *Cohomology of completions*. Notas de Mat. No Holland Pub Co.; Imbedding of abelian categories. *TAMS* 97(1960) 410-417; Theory of covering spaces. *TAMS* 104(1962) 205-238.

Lubow, Stephen Harvey 79-80 NS, Astrophysics

Born 1949 Salem, MA. PhD 1977 Physics Univ of Calif, Berkeley.

Lucas, Paul 75-76 Soc, History

Born 1934 New York, NY. PhD 1963 History Princeton Univ. Honors: ACLS Fellow 1967-68. Assoc Prof, European Hist, and Assoc Chmn, History Dept, Clark Univ, Worcester, MA 01610.

Publications: Blackstone and the reform of the legal profession. *English Hist Rev* (1962); Blackstone and the natural Law. *Am J Legal Hist* (1963); Edmund Burke's doctrine of prescription. *Hist J* (1968); Structure of politics in mid-18th century Britain and its American colonies. *Wm & Mary Q* (1971); Collective biography of Lincoln's Inn 1680-1804. *J Mod Hist* (1974).

Lucchini, Maria 62-63 M(NS), Physics

Born 1935 Italy. PhD 1960 Univ of Milan. *

Luce, R. Duncan 69-72 Soc, Information Processing, Psychology

Born 1925 Scranton, PA. PhD 1950 Mathematics MIT. Honors: Disting Scientific Contributors Awd Amer Psych Soc 1970; NAS; AAAS. Appointments: Assbly of Behavioral & Soc Scis; NRC Member 1973-1976, Chm 1976-1979; Member with Long-Term Appointment IAS 1969-72. Memberships: AAAS; AMS; Amer Psychol Assoc; Pres, Soc for Math Psych; past Pres, Psychometric Soc. Alfred North Whitehead Prof, Psychology, Department of Psychology and Social Relations, Harvard University, Cambridge, MA 02138.

Publications Related to IAS Residence: With Krantz D. H., Suppes P. & Tversky A. *Foundations of Measurement*. 1. New York: Academic Press, 1971; With D. M. Green. Speed-Accuracy Trade Off in Auditory Selection. In *Attention & Performance* 4. NY & London: 1973; Three Axiom Systems for Additive Semioordered Structures. *J Appl Math* 25(1973) 41-53; What sort of Measurement is Psychophysical Measurement?. *Amer Psychol* 27(1972) 96-106; Conditional Expected Extensive Utility. *Theory and Decision* 3(1972) 101-106; Periodic Extensive Measurement. *Compositio Mathematica* 23(1971) 189-198; Conditional Expected Utility. *Econometrica* 39(1971) 253-71; Similar Systems & Dimensionally Invariant Laws. *Philosophy of Science* 38(1971) 157-169; With D.M. Green. Detection of auditory signals presented at random times II. *Perception & Psychophysics* 7(1970) 1-14; With D.M. Green. Detection of auditory signals presented at random times III. *Perception & Psychophysics* 9(1971) 257-68.

Other Publications: With H. Raiffa. *Games and Decisions*. New York: Wiley, 1957; With R. R. Bush and E. Galanter. *Individual Choice Behavior*. New York: Wiley, 1959; *Handbook of Mathematical Psychology*. 1 2 3. New York: Wiley, 1963.

Ludwig, Walther 70s HS, Classical Studies

Born 1929 Stuttgart, Germany. Dphil 1955 Univ Tübingen. Honors: Jr Fellow Center for Hellenic Studies, Washington DC 1962/63; ACLS Fellow 1974/75. Appointments: Senatskomm Humanismusforschung Deut Forschungsgemeins, 1978-; Com Sci, Fondation Hardt, Geneva, 1976-. Memberships: Mommsen-Gesellschaft (sec 1960-64, pres 1978-); Amer Philol Assoc; Renaissance Soc of Amer; Intl Soc for Neo-Latin Studies. Prof, Klassische Philologie, Univ Hamburg, Reventlowstr 19, 2000 Hamburg 52, Germany.

Publications Related to IAS Residence: *Ioannis Harmonii Marsi Comoedia Stephanium*. München: 1971.

Other Publications: *Sapheneia*. Tübingen: 1955; *Struktur und Einheit der Metamorphosen Ovids*. Berlin: 1965; With Maristella de Panizza Loren. *Zilioli Ferrari-ensis Comoediola Michaelida*. München: 1975; *Die Borsias des Tito Vespasiano Strozzi - ein lateinisches Epos der Renaissance*. München: 1977.

Lund, Fernando 75-78 NS, General Relativity, Statistical Mechanics

Born 1948 Chile. PhD 1975 Princeton Univ. Dept de Fisica, Universidad de Chile, Casillo 5487, Santiago, Chile. *

Lurçat, François 66-67 NS, Physics

Born 1927 Paris, France. D d'Etat 1956 Physics Univ of Paris. Prof, Physics, Lab Phys Theor et Hautes En, Université Paris-Sud, Batiment 211, 91405 Orsay, France.

Publications Related to IAS Residence: *Phys Rev* 173(1968) 1461-1473.

Other Publications: *Ann Physics* 106(1977) 342-393.

Lusztig, George 69-71 M, Group Representations

Born 1946 Timișoara, Rumania. PhD 1971 Math Princeton Univ. Honors: Junior Berwick Prize London Math Soc 1977. Memberships: London Math Soc; AMS. Prof, Dept of Mathematics, MIT, Room 2-276, Cambridge, MA 02139.

Publications Related to IAS Residence: Novikov's Higher Signature and Families of Elliptic Operators. *J Diff Geom* 7(1972) 229-256; With J. L. Dupont. On Manifolds satisfying $w_1^2 = 0$. *Topology* 10(1971) 81-92.

Other Publications: The discrete series of GL_n over a finite field. *Ann Math Studies* (1974); With P. Deligne. Representations of reductive groups over a finite field. *Ann Math* 103(1976) 103-161.

Luttinger, Joaquin Mazdak 49-50, 53s M(NS), Theoretical Physics

Born 1923 New York, NY. PhD 1947 Physics MIT. Honors: Member NAS. Memberships: Am Phys Soc. Prof, Dept of Physics, Columbia Univ, New York, NY 10027.

Members

Luttrell, Anthony Thornton 77-78 HS, Medieval History

Born 1932 London, England. DPhil 1959 History Oxford Univ. Memberships: FRHistS (London). Chercheur, Institut de Recherche et d'Histoire des Textes, Paris, France, 50 Parish Street, Mosta, Malta.

Publications: Ed., *Medieval Malta: Malta before the Knights*. London: 1976; *The Hospitallers in Cyprus, Rhodes, Greece and the West, 1291-1440*. London: 1978.

Lutz, Friedrich A. 43-46 HS(EP), Economics

Born 1901 Switzerland. Deceased.

Publications Related to IAS Residence: With Norman S. Buchanan. *Rebuilding the World Economy: America's Role in Foreign Trade and Investment*. New York: Twentieth Century Fund, 1947; The Criterion of Maximum Profits in the Theory of Investment. *Quart J Econ* 60(1945) 56-77; The Interest Rate and Investment in a Dynamic Economy. *Amer Econ R* 35(1945) 811-830.

Lyon, Bryce Dale 79s HS, Medieval History

Born 1920 Bellevue, OH. PhD 1949 Cornell Univ. Honors: Medieval Acad of Amer 1972; AAAS 1972; FRHS 1973; D Ped Baldwin-Wallace Coll 1971. Appointments: Bd Eds, *Am Hist Rev*, *Speculum*, *J of Brit Studies*, *J of Med Hist*; Chmn, ETS GRE Comm; AHA Norn Comm; Councillor, Med Acad of Amer. Memberships: Med Acad of Amer; Conf of Brit Studies; Royal Hist Assn; Acad of Arts and Sciences. Prof, Dept of History, Brown University, Providence, RI 02912.

Publications Related to IAS Residence: *From Fief to Indenture*. Cambridge, Mass: 1957; *A Constitutional & Legal History of Medieval England*. NY: 1960; *Medieval Financial Institutions*. Gent: 1967; *Origins of the Middle Ages*. NY: 1972; *Henri Pirenne*. Gent: 1974; *Journal de Guerre of Henri Pirenne*. Amsterdam: 1976.

Lyons, Richard Neil 78f M, Group Theory

Born 1945 New York, NY. PhD 1970 Math Univ of Chicago. Memberships: AMS; MAA. Assoc Prof, Math, Rutgers U. 215 W 92nd St, New York, NY 10025.

Publications: Evidence for a New Finite Simple Group. *J Algebra* 20(1972).

Lyttelton, N.A.O. 77f HS

Born 1937 England. BA (Oxon) 1959. Prof, Dept of History, Univ of Reading, Whiteknights Park, Reading, England. *

Ma, Shang-Keng 68-69, 70f NS, Physics

Born 1940 Chungking, China. PhD 1966 Physics UC Berkeley. Honors: Sloan Fellow 1971. Memberships:

Am Phys Soc. Prof, Dept of Physics, Univ of California, San Diego, LaJolla, CA 92093.

Publications Related to IAS Residence: With R. Dashen & H.J. Bernstein. S-Matrix Formulation of Statistical Mechanics. *Phys Rev* 187(1969) 345; With Roger Dashen. S-Matrix and Low Energy Theorem in the Theory of Correlation Functions. *J Math Phys* 12, 8(1971) 1449; With Roger Dashen. Singular Three-Body Amplitudes in the Theory of the Third Virial Coefficient. *J Math Phys* 11(1970) 1136; With Roger Dashen. Singularities in Forward Multiparticle Scattering Amplitudes and the S-Matrix Interpretation of Higher Virial Coefficients. *J Math Phys* 12, 4(1971) 689; With Roger Dashen. Scattering Theory and Current Correlations in Classical Gases. *Phys Rev A* 4, 2(1971) 700; With S.J. Chang. Multiphoton Exchange Amplitudes at Infinite Energy. *Phys Rev* 188(1969) 2385; With S.J. Chang. Scattering Amplitudes in Quantum Electrodynamics at Infinite Energy. *Phys Rev Lett* 22(1969) 1334; With S.J. Chang. Feynman Rules and Quantum Electrodynamics at Infinite Momentum. *Phys Rev* 180(1969) 1506.

Other Publications: *Modern Theory of Critical Phenomena*. Reading, Mass: W.A. Benjamin Inc., 1976.

Ma, Shih-Tsun 46s, 46-47 M(NS), Physics

Born 1913. PhD 1941 Cambridge Univ. *

Publications Related to IAS Residence: Equivalence of the Riesz Method and the λ -Limiting Process for the Classical Electromagnetic Field of a Point Source. *Phys Rev* 271(1947) 787-792; On a General Condition of Heisenberg for the S Matrix. *Phys Rev* 271(1947) 195-200; Relativistic Invariance of the Quantum Theory of Radiation. *Phys Rev* 272(1947) 1090-1096.

MacAlpine, Gordon Madeira 71-72 NS, Astrophysics

Born 1945 Bozeman, MT. PhD 1971 Astronomy Univ of Wisc. Honors: Phi Beta Kappa; Sigma Xi. Memberships: Amer Astron Soc. Assoc Prof, Department of Astronomy, Univ of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: Photoionization Models for the Emission-Line Regions of Quasi-Stellar and Related Objects. *Ap J* 175(1972) 11-30.

Other Publications: Possible Collisional Enhancement of He I λ 5876 in Seyfert Galaxies and QSOs. *ApJ* 204(1976) 694-698; With Stephen B. Smith and David W. Lewis. Curtis Schmidt-Thin Prism Survey for Extragalactic Emission-Line Objects. University of Michigan List I. *Ap J* 34(1977) 95-100; List II. 35(1977) 197-201; List III. 35(1977) 203-207; List IV. 36(1978) 587-593; With Enrique Daltabuit and Donald P. Cox. The Structure and Spectrum of a Colliding-Cloud System and its Possible Relationship to QSOs. *Ap J* 219(1978) 372-380; With Fred R. Feldman. A Theoretical and Observational Analysis of He I Triplet Lines in Class 1 Seyfert Galaxy Spectra.

Ap J 221(1978) 486-500; With James M. Shuder. A Photoionization Model Analysis of QSO Ultraviolet Emission Lines. *Ap J* 230(1979) 348-359.

Macdonald, Ian Grant 68-69, 77f M, Lie Groups, Algebraic Groups

Born 1928 London, England. MA 1957 Math Cambridge Univ. Appointments: Math Comm of Sci Res Council 1972-75. Memberships: London Math Soc; AMS; MAA. Prof, Dept of Pure Mathematics, Queen Mary College, University of London, Mile End Rd, London E1 4NS, England.

Publications Related to IAS Residence: Affine Root Systems and Dedekind's η -function. *Invent Math* 15(1972); The Poincaré series of a Coxeter group. *Math Ann* 199(1972).

Other Publications: *Spherical Functions on a group of p -adic type*. Ramanujan Inst Pubs, 2. Madras: Univ of Madras, 1971.

MacDowell, Samuel W. 63-65 M(NS), Elementary Particle Physics

Born 1929 Sao Lourenço Da Mata, Pernambuco, Brazil. PhD 1958 Math Physics Birmingham Univ. Honors: Gravity Res Found Awd, 5th Prize 1978. Memberships: Acad Brasileira de Ciencias; Fellow Amer Inst of Phys; NY Acad of Scis. Prof, Physics Dept, Yale University, New Haven, CT 06520.

Publications Related to IAS Residence: With A. Martin. Unitarity Bounds of the Scattering Amplitude. *Phys Rev* 135(1964) 960; High Energy Behaviour of the Scattering Amplitude. *Phys Rev* 135(1964) 1378; With Y.S. Jin. Poles in the Vertex Function, etc. *Phys Rev* 137(1965) 688; With Y.S. Jin. Phase Representation and High Energy Behavior. *Phys Rev* 138(1965) 1279.

Other Publications: Energy Spectrum of Pions, Polarization of Muons and Electrons in $K\mu 3$, $K\epsilon 3$ Decay. *Il Nuovo Cimento* 6(1957) 1445; Analytic Properties of Partial Amplitudes etc. *Phys Rev* 116(1959) 774; Theory of Low Energy Nucleon-Nucleon Scattering. *Phys Rev* 120(1960) 2250; Unified Geometric Theory of Gravity and Supergravity. *Phys Rev Letters* 38(1977) 739.

MacDuffee, Cyrus C. 37-38 M

Deceased.

Publications Related to IAS Residence: Modules and Ideals in a Frobenius Algebra. *Monatsh Math* 48(1939) 293-313.

Macintyre, Angus John 76s M, Logic

Born 1941 Taynult, Argyll, Scotland. PhD 1968 Math Stanford Univ. Memberships: ASL; AMS. Prof, Math Dept, Yale University, New Haven, CT 06520.

Publications Related to IAS Residence: With W. Baur and G. Cherlin. On totally categorical groups and rings. *J Algebra* in press; Existentially closed structures and Jensen's principle. *Israel J Math*

25(1976) 202-210; Abraham Robinson 1918-1974. *Bull AMS* 83(1977) 646-666.

Other Publications: On ω_1 -categorical theories of fields. *Fund Math* 71(1971) 1-25; On algebraically closed groups. *Ann Math* 96(1972) 53-97; Nonstandard number theory. In *Proc Intl Cong Math 1978*, in press.

Mack, Gerhard 74-75 NS, Quantum Field Theory

Born 1940 Tübingen a. N., Germany. PhD 1967 Physics Univ of Bern. Memberships: Assoc Math Phys. Prof, Univ of Hamburg, Germany, Institut für Theoret Physik, Luruper Chaussee 149, D-2000 Hamburg, Germany.

Publications Related to IAS Residence: With V.K. Do-breb, V.B. Petkova, S.G. Petrova, IT. Todorov. Harmonic Analysis. *Lecture Notes in Physics* 63(1977); On Blattner's formula for discrete series representations of $SO(2n, 1)$. *J Functional Analysis* 23(1976) 311.

Mack Smith, Denis 59f HS, History

Born 1920 London, England. MA(Cantab.) 1947. Honors: Fellow Brit Acad; Corr Fellow Amer Acad; Commendatore del Ordine al Merito d Repub Italiana. Sr Res Fellow, All Souls College, Oxford, England.

MacKay, Pierre Antony 73-74 HS, Classics, Islamic Studies

Born 1933 Toronto, Canada. PhD Classics Univ of Calif, Berkeley. Memberships: Amer Sch of Class Studies; British Inst of Archaeol at Ankara; Amer Res Center, Egypt. Prof, Classics and Near Eastern Langs & Lit, Department of Classics, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: The manuscripts of the Seyahatname of Evliyaçelebi. *Der Islam* 52(1975) 278-298; The route of the Via Egnatia around Lake Ostrovo. *Ancient Macedonia* 2(1977) 201-210; Setting Arabic with a Computer. *Scholarly Publishing* 8(1977) 142-150.

Other Publications: Certificates of Transmission on a Manuscript of the Maqāmāt of Har[?][?] *Trans Am Philos Soc* 61, 4(1971) 81; With Herman de Meulenaere. *Mendes II*. Warminster: 1976.

MacKendrick, Paul Lachlan 65s HS, Greek Epigraphy

Born 1914 Taunton, MA. PhD 1938 Classical Philology Harvard Univ. Honors: Nat PBK Lect 1972; C.B. Martin Lect Oberlin Coll 1966; Pres Class Assn of Midwest & South 1973. Appointments: Trustee, Amer Acad in Rome, 1966-72; Bd of Directors, ACLS; 1956-72; Natl Humanities Fac, 1969-72. Memberships: Amer Philol Assn, Sec' y, 1956-59; Archaeol Inst of Amer; Class Assn of the Middle West & South. Lily Ross Taylor Prof, Classics, 914 Van Hise Hall, Univ of Wisconsin, Madison, WI 53706.

Members

Publications Related to IAS Residence: *The Athenian Aristocracy*. Cambridge, Mass: Harvard Univ Press, 1969.

Other Publications: *The Mute Stones Speak*. NY: St. Martin's Press, 1960; *The Greek Stones Speak*. New York: St. Martin's Press, 1962; *The Iberian Stones Speak*. New York: Funk & Wagnalls, 1969; *Romans on the Rhine*. NY: Funk & Wagnalls, 1970; *Roman France*. NY: St. Martin's Press, 1972; *The Dacian Stones Speak*. Chapel Hill: UNC Press, 1975; *The North African Stones Speak*. Chapel Hill: UNC Press, 1979.

Mackesy, Piers Gerald 61-62 HS, History

Born 1924 Cults, Aberdeen, Scotland. DLitt 1978 History Oxford Univ. Honors: FRHS. Appointments: Council Inst for Early Amer Hist & Culture, 1970-2. Fellow, Modern History, and Special Lecturer, Pembroke College, Oxford, England.

Publications Related to IAS Residence: *The War for America 1775-83*. London and Cambridge, Mass: Longman & Harvard Univ Press, 1964.

Other Publications: *The War in the Mediterranean, 1803-10*. Cambridge, Mass: Harvard Univ Press, 1957; *Statesmen at War: The Strategy of Overthrow, 1798-99*. London: Longman, 1974; *The Coward of Minden: The Affair of Lord George Sackville*. London: Allen Lane, 1979.

Mackey, George Whitelaw 42s, 77f M

Born 1916 St Louis, MO. PhD 1942 Mathematics Harvard Univ. Honors: Steele Prize AMS 1974; Guggenheim Fellow 1949-50, 1961-62, 1970-71; NAS 1962; AAAS; Amer Philos Soc 1971. Memberships: AMS. Prof, Math Dept, Harvard University, 1 Oxford St, Cambridge, MA 02138.

Publications Related to IAS Residence: On Infinite Dimensional Linear Spaces. *Trans AMS* 57(1945) 155-207; On Convex Topological Linear Spaces. *Trans AMS* 60(1946) 519-537; Harmonic Analysis as the Exploitation of Symmetry-A Historical Survey. *Rice Univ Studies* 64(1978) 73-228; With S. Kakutani. Two Characterizations of Real Hubert Space. *Ann Math* 44(1944) 56-58; Ring and Lattice Characterizations of Complex Hubert Space. *Bull AMS* 52(1946) 727-735.

Other Publications: *Mathematical Foundations of Quantum Mechanics*. Reading, Mass: W.A. Benjamin; *The Theory of Unitary Group Representations*. Chicago: U of Chicago Press, 1976; *Unitary Group Representations in Physics, Probability and Number Theory*. Reading, Mass: Addison Wesley, 1978; Isomorphisms of Normed Linear Spaces. *Ann Math* 43(1942) 244-260; Imprimitivity for Representations of Locally Compact Groups. *Proc NAS* 35(1949) 537-545; Induced Representations of Locally Compact Groups I. *Ann Math* 55(1952) 101-139; Induced Representations of Locally Compact Groups II. The Frobenius Reciprocity Theorem. *Ann Math* 58(1953) 193-221; Borel Structure in Groups and their Duals. *Trans AMS*

85(1957) 134-165; Unitary Representations of Group Extensions I. *Acta Math* 99(1958) 265-311; Ergodic Theory, Group Theory and Differential Geometry. *Proc NAS* 50(1963) 1184-1191; Ergodic Theory and its Significance for Statistical Mechanics and Probability Theory. *Adv in Math* 12(1974) 178-268; On the Analogy between Semisimple Lie Groups and Certain Related Semi-Direct Product Groups. In *Lie Groups and Their Representations*, ed. by I. Gelfand, 339-363. Halsted, 1975.

MacKichan, Barry B. 68-69, 75-76 M

Born 1944 Danville, PA. PhD 1968 Mathematics Stanford Univ. Memberships: AMS. Assoc Prof, Mathematics, New Mexico State University, Box MB, Las Cruces, NM 88001.

Publications Related to IAS Residence: A generalization to overdetermined systems of the notion of diagonal operators, I: Elliptic Operators. *Acta Math* 126(1971) 83-119; With A. Andreotti, C.D. Hill, & S. Łojasiewicz. Complexes of differential operators, I: The Mayer-Vietoris sequence. *Invent Math* 35(1976) 43-86.

Other Publications: A generalization to overdetermined systems of the notion of diagonal operators, II: Hyperbolic operators. *Acta Math* 134(1975) 239-274.

MacLane, Gerald Robinson 46-47 M

Born 1919 Ludlow, MA. PhD 1946 Rice Inst. Deceased.

Publications Related to IAS Residence: *Riemann Surfaces and Asymptotic Values Associated with Real Entire Functions*. Houston, Texas: Rice Institute, 1952.

MacMullen, Ramsay 64-65 HS, Roman history

Born 1928 New York, NY. PhD 1957 Harvard Univ. Appointments: external evaluator of a res cntr for NEH; Pres, Assoc of Ancient Historians. Memberships: Soc for the Prom of Roman Studies. Prof, Hist & Classics, History Dept, Yale University, New Haven, CT 06520.

Publications Related to IAS Residence: *Enemies of the Roman Order*. Cambridge, Mass: Harvard Univ Press, 1966.

Other Publications: *Constantine*. 1969; *Roman Social Relations*. New Haven, Conn: Yale Univ Press, 1974; *Roman Government's Response to Crisis*. New Haven, Conn: Yale Univ Press, 1976.

Madow, William Gregory 53-54 M, Statistics

Born 1911 New York, NY. PhD 1938 Columbia Univ. *

Maenchen, Otto J. 58s HS, History

Born 1894 Vienna, Austria. PhD 1923 Univ of Leipzig. Honors: DFA(hc) Univ of Calif, Berkeley 1965. Deceased.

Maffei, Domenico 63f HS, Medieval and Renaissance History

Born 1925 Altamura, Bari, Italy. DJur 1947 Univ of Siena. Honors: Dr iur (h c) Tübingen 1978; Corr Fellow Med Acad of Amer 1976. Prof ord, Legal Hist, Univ of Siena, Via delle Cerchia 19, 53100 Siena, Italy.

Publications Related to IAS Residence: *La Donazione di Costantino nei giuristi medievali*. Milano: Giuffrè, 1964.

Other Publications: *Gli inizi dell'Umanesimo giuridico*. 1956; *La "Lectura super Digesto Veteri" di Cino da Pistoia*. 1963; *Giuristi medievali e falsificazioni editoriali del primo Cinquecento*. 1979.

Magnus, Wilhelm 34-35 M, Algebra

Born 1907 Berlin, Germany. PhD 1931 Mathematics Univ of Frankfurt. Memberships: AMS. Prof Emer, NY Univ. 11 Lomond Pl, New Rochelle, NY 10804.

Publications Related to IAS Residence: Beziehungen Zwischen Gruppen und Idealen in Einem Speziellen Ring. *Math Ann* 111(1935) 259-280.

Mahanthappa, Kalyana T. 64-65 M(NS), Theoretical Physics

Born 1934 Hirehalli, Mysore, India. PhD 1961 Quantum Field Theory Harvard Univ. Honors: Fellow Amer Phys Soc. Memberships: AAAS. Prof, Theoretical Physics, Dept of Physics, Univ of Colorado, Boulder, CO 80309.

Publications Related to IAS Residence: *Phys Rev Lett* 14(1965) 163; *Phys Rev Lett* 14(1965) 458; *Phys Rev Lett*. 14 (1965)515; *Nuovo Cimento* 39(1965) 206.

Other Publications: *Phys Rev* 126(1962) 329; *Nuovo Cimento* 32(1964) 239; *Phys Rev* 181(1969) 2087; *Phys Rev Lett* 33B(1970) 499.

Maharam, Dorothy, see Stone, Dorothy Maharam

Mahler, Kurt 49s M, Number Theory

Born 1903 Krefeld, Germany. DSc 1940 Mathematics Univ of Manchester. Honors: FRS; FAA Sci; De Morgan Medal of the London Math Soc; Lyle Medal of the Austr Acad of Sci. Emer Prof, Math Dept, Research School of Physical Sciences, Australian National University, Canberra ACT 2600, Australia.

Publications Related to IAS Residence: On the critical lattices of arbitrary point sets. *Canadian J Math* 1(1949) 78-87; On a theorem of Liouville in fields of positive characteristic. *Canadian J Math* 1(1949) 397-400; On a theorem of Dyson. *Mat Sbornik NS* 26 68(1950) 457-462; On Dyson's improvement of the Thue-Siegel theorem. *Proc Acad Amsterdam* 52(1949) 1175-1184; On the arithmetic on algebraic curves. In *Seminar on algebra and theory of numbers*, 28-32. Chicago: 1949; On algebraic relations between two units of an algebraic field. In *Paris congress on algebra and number theory*, 47-56. Paris: 1949.

Maire, Henri-Michel 77-78 M, Partial Differential Equations

Born 1943 Neuchâtel, Switzerland. Doctorate 1975 Univ of Geneva. Visit Asst Prof, Math Dept, Purdue University, West Lafayette, IN 47907.

Publications Related to IAS Residence: Hypoellipticity of overdetermined systems of partial differential equations. *Comm Part Diff Eqs* (in press).

Major, James Russell 67-68 HS, Renaissance, Early Modern France

Born 1921 Riverton, VA. PhD 1949 History Princeton Univ. Honors: Fulbright Fellow France 1952-53; Guggenheim Fellowships 1953-54, 1967-68; Fac Res Fellow SSRC 1955-58; SSRC Fship to France 1961-62; NEH Sr Fellow 1973-74. Appointments: AAUP Pres, Southeast Regl Conf, 1964-66; Mem of the Natl Council, 1966-69; AHA: Mem Cttee on PhD Programs in Hist, 1969-71; Mem of the Program Cttee for 1976; The Jour of Mod Hist Bd of Ed, 1966-69. Memberships: Renaissance Soc of Amer: Mem of the Council, 1971-73; South Hist Assoc Vice Chm, Prog Cttee, 1967; Chrm, Euro Section, 1970-71; United Chapters of Phi Beta Kappa: Sen, 1970-76; Intl Comm for the Hist of Rep and Parliamentary Inst: Pres, North Amer Section, 1975-. Prof, Department of History, Emory University, Atlanta, GA 30322.

Publications Related to IAS Residence: *The Growth and Decline of Representative Government in Early Modern France*. New Haven: Yale Univ Press, in press; Bellièvre, Sully, and the Assembly of Notables of 1590. *Trans of the Amer Philos Soc* 64(1974).

Other Publications: *The Estates General of 1560*. Princeton: 1951; *The Deputies to the Estates General of Renaissance France*. Madison: 1960; *Representative Institutions in Renaissance France, 1421-1559*. Studies presented to the International Commission for the History of Representative and Parliamentary Institutions, 21. Madison: 1959; *The Western World: Renaissance to the Present*. Studies presented to the International Commission for the History of Representative and Parliamentary Institutions, 22. Philadelphia: 1966.

Malgrange, Bernard 67s M

Born 1928 Paris, France. DSci 1955 Université de Paris. Honors: Correspondent Académie des Sciences, Paris 1977; Docteur (hc) Genève 1978. Directeur Recherches, CNRS, Mathématiques Pures, B.P. 116, 38402 St-Martin d'Hères, France.

Publications Related to IAS Residence: Sur l'intégration des structures presque-complexes. *Symposie Matematica* 2(1968).

Other Publications: *Ideals of differentiable functions*. Bombay: Oxford Univ Press, 1966.

Malliavin, Paul 54-55, 60-61, 66f, 72f M, Mathematical Analysis

Members

Born 1925 Neuilly Seine, France. D d'Etat 1954 Sorbonne. Honors: Membre l'Acad des Sci 1979. Prof, Mathematics, Institut Poincaré, Paris, 10 rue Saint Louis en L'Ile, 75004 Paris, France.

Publications Related to IAS Residence: La quasi analyticit  g n ralis e sur un intervalle born . *Annales de l'Ecole Normale Sup rieure* 72(1955) 93-110; Sur la croissante radiale d'une fonction m romorphe. *Ill J of Math* 1(1957) 259-296; Impossibilit  de la synth se spectrale sur un groupe ab lien non compact. *IHES Publ Math* (1959) 85-92; With L.A. Rubel. Functions of exponential minimum type with given zeros. *Bull Soc Math de France* (1961) 175-206; Sur le reste de la distribution asymptotique des nombres premiers g n ralis s de Beurling. *Acta Math* 106(1961) 281-298; With A. Beurling. On Fourier transforms of measures with compact support. *Acta Math* 107(1962) 201-219; Ensembles de r solution spectrale. In *Proceedings of the Internl Cong of Mathematicians Stockholm*, 368-378. 1962; With M.P. Malliavin-Brameret. Carac-t risation arithm tique d'une classe d'ensembles de Helson. *Comptes Rendus* 264(1967) 192-193; With A. Beurling. On the closure of characters and the zeros of entire functions of exponential type. *Acta Math* 118(1967) 79-93; Asymptotics of the Green's function of a Riemannian manifold and Ito's Stochastic integral. *Proc Nat Acad, Washington* 71(1974) 381-383; With M.P. Malliavin-Brameret. Factorisation et th or mes limites pour la diffusion horizontale au dessus d'un espace riemannien sym trique. In *Conf rence de Potentiel Strasbourg*, Springer Lecture Notes 404: 161-210. 1973; With L. Ehrenpreis. Invertible operators and interpolation in A U spaces. *J de Math Pures et Appliqu es* (1974) 165-182; Formules de la moyenne pour les formes harmoniques, calcul de perturbations et th or mes d'annulation. *J of Funct Anal* 17(1974) 274-291; Analyse Harmonique de certaines classes de S ries de Taylor. In *Proceedings de la Conf rence d'Analyse Harmonique organis e par Alta Matematica Roma*, 71-91. New York: Academic Press, 1976; With M.P. Malliavin. Int grales de Calderon-Lusin pour les fonctions biharmoniques dans le bidisque. *Bull des Scis Math* (1977) 357-384; Calcul diff rentiel stochastique   deux param tres et fonctions biharmoniques. *CRAS* 285(1977) 221-226.

Malowist, Marian 74-75 HS, Social History, Medieval History

Born 1909 Ł d z, Poland. PhD 1934 Univ of Warsaw. Honors: Corr Mem Bd Hansischer Geschichtsverein Germany 1956-; Hon Member English Hist Soc 1965; The Decoration of Polonia Restituta 1954. Memberships: Polish Hist Soc. Prof, Medieval History, Univ of Warsaw, Brzozowa 10/4,00, 286 Warsaw, Poland.

Publications Related to IAS Residence: *The Portuguese Conquistadores*. Warsaw: 1976; Capitalismo commerciale e agricoltura in Storia d'Italia. *Annali I Torino* (1978) 455-507; *Saral, la*

Nouvelle, capitale de la Horde d'Or. Bamberg: Wirtschaftskr fte Wirtschaftsweg, 1978.

Other Publications: *Caffa, the genovese colony on the Crimea and the oriental question*. Warsaw: 1947; *The great states of the Western Sudan in the late Middle Ages*. Warsaw, 1964; Croissance et regression en Europe XIV^e -XVII^e si cles. In *Recueil d'articles*, les Cahiers d'Annales 34. Paris: 1972; *Eastern Europe and the West from the 13th to the 16th century*. Warsaw, 1973.

Manassah, Jamal Tawfek 70-72, 74f NS, Theoretical Physics

Born 1945 Lebanon. MA 1968 Columbia Univ. 585 West End Ave, Apt 1A, New York, NY 10027. *

Manasse, Ernst Moritz 58-59 HS, Ancient Greek Philosophy

Born 1908 Dramburg, Germany. Dr Phil 1933 Classics-Philosophy Heidelberg Univ. Honors: Amer Philos Assoc. Prof Emer, North Carolina Central Univ, 2415 Cascadilla St, Durham, NC 27704.

Publications Related to IAS Residence: B cher  ber Platon II. *Philosophische Ruzdschau* 2(1961) B cher  ber Platon III. *Philosophische Ruzdschau* 7(1976); Goethe und die griechische Philosophie. In *Goethe und die Tradition*, ed. by Hans Reiss, 26-57. Frankfurt: 1972.

Other Publications: Platonism Since the Enlightenment. In *Dictionary of the History of Ideas*, ed. by P.P. Wiener, 3: 515-525. New York: 1973; Plato and the French Revolution. *Intl Studies in Philos* 9(1977) 93-110.

Mandelbaum, Richard 76-77 M, Geometry

Born 1946 Linz, Austria. PhD 1970 Princeton Univ. Memberships: AMS; AAAS. Asst Prof, Math, Univ of Rochester, 1861 Highland Ave, Rochester, NY 14618.

Publications Related to IAS Residence: Topology of elliptic surfaces. In *Studies in Algebraic Topology*, ed. by G.C. Rota, Advances in Mathematics, 5: 143-166. New York: Academic Press, 1979.

Other Publications: With B. Moishezon. On the topological structure of non-singular algebraic surfaces in CP³. *Topology* 15(1976) 23-40.

Mandelbrot, Benoit B. 53-54 M

Born 1924 Warsaw, Poland. PhD 1952 Mathematics Univ of Paris. Honors: Trumbull Lecturer Yale U 1970; Abraham Wald Memorial Lecturer Columbia U 1974; Samuel Wilks Memorial Lecturer Princeton U 1974; Goodspeed-Richards Lecturer U of Pennsylvania 1978; Guggenheim Fellow 1968; Int'l Statist Inst. Appointments: Cttee on Applications of Math: Div of Math Sci, NAS-NRC, 1969-1972. Memberships: Amer and French Math Soc; Amer Geophys Union; Fellow, Inst of Math Statist; Econometric Soc; Amer Statist Assoc; IEEE; Am Assoc for Adv of Sci. Visiting Prof, Mathematics, Harvard Univ, IBM Fellow T.J. Watson

Research Center, PO Box 218, Yorktown Heights, NY 10598.

Publications Related to IAS Residence: On recurrent noise limiting coding. In *Information Networks, The Brooklyn Polytechnic Institute Symposium*, ed. by Ernst Weber, 205-221. New York: Interscience Publishers, 1955.

Other Publications: *Fractals: Form, Chance, and Dimension*. San Francisco & Reading, UK: W.H. Freeman & Co, 1977; *Les Objets Fractals: Forme, Hasard et Dimension*. Paris: Flammarion, 1975; With Leo Apostel and Albert Morf. *Logique, Langage et Theorie de L 'Information*. Paris: Presses Univ de France, 1957.

Mandula, Jeffrey Ellis 69-70 NS, Particle Physics

Born 1941 New York, NY. PhD 1966 Harvard Univ. *

Mann, Avinoam 68-69 M, Group Theory

Born 1937 Haifa, Israel. PhD 1966 Mathematics Hebrew University. Memberships: Israel Math Union. Assoc Prof, Institute of Mathematics, Hebrew University, Jerusalem, Israel.

Publications Related to IAS Residence: On Subgroups of Finite Solvable Groups. *Proc AMS* 22(1969) 214-216; On Subgroups of Finite Solvable Groups II. *J Algebra* 22(1972) 233-240; H Normalizers of Finite Solvable Groups. *J Algebra* 14(1970) 312-325; System Normalizers and Subnormalizers. *Proc London Math Soc (3)* 20(1970) 123-143.

Other Publications: Finite Groups Whose n-Maximal Subgroups are Subnormal. *TAMS* 132(1968) 395-409; Groups with Dense Normal Subgroups. *Israel J Math* 6(1968); Injectors and Normal Subgroups of Finite Groups. *Israel J Math* 9(1971) 554-558; On Subgroups of Finite Soluble Groups III. *Israel J Math* 16(1973) 446-451; Regular p -Groups I, II. *Israel J Math* 10, 14(1971, 1973) 471-477, 294-303; The Power Structure of p -Groups I. *J Algebra* 42(1976) 121-135.

Mann, Larry N. 64-65 M, Transformation Groups, Topology

Born 1934 Philadelphia, PA. PhD 1959 Math Univ of Penna. Honors: Postdoc Fellow ONR 1960-61. Memberships: AMS. Prof, Dept of Math, University of Massachusetts, Amherst, MA 01002.

Publications Related to IAS Residence: Gaps in the Dimensions of Transformation Groups. *III J Math* 10(1966) 532-546.

Other Publications: With Ku, Sicks and Su. Degree of Symmetry of a Product Manifold. *Transactions AMS* 146(1969) 133-149; Gaps in the Dimensions of Isometry Groups of Riemannian Manifolds. *J of Diff Geo* 11(1976) 293-298.

Mannheim, Philip David 72-74 NS, Theoretical Particle Physics

Born 1943 Liverpool, England. PhD High Energy Physics Weizmann Institute, Israel. Adj Asst Prof, Institute of Theoretical Science, University of Oregon, Eugene, OR 97403.

Publications Related to IAS Residence: Infrared Bootstrap for the Electron Mass in Finite Quantumelectro-dynamics. *Phys Rev D* 10(1974) 3311; Is $\eta \rightarrow 3\pi$ a Short-distance Problem?. *Phys Rev D* 9(1974) 3438.

Manning, Dorothy, see Smiley, Dorothy Manning

Mantoux, Étienne Gabriel 41-43 HS(EP), Economics

Born 1913 France. PhD 1941 U of Lyon. Deceased.

Publications Related to IAS Residence: *The Carthaginian Peace; or, The Economic Consequences of Mr. Keynes*. London, New York: Oxford Univ Press, 1946; With S. T. Possony. Du Picq and Foch: The French School. In *Makers of Modern Strategy*, ed. by Earle, E. M., 206-233. Princeton: 1943.

Manuel, Frank E. 76-77 Soc

Born 1910 Boston, MA. PhD 1933 History, Gov't and Economics Harvard Univ. Honors: Phi Beta Kappa 1930; Guggenheim Fellow 1957-1958; AAAS 1964; Fellow Center for Adv Study in the Behav Scis 1962-1963; Vis Res Fell Austral Nat Univ 1974; LittD(hc) Jewish Theol Sem of Amer 1979. University Prof, Intellectual History, Brandeis Univ, 85 East India Row, Boston, MA 02110.

Publications Related to IAS Residence: With Fritzie P. Manuel. *Utopian Thought in the Western World*. Cambridge, Mass: Harvard Univ Press, 1979; A Dream of Eupychia. *Daedalus* (Summer 1978) 1-12; Reconsideration: Thomas More. *New Republic* June 24(1978) 37-41.

Other Publications: *The New World of Henri Saint-Simon*. 1956; *The Eighteenth Century Confronts the Gods*. 1959; *The Prophets of Paris*. 1962; *Isaac Newton, Historian*. 1963; *Shapes of Philosophical History*. 1965; *A Portrait of Isaac Newton*. 1968; *Freedom from History*. 1971; *The Religion of Isaac Newton*. 1974.

Maples, Mary, see Dunn, Mary Maples

Marabini, Maria Teresa, see Moevs, Maria Teresa Marabini

Marchini, Giuseppe 63f HS, History of Art

Born 1914 Florence, Italy. Lib doc University. Honors: Member of Soc colombaria Florence; Accad lucumonica Cortona; Accad d intronati Siena; Accad Petrarca Arezzo. Appointments: The Europ Sci Found Comm on Preservation of Ancient Stained Glass. Memberships: Com Internatl d'Hist de l'Art; Corpus Vitrearum Medii Aevi. Supt of Fine Arts in Marche, Via del Ghirlandaio, 66, 50121 Firenze, Italy.

Members

Publications Related to IAS Residence: *Corpus Vitrearum Medii Aevi. Italia I.* Rome: L'Umbria, 1973; Ghiberti 'ante litteram'. *Bollettino d'Arte* 50(1965).

Other Publications: *Guiliano da Sangallo.* Florence: 1943; *Le vetrare italiane.* Milan: 1957; *I palazzi del popolo in Toscana.* Milan: 1962; *Filippo Lippi.* Milan: 1975; *Ghiberti architetto.* Florence: 1978.

Marden, Albert 69-70. 78f M, Complex Analysis

Born 1934 Milwaukee, WI. PhD Complex Analysis Harvard Univ. Prof, Dept of Math, University of Minnesota, Minneapolis, MN 55455.

Mardešić, Sibe 57-59 M, Topology

Born 1927 Hamburg, Germany. PhD 1957 Mathematics (Topology) Univ of Zagreb. Honors: Rudjer Bošković State Prize 1965. Appointments: Vice-pres League of Math and Phys of Yugoslavia 1971-75; Member of the Yugoslav Nat Cttee for Math 1971-75; Ed in Chief of "Glasnik Matematički" 1963-77; Member of the Adv bd for "General Topology and its Applications" since 1971. Memberships: Asso mem of the Yugoslav Acad of Sci and Arts since 1975; Pres of the Soc of Math and Phys of Croatia 1971-73; AMS. Prof, Department of Mathematics, University of Zagreb, 41 001 Zagreb, pp 187, Yugoslavia.

Publications Related to IAS Residence: On covering dimension and inverse limits of compact spaces. *Ill J Math* 4(1960) 278-291; Comparison of singular and Čech homology in locally connected spaces. *Mich Math J* 6(1959) 151-166; Infinite Cartesian products and a problem concerning homology local connectedness. *Trans AMS* 93(1959) 395-417; Chainable continua and inverse limits. *Glasnik Mat-Fiz Astr* 14(1959) 219-232; On inverse limits of compact spaces. *Glasnik Mat-Fiz Astr* 13(1958) 249-255.

Other Publications: Un théorème de dualité concernant les groupes d'homologie de l'espace fonctionnel S_m^X . *CR Acad Sci Paris* 242(1956) 2214-2217; On the Hahn-Mazurkiewicz theorem in non-metric spaces. *Proc AMS* 11(1960) 929-937; With J. Segal, ϵ -mappings onto polyhedra. *Trans AMS* 109(1963) 146-164; Images of ordered compacta are locally peripherally metric. *Pacific J Math* 23(1967) 557-568; With J. Segal. Shapes of compacta and ANR-systems. *Fund Math* 72(1971) 41-59; Shapes for topological spaces. *Gen Topology and its Appl* 3(1973) 265-282; On the White-head theorem in shape theory I. *Fund Math* 91(1976) 51-64; With T.B. Rushing. Shape fibrations I. *Gen Topology and its Appl* 9(1978).

Marg, Walter 66-67 HS, Greek Philosophy

Born 1910 Germany. PhD 1937 Univ of Kiel. *

Margenau, Henry 39f M(NS), Physics

Born 1901 Bielefeld, Germany. PhD 1929 Yale Univ. Honors: DHL 1954; DSc 1957, 1964; LLD 1960, 1962;

Dr of Public Service 1965; Century award (Mich State). Appointments: NSF; AFOSR; ONR. Memberships: APS; APA; Sigma Xi; Phi Beta Kappa; VP Int Acad of Phil of Sci. Eugene Higgins Prof, Phys and Nat Philosophy, Yale Univ, 173 Westwood Rd, New Haven, CT 06515.

Publications Related to IAS Residence: *Phys Rev* 57(1940) 383; With E. Wigner. *Phys Rev* 58 (1940) 103.

Maria, Alfred Joseph 34-35 M

Born 1896 . PhD 1925 Rice Inst. Deceased.

Publications Related to IAS Residence: Concerning the Equilibrium Point of Green's Function for an Annulus. *Duke Math J* 1(1935) 491-495; With Robert S. Martin. Representation of Positive Harmonic Functions. *Duke Math J* 2(1936) 513-514. 251

Mariani, Jean 47-48 M, Philosophy of Science and of Mathematics

Born 1907 France. DèSc 1945 Sorbonne. *

Publications Related to IAS Residence: *Metrical Geometry, Contact Transformations and Nuclear Physics.* Brooklyn: Institute of Applied Biology, 1950; On Magnetism of Celestial Bodies. *Phys Rev* (2) 73(1948) 78-79.

Marichal, Robert Pierre 61f, 66f HS, Latin Palaeography

Born 1904 France. PhD 1927. *

Marinatos, Spyridon 59-60 HS, Greek Archaeology

Born 1901 Greece. PhD 1920 Athens Univ. *

Markle, Minor M., III 78-79 HS, Greek History

Born 1935 Jonesboro, AR. PhD 1967 Princeton Univ. Prof, Johns Hopkins Univ. 3700 N Charles St, Northway Apt 304, Baltimore, MD 21218. *

Markoe, Andrew Guy 70-71 M, Several Complex Variables

Born 1943 New York, NY. PhD 1969 Brown Univ. Dept of Math, Univ of Conn, Storrs, CT 06268. *

Mars, Johannes G. M. 66-67 M

Born 1935 Amsterdam, Netherlands. Dr 1965 Mathematics Univ of Utrecht. Lector, Univ of Utrecht, Math Inst, Budapestlaan, Utrecht, Netherlands.

Publications Related to IAS Residence: The Tamagawa number of $^2 A_n$. *Ann Math* 89(1969) 557-574.

Marshak, Robert E. 48s M(NS), Theoretical Physics

Born 1916 New York, NY. PhD 1939 Cornell Univ. Prof. CCNY. 101 Central Park W # 5B, New York, NY 10023. *

Marshall, Leona Woods 57-58 M(NS), Theoretical Physics

Born 1919 . PhD 1943 Univ of Chicago. *

Martin, Alfred Ivor 57f M

Born 1925 Nottingham, England. DPhil (Oxon.) 1952. Memberships: Mechanical Engineers (member); Fellow Institute of Physics. Mathematician, GEC England, 26 Beeston Rd Sale, Cheshire M335AG, England.

Publications: On a formula for the torsional rigidity of thin-symmetrical-sections. *J Maths & Phys* 36, 1(1957).

Martin, Allan D. 54-56 M, Calculus of Variations

Born 1927 Kansas City, MO. PhD 1953 Washington Univ. *

Martin, André J. 63-64 M(NS), High Energy Physics

Born 1929 Paris, France. Thèse D'Etat Theoretical Physics Ecole Normale Supérieure. Honors: Dr HC Univ of Lausanne 1973; Grand Prix Des Sci Math & Physiques Acad of Sci 1974. Appointments: Mem of the Theoret Phys Cttee of the CNRS from 1971 to 1980. Memberships: Fr Phys Soc; Assoc of Math Phys. Senior Physicist, CERN, Theory Division, 1211 Geneva 23, Switzerland.

Publications Related to IAS Residence: With Y.S. Jin. *J Math Physics* 5(1964) 1406; *Phys Rev* 135B(1964) 1369; With Y.S. Jin. 135B(1964) 1375; With J.J. Loeffel and T. Kinoshita. *Phys Rev* 135B(1964) 1464; With S.W. Mac Dowell. *Phys Rev* 135B(1964) 960.

Other Publications: With L. Lukaszuk. *NC* 52A(1967) 122; *NC* 42A(1966) 930; 44A(1966) 1219.

Martin, Joseph Morison 62-64 M, Topology

Born 1935 Keokuk, IA. PhD 1962 Mathematics Univ of Iowa. Honors: Sloan Fellow 1966-1967. Memberships: AMS. Prof & Dept Head, Dept of Mathematics, Univ of Wyoming, Laramie, WY 82070.

Publications Related to IAS Residence: Extending a disk to a sphere. *T.A.M.S.* 109: 385-399; Tame arcs on disks. *P.A.M.S.* 16: 131-133; The sum of two crumpled cubes. *Mich Math Jour* 13: 147-151.

Other Publications: With R.H. Bing. Cubes with knotted holes. *T.A.M.S.* 155: 653-681.

Martin, Richard Milton 75-76 HS, American Philosophy

Born 1916 Cleveland, OH. PhD 1941 Philosophy Yale Univ. Appointments: Exec Comm, APA and ASL; Pres elect of CSP Soc. Memberships: Am Philos Assoc; Assoc for Symb Logic; CS Peirce Soc. Prof,

Northwestern Univ, Res Assoc Boston Center for Phil and Hist of Sci. 582 Blue Hill Ave, Milton, MA 02186.

Publications Related to IAS Residence: *Peirce's Logic of Relations and Other Studies*. Lisse, Holland: Peter De Ridder Press, forthcoming.

Other Publications: *Semiotics and Linguistic Structure*. Albany: SUNY Albany Press, 1978; *Pragmatics, Truth, and Language*. Dordrecht, Holland: D. Reidel & Co, forthcoming.

Martin, William Ted 34-36, 51 52 M

Born 1911 Springdale, AR. PhD 1934 Mathematics Univ of Ill. Honors: ScD (hc) Oklahoma City Univ 1975; AAAS; PBK; Sigma Xi. Appointments: Mem, Bd of Trustees, Oklahoma City Univ, from June, 1966-; Co-Chm, The Ditchley Math Conf, September 9-12, 1966, Ditchley House, Oxfordshire, England; Mem, Inter-Univ Cttee on the African-Amer Univ Prog, 1962-1965; Vice-Pres and Chm of Section A, Amer Assoc for the Adv of Sci, 1951; AMS: Trustee, 1953, 1954, 1956-1964; Treasurer and Trustee, 1965-1973; Ed Math Surveys, 1950, 1951, 1952; Mem, Ed Cttee of the Bulletin, 1951-1956; Mng Ed, 1954, 1955, 1956; Vice-Pres., 1949-50; Vice-Chm, Organizing Cttee, Budget Cttee, for 1950, Intl Cong of Math. Memberships: MAA; Amer Assoc for the Adv of Sci. Prof Emeritus and Senior Lecturer, Mathematics and Education, Division for Study and Research in Education, Massachusetts Institute of Technology, Bldg 20C, Cambridge, MA 02139.

Publications Related to IAS Residence: With S. Bochner. Singularities of composite functions in several complex variables. *Ann Math* 38(1937) 293-302; Special regions of regularity of functions of several complex variables. *Ann Math* 38(1937) 602-25; Linear Difference Equations with arbitrary real spans. *Acta Math* 69(1938) 57-98; With S. Bochner. Local transformations with fixed points on complex spaces with singularities. *Proc NAS* 38(1952) 726-732; With S. Bochner. Hartogs' Theorem in complex spaces with singularities. *J Indian Math Soc* 16(1952) 137-146; With S. Bochner. Complex spaces with singularities. *Ann Math* 57(1953) 490-516; With S. Bochner. *Several Complex Variables*. Princeton Math Ser, 10. Princeton Univ Press, 1948.

Other Publications: With R. H. Cameron. An expression for the solution of a class of non-linear integral equations. *Amer J Math* 66(1944) 281-298; With R. H. Cameron. Evaluation of various Wiener integrals by use of certain Sturm-Liouville differential equations. *Bull AMS* 51(1945) 73-90; With R. H. Cameron. Transformations of Wiener integrals under a general class of linear transformations. *TAMS* 58(1945) 184-219; With R. H. Cameron. The orthogonal development of non-linear functionals in series of Fourier-Hermite functions. *Ann Mathematics* 48(1947) 385-392; With Norbert Wiener, Armand Siegel and Bayard Rankin. *Differential Space, Quantum Systems, and Prediction*. Cambridge, Mass: MIT Press, 1966; ed with Irving Segal. *Analysis in Function Space*. Cambridge, Mass: MIT Press, 1964;

Members

ed with Y. W. Lee and N. Levinson. *Selected Papers of Norbert Wiener*. Cambridge, Mass: SIAM and MIT Press, 1964.

Maruyama, Masao 75-76 Soc

Born 1914 Osaka, Japan. MA 1937 Government and Politics Univ of Tokyo. Honors: Hon DJur Harvard Univ 1973; DLitt(hc) Princeton Univ 1973; AAAS. Memberships: Japan Acad. Prof Emer, Univ of Tokyo, 2-44-5 Higashicho, Kichijoji, Musashino-Shi, Tokyo, Japan.

Publications Related to IAS Residence: *Studies in the Intellectual History of Tokugawa Japan*. Princeton: Princeton Univ Press, 1974; *Thought and Behavior in Modern Japanese Politics*. London & NY: Oxford Univ Press.

Marx, Daniel, Jr. 50s, 50-51 HS, Economics

Born 1908 San Francisco, CA. PhD 1946 Univ Calif Berkeley. Honors: Guggenheim Fellow 1950. Appointments: Consultant, Export Control Admin, Wash, DC, 1941; Chief, Vessel Utilization and Cargo Reports Section, War Shipping Admin, Wash, DC, 1942-3; Special Asst to Ambassador Harriman, ECA, Paris, 1949; Senior staff member of Council of Econ Adv to the President 1956-57; Consultant, Internatl Bank for Reconstr & Devel 1958-59; Consultant, Export-Import Bank of Washington 1963-64. Memberships: Amer Econ Assoc; Royal Econ Soc. Prof Emer, Economics, Dartmouth Coll, 1310 Hobart St, Menlo Park, CA 94025.

Publications Related to IAS Residence: *International Shipping Cartels; A Study of Industrial Self-Regulation by Shipping Conferences*. Princeton: Princeton Univ Press, 1953.

Other Publications: With S.E. Eastman. *Ships and Sugar*. Univ of Puerto Rico Press, 1953; The United States Enters Export Credit Guarantee Competition. *Pol Sci Q78*, 2(1963) 245-272; Economic and Political Factors Affecting Trade between Eastern and Western Europe. *Pol Sci Q66*, 2(1951) 161-190; Regulation of International Linear Shipping and Freedom of the Seas. *The J Indust Econ* 16, No 1(1967) 46-62; Group or Conference Rate Making and National Transportation Policy in the United States. *Law and Contemporary Problems* 25, 1, 1(1960) 586-604.

Masani, Pesi R. 46-48 M

Born 1919 Bombay, India. PhD 1946 Math Harvard Univ. Memberships: AMS; MAA. Prof, Dept of Mathematics, University of Pittsburgh, Pittsburgh, PA 15260.

Publications Related to IAS Residence: With Vijayaraghavan. An analogue of Laurent's Theorem for a simply connected region. *J Indian Math Soc* 16(1952) 25-30; On a result of G.D. Birkhoff on linear differential systems. *Proc AMS* 10(1959) 696-698; With Norbert Wiener. Non-linear prediction. In *Survey and Contributions to Probability and Statistics—a publication in honor of H. Cramer*, ed. by U. Grenander, 190-212. Stockholm: 1959.

Maskit, Bernard 63-65 M

Born 1935 New York, NY. PhD 1964 NYU. Honors: Sloan Fellow 1970-1971. Memberships: AMS. Prof, Math Dept, SUNY, Stony Brook, NY 11794.

Publications Related to IAS Residence: A Thm on Planar Covering Surfaces with appl to 3-manifolds. *Ann Math* 81, 2(1965) 341-355; Construction of Kleinian Groups. In *Proc Conf Complex Anal Minn 1964*, 281-296. NY: Springer, 1965; On Kleins Combination Theorem. *TAMS* 120(1965) 499-509.

Other Publications: On boundaries of Teichmuller spaces and on Kleinian groups: II. *Ann Math* 91, 3(1970) 607-639; On the classification of Kleinian groups I-Koebe groups. *Acta Math* 135(1975) 249-270; On the classification of Kleinian groups II-Signatures. *Acta Math* 138(1977) 17-42; Self-maps on Kleinian groups. *Amer J Math* 93(1971) 840-856; The conformal group of a plane domain. *Amer J Math* 90(1968) 718-722; With A. Beardon. Limit Points of Kleinian groups and finite sided fundamental polyhedra. *Acta Math* 132(1974) 1-12; A Characterization of Schottky groups. *J Anal Math* 19(1967) 227-230.

Masley, John M. 75f M, Algebraic Number Theory

Born 1947 Auburn, NY. PhD 1972 Princeton Univ. *

Mason, Alpheus Thomas 38s HS(EP), Economics and Politics

Born 1899 Snow Hill, MD. PhD 1923 History and Politics Princeton Univ. Honors: Litt D Dickinson Coll 1947; LLD Louisville 1957; LLD Dickinson Coll 1963; Litt D Washington Coll 1969; Litt D Brandeis U 1973; LLD Princeton 1974; DSci Utah State U 1975; Litt D Centre Coll of Ky 1976; Amer Library Assoc Prize 1966; Francis Parkman Prize in History shared with George Kennan 1956; Guggenheim Fellow 1952; Rockefeller Found Awd 1960; McCosh Fellow 1958; Princeton Alumni Council Awd 1975. Appointments: VP & Bd of Ed *Am Pol Sci Rev*; Adv Bd of Ed *Pol Sci Quart*; Mem Comm of experts to make a survey of administration and expenditures of New Jersey State govt 1932. Memberships: APSA; Amer Acad of Arts and Letters; PBK. McCormick Prof, Jurisprudence Emeritus, Princeton University, 8 Edgehill St. Princeton, NJ 08540.

Publications Related to IAS Residence: *The Brandeis Way: A Case Study in the Working of Democracy*. Princeton: Princeton Univ Press, 1938; Moulding of Social Insurance Opinion. *Pub Opin Quart* 2(1938) 333-356; The Philosophy of Savings Bank Life Insurance. *Savings Bank J* 20(Mar. 1939) 12; Facts versus Facts. *Savings Bank J* 20(Apr. 1939) 12; Proved Facts and Practical Fancies. *Savings Bank J* 20(May 1939) 12.

Other Publications: *Brandeis: Lawyer and Judge in the Modern State*. Princeton Univ Press, 1933; *Brandeis: A Free Man's Life*. NY: Viking Press, 1946; *Free Government in the Making*. NY: Oxford U Press, 1949; *Security Through Freedom*. Ithaca: Cornell U

Press, 1955; *Harlan Fiske Stone: Pillar of the Law*. NY: Viking Press, 1956; *The Supreme Court from Taft to Warren*. Baton Rouge: LSU Press, 1958; *The Supreme Court: Palladium of Freedom*. Univ of Michigan Press, 1962; *William Howard Taft: Chief Justice*. NY: Simon & Schuster, 1965.

Matlis, Eben 62-63 M

Born 1923 Pittsburgh, PA. PhD 1958 Math Univ of Chicago. Prof, Math Dept, Northwestern Univ, Evanston, IL 60201.

Publications Related to IAS Residence: Cotorsion Modules. *Memoirs AMS* 49.

Other Publications: *Torsion Free Modules*. Univ Chicago Press, 1972; 1-Dimensional Cohen Macaulay Ring. *Springer Lecture Notes in Math* 327.

Matsuda, Michihiko 68-69 M, Differential Systems

Born 1938 Kyoto, Japan. MA 1963 Math Kyoto Univ. Memberships: Math Soc of Japan. Lect, Department of Mathematics, Osaka University, Toyonaka, Osaka 560, Japan.

Publications Related to IAS Residence: Two methods of integrating Monge-Ampère's equations. *Trans AMS* 150(1970) 327-343.

Other Publications: *Theory of exterior differential forms*. Tokyo: Iwanami, 1976.

Matsuda, Satoshi 70-71 NS, High Energy Theoretical Physics

Born 1942 Hiroshima, Japan. DSc 1968 Physics Univ of Tokyo. Memberships: Phys Soc of Japan. Prof, Department of Physics, Faculty of Science, Kyoto University, Kyoto 606, Japan.

Publications Related to IAS Residence: With J. T. Manassah. Hadron Electrodynamics in the Resonance Model: Deep Inelastic e-p.... *Phys Rev D*4(1971) 882; With J. T. Manassah. Physical and Formal Presentations of Dual Theory of Electromagnetic *Phys Rev D*4(1972) 3062; With J. T. Manassah. Scaling, Fixed Poles and Duality of Electromagnetic Currents in the *Phys Letters* 36B(1971) 235.

Matsumoto, Yukio 76-78 M, Topology of Manifolds

Born 1944 Kumagaya, Saitama, Japan. DSc 1973 Mathematics Univ of Tokyo. Memberships: The Math Soc of Japan; AMS. Assoc Prof, Department of Mathematics, College of General Education, University of Tokyo, Komaba Meguro-ku, Tokyo, Japan.

Publications Related to IAS Residence: With G. A. Venema. Failure of the Dehn lemma on contractible 4-manifolds. *Inv Math* in press; Wild Embeddings of piecewise linear manifolds in codimension two. In *Proc of Geometric Top Conf Athens, Georgia 1977*, in. press. Secondary intersectional properties of 4-manifolds and Whitney's trick. *Proc Symp Pure Math* 32(1978) 99-107.

Other Publications: Knot cobordism groups and surgery in codimension two. *J Fac Sci Univ Tokyo* 20(1973) 253-317.

Matsusaka, Teruhisa 60-61 M, Algebraic Geometry

Born 1926 Japan. PhD 1954 Kyoto Univ. *

Matsushima, Yozo 62-63 M, Differential Geometry

Born 1921 Japan. PhD 1948 Osaka Univ. *

Matthews, Paul Taunton 50-51 M(NS), Elementary Particles

Born 1919 Erode, Madras, India. PhD 1950 Cambridge Univ. Honors: FRS (London); Adams Prize (Cambridge, England); Rutherford Medal (Phys Soc-London). Appointments: Sci Policy Cttee CERN; Sci Res Council (UK). Memberships: Inst of Phys (London); Euro Inst of Phys. Vice Chancellor, Univ of Bath, The Lodge, North Rd, Bath, England.

Publications Related to IAS Residence: Renormalization of neutral mesons in three field problems. *Phys Rev*81(1951) 936; With A. Solam. The renormalization of meson theories. *Revs Mod Phys* 23(1951) 311; With A. Solam. Intermediate coupling of pseudoscalar meson-nucleon interactions. *Phys Rev* 86(1952) 715.

Other Publications: *Relativistic Quantum Theory of Elementary Particle Interactions*. Univ of Rochester, 1957; *Introduction to Quantum Mechanics*. McGraw Hill (England), 1963; *The Nuclear Apple*. London: Chatto & Windus, 1971.

Mattila, Pertti E.J. 79-80 M, Geometric Measure Theory

Born 1948 Kuusankoski, Finland. PhD 1973 Math Univ of Helsinki. Docent, Department of Mathematics, University of Helsinki, Hallituskatu 15, 00100 Helsinki 10, Finland.

Publications Related to IAS Residence: Differentiation of measures on uniform spaces. In *Proc of Measure Theory Conf at Oberwolfach, 1979*. Springer-Verlag, in press.

Other Publications: With S. Rickman. The averages of the counting function of a quasiregular mapping. *Acta Math*(in press); Hausdorff dimension, orthogonal projections and intersections with planes. *Ann Acad Sci Fenn AI* 1(1975) 227-244.

Matumoto, Takao 78-79 M, Topology

Born 1946 Sanda Hyogo, Japan. D d'Etat ès S 1976 Math Univ de Paris-Sud. Memberships: Math Soc of Japan. Asst Prof, Math, Hiroshima Univ, 2-2-6, Koie, Hiroshima 733, Japan.

Publications: Equivariant cohomology theories on G-CW complexes. *Osaka J Math* 10(1973); Triangulation of manifolds. *Proc Symp Pure Math* 32, 2(1978).

Members

Maumary, Serge 69-71 M, Topology

Born 1938 Lausanne, Switzerland. PhD 1968 Math Univ of Lausanne. Memberships: AMS; Swiss Math Soc. Prof, Institut de Math, Univ de Lausanne, 1015 Dorigny, Switzerland.

Publications Related to IAS Residence: Proper surgery groups and Wall-Novikov groups. In *Proc of Conf on Algebraic K-Theory, Battelle Inst, Seattle, 1972*, Lecture notes in math 343: 526-539. Berlin: Springer-Verlag, 1973.

Mautner, Friederich Ignaz 46-47, 54-56, 65-66 M, Group Representations, Functional Analysis

Born 1921 Vienna, Austria. PhD 1948 Princeton Univ.*

Publications Related to IAS Residence: The Completeness of the Irreducible Unitary Representations of a Locally Compact Group. *Proc NAS* 34(1948) 52-54; Unitary Representations of Locally Compact Groups, I, II. *Ann Math (2)* 51, 52(1950) 1-25, 528-556.

Mawardi, Osman Kamel 69f NS, Plasma Physics

Born 1917 Cairo, Egypt. PhD 1948 Applied Physics Harvard Univ. Honors: Biennial Awd Acoustical Soc of Amer 1952; Guggenheim 1955-56; Case Sigma Xi Res Awd 1964; Edison Lect Medallist Cleveland Section IEEE 1967 & 1968. Appointments: Acoustical Soc Amer, Phys Acoustic Comm 1970-1975; IEEE Accreditation Cttee (1973-1976) Energy Cttee (1977 to date) Pub Bd 1971-79; NRC Cttee on Hearing and Biol Acous (1956-1959); Mem, Adv Task Group on Energy to the Gov of Ohio (1974); Mem Ed Bd J of Acous Holography and Imagery (1975 to date). Memberships: Amer Phys Soc; Amer Assoc for the Adv of Sci; New York Acad of Sci; Sigma Xi, Eta Kappa Nu, Tau Beta Pi; Groupement des Acousticiens de Langue Française; Soc for Eng Sci. Prof, Plasma Physics, and Director Case Energy Research Office, Case Western Reserve University, University Cir, Cleveland, OH 44106.

Publications Related to IAS Residence: Measurement of Acoustic Impedance. *J Acous Soc Am* 21(1949) 84; Electroacoustic Phase Shift in Loudspeakers. *JASA* 22(1950) 444; Noise of Aerodynamic Origin. *JASA* 25(1953) 389; Concept of Coenergy. *J Franklin Inst* 264(1957) 313; A Self-Generating Liquid Conductor Electromagnet. *J Appl Phy* 32(1961) 1296; Bounded Current Sheets. *J Phy of Fluids* 7(1964) 9; Very High Superconducting Switches. *IEEE Proc* 53(1965) 523; Interaction of Dense Plasma with Magnetic Barrier. In *Proc Intl Conf on Ionized Gases*, 388. 1970; Force Free Inductive Storage Coil. In *Report LA-5953-MS, Los Alamos Sci Lab*. June 1975; Superconducting Brushless Generator. *IEEE Trans on Magnetism* MAG-13(1977) 780.

Maxwell, Kenneth Robert 71-72 HS

Born 1941 Wellington, Somerset, England. PhD 1970 History Princeton Univ. Honors: Guggenheim; Rockefeller; Gulbenkian-Newberry Fellowships. Appointments: Consultant, Tinker Foundation. Memberships: AHA; Conf on Lat Amer Hist. Assoc Prof, History, and Sr Res Fellow Inst on Internat Change, School of International Affairs, Columbia University, 420 W 118th St, Room 832, New York, NY 10027.

Publications Related to IAS Residence: *Conflicts and Conspiracies; Brazil and Portugal 1750-1808*. New York: Cambridge Univ Press, 1974; *Revolution in Portugal and Angola*. NY: Viking, 1979.

May, J. Peter 66f M, Topology

Born 1939 New York, NY. PhD 1964 Mathematics Princeton Univ. Memberships: AMS; AAUP. Prof, Dept of Mathematics, University of Chicago, Chicago, IL 60637.

Publications Related to IAS Residence: With V.K.A.M. Gugenheim. On the theory and applications of differential torsion products. *Mem AMS* 142(1974); Matric Massey products. *J Algebra* 12(1969) 533-568. **Other Publications:** The cohomology of restricted Lie algebras and of Hopf algebras. *J Algebra* 3(1966) 123-146; The geometry of iterated loop spaces. *Springer Lecture Notes* 271 (1972); Classifying spaces and fibrations. *Mem AMS* 155(1975); With F.R. Cohen and T. J. Lada. The homology of iterated loop spaces. *Springer Lecture Notes* 533(1976); With F. Quinn, N. Ray and J. Tornehave. E_∞ ring spaces and E_∞ ring spectra. *Springer Lecture Notes* 577(1977); With R. Thomason. The uniqueness of infinite loop space machines. *Topology* 17(1978) 205-224.

May, Robert McCredie 71-72 NS

Born 1936 Sydney, Australia. PhD 1960. Honors: FRS 1979; Prather Lecturer Harvard University 1979. Class of 1877 Prof, Zoology, and Chairman University Research Board Princeton; Affiliate Prof Imperial College London. Biology Department, Princeton University, Princeton, NJ 08540.

Publications: *Stability and Complexity in Model Ecosystems*. Princeton University Press, 1973; *Theoretical Ecology: Principles and Applications*. Oxford: Black-well, 1976.

Mayer, Alan L 69-70 M, Algebraic Geometry

Born 1939 NY. PhD 1961 Princeton Univ. *

Mayer, Arno J. 68s HS, Modern European History

Born 1926 . PhD 1954 Yale Univ. Dept of History, Princeton Univ, 221 Dickinson Hall, Princeton, NJ 08540. *

Mayer, Hans Eberhard 72-73, 79-80 HS, History of the Crusades

Born 1932 Nürnberg, Germany. PhD Univ of Innsbruck, Austria. Honors: Am Philos Soc 1978; Fellow Ger Hist Inst 1961. Appointments: Comm Interntle diplomatique; Trustee, Ger Center for Venetian Studies, Venice; Member Awarding Cttee Heisenberg Fships Deut Forschungsgemeinschaft. Memberships: German Hist Assoc. Prof, Medieval and Modern History, Univ of Kiel, Hist Seminar der Univ, D-2300 Kiel, West Germany.

Publications Related to IAS Residence: *Introduction to E. Strehlke, "Tabulae ordinis Theutonici"*. Toronto: 1975; *Bistümer, Klöster und Stifte im Königreich Jerusalem*. Stuttgart: A. Hiersemann, 1977.

Other Publications: *Bibliographie zur Geschichte der Kreuzzüge*. Hannover: Hahnsche Buchhandlung, 1960; *Geschichte der Kreuzzüge*. Stuttgart: Kohlhammer, 1965; Studies in the history of Queen Melisende of Jerusalem. In *Dumbarton Oaks Papers*. Washington, DC: 1972.

Mayr, Ernst 70s NS, History of Science

Born 1904 Kempten, Germany. PhD 1926 Biology Univ of Berlin. Honors: Hon degrees: Uppsala U 1957; Yale U 1959; Melbourne U 1959; Oxford U 1966; Munich U 1968; Paris (Sorbonne) 1974; Natl Medal of Sci 1970. Appointments: Chm NSF Div Comm; NAS Comm's. Memberships: Amer Phil Soc; NAS; AAAS. Prof Emer, Museum of Comparative Zoology, Harvard Univ, Cambridge, MA 02138.

Publications Related to IAS Residence: Lamarck revisited. *J Hist Biol* 5(1972) 55-94; The nature of the Darwinian revolution. *Science* 176(1972) 981-989.

Other Publications: *Animal Species and Evolution*. 1963; *Evolution and the Diversity of Life*. 1976.

Mazlish, Bruce 72-73 Soc, History

Born 1923 New York, NY. PhD 1955 History Columbia Univ. Appointments: NSF Evaluating Panel, Worcester Polytech Inst, 1972-75; Consultant, Am Psychiatric Assoc, Task Force on Psychohistory, 1974-75. Prof, History, MIT, Head Dept of Humanities, 3 Chan-ning Circle, Cambridge, MA 02138.

Publications Related to IAS Residence: *James and John Stuart Mill: Father and Son in the 19th Century*. New York: Basic Books, 1975; *The Revolutionary Ascetic*. New York: Basic Books, 1976.

Other Publications: *Kissinger, The European Mind in American Policy*. New York: Basic Books, 1976.

Mazur, Barry C. 58-59 M

Born 1937 New York, NY. PhD 1960 Math Princeton Univ. Honors: Veblen Prize AMS 1965. Memberships: AMS. Prof, Dept Math, Harvard University, 1 Oxford St, Cambridge, MA

Publications Related to IAS Residence: On imbeddings of spheres. *Acta Math* 105(1961) 1-17.

Mazzarino, Santo 72-73 HS, Ancient History

Born 1916 Catania, Italy. PhD 1936 U of Catania. Honors: Premio Presidente della Repubblica Italiana 1964; Premio Viareggio 1967; PhD(hc) Universität Bonn 1977. Dir, 1st Storia Romana, Univ Roma, Viale Um-berto Tupini 133, 00144 Roma, Italy.

Publications: *Il Pensiero storico classico*. Bari, 1966; *L'impero Romano*. Bari, 1973; *La fine del mondo antico*. Milano, 1959.

McAuley, Louis F. 66-67, 78-79 M, Topology

Born 1924 Travelers Rest, SC. PhD 1954 Univ of North Carolina. Honors: Sigma Xi; Phi Kappa Phi; Pi Mu Epsi-Ion. Memberships: AMS; MAA. Prof, Mathematics, SUNY, Binghamton. 317 Riverside Drive, Binghamton, NY

Publications: Open mappings and open problems. *Arizona State U Topology Conference 1967, Proceedings* (1968); Some mappings which are topologically equivalent to projections. *BAMS* 75(1969) 941-944.

McCord, Michael Campbell 67-68 M, Topology

Born 1936 Knoxville, TN. PhD 1963 Yale Univ. Memberships: Assoc for Computing Mach; Assoc for Computational Ling; Ling Soc of Amer. Assoc Prof, Department of Computer Science, University of Kentucky, Lexington, KY 40506.

Publications Related to IAS Residence: Classifying spaces and infinite symmetric products. *Trans AMS* 146(1969) 273-298.

Other Publications: On the form of a systemic grammar. *J Ling* (1975) 195-212; Procedural systemic grammars. *Int J Man-Machine Studies* (1977) 255-286.

McCoy, Neal H. 37f M, Algebra

Born 1905 Waukomis, OK. PhD 1929 Univ of Iowa. Appointments: NRC (2 yrs); Fulbright Adv Comm (2 yrs). Memberships: AMS; MAA. Prof Emeritus, Smith Coll. 53 Ridgewood Terrace, Northampton, MA 01060.

Publications Related to IAS Residence: Subrings of Infinite Direct Sums. *Duke Math J* 4(1938) 486-494; Concerning Matrices with elements in a commutative ring. *Bull AMS* 45(1939) 280-284.

Other Publications: Prime ideals in general rings. *Amer Jour* 71(1949) 823-833; With Bailey Brown. Radicals and subdirect sums. *Amer Jour* 69(1947) 46-58; On the characteristic roots of matrix polynomials. *Bull AMS* 42(1936) 592-600.

McCredie, James R. 77-78 HS, Classical Archaeology

Born 1935 Chicago, IL. PhD 1963 Classical Archaeology Harvard Univ. Memberships: Archaeology Inst of Amer (Exec Comm); Amer Sch of Class Studies at Athens (Exec Comm); Archaeolog Soc of Athens; Deut Archäolog Inst. Prof, Fine Arts, NYU Inst

Members

of Fine Arts, Dir Excavations in Samothrace. 30 Battle Rd, Princeton, NJ 08540.

Publications Related to IAS Residence: Samothrace: Supplementary Investigations 1968-1977. *Hesperia* 48(1979) 1-44.

Other Publications: Fortified Military Camps in Attica. *Hesperia* Supplement 11(1966).

McCrary, Clinton Graydon 73-74 M, Topology

Born 1946 Columbia, SC. PhD 1972 Math Brandeis Univ. Memberships: AMS; MAA. Asst Prof, Math Dept, Brown University, Box 1917, Providence, RI 02912.

Publications Related to IAS Residence: Cone complexes and PL transversality. *Trans AMS* 207(1975) 269-291; Euler singularities and homology operations. *AMS Proc Symp Pure Math* 27(1975) 371-380.

Other Publications: Zeeman's filtration of homology. *Trans AMS* in press.

McDiarmid, John Brodie 52 53, 57-58 HS, Greek Philosophy

Born 1913 Toronto, Ontario, Canada. PhD 1940 Greek Johns Hopkins Univ. Honors: Guggenheim Fellow 1957-58. Memberships: Am Philolog Assoc; Archaeol Inst of Amer; Soc of Ancient Grk Philos. Prof, Classics, University of Washington, 2816 Tenth Ave East, Seattle, WA 98102.

Publications Related to IAS Residence: Theophrastus on the Presocratic Causes. *Harvard Stud Class Phil* 61(1953) 85-156; The Manuscript Tradition of Theophrastus "De Sensibus". *Archiv Gesch Phil* 44(1962) 1-32; Phantom Words in Democritean Terminology. *Hermes* 86(1958) 291-298; Theophrastus, "De Sensibus" 66: Democritus' Explanation of Salinity. *Am J Phil* 80(1959) 56-66; Plato in Theophrastus "De Sensibus". *Phronesis* 4(1959) 59-70; Theophrastus "De Sensibus" 61-62: Democritus' Theory of Weight. *Class Philol* 55(1960) 28-30.

McDonald, A. H. 66f HS, Classical Studies

Born 1908 New Zealand. PhD 1937 Cambridge Univ. Deceased.

McDuff, Dusa Waddington 76s, 77f M, Topology

Born 1945 London, England. PhD 1971 Mathematics Cambridge Univ. Asst Prof, Math Dept, State University of New York, Stony Brook, NY 11794.

Publications Related to IAS Residence: Foliations and Monoids of Embeddings. In *Geometric Topology*, ed. by Cantrell. New York: Academic Press, 1979.

Other Publications: A countable infinity of Π_2 factors. *Ann Math* 90(1969) 361-371; Uncountably many Π_2 factors. *Ann Math* 90(1969) 372-377; With G. Segal. Homology fibrations and the "group-completion" theorem. *Invent Math* 31(1976) 279-284.

McGregor, Malcolm Francis 37-38, 48s HS(H), Greek Epigraphy and History

Born 1910 London, England. PhD 1937 Classics Univ of Cincinnati. Honors: DCL Bishop's U 1970; DLitt Acadia U 1971; Awd of Merit Amer Philol Assoc 1954; Master Teacher Brit Col 1974; FRSC 1958-; Queen Elizabeth II Jubilee Medal Canada 1977. Appointments: Chmn, Jt Bd of Teacher Ed (Min of Ed, British Columbia). Memberships: Class Assoc of Canada; Amer Philol Assoc; Archaeol Inst of Amer; Hellenic Assoc (Gt Britain); Ohio Class Conf; Class Assoc of the Pac Northwest. Prof Emer, Classics, Univ of British Columbia, Inst Hist Vancouver Comm Coll; Hon Prof Humanities Univ of Calgary, 4495 W Seventh Ave, Vancouver, British Columbia, Canada V6R 1X1.

Publications Related to IAS Residence: *The Athenian Tribute Lists, I*. Cambridge, Mass: 1939; With B. D. Meritt and H. T. Wade-Gery. *II-IV*. Princeton, New Jersey: 1949, 1950, 1953; With D. W. Bradeen. *Studies in Fifth-Century/Attic Epigraphy*. Norman, Okla: 1973.

Other Publications: Ed with D. W. Bradeen. $\Phi \rho \rho \sigma$ *Tribute to Benjamin Dean Merritt*. Locust Valley, New York: 1974; Kleon, Nikias, and the Trebling of the Tribute. *Trans Amer Philol Assoc* 66(1935) 146-164; The Last Campaign of Kleon and the Athenian Calendar in 422/1 BC. *Amer J Philol* 59(1938) 145-168; The Pro-Persian Party at Athens from 510 to 480 BC. *Harvard Studies in Class Philol* Supp Vol 1(1941) 71-95; The Politics of the Historian Thucydides. *Phoenix* 10(1956) 93-102; Thucydides and A. W. Gomme. *Phoenix* 13(1959) 58-68; With C.W.J. Eliot. Kleisthenes: Eponymous Archon 525/4 BC. *Phoenix* 14(1960) 27-35; The Ninth Prescript of the Attic Quota-Lists. *Phoenix* 16(1962) 267-275; The Genius of Alkibiades. *Phoenix* 19(1965) 27-46; Method and Manners in Greek Epigraphy. *Phoenix* 20(1966) 210-227; The Postscript of the First Attic Quota-List. *Greek Roman and Byzantine Studies* 8(1967) 103-112; With B. D. Meritt. The Athenian Quota-List of 421/0 BC. *Phoenix* 21(1967) 85-91; The Athenian Quota-List of 421/0 BC. *Amer J Archaeol* 75(1971) 91-92; Democracy: Its Admirers and its Critics. *Classical News and Views* 15(1971) 53-63; The Handmaiden of History. *Trans of the Royal Soc of Can* 11 (1973) 229-242; Athenian Policy, at Home and Abroad. In *Lectures in Memory of Louise Taft Semple, Second Series 1969-1970*, University of Cincinnati Classical Studies, II: 51-84. 1973; Phormion and Peisistratus. *Phoenix* 28(1974) 18-21; Solon's Archonship: the Epigraphic Evidence. In *Polis and Imperium, Studies in Honor of Edward Togo Salmon*, ed. by J.A.S. Evans., 31-34. Toronto: 1974; The New Fragment of the Fifteenth Quota-List. *Hesperia* 45(1976) 171-172; The Attic Quota-List of 453/2 BC. *Hesperia* 45(1976) 280-282.

McIntosh, Alan G. R. 66-67, 73-74 M, Analysis

Born 1942 Sydney, Australia. PhD 1966 Math Univ Calif Berkeley. Appointments: Council, Austr Math

Soc, 1971-73. Memberships: Austr Math Soc; AMS. Assoc Prof, School of Maths & Physics, Macquarie University, North Ryde, NSW, MD 3 Australia.

Publications Related to IAS Residence: Bilinear Forms in Hubert Space. *J of Math and Mech* 19(1970) 1027-1045; On the Closed Graph Theorem. *Proc AMS* 20(1969) 397-404.

Other Publications: Functions and Derivations of C^* -Algebras. *J of Func Anal* 30(1978); Counter example to a Question on Commutators. *Proc AMS* 29(1971) 337-340.

McKay, Alexander Gordon 79f HS, Roman Literature & Art History

Born 1924 Toronto, Canada. PhD 1950 Classics Princeton Univ. Honors: Izaak Walton Killam Research Fellow Canada Council 1979-80; Fellow Royal Soc of Canada 1965; Woodrow Wilson Fellow 1947-48; Kellogg Fellow 1946-47; Award of Merit Class Assoc, of the Middle West & South 1977; Queen Elizabeth II Silver Jubilee Medal 1978. Appointments: Honorary Editor, The Royal Society of Canada 1968-; Member, Nominating Comm, Amer Philol Assoc 1978-81; Dir, Canadian Federation for the Humanities 1979-81; Chmn, Lexicon Iconographicum Mythologiae Classicae Canada 1976-82. Memberships: Past Pres, Vergilian Society; Past Pres, Classical Assoc of the Middle West and South; Pres, Classical Assoc of Canada 1978-80. Prof, Classics, McMaster Univ. 1 Turner Ave, Hamilton, Ont L8P 3K4, Canada.

Publications Related to IAS Residence: Vergilian Bibliography (1978-1979). *Vergilius* 25(1979).

Other Publications: *Naples and Campania: Texts and Illustrations*. Hamilton, Ont: 1962; *Vergil's Italy*. Greenwich Conn; Bath, England: 1970; *Roman Lyric Poetry: Catullus and Horace*. New York, London: 1969; 1974; *Roman Satire*. New York, London: 1976; *Ancient Campania*. 1, 2. Hamilton, Ont: 1972; *Houses, Villas, and Palaces in the Roman World*. London, Ithaca NY: 1977; *Vitruvius: Architect and Engineer*. London: 1978; Gen Ed, *Selected papers from the proceedings and Transactions of the Royal Society of Canada: Anthologie des Mémoires et comptes rendus de la Société royale du Canada*. 1-3. Millwood, NY: 1979.

McKellar, Bruce Harold John 66-68 NS, Low and High Energy Nuclear Physics

Born 1941 Australia. PhD 1965 Univ of Sydney. School of Physics, Univ of Melbourne, Parkville, Victoria 3052, Australia. *

McKenzie, Ralph 71-72 M, Logic

Born 1941 TX. PhD Math Univ Colorado. Prof, Dept of Math, Univ of California, Berkeley, CA 94720.

Publications Related to IAS Residence: A method for obtaining refinement theorems, with an application to direct products of semigroups. *Algebra Universalis* 2(1972) 324-338.

McKittrick, Eric Louis 70-71, 76-77 HS, American History

Born 1919 Battle Creek, MI. PhD History Columbia Univ. Honors: Pitt Prof Am Hist and Institutions Cambridge 1973-74; Harmsworth Prof of Am Hist and Institutions Oxford 1979-80. Memberships: AHA; Am Studies Assoc. Prof, History, Columbia Univ. 875 West End Ave, New York, NY 10025.

Publications Related to IAS Residence: *The Age of Washington and Jefferson*, forthcoming.

McMillan, Daniel Russell, Jr. 62-64, 69-70 M, Topology

Born 1935 Atlanta, GA. PhD 1960 Math Univ of Wisc. Appointments: Ed bd *General Topology & Its Applications*. Memberships: AMS; MAA. Prof, Department of Mathematics, University of Wisconsin, Madison, WI 53706.

Publications Related to IAS Residence: A criterion for cellularity in a manifold. *Ann Math* 79(1964) 711-716; Acyclicity in 3-manifolds. *Bull AMS* 76 (1970) 942-964; Taming Cantor sets in E^n . *Bull AMS* 70(1964) 706-708.

Other Publications: Compact, acyclic subsets of 3-manifolds. *Mich Math J* 16(1969) 129-136; An arc in a PL n -manifold with no neighborhood that embeds in S^n , $n \geq 4$. *Mich Math J* 25(1978) 29-43.

McMillan, John Emerson 72-73 M, Complex Analysis

Born 1938 Little Rock, AR. PhD 1964 Mathematics Rice Univ. Prof, Department of Mathematical Sciences, University of Wisconsin-Milwaukee, Milwaukee, WI 53201.

Publications: Boundary Behavior of a Conformal Mapping. *Acta Math* 123(1969) 43-67; Distortion under Conformal and Quasiconformal Mappings. *Acta Math* 126(1971) 121-141.

McMullen, John Roderick 71 72, 72f M

Born 1947 Sydney, Australia. PhD 1971 Mathematics Univ of Washington. Memberships: AMS Austral Math Soc. Lecturer, Dept of Pure Mathematics, University of Sydney, Sydney NSW2006, Australia.

Publications Related to IAS Residence: Extensions of positive-definite functions. *Mem AMS* 117(1972); Compact torsion groups. In *Proc Second Internat Conf on Theory of Groups, Australian Nat Univ August 1973*, Lect notes in math 372: 453-462. Berlin & NY: Springer-Verlag, 1973.

Other Publications: An algebraic theory of hypergroups. *Bull Austral Math Soc* in press; With J. F. Price. Duality for finite abelian hypergroups over splitting fields. *Bull Austral Math Soc* in press.

McNeill, David 73-75 Soc, Anthropology

Born 1933 Santa Rosa, CA. PhD 1962 Psychology Univ California, Berkeley. Honors: Guggenheim Fellow 1973-74; PBK 1953; Sigma Xi 1962.

Members

Memberships: Ling Soc of Amer. Prof, and Chm Cttee Cognitn & Communication; Dir Sloan Fdn Wrkshp Cognitive Sci, Department of Behavioral Sciences, University of Chicago, 5848 S University Ave, Chicago, IL 60637.

Publications Related to IAS Residence: *The Conceptual Basis of Language*. Hillsdale, NJ: Erlbaum Assocs, 1979.

Other Publications: Developmental Psycholinguistics. In *The Genesis of Language*, ed. by F. Smith & G.A. Miller. Cambridge, Mass: MIT Press, 1966.

McShane, Edward James 49-50 M, Analysis
Born 1904 New Orleans, LA. PhD 1930 Univ of Chicago. Honors: Hon ScD Tulane Univ 1947; Chauvenet Prize MAA; NAS; Awd for Dist Service MAA; Am Philos Soc. Appointments: Nat Sci Board (1956-68); President's Adv Cttee for Nat'l Medal of Science. Memberships: AMS; MAA; SIAM. Alumni Prof Emer, Univ of Va, 209 Maury Ave, Charlottesville, VA 22903.

Publications: On multipliers for Lagrange problems. *Am J Math* 61: 809-819; *Stochastic Calculus and Stochastic Models*. New York: Academic Press, 1974.

McVaugh, Michael Rogers 68-69 HS, History of Science

Born 1938 Washington, DC. PhD 1965 History Princeton Univ. Appointments: Council, Hist of Sci Soc, 1971-73; US Nat Cttee, Intl Union for Hist and Philos of Sci, 1972-77. Memberships: Hist of Sci Soc; Med Acad of Amer. Prof, Department of History, University of North Carolina, Chapel Hill, NC 27514.

Publications Related to IAS Residence: *Arnaldi de Villanova Opera Medica Omnia, II: Aphorismi de gradibus*. Granada-Barcelona: 1975; Quantified medical theory and practice at fourteenth-century Montpellier. *Bull Hist of Med* 43(1969) 397-413.

Other Publications: contribution In *A Source Book in Medieval Science*, ed. by Edward Grant, 700-808. Cambridge, Mass: Harvard Univ Press, 1974; Theriac at Montpellier 1285-1325. *Sudhoffs Archiv* 56(1972) 113-144; The "Humidum Radicale" in Thirteenth-Century Medicine. *Traditio* 30(1974) 259-83; With S.H. Mauskopf. J. B. Rhine's Extra-Sensory Perception and Its Background in Psychical Research. *Isis* 67(1976) 161-189.

Medlicott, William Norton 52f, 57f HS, Modern History

Born 1900 Wandsworth, Surrey, England. DLit 1952 Modern History London Univ. Honors: DLitt (Hon) U Wales 1970; LittD (Hon) Leeds U 1977; FR Hist S. Appointments: Offic Hist, Min of Econ Warfare, 1942-1958 (London); Sr Ed, 'Documents on British Foreign policy, 1919-1939', Foreign Office, London, since 1965. Memberships: Hon Secy (1943-6); Pres (1952-5) Br Hist Assoc; Council member, Royal Inst of Intl Aff Chatham House, 1954-1970. Stevenson Prof Emer, International History, London School of

Economics. 2 Cartref, Ellesmere Rd, Weybridge, Surrey, England.

Publications Related to IAS Residence: *The Economic Blockade*. History of the Second World War, 1, 2. London: HMSO, 1952, 1959; *Bismarck, Gladstone, and the Concert of Europe*. London: Athlone Press, 1956.

Other Publications: *The Congress of Berlin and After; a diplomatic history of the Near Eastern settlement, 1878-1880*. London: Methuen, 1938; *Bismarck and Modern Germany*. Teach Yourself History Library. Mystic, Conn: L Verry, 1965; *Britain and Germany: the search for agreement, 1930-1937*. Creighton Memorial Lecture on History, 1968. London: Athlone, 1969; *British Foreign Policy since Versailles, 1919-1963*. 2nd ed., rev. and enlarged. London: Methuen, 1968; *Contemporary England, 1914-1964*. New ed., with epilogue, 1964-1974. London: Longman, 1976.

Mehta, Madan Lal 62s, 62-63 M(NS), Theoretical Physics

Born 1932 Reimagra, Rajsthan, India. D ès S 1961 Physics Université de Paris. Maitre de Recherche, Physique Math, CNRS, France, S.P.T., C.E.N de Saclay, 91190 G if-Sur-Yvette, France.

Publications Related to IAS Residence: *J Math Phys* 4(1963) 489, 501.

Other Publications: *Random Matrices and the Statistical Theory of Energy Levels*. Academic Press: New York, 1967; *Elements of Matrix Theory*. Delhi: Hindustan Pub Corp, 1977.

Meier, Christian 79s HS, Ancient History

Born 1929 Stolp, Pommern, Germany. DrPhil 1956 Univ Heidelberg. Memberships: Arbeitsgr Gesch. Prof Ordinarius, Ancient History, Univ Bochum, In der Held 15, D-5307 Wachtberg-Niederbachem, Germany.

Publications Related to IAS Residence: *Die Entstehung des Politischen*. Frankfurt: forthcoming; *Cicero and the political grouping in Rome in 58 B.C.* Munich: forthcoming.

Other Publications: *Entstehung des Begriffs Demokratie; vier Prolegomena zu einer historischen Theorie*. Frankfurt am Main: 1970; *Res publica amissa. Eine Studie zu Verfassung und Geschichte der späten römischen Republik*. Wiesbaden: Steiner, 1966.

Meister, James Elliot 79-80 M, Automorphic Forms and Group Representations

Born 1952 Norwalk, CT. PhD 1979 Cornell Univ. 11 Wisteria Dr, Apt 3J, Fords, NJ 08863. *

Mello, Pier Achille 65-67 M(NS), Physics

Born 1939 Italy. PhD 1965 Physics Univ of Mexico. Honors: Mexican NAS Prize 1975. Memberships: Am Phys Soc. Full Prof, Instituto De Fisica, Univ of

Mexico, Apartado Postal 20-364, Mexico 20 DF, Mexico.

Publications Related to IAS Residence: With J. Flores. Analysis of the BCS ground state for a change-independent pairing interaction. *Nucl Phys* 88(1966) 609; The problem of external mixing in isobaric analog resonances. *Ann Phys* 45(1967) 240.

Other Publications: With T. A. Brody. *Phys Lett* 37A(1971) 429; With M. Moshinsky. *Ann Phys* 71(1972) 1; With J. Flores. *Rev Mex Fis* 22(1973) 185; With M. Bauer. *Proc NAS* 73(1976) 283; With J. Barojas, E. Cota, E. Blaisten, J. Flores. *Ann Phys* 107(1977) 95.

Melrose, Richard B. 77f M, Partial Differential Equations

Born 1949 Australia. PhD 1974 Univ of Cambridge. Dept of Math, MIT, Cambridge, MA 02139. *

Melville Jones, John Richard 74f HS, Archaeology

Born 1933 Marlow, Buckinghamshire, England. PhD 1963 Univ of Western Australia. Honors: Nuffield Traveling Fship 1969; Myer Found Travel Scholarship 1971. Memberships: Amer Num Soc; Royal Num Soc; Soc Royale Num Belgique. Senior Lect, Dept of Classics, University of W Australia, Nedlands, Western Australia 6009.

Publications Related to IAS Residence: Greek Coin Names in -phoros' in. *Bull of the Inst of Class Studies* (1974) 55-74.

Other Publications: *The Siege of Constantinople 1453: Seven Contemporary Accounts*. Amsterdam: Hakkert, 1972.

Menasce, Rev. P. J. de 51f, 53f HS, Oriental Studies
Deceased.

Menikoff, Arthur 77f M, Partial Differential Equations

Born 1947 New York, NY. PhD 1971 NYU. Memberships: AMS. Assoc Prof, Math Dept, Johns Hopkins Univ, Baltimore, MD 21218.

Publications Related to IAS Residence: With J Sjöstrand. On the Eigenvalues of a class of hypoelliptic operators. *Math Ann* 235(1978) 55-85.

Mennicke, Jens L. 64-65 M

Born 1931 Dresden, Germany. PhD 1964 Habil. Full Prof, Fakultät für Mathematik, Universität Bielefeld, Postfach 8640, 4800 Bielefeld 1, Germany.

Meritt, Lucy Shoe 48-49, 50-73 HS, Classical Archaeology

Born 1906 Camden, NJ. PhD 1935 Classical Archaeology & Greek Bryn Mawr Coll. Honors: LHD Brown University 1974; Gold Medal for Distinguished Archaeological Achievement of Archaeolog Inst of Amer 1976. Appointments: Archaeolog Inst of Amer: Recorder 1960-1968, 1971; Acting Gen Sec 1962;

Princeton Society of, Sec 1953-56, President 1963-67; Austin Society of, VP 1976-78; Managing Comm Amer Sch of Class Studies at Athens: Exec Comm 1948-52; Chmn Publications Comm 1950-1972; Sec-Treas Alumni Assoc 1940-1975; Centennial Comm 1977-81. Memberships: German Archaeolog Inst; Soc of Architectural Historians. Visiting Scholar, Classical Archaeology, Dept of Classics, Univ of Tex, Austin, Editor Emeritus Amer School Classical Studies at Athens. 712 W 16th St, Austin, TX 78701.

Publications Related to IAS Residence: *Profiles of Western Greek Mouldings*. 4, 14. Amer Acad in Rome, 1952; *Etruscan and Republican Roman Mouldings*. Mem Amer Acad Rome, 28. 1965; Greek Mouldings of Kos and Rhodes. *Hesperia* 19(1950) 338-369; The Stoa Poikile. *Hesperia* 39(1970) 233-264; The Geographical Distribution of Greek and Roman Ionic Bases. *Hesperia* 38(1969) 186-204; The Roman Ionic Base in Corinth. In *Essays in Memory of Karl Lehmann*, Marsyas Supplement 1: 300-303. 1964; An Imitation of the Antique in Architectural Mouldings. *Hesperia* 35(1966) 141-149; Architectural Mouldings from Murlo. *Studi Etruschi* 38(1970) 13-25.

Other Publications: *Profiles of Greek Mouldings*. Cambridge, Mass: 1936; Architectural Mouldings of Doura-Europos. *Berytus* 9(1948) 1-40; Dark Stone in Greek Architecture. In *Commemorative Studies in Honor of Theodore Lesli Shear*, Hesperia Supplement 8: 341-352. 1949.

Merker, Irwin Loeb 77-78 HS, Ancient History

Born 1935 New York, NY. PhD 1958 Classics Princeton Univ. Memberships: Am Philolog Assoc; Archaeolog Inst of Amer; AHA; Am Numismatic Soc; Assoc of Ancient Historians. Assoc Prof, History, Rutgers Univ. 45 Wheatsheaf Lane, Princeton, NJ 08540.

Publications Related to IAS Residence: Lysimachos, Thessalian or Macedonian? *Chiron* 9(1979); Chilon Periodonikes. *Am J Archaeology*.

Other Publications: Demetrios Poliorketes and Tyre. *Ancient Society* 5(1974) 119-126; The Ptolemaic Officials and the League of the Islanders. *Historia* 17(1970) 141-160; The Ancient Kingdom of Paeonia. *Balkan Studies* 6(1965) 35-54.

Merlan, Philip 65-66 HS, Classical Studies

Born 1897 Kolomyja, Austria. PhD 1927 Univ of Vienna. *

Merzbacher, Eugen 50-51 M(NS), Physics

Born 1921 Berlin, Germany. PhD 1950 Harvard Univ. Honors: Thos Jefferson Awd 1972; Alexander-von-Humboldt U.S. Sr Sci Awd 1977; NSF Sci Fac Awd 1959. Memberships: Am Phys Soc; Am Assoc for Adv Sci. Kenan Prof, Physics, and Chmn, Department of Physics and Astronomy, University of North Carolina, 274 Phillips Hall 039A, Chapel Hill, NC 27514.

Publications: *Quantum Mechanics*. New York: Wiley, 2nd ed 1970; With H.W. Lewis. X-ray Production by

Members

Heavy Charged Particles. In *Encyc of Phys*, 34: 166-192. Berlin: Springer, 1958.

Messiah, Albert M. L. 49-50 M(NS), Nuclear Physics

Born 1921 France. PhD 1947 École Polytech, Paris. *
Publications Related to IAS Residence: Scattering of Slow Neutrons by H₂ and CH₄. *Phys Rev* 2 84(1951) 204-214; Sur la Diffusion des Neutrons "Lents" par l'Oscillateur Harmonique Isotrope. *J de Phys et le Radium* 8 12(1951) 670-672.

Mestel, Leon 61-62 M(NS), Astrophysics

Born 1927 Melbourne, Victoria, Australia. PhD 1952 Astrophysics Faculty of Mathematics, Univ of Cambridge. Honors: FRS 1977. Appointments: Council of Royal Astron Soc 1968-71; Sectl Cttee 2 of Royal Soc 1977-; Comm on Stellar Const, Intl Astron Un (Pres 1973-6). Memberships: Fellow Royal Astron Soc. Prof, and Dir, Astronomy Centre, Physics Bldg, University of Sussex, Falmer, Brighton BN1 9QH, England.

Publications Related to IAS Residence: Problems of Star Formation. *Quart J of Royal Astron Soc* 6: 161 and 265; On the Galactic Law of Rotation. *Mon Not R astr Soc* 126: 553.

Other Publications: With N. O. Weiss. Magnetohydrodynamics. *Swiss Soc Astron Astrophys Saas-Fee Lectures* 1974.

Metzger, Bruce Manning 65s, 74s HS, Classics

Born 1914 Middletown, PA. PhD 1942 Classics Princeton University. Honors: DD 1951; LHD 1962; DD 1964; DTheol 1970; FBA 1978. Memberships: Past-Pres, Soc of Biblical Lit; Past-Pres, N Amer Patristic Soc; Past-Pres Studiorum Nori Testamenti Societas. Prof, New Testament, Princeton Theological Seminary, 20 Cleveland Lane, Princeton, NJ 08540.

Publications Related to IAS Residence: *The Early Versions of the New Testament*. Oxford: Clarendon Press, 1977; *A Textual Commentary on the Greek New Testament*. London and New York: United Bible Societies, 1971.

Other Publications: *The Text of the New Testament, its Transmission, Corruption, and Restoration*. Oxford: Clarendon Press, 1964.

Meyvaert, Paul Jeffrey 76f HS, Medieval History

Born 1921 Wallasey, Cheshire, England. Memberships: Mediaeval Acad of Amer. Exec Secy, Mediaeval Academy of America; Ed *Speculum* 1971; Co-ed *Anglo-Saxon England* 1970. 8 Hawthorne Park, Cambridge, MA 02138.

Publications Related to IAS Residence: The Date of Gregory the Great's Commentaries on the Canticle of Canticles and on I Kings. *Sacris Erudiri* in press; An Apocalypse Panel on the Ruthwell Cross. In *Medieval and Renaissance Studies*. Duke University, in press.

Other Publications: *Benedict, Gregory, Bede and Others*. London: Variorum Reprints, 1977.

Michael, Ernest A. 51-52, 56-57, 60-61, 68f M, General Topology

Born 1925 Zürich, Switzerland. PhD 1951 Univ of Chicago. Appointments: Past ed *Proc AMS & Gen Topology and its Applications*. Memberships: AMS; MAA. Prof, Department of Mathematics, University of Washington, Seattle, WA 98195.

Michel, F. Curtis 71-72 NS, Astrophysics

Born 1934 La Crosse, WI. PhD 1962 Physics Calif Inst of Tech. Honors: Andrew Hays Buchanan Prof of Astrophysics 1974-. Appointments: Solar-Terrestrial Theory Panel (NASA); Data Analysis Panel (USRA). Memberships: APS (Fellow); AAS; AGU; IAU. Prof, and Chmn, Dept Space Phys and Astron, Rice University, Houston, TX 77001.

Publications Related to IAS Residence: Accretion of Matter by Collapse Objects. *Astrophys Space Sci* 3(1971) 163; Gravitational Collapse and Higher-Order Lagrangians. *Ann Phys* 76(1973) 281.

Other Publications: Magnetopause Shapes: General Solutions. *J Geophys Res* 82(1977) 5181; Relativistic Stellar Wind Torques. *Astrophys J* 158(1969) 727; With T. Meyer-Kueck. Comparison of the Beta Spectra of B¹² and N¹². *Phys Rev* 127(1962) 545.

Michel, Louis 53-55, 60f, 68s M(NS), High Energy Physics

Born 1923 Roanne, France. DSc 1953 Univ of Paris. Honors: Dr(hc) Louvain U 1977. Memberships: Am Phys Soc; Soc Française de Phys (President 1979). Prof, IHES, 91440 Bures sur Yvette, France.

Publications Related to IAS Residence: With A. Wightman. μ -Meson Decay, β Radioactivity and Universal Fermi Interaction. *Phys Rev* (2) 93(1954) 354-355.

Middleton, William Edgar Knowles 69s HS, History of Science

Born 1902 Walsall, Staffordshire, England. MSc 1929 Physics Univ of Saskatchewan. Honors: Hon DSc Boston Univ 1957; Hon DSc McGill Univ 1976; Hon Member Amer Meteorol Soc 1977; Ives Medal Optical Soc of Amer 1959. Memberships: Amer Meteorol Soc; Can Soc for Hist and Philos of Sci; Optical Soc of Amer; Br Soc for Hist of Sci. Apt. 2406, 2020 Haro St, Vancouver, BC, Canada V6G 1J3.

Publications Related to IAS Residence: *The Experimenters: a study of the Accademia del Cimento*. Baltimore & London: Johns Hopkins Press, 1971; Paolo del Buono on the elasticity of Air. *Archive for Hist* 6(1969) 1-28.

Other Publications: *The History of the Barometer*. Baltimore: Johns Hopkins Press, 1964.

Mielke, Marvin V. 65-66 M

Born 1939 Marshfield, WI. PhD 1965 Math Ind Univ. Memberships: AMS. Prof, Dept Math, U of Miami, Coral Gables, FL 33124.

Mihailov, Georgi Ivanov 77-78 HS, Ancient Greek Epigraphy and History

Born 1915 Sliven, Bulgaria. PhD 1948 Sorbonne. Honors: Member Deut Archäolog Inst 1970; Fellow of the Brit Acad 1972; Prize Acad Inscip et Belles-Lett, France 1957; Prize & medal Union Travailleurs Scient Bulgare 1972. Memberships: Assoc Internat d'Epigraphie Grecque et Latine, Pres 1972-. Prof, Ancient Greek Philology, University of Sofia, Oboriste Str 6, 1504 Sofia, Bulgaria.

Publications Related to IAS Residence: The Western Pontic Koinon. *Epigraphica* 31(1979).

Other Publications: *Inscriptiones Graecae in Bulgaria Repertae*. 1. 1956; 1,2.1970; 2.1958; 3, 1.1961; 3,2. 1964; 4. Sofia: 1966; *Die griechischen Epigramme aus bulgarischen Ländern*. Sofia: 1942-44; *La langue des inscriptions grecques en Bulgarie*. Sofia: 1943; *La légende de Térée*. Sofia: 1955; *Les Thraces*. Sofia: 1922.

Miles, George C. 38-39, 61s HS, Numismatics

Born 1904 St. Davids, PA. PhD 1937 Princeton Univ. Deceased.

Publications Related to IAS Residence: *A Byzantine Weight Validated by Al-Walid*. Numismatic Notes and Monographs, 87. New York: Amer Numismatic Soc, 1939; The Ayyubid Dynasty of the Yaman and Their Coinage. *Numismatic Chronicle* 5 19(1939) 62-97; Epigraphical Notice: Two Dated Seljuk Monuments at Sin (Isfahan). *Ars Islam* 6(1939) 11-15; Epitaphs from an Isfahan Graveyard. *Ars Islam* 6(1939) 151-157; Some Coins from Sinjar. *Amer J of Semitic Langs* 56(1939) 244-250; With N. A. Faris. An Inscription of Barbak Shah of Bengal. *Ars Islam* 7(1940) 141-146; The Writings of Ernst Herzfeld. *Ars Islam* 7(1940) 82-92.

Other Publications: Islamic Coins. In *Antioch-on-the-Orontes IV, Part 1*, 109-124. Princeton: 1948.

Milgram, Arthur N. 46-47 M

Born 1912 Philadelphia, PA. PhD 1937 Univ of Penn.*

Publications Related to IAS Residence: Multiplicative Semigroups of Continuous Functions. *Duke Math J* 16(1949) 377-383.

Miličić, Dragan 75-76 M, Harmonic Analysis on Semisimple Lie Groups

Born 1948 Zagreb, Yugoslavia. PhD 1973 Math Univ of Zagreb. Memberships: Soc of Math and Phys of Yugoslavia; AMS. Assoc Prof, Department of Mathematics, University of Zagreb, P.O. Box 187, 41001 Zagreb, Yugoslavia.

Publications Related to IAS Residence: Asymptotic behaviour of matrix coefficients of the discrete series. *Duke Math J* 44(1977) 59-88.

Millar, Fergus Graham B. 68f HS, Ancient History

Born 1935 Edinburgh, Scotland. DPhil 1962 Ancient History Oxford Univ. Honors: FBA; FSA; Corr Mem

German Archaeol Inst. Appointments: Ed, *J of Roman Studies*; VPres, Soc for Prom of Roman Studies. Prof, Dept of History, University College, Gower St, London WC1E 6BT, England.

Publications Related to IAS Residence: *The Emperor in the Roman World; 31 BC - AD 337*. London: Duckworth, 1977; P. Herennius Dexippus: The Greek World and the Third-Century Invasions. *Jour of Roman Studies* 59(1969) 12-29.

Other Publications: *A study of Cassius Dio*. Oxford: Clarendon Press, 1964; With D. Berciu and others. *The Roman empire and its neighbors*. London: Weidenfeld & Nicolson, 1968; With Géza Vermès. *The history of the Jewish people in the age of Jesus Christ 175 B.C. - A.D. 135*. A new English version. Edinburgh: T. & T. Clark, 1973-.

Miller, Charles Frederick, III 69-70, 79f M, Logic and Algebra

Born 1941 Springfield, IL. PhD 1969 Mathematics Univ of Ill. Memberships: AMS; Assn for Symbolic Logic; MAA; Australian Math Soc. Prof, Dept of Math, Univ of Melbourne, Parkville (Vic 3052), Australia.

Publications Related to IAS Residence: With P. E. Schupp. Embeddings into hopfian groups. *J Algebra* 17(1971) 171-176; With P. E. Schupp. The geometry of HNN-extensions. *Comm Pure & Applied Math* 26(1973) 787-802; Decision problems in algebraic classes of groups. In *Word Problems*, ed. by Boone, Cannonito, & Lyndon, 507-523. North Holland, 1973.

Other Publications: *On group-theoretic decision problems and their classification*. Ann Math Studies, 68. Princeton, NJ: Princeton Univ Press, 1971.

Miller, George Armitage 50f, 70-76 Soc

Born 1920 Charleston, WV. PhD 1946 Harvard Univ. Honors: Dr(hc) Univ of Louvain 1976; AAAS; NAS; Am Philos Soc. Appointments: Member with Long-Term Appointment IAS 1970-76. Memberships: Am Psych Assoc (Pres 1968-69); Eastern Psych Assoc (Pres 1961-62); Soc of Exp Psychol. Prof, Experimental Psychology, Rockefeller Univ, Visit Prof MIT. Rockefeller University, New York, NY 10021.

Publications Related to IAS Residence: With Johnson-Laird, P. N. *Language and Perception*. Cambridge, Mass: Harvard Univ Press, 1976; Finite Markov processes in psychology. *Psychometrika* 17(1952) 149-167; Lexical Memory. *Proc of the Amer Philos Soc* 116, 2(1972); English verbs of motion: a case study in semantics and lexical memory. In *Coding processes in Human Memory*, ed. by A.W. Melton & E. Martin. V.H. Winston and Sons, Inc., 1972; Psychology, language, and levels of communication. In *Human Communication: Theoretical Explorations*, ed. by Albert Silverstein, 1-17. Hillsdale, NJ: Lawrence Erlbaum Associates, 1974; Listen and hear. In *Sensation and Measurement, Papers in honor of S. S. Stevens*, ed. by H. R. Moskowitz, B. Scharf, and J. C. Stevens, 129-135. Holland: D. Reidel Pub, 1974; Stanley Smith Stevens: 1906-1973. *Amer J Psych* 87, 1-2(1974)

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279-288; Toward a third metaphor for psycholinguistics. In *Cognition and the Symbolic Processes*, ed. by Walter B. Weimer and David S. Palermo, 397-413. Lawrence Erlbaum Assoc, 1974; Stanley Smith Stevens: 1906-1973. In *Biographical Memoirs*, 47. The Nat Acad of Sci, 1975.

Miller, Kenneth S. 50s, 58-59 M, Complex Stochastic Processes

Born 1922 New York, NY. PhD 1950 Math Columbia Univ. Honors: Sigma Xi 1950; Tau Beta Pi 1942; Pi Mu Epsilon 1940. Memberships: AMS; Asso Mem IAS. Adjunct Professor Mathematics Fordham Univ; Math Ed Krieger Publishing Co. Riverside Research Institute, 80 West End Ave, New York, NY 10023.

Publications Related to IAS Residence: A Sturm-Liouville problem associated with iterative methods. *Ann Math* 53(1951) 520-530; Self-adjoint factorizations of differential operators. *Proc AMS* 2(1951) 704-705; With M. M. Schiffer. On the Green's functions of ordinary differential systems. *Proc AMS* 3(1952) 433-441; Self-adjoint differential systems. *Quart J Math Oxford Ser 3*(1952) 175-178; With M. M. Schiffer. Monotonic properties of the Green's function. *Proc AMS* 3(1952) 948-956; *Advanced complex calculus*. New York: Harper & Row, 1960; *An introduction to the calculus of finite differences and difference equations*. New York: Henry Holt, 1960; With J. B. Walsh. *Introductory electric circuits*. New York: McGraw-Hill, 1960; With L. R. Abramson. A representation of Gaussian processes. *Intl J Engrg Sci* 2(1965) 431-439.

Miller, Perry 53-54, 62-63 HS, American Intellectual History

Born 1905 Chicago, IL. PhD 1931 U of Chicago. Deceased.

Publications Related to IAS Residence: *American Thought: Civil War to World War I*. New York: Rinehart, 1954; The Location of American Religious Freedom. In *Religion & Freedom of Thought*, 9-23. Garden City, NY: 1954.

Milliken, Keith R. 75-76 M, Mathematical Logic and Combinatorics

Born 1946 Southgate, CA. PhD 1975 Mathematics UCLA. Memberships: AMS; MAA. Asst Prof, Dept of Math, Calif Polytechnic, San Luis Obispo, CA 93407.

Publications Related to IAS Residence: A Ramsey Theorem for Trees. *J Comb Theory, Series A* in press.

Other Publications: Ramsey's Theorem with Sums or Unions. *J Comb Theory Series A* 18, 3(1975); Completely Separable Families and Ramsey's Theorem. *J Comb Theory Series A* 18, 3(1975).

Millon, Henry Armand 78f HS, Art History

Born 1927 Altoona, PA. PhD 1964 Harvard Univ. Honors: AAAS; Accad Sci, Turin; Soc Subalpina di

storia patria. Appointments: Consult Comm Nat Survey of Hist Sites and Bldgs, U.S. Dept of Int, 1969-; Intl Un of Acads of Archaeol, Hist and Hist of Art in Rome, Pres, 1974; Boston Landmarks Comm, vice-chm, 1971-73; Dir Amer Acad Rome 1973-77, Trustee 1977-. Memberships: Soc of Architectural Historians, Pres, 1968/69; Coll Art Assoc; Renaissance Soc. Prof, History and Architecture, MIT, 60 Pinckney St, Boston, MA 02114.

Publications Related to IAS Residence: The Antamoro Chapel in S Girolamo della Carità in Rome: Drawings by Juvarra and an Unknown Draftsman. In *Italian Art and Architecture-15th through 18th centuries*. Rome-Cambridge, Mass: 1979.

Other Publications: With Craig Hugh Smyth. Michelangelo and St Peter's: Observations on the interior of the apses, a model of the apse vault and related drawings. In *Römische Jahrbuch für Kunstgeschichte*, 16: 137-206. Vienna: 1976; La formazione piemontese di Bernardo Vittone fino al 1742. In *Bernardo Vittone e la disputa fra classicismo e barocco nel '700*, ed. by V. Viale. Turin: 1972; Rudolf Wittkower, "Architectural Principles in the Age of Humanism": Its influence on the development and interpretation of Modern architecture. *J Soc Arch Hist* 31(1972) 83-91; La geometria nel linguaggio architettonico di Guarino Guarini. In *Guarino Guarini e l'internazionalità del barocco*, ed. by V. Viale, 2: 35-60. Turin: 1970; *Baroque and Rococo Architecture*. New York: 1961; *The Architectural Theory of Francesco di Giorgio*. *Art Bull*, 40. 1958: 257-261.

Mills, Robert L. 55-56 M(NS), Theoretical Physics

Born 1927 Englewood, NJ. PhD 1955 Theoretical Physics Columbia Univ. Memberships: Am Phys Soc; Sigma Xi; PBK; AAUP. Prof, Dept of Physics, Ohio State Univ, Columbus, OH 43210.

Publications Related to IAS Residence: Integral Equations for Meson Field Theory. *Nuovo Cimento* 5(1957) 30.

Other Publications: With C. N. Yang. Conservation of Isotopic Spin & Isotopic Gauge Invariance. *Phys Rev* 96(1954) 191; With L. N. Cooper & A. M. Sessler. Possible Superfluidity of Strongly Interacting Fermions. *Phys Rev* 114(1959) 1377; With C.N. Yang. Treatment of Overlapping Divergences in the Photon Self-Energy Function. *Progress of Theoret Phys Suppl* 37 & 38(1966) 507; With J. F. Reading. Inversion Problem with Separable Potentials. *Jour of Math Phys* 10(1969) 321; Propagator Gauge Transformations for Non-Abelian Gauge Fields. *Phys Rev D* 3(1971) 2969; Analytic Approximation for Substitutional Alloys. *Phys Rev B* in press(1978); *Propagators for Many-Particle Systems*. New York: Gordon & Breach, 1969.

Millson, John J. 73-76 M, Differential Geometry

Born 1946 Canada. PhD 1973 Univ of Calif, Berkeley. Dept of Mathematics, University of Toronto, Toronto M5S 1A7, Ontario, Canada. *

Milne, Alan John 53-54 HS, Political and Moral Philosophy

Born 1922 England. PhD 1952 U of London. *

Milne, James Stuart 76-77 M

Born 1942 Invercargill, New Zealand. PhD 1967 Mathematics Harvard Univ. Prof, Math Dept, U of Mich, Ann Arbor, MI 48109.

Publications Related to IAS Residence: *Etale Cohomology*. Princeton Math Series, 33. Princeton: Princeton Univ Press, 1979; Points on Shimura varieties mod p . *AMS, Proc Sym Pure Math* 33(1979) 165-184.

Other Publications: On a conjecture of Artin and Tate. *Ann Math* 102(1975) 517-33; Duality in the flat cohomology of a surface. *Ann Sci Ecole Norm* 9(1976) 171-202.

Milnor, John Willard see Present Faculty

Milnor, Tilla Klotz 74s M, Geometry

Born 1934 New York, NY. PhD 1959 Math NY Univ. Appointments: Exec Comm NRC. Memberships: AMS; MAA; AWM. Prof, Math, Rutgers Univ, Chair Math Dept Douglass College. 9 Mt Lucas Rd, Princeton, NJ 08540.

Publications Related to IAS Residence: The curvature of αI & βII & γIII on a surface in a 3-manifold of constant curvature. *Mich Math J* 22(1975) 247-255; The curvatures of some skew fundamental forms. *AMS Proc* 62(1977) 323-329; Restrictions on the curvatures of ϕ -bounded surfaces. *J Diff Geom* 11 (1976) 31-46.

Other Publications: Efimov's theorem about complete immersed surfaces of negative curvature. *Advances in Math* (1972) 474-543; With R. Osserman. Complete surfaces in E^3 with constant mean curvature. *Comm Math Helv* (1966-67) 313-318.

Min, Szu-Hoa 47-48 M

Born 1914 China. PhD 1947 Oxford Univ. *

Minakshisundaram, Subbaramiah 47s, 47-48 M

Born 1913 India. PhD 1940 Univ of Madras. Deceased.

Publications Related to IAS Residence: With K. Chandrasekharan. Some Results on Double Fourier Series. *Duke Math J* 14(1947) 731-753; A Uniqueness Theorem for Eigenfunction Expansions. *Proc NAS* 33(1947) 76-77; Notes on Fourier Expansions III. *Amer J Math* 71(1949) 60-66; Zeta Functions on the Sphere. *J Indian Math Soc NS* 13(1949) 41-48.

Minbashian, Farshid 74-75 M

Born 1946 Teheran, Iran. PhD 1972 Mathematics U of Calif, Berkeley. Assoc Prof, Math, Univ of Washington. 2910 W Garfield St, Seattle, WA 98199.

Publications Related to IAS Residence: The Automorphism Group of Algebraic Groups. *J Algebra* 43(1976) 122-128.

Minemura, Katsuhiko 78-79 M, Harmonic Analysis

Born 1945 Takada, Niigata, Japan. DSc 1974 Math Univ of Tokyo. Assoc Prof, Math, Japan Women's Univ. 4-15-8 Narimasu, Itabashi-ku, Tokyo 175, Japan.

Miner, Dorothy E. 60-61 HS, Art History

Born 1904 New York, NY. BA 1926 Barnard Coll. Deceased.

Minio-Paluello, Lorenzo 69-70, 74s, 75s, 76s HS, History of Mediaeval Philosophy

Born 1907 Belluno, Italy. DPhil 1947 Hist of Mediaev Philos Oxford Univ. Honors: FBA 1957; Member Mediaeval Acad Amer 1970; Foreign Member Amer Philos Soc 1971; Corr Member Koninklijke Acad Wet, Lett en Schone Kunsten van België 1977; Socio corr Accad Patavina di Sci, Lett ed Arti 1977. Retired Reader, Mediaev Philos, Oxford Univ, Emer Prof Fellow Oriel College, 22 Polstead Road, Oxford, England OX2 6TN.

Publications Related to IAS Residence: William of Moerbeke and Michael Scot. In *Dictionary of Scientific Biography*, 9: 434-440, 361-365. 1974; Sur la genèse du terme "Scientifique". *L'âge de la science* 3(1971-2) 201-205; Aristotelianism. *Encyclopaedia Britannica* 1(1974) 1155-61.

Other Publications: Supplementa and Indices. In *Aristoteles latinus, Codices 2*, 777-799, 1245-1388. Cambridge: 1955; *Aristoteles (Greek text) Categoriae, De Interpr.* Oxford: 1949; *Twelfth Century Logic*. 1-2. Rome: 1956-58.

Minott, Charles Ilsley 72-73 HS, History of Art

Born 1932 Melrose, MA. PhD 1967 Art History Princeton Univ. Honors: Fellow Amer Acad in Rome 1962-64; A. Kingsley Porter Prize Coll Art Assoc 1969. Memberships: Coll Art Assoc; Med Acad of Amer; Renaissance Soc. Assoc Prof, Art History, Univ of Penn. 206 St Mark's Sq, Philadelphia, PA 19104.

Publications: *Martin Schongauer*. NY: Collectors Editions, 1971; The Theme of the Merode Altarpiece. *Art Bull* 51(1969) 267-71.

Mintz, Sidney Wilfred 74-75 Soc, Anthropology, History

Born 1922 Dover, NJ. PhD 1951 Anthropology Columbia Univ. Honors: MA (Hon) Yale Univ 1963; DuPont Lect Univ of the South 1968; DeVane (PBK) Medalist Yale Univ 1972; Lewis Henry Morgan Mem Lect Univ of Rochester 1972; Christian Gauss Lect

Members

Princeton Univ 1979. Memberships: Amer Anthropol Assoc; Amer Ethnol Soc; Sigma Xi; Amer Assoc Adv of Sci. Prof, Dept of Anthropology, Johns Hopkins Univ, Baltimore, MD 21218.

Publications Related to IAS Residence: With Richard Price. *An Anthropological Approach to the Study of Afro-American History: A Caribbean Perspective*. Philadelphia: Ishi Publications, 1976; ed, *Slavery, Colonialism and Racism*. New York: W. W. Norton, 1974.

Other Publications: With J. H. Steward et al. *The People of Puerto Rico. 1956; Worker in the Cane. 1960; Caribbean Transformations. 1974.*

Mirkil, Hazelton 56-57 M, Banach Algebras

Born 1922 Philadelphia, PA. PhD 1956 Univ of Chicago. Deceased.

Mitchel, Fordyce Wood 79-80 HS, Greek History, Epigraphy

Born 1922 Memphis, TN. PhD 1954 Yale Univ. Memberships: Am Philol Assoc; AHA; Archaeol Inst of America; Am Numismatic Soc. Prof, History & Classical Studies, Univ of Missouri, Dept of Hist, Columbia, MO 65211.

Publications: The Cadet colonels of the Ephebic Corps. *TAPA* 92(1961) 347-357; Demades of Paeania and IG II² 1493, 1494, 1495. *TAPA* 93(1962) 213-229; *Lykourgan Athens: 338-322*. University of Cincinnati, 1970.

Mitchell, Edward J. 68-69 Soc, Comparative Studies in Land Distribution and Political Stability

Born 1937 Newark, NJ. PhD Univ of Pennsylvania. Graduate School of Bus & Public Admin, Cornell U, Ithaca, NY 14850. *

Mitchell, Jonathan 42-43 HS(EP)

Born 1899 Portland, ME. BA 1921 Amherst Coll. Deceased.

Mitchell, Josephine Margaret 54-55 M, Pure Mathematical Analysis

Born 1912 Edmonton, Canada. PhD 1942 Mathematics Bryn Mawr Coll. Honors: Fellow in Math Bryn Mawr Coll 1940-42; Fellow of AAAS 1952; AAUW Natl Fellowship 1954-55; NSF Sr Postdoc Fellow 1964-65; Research Grants Amer Philos Soc 1948; NSF 1952-53, 1968-71; Ok St Univ 1948; AFOSR 1960-63. Appointments: Member-at-large, Section A of AAAS, 1974-. Memberships: AMS; MAA; Amer Assoc Adv of Sci; New York Acad of Sci. Prof, Mathematics, SUNY, Buffalo, 1701 W River Rd, Grand Island, NY 14072.

Publications Related to IAS Residence: With Kyong T. Hahn. Generalization of Schwarz-Pick lemma to invariant volume in a Kahler manifold. *Trans AMS* 128(1967) 221-231; With Kyong T. Hahn.

Generalizations of Schwarz-Pick lemma to invariant volume. *Can J Math* 21(1969) 669-674; With Kyong T. Hahn. H^p spaces in the classical Cartan domains. *Trans AMS* 146(1969) 521-531; With Kyong T. Hahn. Representation of linear functionals on H^p spaces over bounded symmetric domains in C^n . *J Math Anal Appl* 56(1976) 379-396; Potential theory in the geometry of matrices. *Trans AMS* 70(1955) 401-422; The Kernel function in the geometry of matrices. *Duke Math J* 19(1952) 575-584; Summability methods on matrix spaces. *Can J Math* 13(1961) 63-67; With Kyong T. Hahn. Green's functions on the classical Cartan domains. In *MRC Tech Summary Report No 800, Univ of Wisconsin*. 1967; With Kyong T. Hahn. Generalization of Schwarz-Pick lemma to invariant volume in a Kahler manifold. *Bull AMS* 73(1967) 668-670; With Kyong T. Hahn. H^p spaces on bounded symmetric domains II. *Annales Polonici Math* 28(1973) 89-95; Lipschitz spaces of holomorphic & pluriharmonic functions on bounded symmetric domain. *Annales Polonici Volume for S. Bergman* (in press); A theorem in the geometry of matrices. *Proc AMS* 2 (1951) 276-278; A CONS of homogeneous polynomials on matrix spaces of order 2. *Proc AMS* 10(1959) 399-406; Remarks on Cauchy's integral formula in matrix spaces. *Proc AMS* 11 (1960) 299-304; An example of a complete orthogonal system and the Kernel function in the geometry of matrices. In *Proc of 2nd Math Congress, Vancouver*, 155-163. 1951.

Other Publications: On double Sturm-Liouville Series. *Amer J Math* 65(1943) 616-636; Some properties of solutions of partial differential equations given by their series development. *Duke Math J* 13(1946) 87-104; On spherical summability of multiple orthogonal series. *Trans AMS* 71(1951) 136-151; Representation theorems for solutions of linear partial differential equations in three variables. *Arch Ratl Mech Anal* 3(1959) 439-459; Integral theorems for harmonic vectors in three real variables. *Math Zeit* (1963) 314-334; Properties of harmonic functions of three real variables. *Can J Math* 15(1963) 157-168; Area and moment of inertia theorems for circular domains in C^n . *Duke Math J* 33(1966) 209-222; With H. B. Mann & L. Schoenfeld. A new proof of the maximum principle for doubly-harmonic functions. *Pac J Math* 27(1968) 567-571; Properties of solutions of linear partial differential equations given by integral operators, Function theoretic methods for partial differential equations. In *Proceedings of the International Symposium on Function-Theoretic Methods for Partial Differential Equations, Darmstadt, 1976*, ed. by E. Meister, N. Weck, & W. Wendland, Lecture Notes in Math 561: 348-361. Berlin: Springer Verlag, 1976.

Mitchell, William John 77-78 M, Logic

Born 1943 Minneapolis, MN. PhD 1970 Math Univ of Calif, Berkeley. Memberships: Assoc for Symbolic Logic; AMS. 151 E 25th St, Apt 5D, New York, NY 10010.

Publications Related to IAS Residence: Ramsey Cardinals and Constructibility. *J Symb Logic* 44, 2(June 1979) 260-266; Precipitous Ideals. *J Symb Logic* (in press); Boolean Topoi and the Theory of Sets. *J Pure Appl Algebra* 2, 3(Sept 1972) 261-274.

Other Publications: Hypermeasurable Cardinals. *Proc Logic Collog '78, Mons Belgium* (in press); Sets Constructible from Sequences of Ultrafilters. *J Symb Logic* 39(Mar 1978) 57-66.

Mitford, Terence B. 61f, 67s HS, Greek Epigraphy

Born 1905 Scotland. BA 1928 Oxford Univ. Deceased.

Mitsòs, Márkellos Th. 46-47, 63-64, 67-69 HS, Greek Inscriptions

Born 1908 Chios, Greece. PhD 1945 Historical Studies Univ of Thessaloniki. Memberships: Archaeolog Soc of Athens; German Archaeolog Inst; Austrian Archaeolog Inst. Gen Ephor of Antiquities Emer, Androutsou 14 Kalamaki (P Ph), Athens, Greece.

Publications Related to IAS Residence: Prosopography of Argolis. *Hesperia* (1946) 115 ff; (1947) 82 ff; (1947) 256 ff; (1949) 73 ff.

Mittal, Yashaswini Deval 73-74 M, Probability

Born 1941 Poona, India. PhD 1972 Probability UCLA. Asst Prof, Dept of Stat, Stanford Univ., Stanford, CA 94305.

Publications Related to IAS Residence: Limit distributions for the maxima of stationary Gaussian proc. *Stoch Proc & their Applns* 3(1975) 1-18; Strong laws for the maxima of stationary Gaussian Seqs. *Ann of Prob* 4: 357-371.

Miyake, Toshitsune 69-71 M, Number Theory

Born 1944 Sakai, Osaka, Japan. PhD 1969 Johns Hopkins University. Memberships: Math Soc Japan. Assoc Prof, Dept of Mathematics, Hokkaido University, Sapporo 060, Japan.

Publications Related to IAS Residence: On automorphic forms on GL_2 and Hecke operators. *Ann Math* 94(1971); On automorphism groups of the fields of automorphic functions. *Ann Math* 95(1972).

Other Publications: Decomposition of Jacobian varieties and Dirichlet series of Hecke type. *Am J Math* 92.

Miyazawa, Hironari 55-56, 60-61 M(NS), Physics

Born 1927 Tokyo, Japan. DSc 1953 Univ of Tokyo. Memberships: Phys Soc of Japan; Am Phys Soc. Prof, Department of Physics, University of Tokyo, Tokyo 113, Japan.

Publications Related to IAS Residence: *Phys Rev* 101(1956) 1564; 104(1956) 1741; 123(1961) 1860.

Miyazima, Tatsuoki 53-54 M(NS), Physics

Born 1916 Fukuoka, Japan. Dr Sc 1946. Appointments: Rev Comm on US Japan Sci and Tech Cooperation Agreements 1975. Prof, Physics, Univ of Tsukuba, Pres Univ of Tsukuba; Commissioner Japan Atomic Energy Commission, 6-2-16, Yawata, Ichikawa-City Chiba Prefecture, Japan 272.

Publications: On Transmitting and Receiving Properties of Radiating Systems. *Sci Pap IPCR* (1947); Temperature Effect of Underground Cosmic Radiation. *Progr Theoret Phys Japan* (1948).

Moerbeke, Pierre van 73s M, Probability, Analysis

Born 1944 Louvain, Belgium. PhD 1972 Rockefeller U. Dept of Math, University of Cal, Berkeley, Berkeley, CA 94720. *

Moevs, Maria Teresa Marabini 77-78 HS, Classical Archaeology

Born 1926 Rome, Italy. PhD Classical Archaeology Univ of Rome. Honors: Fellow Classics Amer Acad in Rome 1963-1964; Member Radcliffe Inst for Indep Study 1962-64. Appointments: Fed Adv Bd, Fulbright Prog Italy. Memberships: Am Inst Archaeology; Rei Cretariae Romanae Fautores. Prof, Italian & Classics, Rutgers Univ, Blackwell's Mills, Belle Mead, NJ 08502.

Publications Related to IAS Residence: New evidence for an absolute chronology of the decorated late Italian Sicillata. *Am J Arch* in press.

Other Publications: The Roman thin walled pottery from Cosa. *Mem American Academy in Rome* 32(1973) 324; *Fra marmo pario e archeologia: l'antichità nella vita e nell' opera di Giosuè Carducci*. Bologna: 1971; *Gabriele D'Annunzio e le estetiche della fine del secolo*. L'Aquila, 1976; The Italo-Megarian ware from Cosa. *MAAR* 34(1979); Aco in Northern Etruria: the workshop of Cusonius at Cosa. *MAAR* 34(1979).

Moh, Tzuong-Tsieng 71-72 M, Algebra

Born 1940 Anfuei, China. PhD 1968 Math Purdue Univ. Memberships: AMS. Assoc Prof, Math Dept, Purdue U, W Lafayette, IN 47907.

Publications Related to IAS Residence: On a General Tauberian Theorem. *Proc AMS* 36, 1(1972).

Moise, Edwin Evariste 49-51, 56-57 M, Topology

Born 1918 New Orleans, LA. PhD 1947 Univ of Texas. Honors: Henry Russell Awd Univ of Mich 1954. Appointments: Vice-Pres, AMS; Pres, MAA; Mem, Council AMS; Managing Ed, Bull AMS; Vice-Pres, Intl Comm on Math Instr; Mem, US Comm Math Instr. Memberships: AMS; MAA; AAUP; Fellow, Amer Acad of Arts and Sci. Disting Prof, Queens Coll & Grad Center, CUNY, 201 E21 St, Apt 7-C, New York, NY 10010.

Publications Related to IAS Residence: Affine structures in 3-manifolds. I. Polyhedral approximations of solids. *Ann of Math* 254(1951) 506-

Members

533; V. The triangulation theorem and Hauptvermutung. *Ann Math* 2 56(1952) 96-114; A monotonic mapping theorem for simply connected 3-manifolds. *III J Math* 12(1968) 451-474.

Other Publications: Statically tame periodic homeomorphisms of compact connected 3-manifolds. I. Ho-meomorphisms conjugate to rotations of the 3-sphere. II. Statically tame implies tame. *Trans AMS* in press.

Mommsen, Hans 72-73 HS

Born 1930 Marburg, Germany. PhD 1968 Heidelberg University. Åskulapweg 16,4630 Bochum-Querenburg, Germany.

Publications Related to IAS Residence: Otto Bauer, Karl Renner und die Sozialdemokratische Nationalitätenpolitik in Österreich von 1905 bis 1914. In *Studies in East European Social History*, I: 3-32. Leiden: 1977; Betrachtungen zur Entwicklung der neuzeitlichen Historiographie in der Bundesrepublik. In *Probleme der Geschichtswissenschaft*, 124ff. Düsseldorf: 1973.

Other Publications: *Die Sozialdemokratie und die Nationalitätenfragen im Habsburgischen Vielvölkerstaat*. Das Ringen um die supranationale Integration der zisleithanischen Arbeiterbewegung (1867-1907), Bd 1. Wien: 1963.

Mommsen, Wolfgang J. 68-69 HS, History and Social Sciences

Born 1930 Marburg, Germany. DHabil ISCF. Memberships: Verb Hist Deut; Royal Hist Soc. Prof, Univ of Düsseldorf, Dir Ger Hist Inst, London, 20 Regestr, 4005 Meerbusch, Düsseldorf, Germany.

Publications Related to IAS Residence: *Die Geschichtswissenschaft jenseits des Historismus*. Düsseldorf: Droste, 1971.

Other Publications: Domestic Factors in German Foreign Policy before 1914. *Central European Affairs* 4, 1 (1973); *The Age of Bureaucracy. Perspectives on the Political Sociology of Max Weber*. Oxford: 1974; *Max Weber und die deutsche Politik 1890-1920*. 2nd Ed. Tübingen: 1974; *Imperialismustheorien. Ein Überblick über die neueren Imperialismusinterpretationen*. Göttingen: 1977.

Mong, Shaw 73-74 M, Analysis

Born 1941 China. PhD 1972 Johns Hopkins Univ. *

Montesinos, José Maria 76-78 M, Topology

Born 1944 San Sebastián, Guipúzcoa, Spain. D en Ciencias 1971 Mathematics Univ Complutense. Honors: Premio de la Real Academia de Ciencias Exactas, Físicas y Naturales Madrid 1975. Appointments: Sec of Fac De Matemáticas, Univ Complutense. Memberships: AMS; Real Soc Matemática Española. Prof Adjunto, Geometría, Facultad de Matemáticas, Universidad Complutense, Madrid 3, Spain.

Publications Related to IAS Residence: With F. González-Acuña. Ends of Knot Groups. *Ann Math* 108(1978) 91-96; 4-Manifolds, 3-fold covering spaces and ribbons. *Trans AMS* in press; Lifting Surgeries to Branch Covering Spaces. *Trans AMS* in press; Heegaard Diagrams for Closed 4-manifolds. In *Proceedings of the conference of Geometric Topology*. Athens, Ga: 1977; With H.M. Hilden. A Method of Constructing 3-Manifolds and its application to the Computation of the μ -Invariant. *Proceedings of Symp in Pure Math* 32(1978) 61-69; With J.S. Berman. On Minimal Heegaard Splittings. *Michigan J of Math* in press.

Montgomery, Deane see Present Faculty

Montgomery, Hugh L. 70-71, 76-77 M, Number Theory

Born 1944 Muncie, IN. PhD 1972 Mathematics Cambridge Univ. Honors: Adams Prize 1973; Prix Salem 1974; Henry Russel Awd 1975. Memberships: AMS; MAA. Prof, Dept of Mathematics, University of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: Topics in multiplicative number theory. *Lecture Notes in Math* 227(1971) 178.

Other Publications: The pair correlation of zeros of the zeta function. *Proc Sympos Pure Math* 24(1973) 181-193.

Monticello, Donald Andrew 73-75 NS, Plasma Physics

Born 1941 Binghamton, NY. PhD 1973 Physics Univ of Rochester. Appointments: Stability Control Team for Intor. Res Staff, Princeton Plasma Lab. 270 Fieldboro Dr, Lawrence, NJ 08648.

Publications Related to IAS Residence: Numerical Studies of Nonlinear Evolution of Kink Modes in Tokamaks. *Phys Fluids* 19, 12(1976).

Other Publications: Simulation of Large Magnetic Islands: A Possible Mechanism for a Major Tokamak Disruption. *Phys Rev Lett* 39(1977) 25.

Moodie, Thomas Dunbar 72-73 Soc, Sociology

Born 1940 Cape Town, South Africa. PhD Religion Harvard Univ. Memberships: Intl Soc Assoc; S African Inst of Race Relations. Prof, Sociology, Hobart & William Smith Colleges, Chmn Dept Anthro & Soc, 57 High St, Geneva, NY 14456.

Publications Related to IAS Residence: *The Rise of Afrikanerdom*. Berkeley: Univ of Cal Press, 1975; Social Order or Social Change. In *Social Change*, ed. by Zollscan & Hirsch. Cambridge, Mass: Schenkman, 1976.

Moody, Theodore William 65s HS, 19th Century European History

Born 1907 Belfast, Ireland. PhD 1934 Univ of London. Honors: D Litt Queens's Univ, Belfast 1959; D Litt Nat Univ of Ireland 1978; Corr FBA 1977; FRHS. Appointments: Culti Relations Cttee, Ireland, 1949,1963; Irish Broadcasting Council 1953-60; Irish Broadcasting Authority 1960-72; Comm on Higher Ed, Ireland, 1960-67. Memberships: Mem of the Royal Irish Acad. Fellow Emer, Trinity College, Dublin, Ireland.

Publications: *The Londonderry plantation, 1609-41: the city of London and the plantation of Ulster.* 1939; With J. C. Beckett. *Queen's Belfast, 1845-1949; the history of a university.* 1959; With F. X. Martin. *The course of Irish history.* 1967; *The Ulster question, 1603-73.* 1974; With F. X. Martin and F. J. Byrne. *Early modern Ireland, 1534-1691.* A New History of Ireland, vol. 3. 1976.

Moore, Calvin C. 64-65 M, Algebra & Analysis

Born 1936 New York, NY. PhD 1960 Mathematics Harvard Univ. Honors: Fellow AAAS; Sloan Fellow 1965. Appointments: Council & Exec Comm AMS; Bd Trustees AMS; Exec Comm Math Div NRC; Adv Panel on CBMS Regional Conf. Memberships: MAA. Prof, Dept of Mathematics, University of California, Berkeley, CA 94720.

Publications Related to IAS Residence: Decomposition of unitary representations defined by discrete subgroups of nilpotent groups. *Ann Math* 82(1965) 146-182; Ergodicity of flows on homogeneous spaces. *Amer J Math* 88(1966) 154-178; Invariant measures on product spaces. In *Proc of the Fifth Berkeley Symp on Stat and Prob*, 2, Part 2, Probability Theory: 447-459. Berkeley: University of Calif Press, 1967; Group extensions of p-adic and adelic linear groups. *IHES Pub Math* 35(1968) 157-222.

Moore, Charles Napoleon 34-35 M

Born 1882 . PhD 1908 Harvard Univ. Deceased.

Publications Related to IAS Residence: *Summable Series and Convergence Factors.* New York: American Mathematical Society, 1938; On Convergence Factors for Series Summable by Nörlund Means. *Proc NAS* 21 (1935) 263-266; On Criteria for Fourier Constants of L -Integrable Functions of Several Variables. *Duke Math J* 1(1935) 293-297; Convergence Factors for Double Series Summable by Nörlund Means. *Proc NAS* 22(1936) 167-170.

Moosbrugger-Leu, Rudolf 66-67 HS, Archaeology

Born 1923 Basel, Switzerland. DrPhil Univ of Basel. Appointments: Pres Soc of Swiss State Archaeologists 1974-76; Pres Curatorium Eretria 1976-1977. Memberships: Consulting mem Cathedral Commissions; Mem Scientific Commission of Swiss Prehistorical and Early-Historical Soc. State Archaeologist of Basel, and Lecturer Military Faculty

ETH Zürich, Stellimattweg 30, 4125 Riehen, Switzerland.

Publications Related to IAS Residence: *Die Schweiz zur Merowingerzeit, die archäologische Hinterlassenschaft der Romanen, Burgunder und Alamannen.* Bern: Francke, 1971.

Moran, Siegfried 62-63 M, Algebra, Topology

Born 1930 Berlin, Germany. PhD 1955 Algebra. *

Morava, Jack Johnson 67-68 M, Algebraic Topology

Born 1944 . PhD 1968 Rice Univ. Department of Mathematics, Johns Hopkins University, Baltimore, MD 21218. *

Morel, Anne C. 59-60 M, Foundations of Mathematics

Born 1921 New York, NY. PhD 1953 Univ of Calif, Berkeley. *

Moreno, Carlos Julio 75-76 M

Born 1946 Sevilla, Valle del Cauca, Colombia. PhD 1971 Mathematics NYU. Honors: NSF Fellow 1968-1971. Memberships: AMS; MAA. Assoc Prof, Dept of Math, University of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: Explicit Formulas In The Theory of Automorphic Forms. *Springer Lecture Notes in Math* 626(1977).

Morgenthau, Hans J. 58-59 HS

Born 1904 Coburg, Germany. JUD 1929 Univ of Frankfurt. Honors: LLD Clark Univ 1962; Ripon College 1962; Alma College 1965; Univ Denver 1971; Univ Illinois 1978; Litt D Western Reserve 1965; LHD Hebrew Union 1975; Commander's Cross German Order of Merit 1975; AAAS; Am Philos Soc. Appointments: Consultant State Dept 1949, 1951, 1963-77, Defense Dept 1961-65; Bd of Govs, Haifa Univ, 1975-. Memberships: AAUP; APSA; Intl Poli Sci Assoc; Council on For Rels. Univ Prof, Poli Sci, New School for Social Research, A.A. Michelson Distg Svc Prof Pol Sci & Modern History Emer University of Chicago; Leonard Davis Distg Prof Political Science Emeritus City College, CUNY. 19 E 80th St, New York, NY 10021.

Publications Related to IAS Residence: *The Purpose of American Politics.* New York: Knopf, 1960; The Permanent Values in the Old Diplomacy. In *Diplomacy in a Changing World*, ed. by Stephen D. Kertesz & M. A. Fitzsimons, 10-20. Notre Dame: Univ of Notre Dame Press, 1959; Khrushchev's New Cold War Strategy: Prestige Diplomacy. *Commentary* 28, 5(1959) 381-388; Soviet Policy and World Conquest. *Current History* 37, 219(1959) 290-294; What the Big Two Can and Can't Negotiate. *NY Times Magazine* September 20, 1959: 9, 88ff; Separating the Issues. *New Republic* 140, 19(1959) 13-14; The Economics of Foreign Policy. *Challenge* 7, 5(1959) 8-13;

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Education and World Politics. *Daedalus* 88, 1(1959) 121-138; The Decline of Democratic Government. *Univ of Chicago Mag* 51, 4(1959) 5-8; Alliances. *Confluence* 6, 4(1958) 311-334; The New United Nations: What It Can't and Can Do. *Commentary* 26(1958) 375-382.

Other Publications: *Politics Among Nations*. New York: Knopf, 1978; *Politics in the Twentieth Century*. Chicago: Univ of Chicago Press, 1962; *Scientific Man vs. Power Politics*. Chicago: Univ of Chicago Press, 1946; *In Defense of the National Interest*. New York: Knopf, 1951; ed, *Germany and the Future of Europe*. Chicago: Univ of Chicago Press, 1951; paperback edition, 1975; *Dilemmas of Politics*. Chicago: Univ of Chicago Press, 1958; *The Crossroad Papers: A Look Into the American Future*. New York: Norton, 1965; *Vietnam and the United States*. Washington: Public Affairs Press, 1965; *A New Foreign Policy For the United States*. New York: Frederick A. Praeger for the Council on Foreign Relations, 1969; With Lloyd C. Gardner and Arthur Schlesinger, Jr. *The Origins of the Cold War*. Waltham, Massachusetts: Ginn-Blaisdell, 1970; *Truth and Power: Essays of a Decade*. New York: Praeger, 1970; *Science: Servant or Master?* New York: New American Library, 1972.

Morikawa, Hisasi 58-60 M

Born 1928 Nagoya, Japan. PhD 1957 Nagoya Univ. Memberships: Math Soc of Japan. Prof, Math, Nagoya Univ, 1275 Komoto-Cho Nakagawa-Ku, Nagoya, Japan.

Publications Related to IAS Residence: Theta Functions and Abelian Varieties over Valuation Fields of Rank One I. *Nagoya Math J* 20(1962).

Morin, Bernard C. 66-68 M, Theory of Singularities

Born 1931 Shanghai, China. Memberships: AMS; Soc Math France. Prof, Département de Mathématique, Université Louis Pasteur, 7 Rue René Descartes, 67084 Strasbourg, Cedex, France.

Publications Related to IAS Residence: Calcul Jacobien. *Ann Sci ENS* 8, 1(1975).

Other Publications: Équations du retournement de la sphère. *C R Acad Sc Paris* 287(13 Nov 1978); With J.-P. Petit. Le retournement de la sphère. *Pour la Science* 15(Janvier 1979) 34-42.

Morinaga, Kakutaro 53-54 M, Geometry of Space

Born 1905 Japan. PhD 1939 Hiroshima Univ. Deceased.

Morita, Shigeyuki 74-75 M, Topology

Born 1946 Tokyo, Japan. Doctor 1976 Mathematics Univ of Tokyo. Assoc Prof, Dept of Math, College of General Education, University of Tokyo, Tokyo 153, Japan.

Publications Related to IAS Residence: The Kervaire invariant of hypersurfaces in complex projective spaces. *Comment Math Helv* 50(1975) 403-

419; Notes on complex structures on R^{2n} -O. *Math Ann* 222(1976) 29-35; A remark on the continuous variation of secondary characteristic classes of foliations. *J Math Soc Japan* 29(1977) 253-260.

Other Publications: A topological classification of complex structures on $S^1 \times \sum_{i=1}^{2n-1} 1$. *Topology* 14(1975) 13-22; On characteristic classes of conformal and projective foliations. *J Math Soc Japan* 31(1979); L-equivalence classes of submanifolds in complex projective spaces. *Proc Japan Acad* 55(1979).

Morita, Yasuo 72-74 M, Number Theory

Born 1945 Wakayamaken, Japan. PhD 1975 Math Univ of Tokyo. Memberships: Math Soc of Japan. Assoc Prof, Department of Mathematics, Hokkaido University, Sapporo 060, Japan.

Publications Related to IAS Residence: An explicit formula for the dimension of spaces of Siegel modular forms of degree two. *J Fac Sci Univ Tokyo* 21(1974) 167-248; A p-adic analogue of the Γ -function. *J Fac Sci Univ Tokyo* 22(1975) 255-266; On potential good reduction of abelian varieties. *J Fac Sci Univ Tokyo* 22(1975) 437-447.

Mørkholm, Otto 77s HS, Ancient Numismatics

Born 1930 Copenhagen, Denmark. PhD 1966 Ancient History University of Aarhus. Memberships: Sec Int'l Numis Comm 1965. Lecturer, Ancient History, University of Copenhagen, Chief Curator, National Museum, Royal Collection of Coins and Medals, DK-1220 Copenhagen K, Denmark.

Publications Related to IAS Residence: The Alexander Coinage of Nicos of Paphos'. *Chiron* 8(1978) 135-147; Ed, The Portrait Coinage of Ptolemy V. In *Greek Numismatics & Archaeology: Essays in Honor of Margaret Thompson*, 203-214. New York: Amer Numis Soc, 1979; The Era of the Pamphylian Alexanders. *Amer Numis Soc Mus Notes* 23(1979).

Morpurgo, Giacomo 57f M(NS), Physics

Born 1927 Florence, Italy. Laurea 1948 Physics Univ of Rome. Appointments: Exec Bd Ital Natl Inst Nucl Physics (INFN); European Comm Future Accelerators (ECFA). Memberships: Am Phys Soc. Prof, Physics, Univ of Genoa, Istituto Di Fisica Dell' Università, Viale Benedetto XV, 5, Genoa, Italy.

Publications Related to IAS Residence: Inhibition of $M1 \rightarrow \gamma$ transitions with $\Delta T=0$ in selfconjugate nuclei. *Phys Rev* 110(1958) 721; γ transitions between corresponding states in mirror nuclei. *Phys Rev* 114(1959) 1075; Selected topics in electromagnetic properties on light nuclei. In *Nuclear Spectroscopy*, ed. by G. Racah. Academic Press, 1962.

Other Publications: Is a non relativistic approximation possible for the internal dynamics of elementary particles?. *Physics* 2(1965) 95; A short guide to the quark model. *Ann Rev of Nuclear Science* 20(1970) 105; With G. Gallinaro and M. Mazinelli. The electric neutrality of matter. *Phys Rev Lett* 38(1977) 1255.

Morrey, Charles Bradfield, Jr. 37-38, 54-55 M, Partial Differential Equations, Calculus of Variations

Born 1907 Columbus, OH. PhD 1931 Math Harvard Univ. Honors: NAS 1962; Colloquium Lectures AMS 1964; AAAS 1965; Berkeley Citation 1973. Appointments: US delegation to Int'l Congress of Math Moscow 1966. Memberships: AMS Pres 1967-68; MAA. Prof Emeritus, U Calif Berkeley, 210 Yale Ave, Kensington, CA 94708.

Publications Related to IAS Residence: *Multiple Integral Problems in the Calculus of Variations and Related Topics*. Univ of Calif Press, 1943; An Analytic Characterization of Surfaces of Finite Lebesgue Area I, II. *Am J Math* 57, 58(1935, 1936) 692-702, 313-322; Existence and Differentiability Theorems for the Solutions of Variational Problems for Multiple Integrals. *Bull AMS* 46, 6(1940) 430-458; With James Eells, Jr. A Variational Method in the Theory of Harmonic Integrals Part I. *Ann Math* 63(1956) 91-128; A Variational Method in the Theory of Harmonic Integrals Part II. *Am J Math* 78(1956) 137-170; On the Derivation of the Equations of Hydrodynamics from Statistical Mechanics. *Comm Pure & Applied Math* 8(1955) 279-326.

Other Publications: *Multiple Integrals in the Calculus of Variations*. 130. Springer-Verlag, 1966.

Morris, Geoffrey Christopher 56f, 66f HS

Born 1906 Gt Bookham Surrey, England. MA(Cantab.) 1931. Honors: AJ Carlyle Lecturer Univ of Oxford 1975; FRHS. Retired Univ Lect, Life Fellow, King's College, Cambridge, England.

Publications Related to IAS Residence: *Western Political Thought: Plato to Augustine*. London: Longmans, 1967; Shakespeare's Politics. *Historical Journal* (1964); Machiavelli's Reputation in Tudor England. *Il Pensiero Politico* (1970).

Other Publications: *Political Thought in England: Tyn-dale to Hooker*. 1953; *The Tudors*. 1955; Ed, *The Journeys of Celia Fiennes*. 1947.

Morris, Morris David 68-69 Soc, Economics, Economic History

Born 1921 San Francisco, CA. PhD 1954 Economics Univ of California. Appointments: World Food and Nutrition Study NAS 1975-77. Memberships: Am Econ Assn; Econ Hist Soc; Econ Hist Assoc; Assoc for Asian Studies. Prof, Dept of Economics, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: Industrialization in South Asia 1800-1947. In *Cambridge Economic History of India*, ed. by Dharma Kumar & Meghnad Desai, 2. Forthcoming; South Asian Entrepreneurship and the Rashoman Effect. *Explorations in Economic History* Forthcoming; Modern Business Organization and Labour Administration: Specific Adaptation to Indian Conditions of Risk and Uncertainty 1850-1947. *Economic and Political Weekly* Forthcoming.

Other Publications: *Measuring the Conditions of the World's Poor: The Physical Quality of Life Index*. New York: Pergamon Press, 1979.

Morris, Richard Brandon 47-48 HS(EP), American History

Born 1904 New York, NY. PhD 1930 Columbia Univ. Honors: LHD(hc) Hebrew Union Coll 1963; Litt D(hc) Columbia Univ and Rutgers Univ 1976; Bancroft Prize in History 1966; FRHS; AAAS. Appointments: President AHA 1976; Member Amer Revolution Bicentenn Comm; Member Lib of Cong Amer Revolution Bicentenn Prog Adv Comm; Chmn NY State Bicentenn Coordinating Council; Vice Chmn NY State Bicentenn Commission; Chairman Mayor Lindsay's Task Force on Municipal Archives. Memberships: Am Antiquarian Soc; Mass Hist Soc; AHA; Organ of Am Historians. Gouverneur Morris Prof Emer, History, Columbia Univ, Ed "The Papers of John Jay". 151 Ridgeway St, Mount Vernon, NY 10552.

Publications Related to IAS Residence: Labor Controls in Maryland in the Nineteenth Century. *J Southern Hist* 14(Aug 1948) 385-400; White Bondage in Ante-Bellum South Carolina. *SC Hist and Genealog Mag* 49(Oct 1948) 191-207; The Course of Peonage in a Slave State. *Pol Sci Quarterly* 65(June 1950) 238-63; The Measure of Bondage in the Slave States. *Miss Valley Hist Rev* 51(Sept 1954) 219-40.

Other Publications: *Studies in the History of American Law*. NY: Columbia U Press, 1930; *Government and Labor in Early America*. NY: Columbia U Press, 1946; *The Peacemakers: The Great Powers and American Independence*. NY: Harper & Row, 1965.

Morris, Robert A. 73-75 M, Algebra

Born 1944 Long Branch, NJ. PhD 1970 Cornell Univ. Memberships: AMS; MAA; Assoc for Computing Mach. Assoc Prof, Math Dept, Univ of Mass, Boston, MA 02125.

Publications Related to IAS Residence: Representing Co-semi-simple Hopf Algebras. *Houston J Math* v 3 No 1(1977) 83-87.

Other Publications: Frobenius Endomorphisms in Umbral Calculus. *Studies in Applied Math* in press; Derivations of Witt Vectors. *J Pure & Appl Alg* in press.

Morrison, Karl 66-67, 76-77 HS, Mediaeval History

Born 1936 Birmingham, AL. PhD 1961 Cornell Univ. Dept of History, Univ of Chicago, Chicago, IL 60637. *

Morse, Anthony Perry 37-39 M

Born 1911. PhD 1937 Brown Univ. *

Publications Related to IAS Residence: A Continuous Function with No Unilateral Derivatives. *TAMS* 44(1938) 496-507; The Behavior of a Function on Its Critical Set. *Ann Math* 2 40(1939) 62-70; With

Members

C. R. Adams. Random Sampling in the Evaluation of a Lebesgue Integral. *Bull AMS* 45(1939) 442-447; With J. F. Randolph. Gillespie Measure. *Duke Math J* 6(1940) 408-419.

Moscovici, Henri 78-80 M, Theory of Group Representations

Born 1944 Tecuci, Rumania. PhD 1971 Univ of Bucharest. Inst of Math, Str Academiei 14, Bucharest 1, Rumania. *

Moscovici, Serge 62-63 HS, History of Science

Born 1925 France. PhD 1961 Univ of Paris. *

Moser, Jürgen K. 70-71 M, Analysis

Born 1928 Königsberg, Germany. Dr rer nat 1952 Mathematics Univ of Göttingen. Honors: G.D. Birkhoff Prize 1968; J. Craig Watson Medal 1969. Appointments: NAS Medal Cttee 1977; Sloan Fellowship Cttee 1977-; ICM Committees 1978. Memberships: AMS; SIAM; NAS. Prof, Mathematics, NYU, Courant Institute of Math Sciences, 251 Mercer St, New York, NY 10012.

Publications Related to IAS Residence: With Siegel. *Lectures on Celestial Mechanics*. New York: Springer, 1973; On a Pointwise Estimate. *Comm Pure Appl Math* 24(1971) 727-740; A Sharp Form of an Inequality. *Ind U Math J* 20(1971) 1077-1092.

Other Publications: On Invariant Curves of Area Preserving Mappings. *Nachr Akad Wiss Göttingen* (1962) 1-20; With Chern. Real Hypersurfaces in Complex Manifolds. *Acta Math* 133(1974) 219-271.

Mostert, Paul Stallings 67-68 M, Transformation Groups, Algebraic Topology

Born 1927 Morrilton, AR. PhD 1953 Mathematics Purdue Univ. Honors: NSF Senior Postdoc Fellow 1967-68; Invited Hour Address AMS 1966. Appointments: Comm on Selection of NSF Postdoc Fellowships; NRC Council; AMS 1972-1976; Chm Comm on Acad Freedom and Empl Sec of AMS 1972-1977. Memberships: AMS. Prof, Dept of Mathematics, Univ of Kansas, Lawrence, KS 66044.

Publications Related to IAS Residence: With K.H. Hofmann. *The Cohomology Ring of Finite and Compact Abelian Groups*. Berlin: Springer-Verlag, 1973; Ed *The Proceedings of the Conference on Transformation Groups at Tulane, 1967*. NY: Springer-Verlag, 1968; Ed Topological Semigroup Section. In *Reviews of Papers in Algebraic and Differential Topology, Topological Groups, and Homological Algebra*, ed. by N.E. Steenrod. Providence: AMS, 1968.

Other Publications: With K.H. Hofmann. *The Elements of Compact Semigroups*. Columbus: Chas. E. Merrill Books, 1968; With A.L. Shields. On The Structure of Semigroups on a Compact Manifold with Boundary. *Annals of Math* 65(1957) 117-143; With

A.L. Shields. One Parameter Semigroups in a Semigroup. *TAMS* 96(1970) 510-517.

Mostow, George Daniel 47-49, 56-57, 75s M

Born 1923 Boston, MA. PhD 1948 Harvard. Honors: NAS; AAAS. Appointments: Chairman Office of Math Sci NRC 1975-1978. Memberships: AMS Vice Pres. Prof, Math, Yale Univ, Dept of Math, Yale U, New Haven, CT 06520.

Publications Related to IAS Residence: A New Proof of E. Cartan's Theorem on the Topology of Semi-Simple Groups. *Bull AMS* 55(1949) 969-980; With G. Hochschild. Representations and Representative Functions of Lie Groups I, II, III. *Ann Math* 66, 68, 70(1957, 1958, 1959) 495-542, 295-313, 85-100.

Other Publications: Self-Adjoint Group. *Ann Math* 62(1955) 44-55; Existence of a non-arithmetic lattice in $SU(2,1)$. *Proc NAS* 75(1978) 3029-3033.

Mostowski, Andrzej 49s M, Mathematical Logic

Born 1913 Poland. PhD 1939 Univ of Warsaw. Deceased.

Mottola, Emil 79-80 NS, Theoretical Physics

Born 1953 Bronx, NY. PhD 1979 Columbia Univ. 1868 Bronxdale Ave, Bronx, NY *

Moulton, Elton James 36-37 M

Born 1887 . PhD 1913 Univ of Chicago. *

Mourelatos, Alexander Phoebus D. 66-67 HS, Ancient Philosophy

Born 1936 Athens, Greece. PhD 1964 Philosophy Yale Univ. Honors: Fellow ACLS & Cntr for Hellenic Studies 1973-74; Fellow Humanities Res Centre, Austral Nat Univ 1978. Memberships: Amer Philos Assoc; Amer Philol Assoc; Can Philos Assoc. Prof, Department of Philosophy, The University of Texas at Austin, Austin, TX 78712.

Publications Related to IAS Residence: *The Route of Parmenides*. New Haven and London: Yale Univ Press, 1970.

Other Publications: ed, *The Pre-Socratics: A Collection of Critical Essays*. Garden City, N.Y.: Anchor Press-/Doubleday, 1974; Heraclitus, Parmenides, and The Naive Metaphysics of Things. In *Phronesis*, Suppl Vol 1 Vlastos Festschrift: 16-48. 1973.

Moutsopoulos, Evaghélos A. 66-67 HS, Ancient Philosophy

Born 1930 Athens, Greece. D d'Etat ès L Univ of Paris. Honors: Corr Mem Académie des Sciences Morales et Politiques (Paris); Ch de la Légion d'honneur France. Appointments: Mem of the Steering Cttee of the Fédération Internationale des Sociétés de Philosophie (FISP). Memberships: Pres

Hellenic Soc for Philos Studies; Med Soc of Philos. Prof, Philosophy, and Rector University of Athens, 40 Hysilantou St, Athens 140, Greece.

Publications Related to IAS Residence: The Problem of the Imaginary in Plotinus. *Scient Annuar Faculty of Philos Univ of Athens* (1969) 159-174; Phénoménologie de l'expansion humaine. In *Akten des XIV Internat Kongresses für Philosophie*, 6: 435-441. Wien: 1968; Le "clinamen", source d'erreur?. In *Actes du VIIIe Congrès de l'Association G. Budé, Paris*, 175-181. 1968.

Other Publications: *Dialectics of Will and Aesthetics in Schopenhauer*, in Greek. 1958; *La musique dans l'oeuvre de Platon*. 1959; *Le problème du beau chez P. Brailas-Arménis*. 1960; *Cognition and Error*, in Greek. 1961; *Vers une phénoméologie de la création*. 1961; *La critique du platonisme chez Bergson*. 1962; *Noetic Functions and Dynamics of Consciousness*. 1963; *Forme et subjectivité dans l'esthétique Kantienne*. 1964; *L'être accompli*. 1965; *History of Philosophy as Historical and Meta-historical Science*. 1966; *Pleasures. A Phenomenological Study*, in Greek. 1967; *Intentionality of Consciousness and Values*, in Greek. 1967; *The Bergsonization of Pragmatism*, in Greek. 1968; *La conscience de l'espace*. 1969.

Moxey, Patricio Keith Fleming 78-79 HS, Art History

Born 1943 Buenos Aires, Argentina. PhD 1974 Art History Univ of Chicago. Honors: Kress Foundation Fship 1969-70; Galler Dissertation Prize Univ of Chicago 1974; NEH Fship 1978-79; Sesquicentennial Fellowship University of Virginia 1978-79. Memberships: Coll Art Assoc; Renaissance Soc of Amer. Assoc Prof, Art History, McIntire Department of Art, Fayerweather Hall, University of Virginia, Charlottesville, VA 22903.

Publications: *Pieter Aertsen, Joachim Beuckelaer and the Rise of Secular Painting in the Context of the Reformation*. N.Y. and London: 1977; The "Humanist" Market Scenes of Joachim Beuckelaer: Moralizing Exempla or "Slices of Life"? In *Jaarboek van het Koninklyk Museum voor Schone Kunsten-Antwerpen*, 109-187. 1976; Reflections on Some Unusual Subjects in the Works of Pieter Aertsen. In *Jahrbuch der Berliner Museen*, 18: 57-83. 1976; Image Criticism in the Netherlands before the tconoclasm of 1566. In *Nederlands Archief voor Kerkgeschiedenis*, 148-162. 1977.

Moyer, Robert D. 72-73 M

Born 1938 Allentown, PA. PhD 1964 Univ of Cal, Berkeley. Memberships: AMS. Assoc Prof, Dept of Math, University of Kansas, Lawrence, KS 66044.

Mueller, Alfred H. 75f NS, High Energy Physics

Born 1939 Chicago, IL. PhD 1965 MIT. Dept of Physics, University of California, Berkeley, CA 94720.*

Muhly, Harry Townsend 40-41 M

Born 1916 Baltimore, MD. PhD 1940 Johns Hopkins Univ. Deceased.

Publications Related to IAS Residence: A Remark on Normal Varieties. *Ann Math (2)* 42(1941) 921-925; Independent Integral Bases and a Characterization of Regular Surfaces. *Trans AMS* 54(1943) 340-360.

Müller, Claus 53s M, Mathematical Physics, Analysis

Born 1920 Solingen, Germany. Dr rer nat 1944 Univ of Bonn. Honors: Acad Nat Scis Zaragoza 1960; RW Akad der Wissenschaften 1970. Prof, Inst für Reine und Angew Math, RWTH Aachen, D 51 Aachen, Germany.

Publications Related to IAS Residence: *Foundations of the Mathematical Theory of Electromagnetic Waves*. Berlin-Heidelberg-New York: Springer, 1969.

Other Publications: *Spherical Harmonics*. Berlin-Heidelberg-New York: Springer, 1966; *Ein neuer Zugang zur Theorie der Besselfunktionen in mehreren Dimensionen*. Helsinki: 1968.

Mullins, Nicholas C. 76-77 Soc

Born 1939 Boise, ID. PhD 1967 Social Relations Harvard U. Honors: Phi Kappa Phi 1962; NIH Fship 1964-66; Fac Fship Dartmouth Coll 1970. Appointments: NSF Social Panel 1978; NSF Panel on Info Sci 1979; NRC Comm on Human Resources 1977. Memberships: Am Sociol Assoc; Am Assoc for Adv Sci; Intl Sociol Assoc; Soc for Social Studies of Sci. Prof, Dept of Sociology, Indiana Univ, Bloomington, IN 47401.

Publications Related to IAS Residence: With Joel H. Levine. *The Structuralist Analysis of Social Data. Connections* 14-16 (1978); With L.L. Hargens, P.K. Hecht, and E.L. Kick. *The Group Structure of Cocitation Clusters: A Comparative Study. Amer Sociol Rev* 42,4(1977) 552-562; With John Light. *A Primer on Blockmodeling*. In *Social Networks*, ed. by S. Leinhardt and P. Holland. New York: Academic Press, forthcoming.

Other Publications: *Theories and Theory Groups in Contemporary American Sociology*. New York: Harper & Row, 1973; *Science: Some Sociological Perspectives*. Indianapolis: Bobbs-Merrill, 1973; *The Art of Theory: Construction and Use*. New York: Harper and Row, 1971.

Mumford, David Bryant 62-63 M, Algebraic Geometry

Born 1937 Sussex, England. PhD 1962 Harvard Univ. Honors: Fields Medal. Dept of Math, Harvard Univ, 2 Divinity Ave, Cambridge, MA 02138. *

Mundy, John Mine 63-64, 70-71 HS, Medieval History

Born 1917 London, England. PhD 1950 History Columbia Univ. Honors: Counsellor Medieval Acad of

Members

Amer 1963-65; Fellow 1975. Prof, History, Columbia Univ, Columbia University, 621 Fayerweather Hall, New York, NY 10027.

Publications Related to IAS Residence: On Henri Pi-renne and the Medieval Town. In *Early Democracies in the Low Countries*, 9-26. New York: 1963; Charity and Social Work in Toulouse, 1100-1250. *Traditio* 22(1966) 203-87; La croisade albigeoise et l'interdiction de l'usure a Toulouse. *Archéologia* 19(1967) 28-34; Chapters 32-34. In *The Columbia History of the World*, ed. by J. A. Garraty and Peter Gay, 363-415. New York: 1972; *Europe in the High Middle Ages*: 1150-1309. London: 1973; Noblesse et hérésie - Une famille cathare: les Maurand. *Annales: ESC* (1974) 1211-23.

Other Publications: *Liberty and Political Power in Toulouse 1050-1230*. New York: 1954; *The Medieval Town*. Princeton: 1958.

Munn, Nancy 72-73 Soc, Symbolic Theory and Analysis

Born 1931 New York, NY. PhD 1961 Australian National Univ. Dept of Anthropology, U of Mass, Amherst, MA 01002. *

Murakami, Shingo 65-66 M, Differential Geometry

Born 1927 Kyoto, Japan. DSc 1957 Math Osaka Univ. Memberships: Math Soc of Japan; AMS. Prof, Department of Mathematics, Osaka University. Machikaneyama 1-1, Toyonaka 560, Japan.

Publications: *On automorphisms of Siegal Domains*. Lecture Notes in Math, 286. Springer, 1972.

Muraro, Michelangelo 56-57 HS, Art History

Born 1913 Sossano, Veneto, Italy. Laurea in Lettere Univ of Padua. Appointments: Jury Mem for Art Films, Biennale of Venice; Comm Mem for Art Exhibitions, Venice. Memberships: Ateneo Veneto-Venezia; Accademia Olimpica-Vicenza; Accademia Scienze, Lettere e Arti-Udine. Prof, Art History, Padua Univ, Dorsoduro, Ramo di calle Barbaro 350, Venezia, Italy.

Publications Related to IAS Residence: La Scala senza Giganti. In *De Artibus Opuscula-Essays in Honor of E. Panofsky*, 350-370. New York: NY Univ Press, 1961.

Other Publications: *Mostra di disegni veneziani del Sci e Settecento della collezione Santarelli*. Firenze: 1957; *Paolo da Venezia*. Milano: 1969; *Carpaccio*. Firenze: 1966; With D. Rosand. *Tiziano e la silografia veneziana del Cinquecento*. Vicenza: 1976.

Murnaghan, Francis D. 36-37 M

Born 1893. PhD 1916 Johns Hopkins Univ. Deceased.

Publications Related to IAS Residence: *The Theory of Group Representations*. Baltimore: Johns Hopkins Press, 1938; The Characters of the Symmetric Group. *Amer J Math* 59(1937) 739-753; Finite Deformation of an Elastic Solid. *Amer J Math*

59(1937) 235-269; On the Representations of the Symmetric Group. *Amer J Math* 59(1937) 437-488.

Murra, John Victor 74-75 Soc, Anthropology

Born 1916 Odessa, Ukraine, USSR. PhD 1956 Anthropology Univ of Chicago. Honors: Honorary Professor Universidad de San Marcos, Peru 1965. Memberships: Am Ethnol Soc (Pres 1972-73); Am Soc for Eth-nohistory (Pres 1971-72); Am Anthropol Assoc. Prof, Anthropology, and Pres Institute of Andean Research, McGraw Hall, Cornell Univ, Ithaca, NY 14853.

Publications: *The Economic Organization of the Inca State*. 1979; *Formaciones Económicas y Políticas del M undo*. 1975.

Murray, Francis Joseph 34-36 M, Operator Theory

Born 1911 New York, NY. PhD 1934 Columbia Univ. Honors: US Army Disting Civ Svce Medal. Appointments: AMS Comm on App Math, Chmn 1957, 1960. Memberships: AMS; MAA; APS; ACM; SIAM. Prof, and Dir Undergraduate Studies, Department of Mathematics, Duke University, Durham, NC 27706.

Publications Related to IAS Residence: With J. von Neumann. Rings of Operators. *Ann Math* 37(1936) 116-229; Rings of Operators II. *Trans AMS* 41 (1937) 208-248; Rings of Operators IV. *Ann Math* 44(1943).

Other Publications: *Mathematical Machines*. Columbia Univ Press, 1961; *Applied Mathematics—An Intellectual Orientation*. New York: Plenum Press, 1978.

Mütherich, Florentine 66s, 71s HS, Art History

Born 1915 Bestwig, Germany. DrPhil 1940 Univ of Berlin. Memberships: Ver Deut Kunsthist. Honorarprofessor, Univ of Munich, Member Zentralinst für Kunstgeschichte, Zentralinstitut für Kunstgeschichte, Meiserstr 10, 8000 Munich 2, Germany.

Publications Related to IAS Residence: *Der Stuttgarter Bilderpsalter*. Stuttgart: 1968; Die touronische Bibel von St. Maximin in Trier. In *Kunsthistorische Forschungen Otto Pacht zu seinem 70 Geburtstag*, 44-54. Salzburg: 1972; *Die Karolingischen Miniaturen V. Die Hofschule Karls des Kahlen*. Berlin: 1980.

Other Publications: With P.E. Schramm. *Denkmale der deutschen Könige und Kaiser*. Munich: 1962; *Die Karolingischen Miniaturen IV. Die Hofschule Kaiser Lothars-Lotharingische Einzelhandschriften*. Berlin: 1971; *Le Siècle de l'An Mil, la peinture*. Paris: 1973; *Das Evangeliar Ottos III*. Frankfurt: 1978.

Muto, Toshinosuke 40-41 M (NS)

Born 1905 Japan. PhD 1934 Kyushu Imperial Univ. *

Publications Related to IAS Residence: Radiative Collision of Neutrons with Protons. *Phys Rev* 2 59(1941) 837; With M. Nogami. On the Spin-

Umklappung of Electrons in the Ferromagnetic Crystals. *Scientific Papers of the Inst of Phys and Chem Research, Tokyo* 39(1941/42) 319-330; With M. Nogami. On the Magnetic Scattering of Slow Neutrons in the Ferromagnetic Crystals. *Scientific Papers of the inst of Phys and Chem Research, Tokyo* 40(1942/43) 333-350.

Muzinich, Ivan J. 74-75 NS, High Energy Theoretical Physics

Born 1936 San Francisco, CA. PhD 1962 Univ of Calif Berkeley. Appointments: High Energy Adv Cttee BNL. Memberships: Amer Phys Soc. Senior Staff, Physics Dept, Brookhaven Natl Lab, Upton LI, NY 11973.

Publications Related to IAS Residence: With R. F. Dashen, B. W. Lee, C. Quigg. Coherent Production and Decay Modes of a Pseudoscalar Partner of the ψ (3105) Boson. *Fermilab-Pub 75/18-THY* (1975) 2-10; With Hung-Sheng Tsao. Fixed Regge singularity and small-distance behavior in renormalizable field theories: A model in Φ^3_6 . *Phys Rev D* 11(1975) 2203-2208; With R. F. Dashen, J. B. Healy. Theory of multichannel potential scattering with permanently confined channels. *Phys Rev D* 14(1976) 2773-2789; With T. Applequist & M. Dine. The Static Potential in Quantum Chromodynamics. *Physics Letters* 69B(1977) 231-36; With T. Applequist & M. Dine. Static limit of quantum Chromodynamics. *Phys Rev D* 17(1978) 2074-81.

Myers, Sumner Byron 34-36 M

Born 1910 . PhD 1932 Harvard Univ. Deceased.

Publications Related to IAS Residence: Connections between Differential Geometry and Topology. *Proc NAS* 21 (1935) 225-227; Connections between Differential Geometry and Topology. I: Simply Connected Surfaces. *Duke Math J* 1(1935) 376-391; Connections between Differential Geometry and Topology. II: Closed Surfaces. *Duke Math J* 2(1936) 95-102; Isometries of 2-Dimensional Riemannian Manifolds into Themselves. *Proc NAS* 22(1936) 297-300.

Myerson, Robert James 76-78 NS, Critical Phenomena

Born 1947 Brookline, MA. PhD 1974 U of Cal., Berkeley. University of Miami Medical School, Miami, FL 33124. *

Myhill, John 57-59, 63-64 M, Mathematical Logic

Born 1923 Birmingham, England. PhD 1949 Harvard Univ. *

Mylonas, George Emmanuel 55-56, 59s, 68f HS, Archaeology

Born 1898 Smyrna, Turkey. PhD 1927 Univ of Athens, Greece; PhD 1929 Johns Hopkins Univ. Honors. LLD Ohio State U 1958; LHD Ohio Wesleyan

U; LHD Southern Ill U 1960; AAAS; PhD(hc) U of Thessaloniki 1970; LittD Washington U 1971; Recipient Gold Medal AIA 1970. Memberships: Archaeolog Inst of Amer (Nat'l Pres 1956-1959); Archaeolog Soc of Athens, Vice Pres. Pres, Academy of Athens, Chmn Comm of the preservation of Acropolis; Gen Dir Excavations at Mycenae, 45 Poseidon Blvd, Paleon Fabion, Greece.

Publications Related to IAS Residence: *Ancient Mycenae, The Capital City of Agamemnon*. Princeton Univ Press, 1957; *Aghios Kosmas*. Princeton U Press, 1959; *Mycenae and the Mycenaean Age*. Princeton U Press, 1966.

Other Publications: *Eleusis and the Eleusinian Mysteries*. Princeton Univ Press, 1961; *The West Cemetery of Eleusis*. Athens, 1975; *Mycenaean Religion*. Athens: Academy of Athens, 1977.

Mynors, Sir Humphrey Charles Baskerville 37s HS(EP), US Banking and Finance

Born 1903 Langley Burrell Wilts, England. MA 1929 Economics Cambridge Univ (Corpus Christi Coll). Honors: Hon DCL Durham; Hon Fellow Corpus Christi College, Cambridge Univ; Baronet 1964. Appointments: Dir Bank of Eng 1949-54 Dep Gov 1954-64; First Chm, Panel on Takeovers & Mergers 1968. Memberships: Fellow (Sometime Treasurer) Royal Econ Soc; Fellow Royal Statistical Soc. Treago, Saint Weonards, Hereford HR28QB, England.

Myres, John Nowell Linton 56f HS, Anglo-Saxon and Medieval History

Born 1902 Oxford, England. BA(Oxon.) 1924. Litt Hum, 1926 Mod Hist. Honors: Hon Fellow New College Oxford Univ; Hon Student Christ Church Oxford Univ; Hon LLD Toronto 1954; Hon D Litt Reading 1964; Hon D Litt Belfast 1965; CBE 1972; FBA 1966. Appointments: Royal Comm on Hist Monuments (1969-74); Ancient Monuments Board (1959-76). Memberships: Library Assoc (Pres 1963); Soc of Antiquaries (Pres 1970-5); Soc for Prom of Roman Studies (VPres). Manor House, Kennington, Oxford OX1 5PH, England.

Publications Related to IAS Residence: *Anglo-Saxon Pottery and The Settlement of England*. Oxford: 1969.

Other Publications: With R. G. Collingwood. *Roman Britain and the English Settlements*. Oxford History of England, 1. 1936; *A Corpus of Anglo-Saxon Pottery of the Paeon Period* (2 vols). New York: Cambridge U Press, 1977.

Nachbin, Leopoldo 58s M, Abstract Analysis Born 1922 Brazil. PhD 1948 Univ of Brazil. *

Nachtmann, Otto 71-73 NS, Electromagnetic and Weak Interactions

Members

Born 1942 Austria. PhD 1967 Univ of Vienna. Institut for Theoretical Physics, Univ of Vienna, Boltzmanngasse 5, A-1090 Wien, Austria. *

Nadal, Jordi 78-79 HS, Economic History

Born 1929 Cassà de la Selva, Girona, Spain. PhD 1957 History Univ of Barcelona. Prof, Economic History, Universidad Autonoma de Barcelona, Teodora Lamadrid, 18, Barcelona-22, Spain. **Publications:** *El fracaso de la Revolucion Industrial en España, 1814-1913*. Barcelona: Ariel SA, 1975.

Nadel, George H. 61-62 HS, Classical Studies

Born 1923 Vienna, Austria. PhD 1955 History Harvard Univ. Honors: Hon Nuffield Fship 1963-1966. Memberships: AHA; Conf on British Studies. Warnham Place, Horsham, Sussex, England.

Nadel, Mark Edward 76-77 M, Logic

Born 1946 Brooklyn, NY. PhD 1971 Math Univ of Wisconsin. Appointments: Ed *Notre Dame J Formal Logic*. Memberships: AMS; Assoc for Symbolic Logic, Asst Prof, Department of Mathematics, University of Notre Dame, Notre Dame, IN 46556.

Publications Related to IAS Residence: With L.Lipshitz. The additive structure of models of arithmetic. *Proc AMS* 68(1978) 331-336; Infinitary intuitionistic logic from a classical point of view. *Ann Math Logic* 14(1978) 159-191; An arbitrary equivalence relation as elementary equivalence in an abstract logic. *Zeit für math Logik* in press.

Other Publications: Scott sentences and admissible sets. *Ann of Math Logic* 7(1974) 267-294; With Jonathan Stavi. The pure part of HYP(M). *J Symbolic Logic* 42(1977) 33-46; $L_{\infty\lambda}$ -equivalence isomorphism and potential isomorphism. *Trans AMS* 236(1978) 51-74; With Vincent Lee. Remarks on generic models. *Fund Math* 95(1977) 73-84.

EI-Nadi, Adel Mohamed 71-73 NS, Plasma Physics

Born 1943 Cairo, Egypt. PhD 1971 Nuclear Engineering Univ of Wisconsin. Honors: Member Phi Kappa Phi; Member Sigma Xi. Asst Prof, Elect Engineering, Cairo Univ. 50 Dokki St, Apt 3A, Dokki, Giza, Egypt.

Publications Related to IAS Residence: With M. N. Rosenbluth. Infinite-B limit of the Drift Instability. *Phys Fluids* 16(1973) 2036; With P. J. Catto, C. S. Liu and M. N. Rosenbluth. Stability of a Finite-B, Inhomogeneous Plasma in a Sheared Magnetic Field. *Nucl Fusion* 14(1974) 405.

Other Publications: Shear Stabilization of the Purely Growing Trapped Particle Instability. *Phys Fluids* 20(1977) 1032.

Naganuma, Hidehisa 68-70 M, Number Theory

Born 1941 Kamo, Niigata, Japan. Doctor 1972 Math Kyoto Univ. Asst Prof, Dept of Math, Faculty of

Science, Kanazawa Univ, 1-1 Marunouchi, Kanazawa, Japan.

Publications Related to IAS Residence: With K. Doi. On the Functional Equation of Certain Dirichlet Series. *Invent Math* 9(1969) 1-14.

Nagata, Jun-iti 63f M, Topology

Born 1925 Osaka, Japan. DSc 1954 Math Osaka Univ. Memberships: AMS; Math Soc of Japan. Prof, Math Inst, Universiteit van Amsterdam, Roetersstr 15, Amsterdam, Holland.

Publications Related to IAS Residence: *Modern Dimension Theory*. North Holland, 1965; *Modern General Topology*. North Holland, 1968.

Nagy, Gregory 77f HS, Archaic Greek History and Archaeology

Born 1942 Budapest, Hungary. PhD 1966 Classical Philology Harvard Univ. Honors: Guggenheim Fellow 1977. Memberships: Am Philolog Assoc; Linguistic Soc of Amer. Prof, Greek and Latin, Harvard Univ. 84 Revere St, Boston, MA 02114.

Publications Related to IAS Residence: *The Best of the Achaeans: Concepts of the Hero in Archaic Greek Poetry*. Johns Hopkins Univ Press, 1979.

Other Publications: *Comparative Studies in Greek and Indie Meter*. Harvard Univ Press, 1974.

Nakanishi, Noboru 61-63 M(NS), Physics

Born 1932 Kyoto, Japan. DSc 1960 Kyoto Univ. Honors: Nishina Memorial Prize 1973. Research Institute for Math Scis, Kyoto University, Kyoto 606, Japan.

Publications Related to IAS Residence: *J Math Phys* 3(1962) 1139. *Phys Rev* 130(1963) 1230.

Other Publications: *Graph Theory and Feynman Integrals*. Gordon and Breach, 1971; Indefinite-Metric Quantum Field Theory. *Prog Ther Phy Suppl* 51(1972) 1-95.

Nakano, Shigeo 55-57 M

Born 1923 Shiga Pref, Japan. DSc 1956 Mathematics Kyoto Univ. Memberships: Math Soc of Japan; AMS; Soc Math de France. Prof, Research Institute for Mathematical Sciences, Kyoto University, Kyoto 606, Japan.

Publications Related to IAS Residence: On complex analytic vector bundles. *J Math Soc Japan* 7(1955) 1-12; An example of deformations of complex analytic bundles. *Mem Coll of Sci Kyoto Univ Ser A* 31: 182-190.

Other Publications: On the inverse of monoidal transformation. *Publ Res Inst Math, Sci* 6(1970-71) 483-502; Vanishing theorems for weakly 1-complete manifolds II. *Publ Res Inst Math, Sci* 10(1974-75) 101-110.

Nakano, Tadao 59-60 M(NS), Theory of Elementary Particles, Theoretical Physics

Born 1926 Tokyo, Japan. DSc 1959 Physics Kyoto Univ. Prof, Department of Physics, Osaka City University, Osaka 558, Japan.

Nakaoka, Minoru 58-60 M

Born 1925 Osaka, Japan. DSc 1956 Math Osaka Univ. Memberships: Japan Math Soc. Prof, Math Dept, Osaka Univ, 560, Toyonaka, Japan.

Publications Related to IAS Residence: Decomposition theorem for homology groups of symmetric groups. *Ann Math* 71(1960); Homology of the infinite symmetric group. *Ann Math* 73(1961).

Nakayama, Tadasi 37-39, 55s, 55-56 M, Algebraic Number Theory

Born 1912 Japan. MA 1935 Tokyo Imperial Univ. Deceased.

Publications Related to IAS Residence: With C. J. Nes-bitt. Note on Symmetric Algebras. *Ann Math* 2 39(1938) 659-668; A Note on the Elementary Divisor Theory in Non-Commutative Domains. *Bull AMS* 44(1938) 719-723; A Remark on Representations of Groups. *Bull AMS* 44(1938) 233-235; Some Studies on Regular Representations, Induced Representations and Modular Representations. *Ann Math* 2 39(1938) 361-369; On Frobeniusean Algebras, I. *Ann Math* 2 40(1939) 611-633; Note on Uni-Serial and Generalized Uni-Serial Rings. *Proc Japan Acad* 16(1940) 285-289; On Some Modular Properties of Irreducible Representations of a Symmetric Group, I. *Jap J Math* 17(1940) 164-184; On Some Modular Properties of Irreducible Representations of Symmetric Groups, II. *Jap J Math* 17(1940) 411-423; A Remark on the Sum and the Intersection of Two Normal Ideals in an Algebra. *Bull AMS* 46(1940) 469-472; Algebras with Anti-Isomorphic Left and Right Ideal Lattices. *Proc Japan Acad* 17(1941) 53-56; On Frobeniusean Algebras, II. *Ann Math* 2 42(1941) 1-21; On Frobeniusean Algebras, III. *Jap J Math* 18(1942) 49-65.

Nambu, Yoichiro 52-54 M(NS), Physics

Born 1921 Tokyo, Japan. ScD 1952 Physics Tokyo Univ. Honors: D. Heineman Prize 1970; J. Robert Oppenheimer Prize 1976; Harry Pratt Judson Distinguished Svc Prof 1977; Order of Culture awarded by Government of Japan 1978; Hon Prof Osaka City Univ 1978; NAS; AAAS. Memberships: Am Phys Soc. Prof, Physics, Univ of Chicago, Enrico Fermi Institute, 5630 Ellis Ave, Chicago, IL 60637.

Publications Related to IAS Residence: With T. Kino-shita. A Collective Description of Many-Particle Systems. *Phys Rev* 94(1954) 598.

Other Publications: With G. Jona-Lasinio. A Dynamical Model of Elementary Particles Based on an Analogy with Superconductivity, I. *Phys Rev* 122(1961) 345.

Namioka, Isaac 62-63 M

Born 1928 Tōno, Japan. PhD 1956 Mathematics Univ of Calif, Berkeley. Memberships: AMS; MAA; Math Soc of Japan. Prof, Department of Mathematics, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: A Duality in Function Spaces. *Trans AMS* 115(1965) 131-144.

Other Publications: With J.L. Kelley and others. *Linear Topological Spaces*. NY: D. Van Nostrand, 1963.

Narasimhan, Mudumbai S. 68-69 M

Born 1932 Thandarai, India. PhD 1959 Mathematics Bombay Univ. Honors: Fellow Indian Nat Sci Acad; Fellow Indian Acad of Sci; Bhatnagar Prize in Math Scis. Appointments: Indian Nat Comm Math; Math Panel Univ Grants Comm; IMU International Exch Comm. Sr Prof, School of Mathematics, Tata Institute of Fundamental Research, Homi Bhabha Rd, Bombay-400 005, India.

Publications Related to IAS Residence: With K. Okamoto. An analogue of the Borel-Weil-Bott theorem for hermitian symmetric pairs of non-compact type. *Ann Math* 91 (1970) 486-511.

Narasimhan, Raghavan 66-67 M, Function Theory, Number Theory

Born 1937 India. PhD 1963 Univ of Bombay. *

Narkiss, Bezalel 78-79 HS, History of Art

Born 1926 Jerusalem, Israel. PhD 1962 Univ of London. Appointments: Chairman, Committee for Arts, Ministry of Education and Culture, Israel; Ed *J of Jewish Art*. Memberships: Gesta Internatl Ctr of Mediaeval Art, foreign advisor, New York. Prof, and Director Center for Jewish Art, Dept of Art History, The Hebrew University, Jerusalem, Israel.

Publications Related to IAS Residence: The Sign of Jonah. *Gesta* (1979); *Hanukkah Lamps*. New York: The Jewish Museum, 1979; The Jewish Realm. In *Age of Spirituality*. NY: Metropolitan Museum of Art, 1979.

Other Publications: *Hebrew Illuminated Manuscripts*. New York: Macmillan, 1969; *The Golden Haggadah*. London: Eugrammia Press, 1970.

Nash, John Forbes, Jr. 56-57, 61-62, 63-64 M, Partial Differential Equations

Born 1928 Bluefield, WV. PhD 1950 Princeton Univ. RCA, Hightstown, NJ 08520. *

Nathan, David S. 34 35 M

Born 1900. PhD 1933 Univ of Cincinnati. Deceased. **Publications Related to IAS Residence:** One-Parameter Groups of Transformations in Abstract Vector Spaces. *Duke Math J* 1(1935) 518-526.

Nathan, Hans 57-58 HS, Musicology

Members

Born 1910 Berlin, Germany. DPhil 1934 Musicology Berlin Univ. Honors: Grants-in-Aid Am Philos Soc 1944, 61; Fulbright Lect Univ of Rome 1952-53; Guggenheim Fellow 1957-58; Grant, Sonneck Memorial Fund at Lib of Cong 1959; Research Grants Italian Govt, 1969-70 Chapelbrook Found, 1970 NEH 1961-62. Memberships: Am Musicologl Soc. Prof, Department of Music, Michigan State University, East Lansing, MI 48824.

Publications Related to IAS Residence: The Twelve-Tone Compositions of Luigi Dallapiccola. *Musical Q* 40, 3(1958); U.S.A. and Hungary. In *A History of Song*, ed. by D. Stevens. Norton: New York, 1961.

Other Publications: *Dan Emmett And The Rise Of Early Negro Minstrelsy*. University of Oklahoma Press, 1962; *William Billings: Data and Documents*. Detroit: Information Coordinators, 1976; Ed, *The Complete Works of William Billings*. Am Musicolog Soc & Colonial Soc of Mass, 1977; The Sense of History in Musical Interpretation. *Music Rev* 13, 2(1952); Luigi Dallapiccola: Fragments From Conversations. *Music Rev* 27, 4(1966); On Dallapiccola's Working Methods. *Perspectives Of New Music* (Spring-Summer 1977); The Tyrolese Family Rainer and the Vogue of Singing Mountain Troupes in Europe and America. *Musical Q* 32, 1(1946).

Nathanson, Melvyn Bernard 74-75 M, Number Theory

Born 1944 Philadelphia, PA. PhD 1972 Mathematics Univ of Rochester. Appointments: AMS Comm on Translations. Memberships: AMS; MAA; Am Assoc Adv Sci; Internat Studies Assoc. Prof, Dept of Mathematics, Southern Illinois University, Carbondale, IL 62901.

Publications Related to IAS Residence: An algorithm for partitions. *Proc AMS* 52(1975) 121-124; With Paul Erdős. Oscillations of bases for the natural numbers. *Proc AMS* 53(1975) 253-258; Polynomial Pell's equations. *Proc AMS* 56(1976) 89-92; Partial products in finite groups. *Discrete Math* 15(1976) 201-203; With Paul Erdős. Partitions of the natural numbers into infinitely oscillating bases and nonbases. *Comment Math Helvet* 51(1976) Mellin's formula and some combinatorial identities. *Monat Math* 81(1976) 261-265; With S. D. Cohen and P. Erdős. Prime polynomial sequences. *J London Math Soc* 14(1976) 559-562; s-maximal nonbases of density zero. *J London Math Soc* 15(1977) 29-34; Classification problems in K-categories. *Fund Math* in press.

Other Publications: *Komar/Melamid: Two Soviet Dissident Artists*. Carbondale: S Illinois U Press, 1979.

Nauenberg, Michael 60s, 60-61 M(NS), Physics

Born 1934 Berlin, Germany. PhD 1959 Physics Cornell University. Honors: Sloan Fellow 1964-66; Guggenheim Fellow 1963-64; NSF Grant 1966.

Appointments: SLAC Scientific Policy Committee 1977-; Adv Bd Natl Inst for Theoret Phys 1979. Memberships: Am Phys Soc. Prof, Physics Dept, University of California, Santa Cruz, CA 95060.

Publications: With T. D. Lee. Degenerate Systems and Mass Singularities. *Phys Rev* 133(1964) 1549; With G. Chapline. Determination of Properties of Cold Stars in General Relativity by a Variational Method. *ApJ* 179(1973) 277; With B. Nienhuis. Renormalization-Group Approach to the Solution of General Ising Models. *Phys Rev Lett* 33(1974) 1598; With B. Nienhuis. First-Order Phase Transitions in Renormalization-Group Theory. *Phys Rev Lett* 35(1975) 477; With G. Chapline. Baryon Quark Phase Transition. *Nature* 264(1976) 235.

Ne'eman, Yuval 77s NS, Particle Physics

Born 1925 Tel-Aviv, Israel. PhD 1962 Physics London Univ. Honors: Rothschild Prize 1968; Israel Prize for Exact Scis 1969; Foreign Assoc NAS; AAAS; Hon Life Member NY Acad of Sci; Weizmann Prize 1966; Einstein Medal 1970; DSc(hc) Yeshiva U 1972. Appointments: Pres Tel-Aviv Univ 1971-75; Sr Advisor Israeli Min of Defense 1975; Israel AEC 1968; Chmn Natl Comm for Astron, Israel NAS 1970; Pres Israel Bureau of Standards Bd 1972-76. Memberships: Israeli Phys Soc; Am Phys Soc (Fellow); IAU; Fellow Inst of Phys & Phys Soc, London. Dept of Physics & Astronomy, Tel-Aviv University, Tel-Aviv, Israel.

Publications Related to IAS Residence: The Weak Interaction: Past Answers, Present Questions. *Ann of NY Acad of Scis* 294(1977) 3-11; With F.W. Hehl, E.A. Lord. Hadron Dilation, Shear and Spin as Components of the Intrinsic Hypermomentum Current, and Met-ric-affine Theory of Gravitation. *Phys Lett* 71B(1977) 432-434; With T. Regge. Gauge Theory of Gravity and Supergravity on a Group Manifold. *Riv N Cim* 1, 5(1978) 1-42; Gravity and Supergravity as Gauge Theories on a Group Manifold. *Phys Lett* B74(1978) 54-56.

Negri, Enrico de 56-57 HS, History of Ideas

Born 1902 Carrara, Italy. DPhil Univ of Pisa. Honors: Guggenheim Fellow. Prof Emer, U Cal Berkeley and Univ of Rome. Piazza F Carrara 13, 56100 Pisa, Italy. **Publications Related to IAS Residence:** *La teologia di Lutero. Rivelazione e dialettica*. Firenze: 1967. **Other Publications:** *Interpretazione di Hegel*. Firenze: 1942; *Offenbarung und Dialektik Luthers Realtheologie*. Darmstadt: 1973.

Neisendorfer, Joseph A. 79-80 M, Algebraic Topology

Born 1945 Chicago, IL. PhD 1972 Princeton Univ. Asst Prof, Dept of Math, Fordham Univ, Bronx, NY 10458.*

Nelson, Edward 56-59, 63-64, 73-74, 79-80 M, Analysis

Born 1932 Decatur, GA. PhD Mathematics Univ of Chicago. Honors: Fellow AAAS 1975. Memberships: AMS. Prof, Mathematics, Princeton Univ, Fine Hall, Box 37, Princeton, NJ 08540.

Publications Related to IAS Residence: Analytic Vectors. *Ann Math* 70(1959) 572-615; With W. Forrest Stinespring. Representation of Elliptic Operators in an Enveloping Algebra. *Am J Math* 81(1959) 547-560; Regular Probability Measures on Function Space. *Ann Math* 69(1959) 630-643; Representation of a Markovian Semigroup and Its Infinitesimal Generator. *J Math & Mech* 7 (1958) 977-988; Kernel Functions and Eigen-function Expansions. *Duke Math J* 25, 26(1958, 1959) 15-28, 697-698; A Functional Calculus Using Singular Laplace Integrals. *TAMS* 88(1958) 400-413; An Existence Theorem for Second Order Parabolic Equations. *TAMS* 88(1958) 414-429; The Adjoint Markoff Process. *Duke Math J* 25(1958) 671-690; Markov Fields. In *Proc Intl Cong Math, Vancouver 1974, Vol 2*, ed. by R.D. James, 395-398. Canadian Math Cong, 1975.

Other Publications: Construction of Quantum Fields from Markoff Fields. *J Funct Anal* 12(1973) 97-112; The Free Markoff Field. *J of Funct Anal* 12(1973) 211-227; *Dynamical Theories of Brownian Motion*. Princeton Univ Press, 1967; Internal Set Theory: A New Approach to Nonstandard Analysis. *Bull AMS* 83(1977) 1165-1198.

Nerode, Anil 57-58, 62-63 M

Born 1932 Los Angeles, CA. PhD 1956 Univ of Chicago. Honors: NSF Postdoc 1957-58; Principal Investigator NSF Math Grants 1962-; AFOSR Grants 1965-70; EPA Grant 1978-. Appointments: Math Advisory Panel NSF 1972-75; AMS Comm on Relations with Govt 1976-; NRC Comm on Applied Math. Memberships: Assn Symb Logic; AMS; MAA. Prof, Math, White Hall, Cornell Univ, Ithaca, NY 14850.

Publications Related to IAS Residence: Extensions to Isols. *Ann Math* 73(1961); Extensions to Isolic Integers. *Ann Math* 75(1962).

Other Publications: With J.N. Crossley. *Combinatorial Functors*. Springer-Verlag, 1974; With G. Metakides. *Recursion Theory and Algebra*. Springer-Verlag Lecture Notes, 450. 1974.

Néron, André 59-60 M, Algebraic Geometry

Born 1922 France. Doctorat 1951. *

Nesbitt, Cecil James 37-38 M, Algebra

Born 1912 Thunder Bay, Ontario, Canada. PhD 1937 Mathematics Univ of Toronto. Appointments: Conf Bd of Math Scis, 1970-75; Comm on Res, Soc of Actuaries, 1965-73; Bd of Dirs, Actuarial Educ & Res Fund, 1976-; Bd of Governors, Soc of Actuaries, 1974-77; Comm on Soc Insur, Am Acad of Actuaries, 1978-; Patient Registry Comm, Cystic Fibrosis Found, 1973-. Memberships: Am Acad of Actuaries; Inst of Actuaries; Soc of Actuaries; AMS; MAA; Am Stat

Assoc; Inst for Math Stat. Prof, Department of Mathematics, University of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: On the Regular Representations of Algebras. *Ann Math* 39(1938) 634-658; With T. Nakayama. Note on Symmetric Algebras. *Ann Math* 39(1938) 659-668; With R. Brauer. On the Modular Characters of Groups. *Ann Math* 42(1941) 556-590; With E. Artin and R. M. Thrall. *Rings with Minimum Condition*. Ann Arbor: U of Mich Press, 1944; With William S. Bicknell. Premiums and Reserves in Multiple Decrement Theory. *Trans Soc Actuaries* 8(1956) 344-377; With H. U. Gerber, R. E. Pogue, and W. J. Warwick. Survival Patterns in Cystic Fibrosis. *J of Chronic Diseases* 28(1975) 609-622; With N. Bowers and James C. Hickman. Introduction to the Dynamics of Pension Funding. *Trans Soc of Actuaries* 28(1976) 177-203.

Nesselhauf, Herbert 61-62 HS, Ancient History

Born 1909 Karlsruhe, Germany. Dr phil habil 1937 Ancient History Univ Königsburg. Honors: Heidelberger Ak d W. Appointments: V Pres Deutscher Forschungsgem. Prof Emer, Univ Konstanz, Erwinstr 58, Freiburg/Br, West Germany.

Publications Related to IAS Residence: *Patrimonium und res privata des römischen Kaisers*. Beiträge zur Historia. Augusta Forschung, 1963; *Die vita commodi und die acta urbis*. Beiträge zur Historia. Augusta Forschung, 1964-5.

Other Publications: *Untersuchungen zur geschichte der Delisch-Attischen Symmachie*. Leipzig: Dieterich, 1933.

Neuberger, John W. 68s M, Analysis

Born 1934 Ventura, IA. PhD 1957 Mathematics Univ of Texas. Honors: Sloan Fellow 1967-69. Memberships: AMS; SIAM; MAA; London Math Soc; Edinburgh Math Soc. Prof, Dept of Mathematics, No Tex St Univ, Denton, TX 76203.

Publications Related to IAS Residence: Tensor products and successive approximations for partial differential equations. *Isr J Math* 6(1968) 121-132.

Other Publications: A quasi-analyticity condition in terms of finite differences. *Proc London Math Soc* 14(1964) 245-259; An exponential formula for one-parameter semigroups of nonlinear transformations. *J Math Soc Japan* 18(1966) 1954-1957; Toward a characterization of the identity component in rings and near-rings of continuous transformations. *J Reine Angew Math* 238(1969) 100-104; Lie generators for one parameter semigroups of transformations. *J Reine Angew Math* 258(1973) 133-136; Quasi-analyticity and semigroups. *Bull AMS* 78(1972) 909-922; Norm of symmetric product compared with norm of tensor product. *J Linear Multilinear Algebra* 2(1974) 115-121; An iterative method for solving nonlinear partial differential equations. *Advances in Math* 19(1976) 245-265; Projection methods for linear and nonlinear systems of partial differential equations. In

Members

Ordinary and Partial Differential Equations, Proc Conf Dundee 1976, ed. by W.N. Everitt & B.D. Sleeman, Lect Notes in Math 564: 341-349. Berlin: Springer-Verlag, 1976; Iteration for Systems of Nonlinear Partial Differential Equations. In *Nonlinear equations in Abstract Spaces, Proc Symp Arlington, Tex 1977*, ed. by V. Lakshmikan-tham, 253-264. New York: Acad Press, 1978.

Neugebauer, Christoph J. 62-63 M, Analysis

Born 1927 Dessau, Germany. PhD 1954 Math Ohio State Univ. Memberships: AMS. Prof, Division of Math Sciences, Purdue University, Lafayette, IN 47907.

Publications Related to IAS Residence: Symmetric, Continuous, and Smooth Functions. *Duke Math J* 31(1964) 23-31; Symmetric and Smooth Functions of Several Variables. *Math Ann* 153(1964) 285-292; Smoothness and Differentiability in Lp. *St Math* 25(1964) 81-91; Differentiability Almost Everywhere. *Proc Amer Math Soc* 16(1965) 1205-1210.

Neugebauer, Otto E. 50-80 HS/NS, History of Astronomy

Born 1899 Innsbruck, Austria. PhD Univ of Göttingen. Honors: Am Philos Soc Lewis Prize; NAS; Pfizer Prize of Hist of Sci Soc; D Heineman Prize; ACLS Prize; Hon Degrees St. Andrews Univ; Princeton Univ; Brown Univ. Appointments: Founder and joint ed *Quellen und Studien zur Geschichte der Math, Astron und Physik* 1930-38. Memberships: Acads of Copenhagen, Brussels, Paris, London, Vienna. Prof Emer, Brown Univ, Member with Long-Term Appointment Schools of Hist Studies and Nat Scis, Inst for Advanced Study, Princeton, NJ 08540.

Publications Related to IAS Residence: Some Fundamental Concepts in Ancient Astronomy. In *Studies in Hist of Sci*, U of Penn Bicentennial Conf: 13-29. Philadelphia: 1961; The Survival of Babylonian Methods in the Exact Sciences of Antiquity and Middle Ages. *APS* 107(1963) 528-535; Decem Tulerunt Fastidia Menses. *AJP* 84(1963) 64-65; Notes on Ethiopie Astronomy. *Orientalia* 33(1964) 49-71; contribution. In *Commentationes Astronomicae*, ed. by Leonhardi Euleri, 30: 9-11. Zürich: 1964; Rev of William H. Stahl, Roman Science. *AJP* 85(1964) 418-423; With H.B. Van Hoesen. Astrological Papyri and Ostraca: Bibliographical Notes. *APS* 108(1964) 57-72; With A. Sachs. *Mathematical Cuneiform Texts*. Amer Oriental Series, 29. New Haven: 1965; History of Mathematics. *Collier's Encyclopedia* 15(1965) 552-58; Notes on the Astrological Predictions for A.D. 1430/1431 in MS. Harley 3731. *J Warburg and Courtauld Insts* 29(1966) 432-433; With V. De Falco and M. Krause. *Hypsikles, Die Aufgangszeiten der Gestirne*. Abhandlungen der Ak d W Göttingen Philol Hist Kl, 3, 62. 1966; The Greek Mathematical Ostracon Crum 480. *Chronique d'Égypte* 41(1966) 160; Problems and Methods in Babylonian Astronomy. *Astron J* 72(1967) 964-972; With A. Sachs. Some Atypical Astronomical Cuneiform Texts I. *Cuneiform Studies* 21(1967) 183-218; With David

Pingree. The Astronomical Tables of Mahadeva. *APS* 111(1967) 69-92; contribution. In *The Antinoopolis Papyri, Part III*, ed. by J.W.B. Barns and H. Zilliacus, 141: 72-74. London: 1967; The Origin of "System B" of Babylonian Astronomy. *Centaurus* 12(1968) 209-214; Three Copernican Tables. *Centaurus* 12(1968) 97-106; With Richard A. Parker. Two Demotic Horoscopes. *J Egyptian Archaeol* 54(1968) 231-235; On the Planetary Theory of Copernicus. *Vistas in Astron* 10(1968) 89-103; With Richard A. Parker. *Egyptian Astronomical Texts*. I, II, III, Brown Egyptological Study 3, 5, 6. Providence: Brown Univ Press, 1960, 1964, 1969; A Note on Exactly Dated Demotic Texts. *Chronique d'Égypte* 43(1968) 93; Commentary on the Astronomical Treatise Par. gr. 2425. *Acad Royale Belgique, Lett et Sci Morales et Polit Mémoires* 59, 4(1969); A Horoscope-Gem. *Am J of Archaeol* 73(1969) 361-362; The Horoscope P. Colon. Inv. 930. *ZPE* 4(1969) 22; With A. Sachs. Some Atypical Astronomical Cuneiform Texts, II. *JCS* 22(1969) 92-113; Addition to the article Constellations. *Oxford Classical Dictionary* 2nd edn.(1970) 285; On a Fragment from a Planetary Table. *ZPE* 7(1971) 267-274; An Arabic Version of Ptolemy's Parapegma from the "Phaseis". *JAOS* 91(1971) 506; With D. Pingree. The Pañcasid-dhantikā of Varāhamihira. *Det Kgl. Danske Videnskabernes Selskab, Hist.-fil. Skrifter* 6, 1(1970, 1971); On the Date of Paulus Monachus Sicilae. In *Studi in Onore di Vittorio De Falco*, 565-569. Napoli: 1971; Rev of: Lindsay, Jack, Origins of Astrology. *The Thomist* 36(1972) 348-351; On Some Aspects of Early Greek Astronomy. *Proc APS* 116(1972) 243-251; On the Allegedly Heliocentric Theory of Venus by Heraclides Ponticus. *AJP* 93(1972) 600-601; Planetary Motion in P. Mich. 149. *Bull Am Soc Papyrologists* 9(1972) 19-22; The Date of the Planetary Tables Bodleian MS. Gr. Class. F 7 (P). *Chronique d'Égypte* 47(1972) 224-225; Review of: von Fritz, Kurt, Grundprobleme der Geschichte der antiken Wissenschaft. *Am Hist Rev* 78(1973) 76-77; Babylonische Mathematik und Astronomie und Griechische Wissenschaft. *400 Jahre Ak Gymnasium in Graz-Festschrift* (1973) 108-114; With M. Manfredi. Greek Planetary Tables from the time of Claudius. *ZPE* 11(1973) 101-114; With Wm. Brashear. Zwei Berliner Papyri: Ein Horoskop und Eine Jupiter-Tafel. *Öst Ak d W, philhist Kl Anzeiger* 110(1973) 306-312; Notes on Autolycus. *Centaurus* 18(1973) 66-69; Astronomical and Calendrical Data in the Très Riches Heures. In *French Painting in the Time of Jean de Berry, The Limbourgs and their Contemporaries*, ed. by Millard Meiss, Appendix C: 421-432, 480-481. New York: 1974; A Table for Positions of Jupiter, (Ostr. Tait II 2177). *Chronique d'Égypte* 49(1974) 128-129; *A History of Ancient Mathematical Astronomy*. Studies in Hist of Math and Phys Scis, 3 vols. New York-Heidelberg-Berlin: 1975; Tentyon. *Orientalia* 44(1975) 487-488; A Greek World Map. *Le Monde Grec, Hommages a Claire Preaux* (1975) 312-317; With W. Brashear. An Ephemeris for Mars. *ZPE* 20(1976) 117-118; With P.J. Sijpesteijn and K.A. Worp. A Greek

Planetary Table. *Chronique d'Egypte* 52(1977) 301-310; With R. Pintaudi. Pap. Laurentiana III/423: A Planetary Table. *ZPE* 30(1978) 211-218.

Neuman, Maurice 49-50 M(NS), Quantum Theory

Born 1921 Poland. *

Neumann, Sigmund 55-56 HS, International Relations

Born 1904 Leipzig, Germany. PhD 1926 Univ of Leipzig. Deceased.

Neumann, Walter David 71-73 M, Topology

Born 1946 Cardiff, Wales. PhD 1969 Math Bonn. Honors: NSF Contract 9/1/76-; Rector's Prize for Dissertation, Bonn 1969. Memberships: AMS; MAA; Australian Math Soc. Assoc Prof, Math, Univ of Md. 1F Southway, Greenbelt, MD 20770.

Publications Related to IAS Residence: With J. Karras, M. Kreck, E. Ossa. *Cutting and Pasting of Manifolds; SK Groups*. Lecture Series, 1. Boston-Berkeley: Publish or Perish Inc, 1973; Cyclic Suspension of Knots and Periodicity of Signature for Singularities. *Bull Amer Math Soc* 80(1974) 376-384; Homotopy Invariance of Atiyah Invariants. In *AMS Proc Symp in Pure Math*, 32: 181-188. 1978.

Other Publications: With L. Kauffman. Product of Knots, Branched Fibrations, and Sums of Singularities. *Topology* 16(1977) 369-393; Generalizations of the Poincaré-Birkhoff Fixed Point Theorem. *Bull Austr Math Soc* 17(1977) 375-389; Brieskorn Complete Intersections and Automorphic Forms. *Invent Math* 42 (1977) 285-293; Equivariant Witt Rings. *Bonner Math Schriften* 100(1977).

Nevanlinna, Rolf Herman 58f M, Function Theory

Born 1895 Finland. PhD 1919 Univ of Helsinki. 9A Bulvardi, Helsinki, Finland. *

Neveu, André 72-77 NS, Field Theory

Born 1946 Paris, France. D d'Etat 1971 Physics Univ of Orsay. Memberships: Soc Française de Physique. Maitre de Recherches, Lab de Physique Théorique, Ecole Normale Supérieure, 24 Rue Lhomond, 75005 Paris, France.

Publications Related to IAS Residence: With R. Dashen and B. Hasslacher. Semiclassical Functional Methods. *Phys Rev D*10(1974) 4114; With R. Dashen and B. Hasslacher. Two-Dimensional Models and Extended Hadrons. *Phys Rev D*10(1974) 4130; With R. Dashen and B. Hasslacher. Four-Dimensional Non-Abelian Models. *Phys Rev D*10(1974) 4138; With R. Dashen and B. Hasslacher. Particle Spectrum in Model Field Theories from Semi-Classical Functional Integral Techniques. *Phys Rev D*11(1975) 3424; With R. Dashen and B. Hasslacher. Semi-Classical Bound States in an Asymptotically Free Field Theory. *Phys Rev D*12(1975) 2443; With J.L. Gervais. Extended

Systems in Field Theory. *Phys Reports* 23C(1976) 237; With D. Gross. Dynamical Symmetry Breaking in an Asymptotically Free Field Theory. *Phys Rev D*10(1974) 3235; With N. Papanicolaou. Integrability of the Classical $(\psi_i, \psi_i)_2^2$ and $(\psi_i, \psi_i)_2^2 - (\psi_i, \gamma_s \psi_i)_2^2$ interactions. *Comm Math Phys* 58(1978) 31; With J.L. Gervais and M.A. Virasoro. Non-Classical Field Configurations in Euclidean Field Theory as Minima of Constrained Systems. *Nucl Phys B*138(1978) 45; Absence of Ghost in the Dual Pomeron. *Nucl Phys B*54(1973) 429; With J.L. Gervais. New Ghost Free Dual Models. *Nucl Phys B*63(1973) 127; Quantification of Non-Linear Systems. *Rep Prog Phys* 40(1977) 709; With B. Hasslacher. Non-Linear Quantum Field Theory. *Rocky Mtn J Math* 8(1978) 341.

Newburgh, John David 49-51 M, Banach Algebras

Born 1920 Ann Arbor, MI. PhD 1948 Univ of Calif. Deceased.

Publications Related to IAS Residence: A Topology for Closed Operators. *Ann Math (2)* 53(1951) 250-255; Metrization of Finite Dimensional Groups. *Duke Math J* 20(1953) 287-293.

Newman, John Arthur 73f HS, Art History

Born 1936 London, England. MA(Oxon.) 1965 Classics. Appointments: Historic Buildings Council for England (from 1977); Hon Ed *Architectural History*. Lect, Courtauld Inst of Art. 37, Lambardes, New Ash Green, Dartford, England.

Publications: With Nikolaus Pevsner. *Dorset The Buildings of England*. Harmondsworth: Penguin, 1972; *North East and East Kent*. The Buildings of England. Harmondsworth: Penguin Books, 1969; *West Kent and the Weald*. The Buildings of England. Harmondsworth: Penguin Books, 1969; Chapters in *The History of the King's Works*, ed. by H. M. Colvin, 5. London: HM Stationery Office, 1976.

Newman, Maxwell Herman A. 37-38, 46f M

Born 1897 England. MA 1924 Cambridge Univ. *

Newman, William Isaac 78-79 NS, Astrophysics

Born 1949 Edmonton, Canada. PhD 1979 Cornell University. Memberships: Am Astron Soc; IEEE. Member, School of Natural Sciences, Institute for Adv Study, Princeton, NJ 08540.

Publications: Extension to the Maximum Entropy Method II. *IEEE Trans Inform Theory* (in press); The Application of Generalized Inverse Theory to the Recovery of Temperature Profiles. *J Atmos Sci* (in press); With Carl Sagan. Galactic Civilizations: Population Dynamics and Interstellar Diffusion. *Icarus* (in press).

Newton, Roger Gerhard 53-55, 79s NS, Theoretical Physics

Members

Born 1924 Landsberg/Warthe, Germany. PhD 1953 Physics Harvard Univ. Honors: Senior NSF Fship 1962-63; Jewett Fship 1953-55. Memberships: Fellow, Am Phys Soc; AAAS; AAUP; Sigma Xi; NY Acad Sci; Fed Am Scientists. Distinguished Prof, and Dept Chmn, Physics Dept, Indiana Univ, Bloomington, IN 47401.

Publications Related to IAS Residence: Connection Between the S-Matrix and the Tensor Force. *Phys Rev* 100(1955) 412-428; With R. Jost. The Construction of Potentials from the S-Matrix for Systems of Differential Equations. *Nuovo Cimento* 1(1955) 590-662; Radiative Effects in a Constant Field. *Phys Rev* 96(1954) 523-528; Radiative Corrections to Electron Scattering. *Phys Rev* 97: 1162-1175. Some Applications of the Mass Operator in Quantum Electrodynamics. *Phys Rev* 94(1954) 1773-1789.

Other Publications: *Scattering Theory of Waves and Particles*. NY: McGraw-Hill, 1966; *The Complex j -Plane*. NY: W.A. Benjamin, 1964.

Ng, Yee Jack 74-76 NS, Theoretical Particle Physics

Born 1946 Hoi Ping, Kwangtung, China. PhD 1974 Physics Harvard Univ. Honors: Phi Eta Sigma; PBK; Harvard Grad Soc Prize 1974. Memberships: Am Phys Soc. Asst Prof, Physics Dept, Univ of North Carolina, Chapel Hill, NC 27514.

Publications Related to IAS Residence: With S. Adler et al. Isospin 1/2 nucleon resonance production by a V, A weak neutral current. *Phys Rev D* 13(1976) 1216; With L. DeRaad, Jr. Electron-electron scattering III: Helicity cross sections for electron-electron scattering. *Phys Rev D* 11(1975) 1586; With S. Adler et al. Renormalization constants for scalar, pseudoscalar, and tensor currents. *Phys Rev D* 11(1975) 3309; With S. Adler et al. Dimuon production associated with a scalar intermediate boson carrying dileptonic quantum number. *Phys Rev D* 12(1975) 2639; With S. Adler et al. Application of current algebra techniques for soft-pion production by the weak neutral current: S, P, Tease. *Phys Rev D* 12(1975) 3501; With S. Adler et al. Application of current algebra techniques for soft-pion production by the weak neutral current: second class V, A case. *Phys Rev D* 12(1975) 3522; With S. Adler, J. Lieberman and H. S. Tsao. Photon pairing instabilities: A microscopic origin of gravitation? *Phys Rev D* 14(1976) 359; With W. Y. Tsai. Pair creation by photon-photon scattering in a strong magnetic field. *Phys Rev D* 16(1977) 286; With S. Adler and J. Lieberman. Regularization of the stress-energy tensor for vector and scalar particles propagating in a general background metric. *Ann Phys, N Y* 106(1977) 279.

Other Publications: Jet structure in e^+e^- annihilation as a test of QCD and the quark confining string. *Phys Rev D* 16(1977) 3251.

Ni, Wei-Ming 79-80 M, Analysis, Partial Differential Equations

Born 1950 Taiwan, China. PhD 1979 Courant Inst, NYU. Memberships: AMS. Asst Prof, Dept of Math, Univ of Pennsylvania, Philadelphia, PA

Nicholas, Herbert George 64f HS, Politics

Born 1911 Treharris, Wales. MA(Oxon.) 1938. Honors: DCL(hc) U of Pittsburgh 1968; Fellow Brit Acad 1969. Appointments: Chmn Brit Assoc for Amer Studies, 1964-66. Memberships: AHA; OAH; BAAS; Royal Hist Soc. Retired Prof, American History & Institutions, Oxford Univ, 3 William Orchard Close, Old Headington, Oxford, United Kingdom.

Publications Related to IAS Residence: *The United States & Britain*. Chicago: 1973; *The Nature of American Politics*. Oxford: 1979; *The Isolation of the Presidency in U.S. Insts. in the 70's*. London: 1973.

Other Publications: *The U.N. as a Political Institution*. Oxford: 1959; *The British General Election of 1950*. London: 1951.

Nicolet, Claude 66-67, 72f HS, Classics, Ancient History

Born 1930 Marseille, France. Dd'ÉtatL 1966. Memberships: Soc Etudes Latines; Assoc Française Sci Polit. Prof, Hist, Sorbonne Paris 1, Directeur D'Etudes Ecole Pratique des Hautes Etudes. 2 Rue De Paradis, 75010 Paris, France.

Publications Related to IAS Residence: *L'Ordre Equestre À L'Époque Républicaine*. 2. Paris: De Boccard, 1974; *Tributum*. Bonn: Habelt, 1976; *Le Métier de Citoyen dans la Rome Républicaine*. Paris: Gallinard, 1976.

Other Publications: Les Structures de L'Italie Romaine. *Rome et la Conquête du Monde Méditerranéen*, 1. 1977; 2. Genèse d'un Empire. Paris: PUF coll "Nouvelle Clio" 1978.

Nicolson, Marjorie Hope 63-68 HS, Literary History

Born 1894 Yonkers, NY. PhD 1920 Yale Univ. Honors: Guggenheim Fellow 1926-27. Appointments: Ed *J Hist of Ideas*. *

Publications: *The Art of Description*. 1926; *Conway Letters*. 1930; *The Microscope and English Imagination*. 1935; *A World in the Moon*. 1937; *Newton Demands the Muse*. 1946; *Voyages to the Moon*. 1948; *The Breaking of the Circle*. 1950; *Science and Imagination*. 1956; *Mountain gloom and mountain glory. The Development of the aesthetics of the infinite*. 1959.

Niebuhr, Reinhold 57-58, 58s HS

Born 1892 Wright City, MO. AM 1915 Yale Divinity Sch. Honors: DD: Eden Theological Sem 1930; Grinnell Coll 1936; Wesleyan Coll 1937; U of Penn 1938; Am-herst Coll 1941; Yale Univ 1942; Oxford Univ 1943; Harvard Univ 1944; Dartmouth Coll 1951; Princeton Univ 1946; Glasgow Univ 1947; LLD: Occidental Coll 1945; LittD New School 1951; Pres Medal of Freedom 1964; AAAS. Deceased.

Publications: *Moral Man and Immoral Society*. 1932; *Nature and Destiny of Man*. 1941; *Christian Realism and Political Problems*. 1953; *The Self and the Dramas of History*. 1955; *Structure of Nations and Empires*. 1963; *Man's Nature and His Communities*. 1965; *Faith and Politics*. 1968.

Niebur, Douglas P. 68-69 M, Automorphic Forms

Born 1941 Norfolk, NE. PhD 1968 U of Wisc. Department of Mathematics, University of Maryland, College Park, MD 20742. *

Niederreiter, Harald G. 73-75 M, Number Theory

Born 1944 Vienna, Austria. PhD 1969 Math Univ of Vienna. Memberships: AMS; MAA; Austrian Math Soc. Prof, Department of Mathematics, University of the West Indies, Kingston 7, Jamaica.

Publications Related to IAS Residence: With L. Kuipers. *Uniform Distribution of Sequences*. New York: Wiley-Interscience, 1974; Pseudo-random numbers and optimal coefficients. *Adv in Math* 26(1977) 99-181; On the cycle structure of linear recurring sequences. *Math Scand* 38(1976) 53-77; On the distribution of pseudo-random numbers generated by the linear congruential method. III. *Math Comp* 30(1976) 571-597; Some new exponential sums with applications to pseudo-random numbers. In *Topics in Number Theory, Proc Coll Debrecen, 1974*, ed. by P. Turán, Colloquia Math Soc János Bolyai, Vol. 13: 209-232. Amsterdam: North-Holland, 1976.

Other Publications: Quasi-Monte Carlo methods and pseudo-random numbers. *Bull AMS* 84(1978) 957-1041.

Nijboer, Bernard R. A. 49-50 M(NS), Theoretical Physics

Born 1915 Meppel, Netherlands. Doctorate 1942 Math & Phys Univ of Groningen. Memberships: Dutch Phys Soc. Prof, Univ of Utrecht, Institute for Theoretical Physics, Princetonplein 5 P.B. 80006, 3508 TA Utrecht, Netherlands.

Publications Related to IAS Residence: With G. Placzek and L. Van Hove. Effect of Short Wavelength Interference on Neutron Scattering by Dense Systems of Heavy Nuclei. *Phys Rev* 82(1951) 392; With L. Van Hove. Radial Distribution Function of a Gas of Hard Spheres and the Superposition Approximation. *Phys Rev* 85(1952) 777.

Nijenhuis, Albert 53-55, 61-62 M, Geometry

Born 1926 Eindhoven, Netherlands. PhD 1952 Math Univ Amsterdam. Honors: Fulbright Prof 1963-64; Guggenheim Fellow 1961-62; Royal Neth Acad Sci (Correspondent). Memberships: AAUP; AMS; MAA; SIAM; ACM; Neth Math Soc. Prof, Dept of Math/E1, Univ of Penna, Philadelphia, PA 19104.

Publications Related to IAS Residence: General properties of affine connections. *Indag Math* 15, 3(1953) 233-49; Properties of general linear

connections. *Indag Math* 16, 1(1954) 17-25; A theorem on sequences of local affine collineations and isometries. *Nieuw Archief voor Wiskunde* 3, 11(1954) 118-125; Jacobi-type identities for bilinear differential concomitants of certain tensor fields. *Indag Math* 17(1955) 390-403; With A. Frolicher. Some new cohomology invariants for complex manifolds 1. *Kon Ned Ak v Wet* 59(1956) 540-564; With A. Frolicher. A theory on stability of complex structures. *Proc NAS* 43 (1957) 239-241; With A. Frolicher. Derivations in the ring of differential forms. *Indag Math* 18(1956) 338-359; With A. Frolicher. Invariance of vector form operations under mappings. *Comment Math Helv* 34(1960) 227-248; With W.B. Woolf. Some integration problems in almost-complex and complex manifolds. *Ann Math* 77(1963) 424-489.

Other Publications: A Lie product for the cohomology of subalgebras with coefficients in the quotient. *Bull AMS* 73(1967) 962-967; Natural bundles and their general properties - (Geometric objects re-visited). In *Differential Geometry in honor of K. Yano*, 317-334. Tokyo: 1972; With H. S. Wilf. *Combinatorial Algorithms*. New York: Academic Press, 1975.

Nipperdey, Thomas H. 70-71, 78-79 HS, Modern History

Born 1927 Cologne, Germany. DPhil 1953 Philosophy Univ of Cologne. Appointments: Assoc of German Historians, Exec Council; International Council on the Future of the University, Board of Trustees. Prof, History, Univ of Munich, Fuchsbichl 9A, D8021 Icking, Germany.

Publications Related to IAS Residence: *Gesellschaft, Kultur, Theorie: gesammelte Aufsätze zur neueren Geschichte*. Kritische Studien zur Geschichtswissenschaft, no. 18. Göttingen: Vandenhoeck und Ruprecht, 1976; *Konflikt, einzige Wahrheit der Gesellschaft?: zur Kritik d. hess. Rahmenrichtlinien*. Texte & Thesen, no. 48. Osnabrück: Fromm, 1974.

Other Publications: *Reformation, Revolution, Utopie: Studien z. 16. Jahrhundert* Kleine Vandenhoeck-Reihe. no. 1408. Göttingen: Vandenhoeck und Ruprecht, 1975; *Die Organisation der deutschen Parteien vor 1918*. Beiträge zur Geschichte des Parlamentarismus und der politischen Parteien, no. 18. Düsseldorf: Droste, 1961.

Nirenberg, Louis 58s M, Analysis

Born 1925 Hamilton, Ont, Canada. PhD 1949 Mathematics New York Univ. Honors: AMS Bôcher Prize 1959; NAS; AAAS. Appointments: Various Advisory Boards for Nat'l Acad Sci; NRC Amer Math'l Soc. Memberships: Accad Naz Dei Lincei; AMS. Prof, Math, Courant Inst, 251 Mercer St, New York, NY 10012.

Publications Related to IAS Residence: With K. Kodaira & D.C. Spencer. On the existence of deformations of complex analytic structures. *Ann Math* 68(1958) 450-459.

Members

Nishi, Miao 60-62 M

Born 1924 Kyoto, Japan. PhD 1959 Kyoto Univ. Prof, Department of Mathematics, Faculty of Science, Hiroshima Univ, Hiroshima, Japan.

Publications Related to IAS Residence: Existence of curves of genus two on a product of two elliptic curves. *J Math Soc Japan* 17(1965) 1-16; On Certain Types of Jacobian Varieties of Dimension 2. *Nat Sci Report, Ochanomizu Univ* 16(1965) 49-57.

Other Publications: Some Results on Abelian Varieties. *Nat Sci Report, Ochanomizu Univ* 9(1958) 1-12.

Nishijima, Kazuhiko 57-58, 58f M(NS), Theoretical Physics

Born 1926 Tsuchiura, Ibaraki, Japan. DSc 1955 Physics Osaka Univ. Honors: Nishina Memorial Prize 1955; Japan Acad Prize 1964; Toray Sci-Tech Prize 1970. Memberships: Japan Phys Soc; Fellow, Am Phys Soc. Prof, Department of Physics, University of Tokyo, Bun-kyo-Ku, Tokyo 113, Japan.

Publications Related to IAS Residence: Formulation of field theories of composite particles. *Phys Rev* 111 (1958) 995; Introduction of a neutral pseudoscalar field and a possible connection between strangeness and parity. *Nuovo Cimento* 11(1959) 698.

Nobs, Alexandre 76 77 M

Born 1945 Switzerland. PhD 1972 Univ of Basel. Dept of Mathematics, SUNY, Stony Brook, NY 11794. *

Nordenfalk, Carl A. J. 49-50, 57s, 67-68, 69s, 69-70, 70f HS, Art History

Born 1907 Stockholm, Sweden. PhD Univ of Stockholm. Honors: Corr FBA 1967-; Bavarian Acad Scis; German Archaeol Inst; Am Philos Soc; Swedish Royal Acad Fine Arts. Memberships: Royal Soc of Scis (Uppsala); Royal Swedish Acad of Letters. Mellon Prof, Dept of Fine Arts, Univ of Pittsburgh, Pittsburgh, PA 15260.

Publications Related to IAS Residence: Der Meister des Registrum Gregorii. *Münchner Jahrbuch der Bildenden Kunst* (3) 1(1950) 61-77; Tizians Darstellung des Schauens. *Stockholm Nationalmuseum Arsbok (NS)* 17-18(1950) 39-60; A Note on the Stockholm *Codex Aureus*. *Nordisk Tidskrift för Bok- och Biblioteksväsen* 38(1951) 145-155; The Beginning of Book Decoration. In *Essays in Honor of Georg Swarzenski*, ed. by O. Goetz, 9-20. Chicago: 1952; Titian's Allegories on the Fondaco de' Tedeschi. *Gaz Beaux-Arts* (6) 40(1952) 101-108, 137-139.

Other Publications: *Die spätantiken kanontafeln*. Gothenburg: Isacsons, 1938; *Vincent van Gogh, en livsväg*. Stockholm: Norstedt, 1943; *Kung Praktiks och drottning Teoris jaktbok*. Stockholm: Norstedt, 1955; *Die spätantiken Zierbuchstaben*. Egnellska, 1970; With Andre Grabar. *La haut moyen âge, du*

quatrième au onzième siècle. Geneva: Skira, 1957; With Andre Grabar. *Romanesque painting from the eleventh to the thirteenth century*. New York: Skira, 1958; *Medieval and Renaissance miniatures from the National Gallery of Art*. Washington, DC: 1975; *Vergilius Augusteus Mss (Cod Augusteus)*. Graz: 1976; *Celtic and Anglo-Saxon painting: book illumination in the British Isles, 600-800*. London: Chatto and Windus, 1977.

Nordström, Folke 53-54, 57-58 HS, History of Mediaeval Art and Iconography

Born 1920 Sweden. PhD 1952 Uppsala Univ. *

Nori, Madhav Vithal 75-76 M

Born 1949 Baroda, Gujerat, India. MA 1972 Mathematics U C Berkeley. Fellow, School of Mathematics, Tata Institute of Fundamental Research, Colaba, Bombay 400005, India.

Norton, Karl Kenneth 70-71 M, Theory of Numbers

Born 1938 London, England. PhD 1966 Mathematics Univ of Ill. Honors: PBK; Sigma Xi; NSF Grad Fellow 1959-61; Hon Woodrow Wilson Fellow 1959-60; NSF res grant 1975-76. Appointments: Member-at-large, Council of the AMS, 1975-1977. Memberships: AMS; MAA. 2235 Floral Dr, Boulder, CO 80302.

Publications Related to IAS Residence: On character sums and power residues. *Trans AMS* 167(1972) 203-226; On the distribution of power residues and non-residues. *J. Reine Angew Math* 254(1972) 188-203; Bounds for sequences of consecutive power residues. In *Analytic Number Theory, Proc Symp St. Louis 1972*, ed. by H.G. Diamond, Proc Symp in Pure Math 24: 213-220. Providence, RI: AMS, 1973.

Other Publications: *Numbers with small prime factors, and the least kth power non-residue*. Mem AMS, 106. 1971; Estimates for partial sums of the exponential series. *J Math Anal & Applic* 63(1978) 265-296; On the number of restricted prime factors of an integer II. *Acta Math* (in press).

Novak, Ilse Lisl see Gaal, Ilse Lisl Novak

Novodvorsky, Mark Eugenievich 74-75 M, Auto-morphic L-Functions

Born 1946 Moscow, USSR. PhD 1970 Moscow State Univ. Assoc Prof, Dept of Math, Purdue University, W Lafayette, IN 47907.

Nurske, Ragnar 46-48 HS(EP)

Born 1907 Estonia, USSR. Deceased.

Publications Related to IAS Residence: Domestic and International Equilibrium. In *The New Economics*, ed. by Harris, S. E., 264-292. New York: 1947; International Monetary Policy and the Search for Economic Stability. *Amer Econ R* 37: Papers &

Proceedings(1947) 569-580; The Cyclical Pattern of Inventory Investment. *Quart J Econ* 66(1952) 385-408.

Nussbaum, A. Edward 62s, 62f M, Functional Analysis

Born 1925 Rheydt, Germany. PhD 1957 Mathematics Columbia Univ. Honors: NSF Postdoc Fellow 1963. Memberships: AMS; AAS. Prof, Department of Mathematics, Washington University, St Louis, MO 63130.

Publications Related to IAS Residence: Reduction theory for unbounded closed operators in Hubert space. *Duke Math J* 31, 1(1964) 33-44; On the reduction of C^* algebras. *Proc AMS* 15, 4(1964) 567-573.

Other Publications: Quasi-analytic vectors. *Ark Mat* 6, 10(1965) 179-191; A note on quasi-analytic vectors. *Studia Math* 33, 3(1969) 305-309; Extension of positive definite functions and representation of functions in terms of spherical functions in symmetric spaces of non-compact type of rank 1. *Math Ann* 215(1975) 97-116.

Nussbaum, Roger D. 72-73 M

Born 1944 Philadelphia, PA. PhD 1969 Math Univ of Chicago. Memberships: AMS. Prof, Math Dept, Rutgers U, New Brunswick, NJ 08903.

Publications Related to IAS Residence: Periodic solutions of some nonlinear autonomous functional differential equations. *J Diff Equations* 14(1973) 360-394, 2; Periodic solutions of analytic functional differential equations are analytic. *Mich Math J* 20(1973) 249-255; Positive solutions of nonlinear elliptic boundary value problems. *J Math Anal and Applications* 51(1975) 461-482.

Other Publications: A Global Bifurcation Theorem with Applications to Functional Differential Equations. *J Funct Analysis* 19(1975) 319-338; Differential-delay Equations with Two Time Lags. *Memoirs AMS* 205(1978).

Nussenzweig, Herch Moyses 64-65 M(NS), Physics

Born 1933 Brazil. PhD 1957 Univ of Sao Paulo. *

Nussinov, Shmuel 75-77 NS, Theoretical Physics

Born 1939 Jerusalem, Israel. PhD 1966 U of Wash. Physics Dept, Tel-Aviv Univ, Ramat-Aviv, Tel Aviv, Israel. *

Nuyts, Jean 65-67 NS, High Energy Physics

Born 1936 Brussels, Belgium. PhD 1962 physics Brussels Univ. Prof, Mathematical physics, Fac Sciences, Université de l'Etat à Mons, av Maistriau, 7000 Mons, Belgium.

Publications Related to IAS Residence: With Hwa. *Phys Rev* 145.4(1966) 1188; With Hwa. *Phys Rev* 151.4(1966) 1215; *Phys Rev* 157.5(1967) 1471; With

Balachandran. *Phys Rev* 172.5(1968) 1821; With Bala-chandran, Meggs and Ramond. *Phys Rev* 176.5(1968) 1700.

O'Brian, Nigel Robert 74-75 M, Algebraic Geometry

Born 1948 Ashby-De-La-Zouch, England. PhD 1975 Mathematics Univ of Warwick. Memberships: Australian Math Soc. Research Fellow, Dept of Maths, Research School of Physical Sciences, Australian National University, PO Box 4, Canberra ACT 2600, Australia.

Publications Related to IAS Residence: Local Properties of Analytic Functions and Non-Standard Analysis. In *Complex Analysis and its Applications*, 3. Vienna: 1976; With Rebecca A. Herb. A Characterization of Unipotent, Semisimple and Regular Elements in a Reductive Algebraic Group. *Bull London Math Soc* 8(1976) 233-238; Zeroes of Holomorphic Vector Fields and Grothendieck Duality Theory. *Trans Amer Math Soc* 229(1977) 289-306.

O'Donnell, Guillermo Alberto 74-75 Soc, Sociology, Economics

Born 1936 Buenos Aires, Argentina. MPhil 1971 Yale Univ. Appointments: Coordinator, Study Commission on the State, Lat Amer Council on the Soc Scis; Joint Comm, SSRC; Acad Council, Lat Amer Prog, Woodrow Wilson Center. Memberships: Internat Sociolog Assoc; APSA; Lat Amer Studies Assoc. Senior Researcher, CEDES (Argentina), Hipolito Yoigoyen 1156, Buenos Aires, Argentina.

Publications Related to IAS Residence: Reflections in the change patterns of the bureaucratic-authoritarian state. *Lat Amer Res Rev* (1978); On "Corporatism" and the question of the State. In *Authoritarianism and Corporatism in Latin America*, ed. by J. Malloy. Pittsburgh: Pittsburgh University Press, 1977.

Other Publications: *Modernization and Bureaucratic Authoritarianism*. Berkeley: Univ California, 1972; With D. Linck. *Dependencia y Autonomia*. Buenos Aires: Amorrorton Editores, 1973.

O'Donnell, James Reginald 68-69 HS, Palaeography and Edition of Texts

Born 1907 Jarvis, Ontario, Canada. PhD Philosophy Univ of Toronto. Honors: D Litt(hc) 1979; Fellow Royal Soc of Canada. Memberships: Brit Class Assoc; Canad Class Assoc; Med Acad of Amer. 59 Queens Park Cresc., E, Toronto M5S 2C4, Canada.

Publications Related to IAS Residence: *The Sapientiale of Thomas of York*. 3. forthcoming.

Other Publications: The Exigit Ordo of Nicholas of Au-trecourt. *Mediaeval Studies* 1(1939) 179-280; The De Bono et Malo of William of Auvergne. *Mediaeval Studies* 8(1946) 245-299.

O'Meara, John Joseph 56-57, 63s, 68f, 75-76 HS, Classical Studies

Members

Born 1915 Eyrecourt, Co. Galway, Ireland. DPhil (Oxon.) Classical Studies. Honors: Vice-Pres Royal Irish Acad 1967. Appointments: Chairman of the Board, National College of Art and Design, Dublin, Ireland; Council Member Internatl Fed Classical Studies; Governor for Ireland Fond Europ Culture; Internat Assoc Patristic Scholars; Inst Latin Studies (Rome); Soc for Prom of Eriugenian Studies. Prof (Senior), Latin, University College, Dublin 4, Ireland.

Publications Related to IAS Residence: *Porphyry's "Philosophy from Oracles" in St. Augustine*. Paris: Études Augustiniennes, 1959; *Porphyry's "Philosophy from Oracles" in Eusebius's "Praeparatio Evangelica" and Augustine's "Dialogues of Cassiciacum"*. Paris: Études Augustiniennes, 1969; Augustine and Toynbee. In *Essays presented to H. Caplan*. Cornell, 1963; Plotinus and Augustine: Exegesis of Contra Academicos II, 5. *Revue internationale de Philosophie* 92, 2(1970); Eriugena's Use of Augustine in his Teaching on the Return of the Soul and the Vision of God. In *Jean Scot Érigène et l'histoire de la Philosophie*. Paris: 1977.

Other Publications: Giraldus Cambrensis in Topographia Hibernie. *Proc Royal Irish Academy* 52 C 4(1949) 113-178; translation with introduction and commentary. *St Augustine, "Against the Academics"*. Maryland: Newman Press, 1950; *The Young Augustine: the Growth of St. Augustine's Mind up to his Conversion*. London: Longmans, 1954; With Courcelle, Mohrmann and others. *Recherches Augustiniennes*. Paris: 1958; *Charter of Christendom: the Significance of St. Augustine's "City of God"*. New York: Macmillan, 1962.

O'Meara, O. Timothy 57-58, 61s M, Number Theory

Born 1928 Cape Town, South Africa. PhD 1953 Mathematics Princeton Univ. Honors: Sloan Fellow 1960-1963; Carl Friedrich Gauss Prof Göttingen Acad of Sci Summer 1978. Appointments: Member, NSF Adv Panel Math Sci. Memberships: AMS; AAUP; ACE; Inst for Internat Studies. Kenna Prof, Mathematics, and Provost, Provost's Office, University of Notre Dame, Notre Dame, IN 46556.

Publications Related to IAS Residence: *Introduction to Quadratic Forms*. Berlin: Springer Verlag, 1963; The Integral Representations of Quadratic Forms Over Local Fields. *Am J Math* 80(1958) 843-878.

Other Publications: The automorphisms of the orthogonal groups $\Omega_n(V)$ Over Fields. *Am J Math* 90(1968) 1260-1306; *Lectures on Linear Groups*. Regional Conf in Math, 22. Providence: AMS, 1974.

O'Neill, Michael Jerome 69-70 M, Analysis

Born 1939 Tyler, TX. PhD 1969 Univ of Kansas. 23 Cayuga Rd, Scarsdale, NY 10583. *

O'Raifeartaigh, Lochlainn 67-68 NS, Particle Physics

Born 1933 Dublin, Ireland. PhD 1960 Quantum Field Theory Zürich Univ. Honors: MRIA. Appointments: Irish Natl Comm for Math; Irish Natl Comm for Physics. Sr Prof, Dublin Inst of Advanced Studies, 10, Burlington Rd, Dublin 4, Ireland.

Publications Related to IAS Residence: Lorentz Invariance and Internal Symmetry. In *Symmetry Groups*, ed. by F. Dyson. Benjamin: 1966; With S.J. Chang and R. Doshen. Current Algebra at Infinite Momentum. *Phys Rev* 182(1969) 1805, 1819; With S.J. Chang. Space-like Solutions of Wave Eqs. *Phys Rev* 170: 1316; With S.J. Chang. 171(1968) 1587.

Other Publications: Broken Symmetry. In *Applications of Group Theory*, ed. by E. Loeb. Acad Press: 1968; With V. Niederer. Covariant Wave Eqs. *Fort Physik* 22(1974) 111, 131; *Supersymmetry*. Conun Dub Inst, 22. 1975.

O'Sullivan, John Joseph 73-75 M, Differential Geometry

Born 1948 Bantry, County Cork, Ireland. PhD 1973 Mathematics. Memberships: AMS. Asst Prof, Dept of Math, Penn State Univ, University Park, PA 16802.

Publications Related to IAS Residence: Manifolds Without Conjugate Points. *Math Ann* 210(1974) 295-311; Riemannian Manifolds Without Focal Points. *J Diff Geom* 11(1976) 321-333; With J-H Eschenburg. Growth of Jacobi fields and divergence of geodesics. *Math Z* 150(1976) 221-237.

Oakes, Robert J. 67-68 NS, Elementary Particle Physics

Born 1936 Minneapolis, MN. PhD 1962 Physics Univ of Minnesota. Honors: Fulbright-Hays Distinguished Prof 1979; Sloan Fellow 1966-68; NSF Fellow 1962-64. Memberships: Am Phys Soc; Ill State Acad of Sci; NY Acad of Sci. Prof, Dept of Physics and Astronomy, Northwestern University, Evanston, IL 60201.

Publications Related to IAS Residence: Behavior of Current Divergences Under $SU(3) \times SU(3)$. *Phys Rev* (1968) 2195; Theory of CP Nonconservation. *Phys Rev Lett* 20(1968) 1539; Symmetry Breaking in Axial-Vector Spectral Sum Rules. *Phys Rev Lett* 20(1968) 513.

Oberhuber, Konrad Johannes 74-75 HS, History of Art

Born 1935 Linz, Austria. PhD 1959 History of Art Univ of Vienna. Prof, Fine Arts, Harvard University, Curator of Drawings, Fogg Art Museum, Cambridge, MA 02138.

Publications Related to IAS Residence: The Colonna Altarpiece in the Metropolitan Museum and Problems of the Early Style of Raphael. *Met Museum J* 12(1978) 55-91 ; With David Alan Brown. Monna Vanna and Fornarina: Leonardo and Raphael in Rome. In *Essays presented to Myron P. Gilmore*, 25-86. Florence: 1978.

Other Publications: *Raphaels Zeichnungen*. 9. Berlin: 1972; *Raffaello, Il Cartone per la Scuola di*

Atene. Milan: 1972; *Renaissance in Italien*. Vienna: Albertina, 1967; *Zwischen Renaissance und Barock, Das Feitalter von Bruegel und Bellange*. Vienna: Albertina, 1967; With Jay Levenson and Jacqueline Sheehan. *Early Italian Engravings in the National Gallery of Art*. Washington DC: 1973.

Ochiai, Takushiro 76s, 76f M, Differential Geometry

Born 1943 Peking, China. PhD 1969 Mathematics Univ of Notre Dame. Memberships: Math Society of Japan; AMS. Asst Prof, Dept of Math, Faculty of Sci, Univ of Tokyo, Hongo, Bunkyo-Ku, Tokyo 113, Japan.

Publications Related to IAS Residence: On Cone Structures and Positive Currents. *Osaka Journal of Math* in press.

Other Publications: On Holomorphic Curves in Algebraic Varieties with Ample Irregularity. *Invent Math* 43(1973) 83-96.

Odhnoff, Jan Edvard 61f M, Partial Differential Operators

Born 1931 Sweden. PhD 1959 Lund Univ. Kiselgränd 3, 161 39 Bromma, Sweden. *

Oehler, Klaus Herbert 73-74 HS, Philosophy

Born 1928 Solingen, Germany. PhD 1953 Philosophy Tuebingen Univ. Memberships: Academy of Athens; Allgemeine Gesells für Philos Deutschland; Mommsen-Gesellschaft; Am Philos Assoc. Prof, Philosophy, Univ of Hamburg, Philosophisches Seminar, Universität Hamburg, Von-Melle-Park 6, 2 Hamburg 13, Germany.

Publications Related to IAS Residence: Aristotle on Self-Knowledge. *Proc Am Philos Soc* 118, 6(1974); On Douglas Greenlee's Book "Peirce's Concept of Sign". Approaches to Semiotics, No 5. *Trans Charles S. Peirce Soc* 10, 3(1974).

Other Publications: *Die Lehre von Noetischen und Dianoetischen Denken bei Platon und Aristoteles*. München: Beck, 1962; *Antike Philosophie und Byzantinisches Mittelalter*. München: Beck, 1969.

Oehme, Reinhard 56-58 M(NS), Physics

Born 1928 Wiesbaden, Germany. Dr rer nat Univ Göttingen. Honors: Humboldt Award 1974; Guggenheim Fellow 1963-64; Professorship Japan Soc 1976. Memberships: Am Phys Soc. Prof, Physics, Enrico Fermi Institute, University of Chicago, Chicago, IL 60637.

Publications Related to IAS Residence: With T. D. Lee and C. N. Yang. Remarks on Possible Noninvariance under Time Reversal and Charge Conjugation. *Phys Rev* 106(1957) 340; With H. T. Bremermann and J. G. Taylor. Proof of Dispersion Relations in Quantized Field Theories. *Phys Rev* 109(1958) 2178; Dispersion Relation for N-N-Scattering. In *Proceedings of the Seventh Annual Rochester Conference*. New York: Interscience, 1957; With M. L. Goldberger and Y. Nambu.

Dispersion Relations for Nucleon-Nucleon Scattering. *Am Phys (NY)* 2(1956) 226; With H. J. Bremermann and J. G. Taylor. Une Demonstration Possible des Relations de Dispersion. *Colloques Internationaux du CNRS* 75(1959) 169.

Other Publications: Dispersion Relations for Pion-Nucleon Scattering. *Phys Rev* 100(1955) 1503; 102(1956) 1174; With M. L. Goldberger and H. Miyazawa. Application of Dispersion Relations to Pion Nucleon Scattering. *Phys Rev* 99(1955) 986; A Lorentz Covariant Supermultiplet Scheme. In *High Energy Physics and Elementary Particles*, 533-548. Vienna: IAEA, 1965; Broken Symmetries and Leptonic Weak Interactions. *Ann of Physics (NY)* 33(1965) 108; Mathematical and Phenomenological Duality. *Nucl Phys B*16(1970) 161; Rising Cross Sections. *Springer Tracts in Modern Physics* 61 (1972) 109; Asymptotic Freedom and High Energy Scattering. In *Proceedings of the Joint Int. Symposium on Mathematical Physics*. Mexico City: 1976.

Offe, Claus 77-78 Soc

Born 1940 Berlin, Germany. PhD Sociology Univ of Frankfurt.; Habil Poli Sci Univ of Constance. Memberships: DVPW; DGS. Prof, Poli Sci and Sociology, Dept of Sociology, University of Bielefeld, 48 Bielefeld, W Germany.

Publications Related to IAS Residence: Die Institutionalisierung des Verbandseinflusses - eine Ordnungs-politische Zwickmuehle. In *Verbaende und Staat*, ed. by U.V. Alemann/R.G. Heinze. Opladen, 1979; With Helmut Wiesenthal. Two Logics of Collective Action. In *Political Power and Social Theory*, 1. in press; The Attribution of Public Status to Interest Groups - Observations on the West German case. In *Interest Groups in Western Europe*, ed. by Suzanne Berger. Cambridge UP, in press.

Other Publications: *Leistungsprinzip und industrielle Arbeit*. Frankfurt: Europäische Verlagsanstalt, 1970; *Strukturprobleme des kapitalistischen Staates*. Aufsätze zur politischen Soziologie. Frankfurt: edition suhr-kamp, 1972; *Berufsbildungsreform - Eine Fallstudie über Reformpolitik*. Frankfurt: edition suhrkamp, 1975; ed with Karl Hinrichs. Sozialökonomie des Arbeitsmarktes und die Lage benachteiligter Gruppen von Arbeitnehmern. In *Projektgruppe Arbeitsmarktpolitik: Opfer des Arbeitsmarktes - Zur Theorie der strukturierten Arbeitslosigkeit*. Neuwied/Darmstadt: Luchter-hand, 1977.

Ogg, Andrew P. 68-69 M, Number Theory

Born 1934 Bowling Green, OH. PhD 1961 Math Harvard. Memberships: AMS. Prof, Dept of Math, Univ of Calif, Berkeley, CA 94720.

Publications Related to IAS Residence: On a Convolution of L-series. *Invent Math* 7(1969) 297-312.

Ohly, Dieter 73-74 HS, Greek Sculpture

Members

Born 1911 Berlin, Germany. PhD 1953 Munich Univ. Honors: Order of Merit State of Bavaria. Deceased.
Publications Related to IAS Residence: Die Ostgiebel-gruppe. In *Die Aegineten*, 1. Munich: 1976.
Other Publications: *Griechische Goldbleche d. 8 Jahrhunderts v. Chr.* Berlin: 1953.

Ohmori, Shozo 73f HS

Born 1921 Okayama, Japan. BS 1948 Univ of Tokyo. Memberships: Japan Assn of Phil; Japan Assn of Phil of Sci. Prof, Philosophy of Science, Univ of Tokyo, 1-19-15 Kitazawa Setagaya, Tokyo, Japan.
Publications Related to IAS Residence: Beyond Hume's Fancy. *Revue Intl de Philosophie* (1974) 107-108.
Other Publications: *Language Perception & World.* Iwanami Pub Co, 1971; *Things and Mind.* Univ of Tokyo Press, 1976.

Ohta, Masami 77-78 M, Number Theory

Born 1950 Sumoto Hyogo, Japan. MS 1974 Mathematics Univ of Tokyo. Instr, Mathematics, Kyoto University, 929-2 Mamaharashinden, Komaki, Aichi, Japan.
Publications: The representation of Galois group attached to certain finite group schemes and its application to Shimura's theory. In *Algebraic Number Theory, Proc Conf Tokyo 1977*, 149-156. With K. Doi. On some congruences between cusp forms on $\Gamma_0(N)$. In *Modular Functions of One Variable V, Proc Intl Conf Bonn 1976*, ed. by J.P. Serre & D.B. Zagier, Lect Notes in Math 601: 91-105. Berlin: Springer-Verlag, 1977.

Okamoto, Kiyosato 67-69 M

Born 1935 Nagoya, Aichi, Japan. DSc 1965 Math. Honors: Chunichi Prize. Prof, Dept of Math, Hiroshima Univ, Senda 1 Chôme, Hiroshima, Japan.

Olechowska, Elzbieta 79-80 HS, Roman History

Born 1944 Cracow, Poland. PhD 1972 Univ of Warsaw. 1645 ouest de Maisonneuve, apt 1614, Montreal, Que H3H 2N3, Canada. *

Oliver, Robert Alan 78f M, Topology

Born 1949 Ithaca, NY. PhD 1974 Topology Princeton Univ. Memberships: AMS. Lektor, Århus Univ, Matematisk Institut, Ny Munkegade, Universitetsparken, 8000 Århus C, Denmark.

Olivier, Reinhard Martin 70-71 M, Algebra

Born 1933 Neidenburg, Germany. Habil 1969 Topology Bonn Univ. Memberships: AMS. Prof, Bonn Univ, Wegeler Str 10, 5300 Bonn, Germany.

Olum, Paul 48-49, 55-56 M, Algebraic Topology

Born 1918 Binghamton, NY. PhD 1947 Mathematics Harvard Univ. Honors: Frank B. Jewett Postdoc res fellow 1947-48, 48-49; NSF Sr Postdoc Fellow Stanford 1966-67. Appointments: NRC Adv Comm to Off of Ordnance Res 1958-61. Memberships: AMS; MAA; AAUP. Prof, Mathematics, and VP Acad Affairs & Provost, Office of the Provost, University of Oregon, Eugene, OR 97403.

Publications Related to IAS Residence: Mappings of manifolds and the notion of degree. *Ann Math* 58(1953) 458-480; Obstructions to extensions and homotopies. *Ann Math* 52(1950) 1-50; Invariants for effective homotopy classification and extension of mappings. *Mem AMS* 37(1961); Non-abelian cohomology and van Kampen's theorem. *Ann Math* 68(1958) 658-668; On mappings into spaces in which certain homotopy groups vanish. *Ann Math* 57(1953) 561-574; Cocycle formulas for homotopy classification; maps into projective and lens spaces. *Trans AMS* 103(1962) 30-44; The theory of obstructions. In *Intern Cong of Math Proc*, 2: 363-370. Cambridge, 1950.

Other Publications: Self-equivalences of pseudo-projective planes. *Topology* 4(1965) 109-127; Factorizations and induced homomorphisms. *Adv in Math* 3(1969) 72-100; Self-equivalence of pseudo-projective planes II: Simple equivalences. *Topology* 10(1971) 257-260.

Omori, Hideki 67 68 M

Born 1938 Osaka, Japan. PhD Math Tokyo Univ. Assoc Prof, Fac of Sci, Dept Math, Tokyo Metropolitan Univ, Fukazawa, Setagaya, Tokyo, Japan.

Publications Related to IAS Residence: On The Group of Diffeomorphisms on a Compact Manifold. *Proc Symp Pure Math* 15: 167-183.

Other Publications: *Theory of Infinite Dimensional Lie Groups.* Japan: Kinokuniya Press, 1978.

Oneda, Sadao 57-58 M(NS), Physics

Born 1923 Akita, Japan. DSc 1953 Nagoya Univ, Japan. Honors: Imperial Chemical Ind Fellow University of Maryland 1955-57. Memberships: Fellow, Am Phys Soc. Prof, Dept of Physics & Astronomy, University of Maryland, College Park, MD 20742.

Publications Related to IAS Residence: With T. Tanikawa. Consequences of Renormalizable Weak Interactions. *Phys Rev* 113(1959) 1354.

Other Publications: Algebraic Approach to New Resonances, Mass Spectrum and Selection Rules. In *Proc INS Internatl; Symposium on New Particles & Structure of Hadrons*, ed. by K. Fujikawa Y. Hava and H. Tevazawa. Univ of Tokyo: 1977.

Ono, Takashi 59-61, 68-69, 76f M, Number Theory, Algebraic Groups

Born 1928 Nishinomiya, Hyogo, Japan. PhD 1958 Nagoya Univ. Prof, Mathematics, Johns Hopkins Univ, 201 Welford Rd, Lutherville, MD 21093.

Ore, Fred Robert, Jr. 78-80 NS, High Energy Physics

Born 1952 Ft. Monmouth, NJ. PhD 1978 Physics MIT. Memberships: Sigma Xi. 1906 Galen Dr, Champaign, IL 61820.

Publications: *Phys Rev D* 15(1977) 470; *Phys Rev D* 16(1977) 1041, 2577.

Orlik, Peter P. 67-69 M, Topology

Born 1938 Budapest, Hungary. PhD 1966 Mathematics Univ of Michigan. Memberships: AMS. Prof, Department of Mathematics, University of Wisconsin, Madison, WI 53706.

Publications Related to IAS Residence: With P. Wa-greich. Isolated singularities of algebraic surfaces with C^* -action. *Ann Math* 93(1971) 205-228; With J. Milnor. Isolated singularities defined by weighted homogeneous polynomials. *Topology* 9(1970) 385-393.

Other Publications: *Seifert Manifolds*. Lecture Notes in Math, 291. Springer Verlag, 1972; The multiplicity of a holomorphic map at an isolated critical point. In *Real and complex singularities*, 405-474. Oslo: Sijthoff and Noordhoff, 1977.

Ornstein, Donald S. 56-58 M

Born 1934 New York, NY. PhD 1957 Mathematics Univ of Chicago. Honors: Bôcher prize 1974. Prof, Dept of Math, Stanford University, Stanford, CA 94305.

Publications Related to IAS Residence: With R. V. Chacon. A general ergodic theorem. *Ill J Math* 4, 2(1960) 153-160; On invariant measures. *Bull AMS* 66, 4(1960) 297-300; Random Walks. *Trans AMS* 138(1969) 1-60.

Orsini, Gian N. 56-57 HS, History

Born 1903 Parma, Italy. PhD 1928 U of Rome. Honors: Guggenheim Fellow. Deceased.

Publications Related to IAS Residence: *Benedetto Croce, Philosopher of Art and Literary Critic*. Southern Illinois Univ Press, 1961; *Coleridge and German Idealism, A study in the History of Philosophy*. Southern Illinois Univ Press, 1969.

Orszag, Steven A. 66-67 NS, Astrophysics

Born 1943 New York, NY. PhD 1966 Princeton. Prof, Applied Mathematics, Mass Inst of Tech, Cambridge, MA 02139.

Ortner, Sherry B. 73-74 Soc, Anthropology

Born 1941 Brooklyn, NY. PhD 1970 Anthropology Univ of Chicago. Honors: ACLS travel grant 1973; Am Inst Indian Studies Travel Grant 1978. Memberships:

Am Anthro Assn; Assn of Asian Studies; Nepal Studies Assn. Assoc Prof, Dept of Anthropology, University of Michigan, Ann Arbor, MI 48104.

Publications Related to IAS Residence: *Sherpas Through Their Rituals*. Cambridge: Cambridge U Press, 1978.

Other Publications: On Key Symbols. *American Anthropologist* 75(1972) 1338-1346; Is Female to Male as Nature is to Culture? In *Woman, Culture and Society*, ed. by M. Rosaldo and L. Lamphere. Stanford: Stanford Univ Press, 1974.

Orzech, Morris 74 75 M

Born 1942 Buenos Aires, Argentina. PhD 1967 Mathematics Cornell Univ. Memberships: AMS. Assoc Prof, Dept of Mathematics, Queen's University, Kingston, Ontario, Canada K7L 3N6.

Publications Related to IAS Residence: On the Braver Group of Algebras having a Grading and an Action. *Can J Math* 28(1976) 533-552.

Other Publications: *The Braver Group of Commutative Rings*. NY: Marcel Dekker, 1975.

Os, Hendrick Willem van 69-70 HS, Art History

Born 1938 Harderwÿk, Netherlands. Doctorate 1969 Groningen Univ. Honors: C van Mander awd (Prize of the Dutch Assoc of Art Hist) 1970; Cavaliere aff al merito della repubblica italiana 1974; Member Accad Siena 1974. Appointments: Secy of the Dutch Assoc of Art Hist; Member, Bd of the Dutch organisation for the Advancement of Pure Research (ZWO). Prof, Univ of Groningen, Instituut voor Kunstgeschiedenis, O. Bote-ringestraat 81, Groningen, Netherlands.

Publications Related to IAS Residence: In Memoriam Mark Rothko. *Museumjournaal* 15(1970) 113-117; Andrea di Bartolo's Painting of the Assumption of the Virgin. *Arts in Virginia* 11(1971, nr 2) 2-12; Giovanni di Paolo's Pizzicaiolo Altarpiece. *Art Bull* 53(1971) 289-303; Possible Additions to the oeuvre of Niccolo di Segna. *Bull Cleveland Museum of Art* 59(1972) 78-83; *Florentine Paintings in Holland (1300-1500)*. Maarsse: 1974; *Vecchietta and the Sacristy of the Siena Hospital Church. A Study in Renaissance Religious Symbolism*. Kunsthistorische Studien van het Nederlands Instituut te Rome, 2. The Hague, 1974; St. Francis of Assisi as a second Christ in early Italian painting. *Simiolus* 7(1974) 115-133; Vecchietta and the Persona of the Renaissance Artist. In *Studies in late Medieval and Renaissance painting in Honor of Millard Meiss*, 445-454. New York: 1978; Vecchietta and the Blessed Sorore. A vexed question in the iconography of the Saints in Siense painting. In *Festschrift Wolfgang Braunfels*, 281-287. Tübingen: 1978.

Other Publications: *Siense Paintings in Holland*. Groningen: 1969; The Madonna and the Mystery Play. *Simiolus* 5(1971) 5-20; *The early Venetian Paintings in Holland*. Maarsse: 1978.

Osborn, Thomas Arthur 76f NS, Particle Physics

Members

Born 1938 Chicago, IL. PhD 1968 Theoretical Physics Stanford Univ. Memberships: Am Phys Soc; Canad Assoc of Physicists. Assoc Prof, Department of Physics, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada.

Publications Related to IAS Residence: Multispecies Cluster Expansion for the Grand Partition Function. *Phys Rev A* 16(1977) 334-350.

Other Publications: A Quantum Theory of Higher Virial Coefficients. *Ann Physics* 101(1976) 119-153.

Osborne, Michael John 78f HS, Greek History

Born 1942 Eastbourne, Sussex, England. DPhil 1977 Ancient History Univ of Leuven (Belgium). Appointments: Co-ordinator, Brit Acad Project for Lexicon of Greek Personal Names. Memberships: Soc for the Prom of Hellenic Studies, Council Member 73-75; Brit Schl of Archaeology in Athens. Senior Lecturer, Ancient History and Archaeology, Dept of Classics and Archaeology, University of Lancaster, Lonsdale College, Lancaster LA1 4YN, England.

Publications Related to IAS Residence: *Naturalization in Athens*. Belgian Royal Acad, 1979.

Other Publications: Honours for Sthorys. *Ann Brit Sch of Archaeology Athens* 65(1970) 151-174; Athens and Orontes. *Ann Brit Sch of Archaeology Athens* 66(1971) 297-321; Attic Citizenship Decrees. *Ann Brit Sch of Archaeology Athens* 67(1972) 129-158; Orontes. *Historia* 22(1973) 515-552; The Satrapy of Mysia. *Grazer Beitrage* 3(1975) 291-309; The Last Athenian. *Ancient Society* 5(1974) 83-104; Two Athenian Decrees for Delians. *Eranos* 72(1975) 168-184; The Damnation of Neaids. *Zeitschrift für Papyrologie und Epigraphik* 19(1975) 143-158; Attic Cutters at work. *Zeitschrift für Papyrologie und Epigraphik* 19(1975) 159-177; Athenian Grants of Citizenship after 229 BC. *Ancient Society* 7(1976) 107-125.

Oshima, Toshio 78-80 M, Linear Partial Differential Equations

Born 1948 Maebashi, Gumma, Japan. PhD 1977 Faculty of Science Univ of Tokyo. Asst Prof, Dept of Math, Univ of Tokyo, Coll of Gen Educ, Meguro, Tokyo 153, Japan.

Osofsky, Barbara Langer 67-68 M, Algebra

Born 1937 Beacon, NY. PhD 1964 Mathematics Rutgers Univ. Appointments: NSF Adv Panel for Algebra grant prog; RIAS select panels; NRC Postdoc Grants Adv Panel; NRC grants for ICM 1974 Panel. Prof, Department of Mathematics, Rutgers University, New Brunswick, NJ 08903.

Publications Related to IAS Residence: A commutative local ring with finite global dimension and zero divisors. *TAMS* 142(1969) 377-385; A remark on the Krull-Schmidt-Azumaya theorem. *Canad Math Bull* 13(1970) 501-505; Homological dimension and cardinality. *TAMS* 151 (1970) 641-649;

Homological dimensions of modules. *CBMS Regional Conference Series in Mathematics* (1973).

Other Publications: Projective dimension of "nice" directed unions. *J Pure App Alg* 13(1978) 179-219.

Ossa, Erich 70-71 M, Topology

Born 1944 Bochum, Germany. Dr 1969 Math Univ of Bonn. Memberships: AMS; DMV. Full Prof, Fachbereich Mathematik, GHS Wuppertal, Gausstr 20, 56 Wuppertal 1, Germany.

Publications Related to IAS Residence: With G. Hamrick. Unitary Bordism of Monogenic Groups and Isometries. In *Proc Conf Transf Gps, Amherst 1971, Part II*, Lect Notes in Math vol 299. Springer, 1972; Unitary Bordism of Abelian Groups. *Proc AMS* 33(1972).

Osten, Gert von der 57-58 HS, History of Art

Born 1910 Otterndorf/Nieder-Elbe, Germany. PhD 1933 Halle-Saale. Honors: Grosses Bundesverdienstkreuz des Verdienstordens der B RD 1975; Off l'Ordre Palmes Académiques 1970; Member Hist Komm Niedersachsen 1954. Appointments: Kulturpolitischer Beirat und Vorsitzender der Museumskommission der Auswärtigen Amts; Kunst-Ankaufskommission der Bundesregierung; Nat Cttee Intl Council of Museums; Bd of the Central Inst for Hist of Art, Chmn; Museum Cttee of the co-council of the Stiftung Preussischer Kulturbesitz, Berlin; Verband Deutscher Kunsthistoriker Vice Chmn 1960-1968. Memberships: Deutscher Museumsbund. Prof, Univ of Cologne, Overatherstr 9, D 5000 Köln 91, Germany.

Publications Related to IAS Residence: *Painting and Sculpture in Germany and the Netherlands: 1500-1600*. The Pelican History of Art. Harmondsworth: 1969; *Studien zu Jan Gossaert*. Essays in Honor of Erwin Panofsky. New York: 1961; *Plate über das Relief*, in honour of Paul Frankl. Wallraf-Richartz museum-Jb 24, 1962; *Über Peter Vischers törichte Bauern*. Anzeiger des Germanischen Nationalmuseums. Nürnberg: 1963.

Other Publications: *Der Schmerzensmann*. Berlin: 1935; With F. Stuttmann. *Niedersächsische Bildschnitzerkunst des späten Mittelalters*. Berlin: 1940; *Museum für eine Gesellschaft von morgen*. Köln: 1971.

Östenberg, Carl Eric 69s HS, Archaeology

Born 1928 Farstorp, Sweden. PhD 1967 Univ of Lund. Appointments: Dir Swedish Inst in Rome 1970-1979. Prof, Univ of Lund, Vapenkroken 18, 22247 Lund, Sweden.

Publications Related to IAS Residence: *An Etruscan Archaic House-Type*. Opuscula Romana. Lund: Glee- rup, 1969.

Other Publications: *Case etrusche di Acquarossa*. Rome: Multigrafica editrice, 1975; *Etruskerna: nyare fynd och forskning*. Viterbo: Soprintendenza alle Antichità dell'Etruria Meridionale, 1972; *Luni sul Mignone*

e problemi della preistoria d'Italia. Lund: Gleerup, 1967.

Osterbrock, Donald E. 60-61 M(NS), Astrophysics

Born 1924 Cincinnati, OH. PhD 1952 Astronomy Univ of Chicago. Honors: Associate, Royal Astron Soc, London 1977; NAS; AAAS. Appointments: NSF Adv Panel on Astron 1965-68; Letters Ed, *Astrophys J* 1971-73; V Pres Am Astron Soc 1975-77. Prof, Astronomy, and Dir Lick Observatory, U of Calif, Santa Cruz, CA 95064.

Publications Related to IAS Residence: The Heating of the Solar Chromosphere, Flares, and Corona by Mag-netohydrodynamic Waves. *Astrophys J* 134(1961) 347-388; The Escape of Resonance-Line Radiation from an Optically Thick Nebula. *Astrophys J* 135(1962) 195-211; On Para- and Orthohydrogen Molecules in Interstellar Space. *Astrophys J* 136(1962) 359-362; With J.B. Rogerson, Jr. The Helium and Heavy-Element Content of Gaseous Nebulae and the Sun. *Pub Astron Soc Pacific* 73(1961) 129-134.

Other Publications: *Astrophysics of Gaseous Nebulae*. W.H. Freeman & Co., 1974.

Östör, Ákos 73-74 Soc, Anthropology

Born 1941 Budapest, Hungary. PhD 1971 Univ of Chicago. Honors: NSF Grant 1968-69; Fulbright Travel Grant 1965-1969; SSRC Fac Res Grant 1971-73. Memberships: Am Anthro Assoc; Royal Anthro Inst. Assoc Prof, Anthropology, and Assoc Curator Peabody Museum, Dept of Anthropology, William James Hall, Harvard Univ, Cambridge, MA 02138.

Publications Related to IAS Residence: With Lina Fruzzetti and Steve Barnett. Problems in Kinship and Caste in Two Regions of India. In *Contributions to Indian Society*, N.S. 10,1: 63-182. 1976.

Other Publications: With Steve Barnett, Lina Fruzzetti. Hierarchy Purified: Notes on Louis Dumont and his Critics. *Journal of Asian Studies* (1976) 627-647; With Lina Fruzzetti. Anthropology and the Question of Change. In *Bulletin*, 70. Sudan: National Council for Research, March 1978; Puja in Society: A Methodological and Analytic Essay on an Ethnographic Category. *Eastern Anthropologist* 31, 2: 119-177.

Ostwald, Martin 74-75 HS, Classical Studies

Born 1922 Dortmund, Germany. PhD 1952 Columbia Univ. Honors: Fulbright Fellow Greece 1961-2; ACLS Fellow 1965-66; NEH Sr Fellow 1970-71; Visit Fellow Balliol College, Oxford 1970-71; Guggenheim Fellow 1977-78. Appointments: Dir Classics, NEH Fships-in-Residence 1976-77; Member, Ed Bd, Schl of Class Studies, 1971-75; Member, Ed Bd, Am Philolog Assoc, 1972-77. Memberships: Am Philolog Assoc; Archaeolog Inst of Amer; Class Assoc of Canada; Soc for the Prom of Hellenic Studies. Prof of Classics, Swarthmore Coll & Univ of Penna, Ed Bd Cambridge

Ancient History, 2 Whittier Place, Swarthmore, PA 19081.

Publications Related to IAS Residence: Plato on Law and Nature. In *Interpretations of Plato*, 41-63. Leiden: 1977; *Popular Sovereignty in Ancient Athens*. Oxford: Oxford University Press, forthcoming.

Other Publications: *Aristotle: The Nicomachean Ethics*. Bobbs-Merrill, 1962; With T.G. Rosenmeyer and J.W. Halporn. *The Metres of Greek and Latin Poetry*. Bobbs-Merrill, 1963; *Nomos and the Beginnings of the Athenian Democracy*. Oxford: Oxford U Press, 1969.

Özgüç, Nimet 66-67 HS, Near Eastern Archaeology

Born 1916 Adapazari, Turkey. PhD 1943 Archaeology Univ of Ankara. Memberships: Turk Hist Soc; Deut Archaeolog Inst. Prof, Archaeology, Univ of Ankara, Atatürk Bulvari 199/24, Kavaklıdere Ankara, Turkey.

Publications Related to IAS Residence: *Seals and Seal Impressions of Level Ib from Karum Kanish*. Ankara: 1968; Assyrian Trade Colonies in Anatolia. *Archaeology* 22/4(1969) 250; Seals Allegedly from the Regions of Kayseri, Afyon Karahisar and Malatya. *Anatolia* 10(1966) 167.

Other Publications: With Tahsin Özgüç. *Ausgrabungen in Kültepe 1949*. Ankara: 1949; *The Anatolian Group of Cylinder Seal Impressions from Kültepe*. Ankara: 1965; Excavations at Acemhöyük. *Anatolia* 10: 29-52; Preliminary Report on the 1951 Excavations at Kültepe. *Bulleten* 17/66(1953) 298-306; Finds at Firakdin. *Bulleten* 19/75(1955) 295-300; Marble Idols and Statuettes from the Excavations at Kültepe. *Bulleten* 21/81(1957) 1-70; Die Siegel der Schicht Ib Karum-Kanis von Kültepe. *Bulleten* 22/85(1958) 13-19; The Decorated Bronze Strip and Plaques from Altintepe. In *Melanges Mansel*, 847. Ankara: 1974; Four Cylinder Seals from Anatolia. *Baghdader Mitteilungen* 7 (1974) 143-147; An Ivory Box and a Stone Mould from Acemhöyük. *Bulleten* 40/160(1976) 555; New Light on the Dating of the Levels of the Karum of Kanish and of Acemhöyük near Aksaray. *AJA* 72(1968) 318; Some Contributions to Early Anatolian Art from Acemhöyük. *Bulleten* 43/170(1979) 289; Gods and Goddesses with Identical Attributes during the Period of Old Assyrian Trade Colonies. In *Florilegium Anatolicum, Melanges offerts a Emmanuel Laroche*, 277. Paris: 1979.

Özgüç, Tahsin 62-63 HS, Near Eastern Archaeology

Born 1916 Kircoali, Turkey. PhD 1942 Archaeology Univ of Ankara. Honors: Corr FBA. Appointments: Member Exec Comm Turk Hist Soc; Pres 1976-77 Council of Turk Univs. Memberships: Deut Archäolog Inst; Hon Member Archaeolog Inst of Amer; Soc of Antiquaries of London. Prof, Archaeology, and Rector University of Ankara, Atatürk Bulvari 199/24, Kavaklıdere, Ankara, Turkey.

Publications Related to IAS Residence: An Assyrian Trading Outpost. *Scientific American* (February 1963); Early Anatolian Archaeology in the Light of Recent Research. *Anatolia* 7(1963) 1-21; The

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Urartian Architecture on the Summit of Altintepe. *Anatolia* 7(1963) 43-49.

Other Publications: *Ausgrabungen in Kültepe 1948*. Ankara: 1950; *Kültepe-Kanis, New Researches at the Center of the Assyrian Trade Colonies*. Ankara: 1959; *Horoztepe, An Early Bronze Age Settlement and Cemetery*. Ankara: 1958; *Altintepe I, Architectural Monuments and Wall paintings*. Ankara: 1966; *Altintepe II, Tombs, Storehouse and Ivories*. Ankara: 1969; *Kültepe and its Vicinity in the Iron Age*. Ankara: 1971; *Excavations at Masat Höyük and Investigations in its Vicinity*. Ankara: 1978; *Die Bestattungsbräuche in Vorgeschiechtlichen Anatolien*. Ankara: 1948; Untersuchungen über Archaeologische Funde aus Anatolien I. *Belleten* 1040(1946) 599-624; Die Grabung van Maltepe bei Sivas. *Belleten* 1144(1947); Vorläufiger Bericht über die Grabungen von 1950 in Kültepe. *Belleten* 17 65(1953); Die Karahüyük-Grabung 1950 von Kültepe. *Belleten* 17 66(1953); Die Grabungen von 1953 in Kültepe. *Belleten* 18 71(1954); The Bitik Vase. *Anatolia* 2(1957) 57-78; New Finds from Horoztepe. *Anatolia* 8(1964) 1-17; New Observations on Kululu. *Anatolia* 17(1973) 19-30; Five Vessels Belonging to the Late Phase of the Assyrian Trading Colony Period. *Baghdader Mitteilungen* 7(1974) 149-153; A Bronze Hittite Statuette. In *Anatolian Studies presented to Hans Gustav Güterbock on the occasion of his 65th Birthday*, 253-255. Istanbul: 1974; A Figurine of a God from Anatolia in the Hermitage Museum in Leningrad. In *Florilegium Anatolicum Melanges offerts à Emmanuel Laroche*, 291-296. Paris: 1979.

Pacht, Otto 56-57 HS, Art History

Born 1902 Vienna, Austria. DPhil 1925 Univ of Vienna.; MA(Oxon.)1945. Honors: DLitt(hc)(Oxon) 1971; FBA. Memberships: Wirkl Mitgl Oest Akd Wiss. Prof Emer, Art History, Univ of Vienna, Pötzleinsdorferstr.66, 1180 Vienna, Austria.

Publications Related to IAS Residence: ed, *The St Albans Psalter*. London: Warburg Inst, 1960.

Other Publications: *The Master of Mary of Burgundy*. London: 1948; *The Rise of Pictorial Narrative in Twelfth-century England*. Oxford: Clarendon, 1962.

Pagden, Anthony Robin Dermer 79-80 HS, Early Modern History

Born 1945 Bexhill Sussex, England. Honors: Fellow Real Academia de Buenas Letras. Memberships: FRHS. Lecturer, History/Political Theory, Girton College. Woodstock Rd, c/o Russell, 23 Belsyre Court, Oxford, England.

Publications: *Hernán Cortes: Letters From Mexico*. Oxford: 1972; *The Maya*. Chicago: 1975.

Paige, Lowell J. 53-54 M

Born 1919 Wheatland, Wla. PhD 1947 Mathematics Univ of Wisc. Honors: Hon Doc University of Wyoming 1974. Appointments: Asst Dir for Ed, NSF

1973-1975; Act Dep Dir, NSF 1974-75. Memberships: AAAS; MAS; AMS. Special Assistant to the President for Government Relations, Univ of Calif, 1515 3rd St, Sacramento, CA 95814.

Publications Related to IAS Residence: Loops whose inner mappings are automorphisms. *Ann Math* 63(1956) 308-323; Complete mappings of finite groups. *Pac J Math* 5(1955) 541-550.

Other Publications: On homorphism property of certain Jordan Algebras. *Trans AMS* 93(1959) 20-29.

Pais, Abraham see Past Faculty/Resigned

Pakvasa, Sandip 75s NS, Theoretical Physics

Born 1935 Bombay, India. PhD Physics Purdue Univ. Memberships: Am Phys Soc; AAUP; AAAS. Prof, Department of Physics and Astronomy, Univ of Hawaii, 2505 Correa Rd, Honolulu, HI 96822.

Publications Related to IAS Residence: With S. F. Tuan. CP Nonconservation and the (J, ψ) Particles. *Phys Rev Letters* 34(1975) 552; Space Time Structure of Neutral Currents. In *Proceedings of Neutrino '75 Conference*, 1: 302. Balaton: 1975; With W. A. Simmons and S. F. Tuan. Weak Current in Harari's Heavy Quark Model. *Phys Rev Letters* 35(1975) 705.

Other Publications: With R. H. Graham. Weak Electromagnetic Decays of Hyperons in SU(3). *Phys Rev* 140(1965) 1144; With S. P. Rosen and E. C. G. Sudarshan. Parity Violating Nonleptonic Decay and the Cabibbo Current. *Phys Rev* 146(1966) 1118; With R. H. Graham and K. Raman. Couplings of Baryon Resonances from Current Divergences. *Phys Rev* 163(1967) 1774; With S. P. Rosen. Nonleptonic Weak Interactions. In *Advances in Particle Physics*, ed. by R. E. Marshak and R. L. Cool, 2: 473. New York: J. Wiley, 1968; With S. F. Tuan and T. T. Wu. Some Considerations on CP Nonconservation and the Intermediate Boson. *Phys Rev Letters* 20(1968) 1546; With J. Bjorken, W. Simmons, S. F. Tuan. Some Implications of a New Source of Cosmic Ray Muons. *Phys Rev* 184(1969) 1345; With O. E. Overseth. Final-State Interactions in Nonleptonic Hyperon Decay. *Phys Rev* 184(1969) 1663; With K. Tennakone. Discrete Scale Transformations and A Possible Mass Spectrum. *Phys Rev Letters* 27(1971) 757; With K. Tennakone. Neutrinos of Nonzero Rest Mass. *Phys Rev Letters* 28(1972) 1415; Weak and Strong Baryon Decays. In *Proceedings of Purdue Baryon Conf*, 437. Lafayette, Ind: Purdue Univ Press, 1973; With D. Parashar and S. F. Tuan. $p + p \rightarrow l^+ + l^- + \dots$ Anything in a Modified Kuti-Weis-skopf Model. *Phys Rev D* 10(1974) 2124; With S. F. Tuan and G. Rajasekaran. Theoretical Implications of Resonance Anomalies in the $e^+ - e^-$ System. *Phys Rev D* 11(1975); With H. Sugawara. CP Violation in the Six-Quark Model. *Phys Rev D* 14(1976) 305; With L. Pilachowski, W. A. Simmons, and S. F. Tuan. Analysis of a Six-Quark Model with Right-Handed Currents. *Nucl Phys B* 109(1976) 469; With B. W. Lee, R. Shrock, and H. Sugawara. Muon and Electron

Number Non-conservation in a V-A Gauge Model. *Phys Rev Letters* 38(1977) 937; With E. Ma and S. F. Tuan. Has a Higgs Particle Been Seen?. *Phys Rev D* 16(1977) 1568; With H. Sugawara. Discrete Symmetry and Cabibbo Angle. *Phys Letters* 73B(1978) 61; With V. Barger. Weak Iso-spin of the b-quark and the Possible Non-existence of a t-quark, C00-881-64. *Phys Letters* (in press); With H. Sugawara. Mass of the t-quark in SU(2) X U(1), C00-881-66. *Phys Letters* (in press).

Palais, Richard Sheldon 58-60, 63-64, 68-69, 74-75 M

Born 1931 Lynn, MA. PhD 1956 Math Harvard Univ. Appointments: Math Adv Panel, NSF, 1968-72; Trustee, AMS 1971. Memberships: AMS; MAA; Assoc for Computing Machinery. Prof, Dept of Math, Brandeis University, Waltham, MA 02154.

Publications Related to IAS Residence: Seminar on the Atiyah-Singer Index Theorem. *Ann Math Study* 48; *Foundations of Global Non-Linear Analysis*. NY: Benjamin & Co, 1968; The Classification of G-spaces. *Mem AMS* 36(1960).

Other Publications: Morse Theory on Hubert Manifolds. *Topology* 2(1963) 299-340.

Palfrey, John Gorham 50-52 HS

Born 1919 Boston, MA. JD 1946 Harvard Univ. Honors: PBK. Appointments: US Atomic Energy Comm 1962-66; Consultant, Arms Control Disarmament Agency, Nuclear Regulatory Comm. Memberships: City Bar Assoc, NYC. Prof, Law, Columbia Univ, 15 Claremont Ave, New York, NY 10027.

Publications Related to IAS Residence: *The Problem of Secrecy*. AAAS, 1953; Atomic Energy-An Experiment in Government-Industry Relations. *Columbia Law Rev* (1956); The Oppenheimer Case. *Bull Atomic Sci* (Apr 1955).

Other Publications: Energy and the Environment: The Special Case of Nuclear Power. *Columbia Law Rev* (1974).

Pall, Gordon 40-41 M, Quadratic Forms

Born 1907 Winnipeg, Canada. PhD Mathematics Univ of Chicago. Prof Emeritus, Dept of Mathematics, Louisiana State Univ, Baton Rouge, LA 70803.

Publications: The Construction of Positive Ternary Quadratic Forms. *Bull AMS* (August 1941).

Palmer, Hazel 49-51 HS, Archaeology

Born 1920 Maiden, MA. PhD 1944 Johns Hopkins Univ. Deceased.

Pao, Peter Sie 77-78 M, Topology

Born 1946 Shen Yang, China. PhD Math Univ of Mich. Memberships: AMS. Hughes Aircraft Co, Culver City, CA 90230.

Publications: The topological structure of 4-manifolds with effective torus actions. I. *TAMS* 227(1977) 279-317; The topological structure of 4-manifolds with effective torus actions. II. *III J of Math* 21(1977) 883-894.

Papadimitriou, John 55-56 HS, Archaeology

Born 1904 Greece. Deceased.

Papakiriakopoulos, Christos 55-58 M, Topology

Born 1914 Greece. PhD 1944 Univ of Athens. Deceased.

Papanicolaou, Nicolas 76-78 NS, High Energy Physics

Born 1947 Ioannina, Greece. PhD 1975 Physics New York Univ. Research Assoc, Physics, Univ of Calif, Berkeley, 9 Riga Feraiou, Ioannina, Greece.

Publications Related to IAS Residence: With André Neveu. Integrability of the Classical $(\psi\psi)^2$ and $(\psi\psi)^2 - (\psi\psi_5 \psi)^2$ Interactions. *Commun Math Phys* 58(1978) 31; With Antal Jevicki. Exact Analysis of Coulomb Gauge Vacuum Degeneracies in 2+1 Dimensions. *Phys Lett* 78B(1978) 438; With Antal Jevicki. Semi-classical Spectrum of the Continuous Heisenberg Chain. *Ann Phys* (1979).

Papy, George Leopold Anatole 55f M, Algebra

Born 1920 Anderlecht, Belgium. Dr 1951 Univ of Brussels. Honors: Prix des Alumni de la Fondation Univ Belgique 1955; Prix Jos De Keyn Acad Royale Sci Lett et Beaux-Arts 1964, 1969; Prix Monte Grappa for Science Italy 1972. Appointments: OECD; UNESCO. Memberships: Soc Math Belgique; AMS. Prof, Univ of Brussels, Pres Centre Belge de Pédagogie Math, 69, Boulevard Mettwie 95, Brussels 1080, Belgium.

Publications Related to IAS Residence: Algèbre ten-sorielle et algèbre différentielle extérieure. *Bull Cl Sc Acad Roy Belgique* (1955) 356-369; Variétés différentielles. *Bull Soc Math France* 85(1957) 1-14; Sur la définition intrinsèque des vecteurs tangents. *Comptes-rendus* 241 (1955) 19-20; Sur la définition intrinsèque des vecteurs tangents à une variété de classe Cr lorsque $1 \leq r < \omega$. *Comptes-rendus* 242 (1956) 1573; Relations entre les complexes de de Rham et d'Alexander. 151-165. Bruxelles: Centre Belge de Recherche Math, 1956; Espaces différentiels. 163-180. Bruxelles: Centre Belge de Recherche Math, 1958.

Pardon, William 77-78 M, Topology

Born Detroit, MI. PhD 1974 Princeton U. Dept of Math, Duke Univ, Durham, NC 27706. *

Paret, Peter 66-67 HS, European History

Born 1924 Berlin, Germany. PhD Univ of London. Memberships: AHA. Spruance Prof, International

Members

History, Department of History, Stanford University, Stanford, CA 94305.

Publications Related to IAS Residence: *Clausewitz and the State*. Oxford: Clarendon Press, 1976.

Other Publications: *The Berlin Secession*. Cambridge, Mass: Harvard Univ Press, forthcoming; *Yorck and the Era of Prussian Reform*, Princeton: Princeton U Press, 1966.

Park, David Allen 50-51 M(NS), Theoretical Physics

Born 1919 New York, NY. PhD 1950 Univ of Mich. Memberships: Am Phys Soc. Prof, Department of Physics, Williams College, Williamstown, MA 01267.

Publications: A Summation Method for Crystal Statistics. *Physica* 22(1956) 932; With P. T. Landsberg. Entropy in an Oscillating Universe. *Proc Roy Soc Lond A* 346(1975) 485.

Parke, Herbert William 60s HS, Oracles of the Greek World

Born 1903 Ireland. PhD 1933 Oxford Univ. *

Parnicki-Pudetko, Stefan 67-68 HS, Classical Archaeology: Greek Architecture

Born 1914 Majdan Stary, Poland. Doctor 1949 Classical Archaeology Univ of Wroclaw. Honors: Knight's cross Polonia Restituta 1974; Awd of the Minister of High Ed 1976; Awd of the Polish Acad of Sci 1975. Memberships: Assoc of the Friends of Sci in Poznań; Comm of Sci on the Antique Culture of the Polish Acad of Sci. Prof, Mediterranean Archaeol, AM Univ, Poznań, Dir Ancient History Dept of Institute of Hist, 61-541 Poznań, ul Przemysłowa 45A, m5, Poland.

Publications Related to IAS Residence: *Architektura starożytnej Grecji*. Warsaw: Argady, 1975; Budow-nictwo. In *Kultura materialna starożytnej Grecji*, tom 2: 345-475. Warsaw: Ossolineum, 1977.

Other Publications: *Agora: Geneza i rozwój rynku greckiego*. Warsaw: Ossolineum, 1957; Starożytne mosty w Grecji. *Archeologia* 11(1959-1960) 128-142; *Olimpia i olimpiady*. Poznań: 1964; The Western Gate of Novae. *Archeologia Polona* 14(1974) 297-312; Befestigungsanlagen von Novae. *Ars Historica* (1976) 179-192.

Pars, Leopold Alexander 48f M

Born 1896 Whittlesford, Cambridgeshire, England. ScD Univ of Cambridge. Fellow, Jesus College, Cambridge, England.

Parshall, Brian J. 75f, 79s M, Algebraic Groups

Born 1945 Penn Yan, NY. PhD 1971 Math Yale Univ. Memberships: AMS. Assoc Prof, Dept of Mathematics, Univ of Virginia, Charlottesville, VA 22901.

Publications Related to IAS Residence: With E. Cline and L. Scott. Induced modules and affine

quotients. *Math Ann* 230(1977) 1-14; Rational and generic cohomology. *Inv Math* 39(1977) 143-163.

Other Publications: With E. Cline, L. Scott. Induced modules and extensions of representations. *Inv Math* 47(1978) 41-51.

Parthasarathy, Rajagopalan 72-73 M, Group Representations

Born 1945 Tanjore, Madras, India. PhD 1972 Bombay Univ. Reader, School of Mathematics, Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Bombay 400 005, India.

Publications Related to IAS Residence: With R. Hotta. A geometric meaning of the multiplicity of integrable discrete Series in $L^2(\Gamma/G)$. *Osaka J Math* 10(1973) 211-234; With R. Hotta. Multiplicity Formulae for discrete series. *Inv Math* 26(1974).

Other Publications: An algebraic construction of a class of representations of a semisimple Lie algebra. *Math Ann* 226(1977) 1-52; A generalization of the Enright-Varadarajan Modules. *Comp Math* 36(1978) 53-74.

Partner, Peter David 76-77 HS, Medieval and Renaissance History

Born 1924 Little Heath, Herts, England. DPhil 1956 Medieval History Oxford. Memberships: Soc for Italian Stud (UK). Asst Master, Winchester Coll, 9a Kingsgate St, Winchester, SO23 9PD, United Kingdom.

Publications Related to IAS Residence: Papal Financial Policy in the Renaissance and Counter-Reformation. *Past and Present* (in press).

Other Publications: *Papal State under Martin V*. London: 1958; *Short Political Guide to Arab World*. London/NY: 1960; *Lands of St Peter*. London, Berkeley: 1976; *Renaissance Rome 1500-1559*. Berkeley/LA: 1976.

Partridge, Loren Wayne 74-75 HS, History of Art

Born 1936 Raton, NM. PhD 1969 Fine Arts Harvard Univ. Assoc Prof, Dept of History of Art, Univ of Calif, Berkeley, CA 94720.

Publications Related to IAS Residence: Divinity and Dynasty at Caprarola: Perfect History in the Room of Far-nese Deeds. *Art Bull* 60(1978) 494-529.

Paschoud, François 76-77 HS, Later Roman History

Born 1938 Berne, Switzerland. DèSL 1967 Latin Univ of Lausanne. Honors: Awd Fac of Letters Lausanne 1963. Memberships: Société suisse pour L'étude de l'antiquité ; Société des études latines Paris. Prof, Latin Literature, Univ of Geneva, Secretary general Intl Fed of the Soc of Class Studies, Rue de Vermont 26, CH-1202 Geneva, Switzerland.

Publications Related to IAS Residence: Zosime. In *Histoire nouvelle*, 2(1) 2(2). Paris: Société d'édition les Belles Lettres, 1979; Le Naarmalcha: à propos du

tracé d'un canal en Mésopotamie moyenne. *Syria* 55(1978) 345-359.

Other Publications: Roma aeterna. In *Etudes sur le patriotisme romain dans l'Occident latin a l'époque des grandes invasions*. Institut suisse de Rome, 1967; *Cinq études sur Zosime*. Paris: Société d'édition les Belles Lettres, 1975.

Paszory, Catherine, see Pedroni, Catherine

Pati, Jogesh C. 62-63 M(NS), Physics

Born 1937 Baripada, Orissa, India. PhD 1960 Univ of Maryland. Honors: Tolman Postdoc Fellow 1960-62; Washington Acad of Sci Awd 1974. Memberships: Amer Phys Soc. Prof, Physics Dept, Univ of Maryland, College Park, MD 20742.

Publications Related to IAS Residence: Nonleptonic Hyperon Decays in the Pole Approximation and the Strong Coupling Constants. *Phys Rev* 130(1963) 2097.

Other Publications: With A. Salam. Unified Lepton-Hadron Symmetry And a Gauge Theory of The Basic Interactions. *Phys Rev D*8(1973) 1240; Is Baryon Number Conserved. *Phys Rev Lett* 31(1973) 661; Lepton Number as the Fourth Color. *Phys Rev D*10(1974) 275.

Patil, Sharashchandra H. 64-66 M(NS), Physics

Born 1940 India. PhD 1964 U of Calif, San Diego. *

Patodi, Vijay Kumar 71-73 M, Partial Differential Operators

Born 1945 India. MA 1966 Banaras Hindu Univ. Deceased.

Patrascioiu, Adrian N. 73f, 74-75, 76s NS, Physics

Born 1944 Rumania. PhD 1973 Physics MIT. Asst Prof, Dept of Physics, Univ of Arizona, Tucson, AZ 85721.

Publications Related to IAS Residence: Quantum Dynamics of Massless Relativistic String. *Nucl Phys B* 81(1974) 525; Extended Particles and Magnetic Charges. *Phys Rev D* 12(1975) 523.

Patterson, Gordon Neil 46s M(NS)

Born 1908 Medicine Hat, Canada. PhD 1935 Physics Univ of Toronto. Honors: U of Toronto Open Fellowship 1933; NRC Studentship 1934; W. Rupert Turnbull Lecture (CASI) 1957; LLD (Alberta) 1958; McCurdy Trophy (CASI) 1962; DSc (Waterloo) 1962; DSc (McGill) 1965; Wright Brothers Lecture Amer Inst of Aeronautics and Astronautics 1965; C.D. Howe Award (CASI) 1972; DSc (Toronto). Appointments: Chm, Adv Aerodynamics Panel (U.S. Navy) 1956-59; Pres, Canadian Aeronautics and Space Institute (CASI) 1958-59; Tech Adv Panel, (Canadian) National Aeronautical Research Council 1961-70; Research Adv Cttee on Fluid Mechanics, NASA 1962-

65; Chm, Fourth Intl Symposium on Rarefied Gas Dynamics 1964; Sci Council of Canada 1966-73. Memberships: FRSC; FRAeS; FCASI; FAIAA; FAAAS. Emer Prof, Aerospace Studies, Univ of Toronto, P.O. Box 47, Thornbury, Ont, Canada N0H 2P0.

Publications Related to IAS Residence: *Molecular Flow of Gases*. 1956; *Introduction to the Kinetic Theory of Gas Flows*. 1971; *Pathway to Excellence*. 1977.

Patterson, Orlando Horace 75-76 Soc, Sociology

Born 1940 Westmoreland, Jamaica. PhD 1965 London School of Economics. Appointments: Special Advisor to the Prime Minister of Jamaica; Soc Sci Res Panel, NIE; Soc Sci Res Panel, NEH. Memberships: Amer Sociol Assn. Prof, Sociology, William James Hall 520, Harvard University, Cambridge, MA 02138.

Publications Related to IAS Residence: *The Structural Origins of Slavery*. New York Acad of Sciences, 1976; *Ethnic Chauvinism The Reactionary Impulse*. Stein & Day, 1977.

Other Publications: *The Sociology of Slavery*. Fairleigh Dickinson U Press; *The Study of Slavery*. *Ann Rev of Sociology* 3(1977).

Patton, Charles Milan 77-78 M, Global Analysis, Mathematical Physics

Born 1950 Tarrytown, NY. PhD 1977 Math SUNY, Stony Brook. Honors: Postdoc Res Fship AMS 1977-78. Memberships: AMS. Instr, Dept of Math, Univ of Utah, Salt Lake City, UT 84113.

Publications Related to IAS Residence: Zero Rest Mass Fields and the Bargmann Complex Structure. In *Complex Manifold Techniques in Theoretical Physics*, ed. by Lerner & Sommers, Research Notes in Mathematics #32. San Francisco: Pitman, 1979.

Pauli, Wolfgang 35-36, 40-46, 49-50, 54s, 56s M(NS), Theoretical Physics

Born 1900. PhD 1921 Univ of Munich. Honors: Nobel Prize for Physics 1945. Deceased.

Publications Related to IAS Residence: *Meson Theory of Nuclear Forces*. New York: Interscience, 1946; With M. E. Rose. Remarks on the Polarization Effects in the Positron Theory. *Phys Rev (2)* 49(1936) 462-465; Relativistic Field Theories of Elementary Particles. *Rev Modern Phys* 13(1941) 203-232; With S. M. Dancoff. The Pseudoscalar Meson Field with Strong Coupling. *Phys Rev (2)* 62(1942) 85-108; On Applications of the Λ -Limiting Process to the Theory of the Meson Field. *Phys Rev (2)* 64(1943) 332-344; On Dirac's New Method of Field Quantization. *Rev Modern Physics* 15(1943) 175-207; With A. Einstein. On the Non-Existence of Regular Stationary Solutions of Relativistic Field Equations. *Ann Math (2)* 44(1943) 131-137; With S. Kusaka. On the Theory of a Mixed Pseudoscalar and a Vector Meson Field. *Phys Rev (2)* 63(1943) 400-416; With J. M. Jauch. On the Application of Dirac's Method of Field-Quantization to

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the Problem of Emission of Low Frequency Photons. *Phys Rev* (2) 65(1944) 255-256; Niels Bohr on His 60th Birthday. *Rev Modern Physics* 17(1945) 97-101; With Ning Hu. On the Strong Coupling Case for Spin-Dependent Interactions in Scalar- and Vector-Pair Theories. *Rev Modern Phys* 17 (1945) 267-286; Remarks on the History of the Exclusion Principle. *Science* (NS), 103(1946) 213-215; On the Connection between Spin and Statistics. *Progress Theoret Physics* 5(1950) 526-543.

Pearce, Paul A. 79-80 NS, Statistical Mechanics

Born 1951 London, England. PhD 1977 Melbourne Univ. 20 Hafey Cres., Werribee Vic 3030, Australia. *

Pearson, Lionel 57f HS, Greek History and Philosophy

Born 1908 London, England. PhD 1939 Classics Yale Univ. Honors: Guggenheim Fellow 1957-58. Memberships: Amer Philol Assoc (mem bd of dir, 1973-76); Soc for Hellenic Stud, Class Assoc (Great Britain). Prof, Classics, Stanford Univ. 12123 Foothill Lane, Los Altos Hills, CA 94022.

Publications Related to IAS Residence: *Popular Ethics in Ancient Greece*. Stanford: Stanford Univ Press, 1962.

Other Publications: *Early Ionian Historians*. Oxford: 1939; *The Lost Historians of Alexander*. Amer Philol Assoc Monograph. 1960; *The Art of Demosthenes*. Meisenheim: 1976.

Pearson, Robert Bernard, III 77-79 NS, Particle Theory

Born 1949 Los Angeles, CA. PhD Physics Stanford Univ. Res Assoc, Inst of Theoret Physics, Univ of California, Santa Barbara, CA 93106.

Publications Related to IAS Residence: With P. Cvitanović & B. Lautrup. Number and Weights of Feynman Diagrams. *Phys Rev D* 18(1978) 1939; With S. Adler. No-Hair Theorems for the Abelian Higgs and Gold-stone Models. *Phys Rev D* 18(1978) 2798; Application of Jastrow Wave Functions to Quantum Lattice Spin Theories. *Phys Rev A* 18(1978) 2655.

Peck, Arthur 63-64 HS, Greek Philosophy

Born 1902 England. PhD 1928 Cambridge Univ. Deceased.

Peck, Leslie Gilbert 46-48, 52-53 M

Born 1922 New York, NY. PhD 1948 NYU. Dir Computing Lab, Arthur D. Little, Inc, 25 Acorn Pk, Cambridge, MA 02140. *

Pedoe, Daniel 35-36 M, Geometry

Born 1910 London, England. PhD 1937 Algebraic Geometry Cambridge Univ. Honors: Lester R. Ford Prize MAA 1967; Fulbright Fellow 1973.

Memberships: MAA. Prof, Mathematics, University of Minnesota, 127 Vincent Hall, Minneapolis, MN 55414.

Publications Related to IAS Residence: With Sir William Hodge. *Methods of Algebraic Geometry*. 1, 2, 3. New York: Cambridge Univ Press, 1947-1953.

Other Publications: *Geometry and the Liberal Arts*. New York: St Martin's Press, 1978.

Pedroni, Catherine 51-52 HS, Art History

Born 1910 Budapest, Hungary. PhD 1932 Art History Univ of Budapest, via G. Verdi 5, 20121 Milano, Italy.

Publications Related to IAS Residence: Una Lettera inedita di Giuseppe Bossi a New York. *Almanacco Delia Famiglia Bustocca* (1968-69).

Peebles, Philip James E. 77-78 NS, Astrophysics

Born 1935 Winnipeg, Canada. PhD 1961 Princeton Univ. Honors: AAAS. Memberships: Amer Phys Soc; Amer Astron Soc; Amer Assoc Adv Sci; IAU. Prof, Physics, Joseph Henry Labs, Princeton Univ, Princeton, NJ 08540.

Publications Related to IAS Residence: *The Large-Scale Structure of the Universe*. Princeton: Princeton Univ Press, forthcoming.

Peierls, Ronald F. 61-62 M(NS), High Energy Theory

Born 1935 Manchester, England. Phd 1959 Physics Cornell Univ. Appointments: Chm Amer Phys Soc Cttee on Professional Concerns; Mem Exec Cttee Amer Phys Soc, Div of Particles and Fields; Chm AIP & Amer Inst Phys Manpower Adv Cttee. Memberships: Amer Phys Soc. Senior Physicist, Brookhaven National Laboratory, Upton, NY 11973.

Publications Related to IAS Residence: With J. Tarski. Overlapping Final-State Interactions. *Phys Rev* 129(1963) 981-90; With S. Treiman. Pionic Nuclei. *Phys Rev Lett* 8(1962) 339.

Peierls, Sir Rudolf Ernst 52s M(NS), Physics

Born 1907 Berlin, Germany. DSc 1935 Manchester University. Honors: FRS 1945; DSc(hc) Liverpool 1960; DSc(hc) Birmingham 1967; DSc(hc) Edinburgh 1969; DSc(hc) Sussex 1978; AAAS 1968; NAS 1970; Royal medal Roy Soc 1959; Lorentz medal Roy Netherlands Acad 1962; Max Planck medal German Phys Soc 1963; Guthrie medal Inst Phys London 1968; Hon Fellow Inst Phys London 1974; Hon member French Phys Soc 1979; Lorentz Medal Roy Netherlands Acad 1962. Memberships: Am Phys Soc; Brit Assoc of Univ Teachers. Prof Emer, Oxford University, Nuclear Physics Lab, Keble Rd, OX 3RH, England.

Publications Related to IAS Residence: The commutation laws of relativistic field theory. *Proc Roy Soc A* 214(1952) 143; With M. Chréétien. A study of gauge-invariant non-local field theories. *Proc Roy Soc A* 223(1954) 468.

Other Publications: *The Laws of Nature*. Geo Allen & Unwin, 1955; *Quantum Theory of Solids*. Oxford

University Press, 1955; J. Robert Oppenheimer. In *Dictionary of Sci Biography*, 10: 213. Scribner, 1974; *A Perspective of Physics*. Gordon & Breach, 1977; *Surprises in Theoretical Physics* Princeton UP, forthcoming.

Pekeris, Chaim Leib 46-47, 47-48, 49-50, 50-51, 52-53, 56-57, 67f M(NS), Physics

Born 1908 Alytus, Lithuania, USSR. PhD 1934 MIT. Honors: Hon Degree Brandeis Univ 1965; Rothschild Prize in Math 1966; Vetlesen Prize in Geophysics 1974. Memberships: NAS; Israel Acad of Sci and Humanities; Academia Nazionale dei Lincei. Institute Prof, Applied Mathematics, The Weizmann Institute, Rehovot, Israel.

Publications: *Propagation of Sound in the Ocean*. Geolog Soc Amer, Memoir 27. 1948.

Penfield, Wilder G. 58s, 59s HS, Medical Education

Born 1891 Canada. MD 1935 Johns Hopkins Univ. Deceased.

Peng, Chia-Kuei 79-80 M, Differential Geometry and Equations

Born 1943 Kiangsu, China. Grad 1965 U of Sci & Tech of China. Hefei, Anhwei, People's Republic of China.*

Penrose, Ernest F. 47s HS(EP), Geography . *

Perreiah, Alan R. 73-74 HS, History of Science

Born 1937 Los Angeles, CA. PhD 1967 Indiana U. *

Perry, Malcolm John 78-79 NS, Quantum Gravity

Born 1951 Birmingham, England. PhD 1978 Univ of Cambridge. Honors: Fellow Kings College, Cambridge Univ 1977. Asst Prof, Princeton Univ, Dept of Physics, Jadwin Hall, Princeton, NJ 08540.

Publications Related to IAS Residence: TP-Inversion in Quantum Gravity. *Phys Rev* (in press); The Vacuum State for Quantum Gravity. *Phys Rev Lett* (in press); The Hawking Effect. *Rev Mod Phys* (in press).

Peters, Christiaan A. M. 78f M

Born 1949 Hillegom, Netherlands. Dr 1974 Mathematics Leiden Univ. Wetenschappelijk Medewerker, Leiden Univ, Math Inst der R [?] ksuniversiteit, Wassenaars weg 80, Leiden, Netherlands.

Peters, Stanley 72f, 73-75 Soc, Psycholinguistics

Born 1941 Houston, TX. BS 1963 Mathematics MIT. Honors: Guggenheim Fellow 1973-74. Appointments: Math Soc Sci Bd 1972-76. Memberships: Linguistic Soc of Amer. Prof, and Chmn, Department of

Linguistics, University of Texas at Austin, Austin, TX 78712.

Publications Related to IAS Residence: With R.W. Ritchie. *Structure of Transformational Grammars: A Formal Approach*, forthcoming; With Lauri Karttunen. Conventional implicature in Montague grammar. In *Proc First Annual Meeting of the Berkeley Linguistics Soc*, 266-278. 1975; A truth-conditional formulation of Karttunen's account of presupposition. *Synthese* in press; Presuppositions and conversation. *Texas Linguistic Forum* 2(1975) 122-134.

Other Publications: With Lauri Karttunen. Conventional implicature. In *Syntax and Semantics*, ed. by D. Din-neen and C.-K Oh, 9: Presupposition. Chicago: Academic Press, forthcoming; The projection problem: How is a grammar to be selected? In *Goals of Linguistic Theory*, ed. by S. Peters. Prentice-Hall, 1972; On the complexity of language processing by the brain. In *Information Processing in the Nervous System*, ed. by K.N. Leibovic. Springer-Verlag, 1969.

Petersen, Bent Edvard 73-74 M, Analysis

Born 1942 Copenhagen, Denmark. PhD 1968 Mathematics Mass Inst of Tech. Honors: WW Fellow 1964-65. Memberships: AMS; MAA. Assoc Prof, Math Dept, Oregon State Univ, Corvallis, OR 97331.

Publications Related to IAS Residence: Holomorphic functions with growth conditions. *Trans AMS* 206(1975) 395-406.

Peterson, Thurman Stewart 33-34 M

Born 1905 . PhD 1930 Ohio State Univ. Deceased.

Publications: An Integral Equation with Symmetric Kernels. *Bull AMS* 39(1933) 914-918; Linear Integral Equations of Functions of Two Variables. *Bull AMS* 39(1933) 281-288.

Petrović, Gajo 77s HS, History of Philosophy

Born 1927 Karlovac, Yugoslavia. PhD 1956 Philosophy Univ of Zagreb. Honors: Award Božidar Adžija 1966. Memberships: Croatian Phil Soc (Pres 1963-4); Yugoslav Assoc for Phil (Pres 1964-1966); Internat Phil Inst. Prof, Philosophy, Univ of Zagreb, Head Graduate Studies in Philosophy. Trg žrtava fašizma 1, 41000 Zagreb, Yugoslavia.

Publications Related to IAS Residence: *Marx and Heidegger*. Hildesheim: Gerstenberg Verlag, forthcoming.

Other Publications: *Engleska empiristička filozofija*. Zagreb: 1955; *Filozofski pogledi G. V. Plehanova*. Zagreb: 1957; *Logika*. Zagreb: 1963; *Od Locke'a do Ayera*. Beograd: 1964; *Marx in the Mid-twentieth Century*. Garden City, New York: 1967; *Mogućnost čovjeka*. Zagreb: 1969; *Philosophie und Revolution*. Rčimbek bei Hamburg: 1971; *Cemu Praxis*. Zagreb: 1972; *Socialismo e filosofia*. Milano: 1976; *Mišljenje revolucije*. Zagreb: 1978; *Suvremena filozofija Ogladi*. Zagreb: 1979; With N. Lobkowicz. The Philosophical and Sociological Relevance of Marx's Concept of

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Alienation. In *Marx and the Western World*, 133-153. Notre Dame-London: 1967; With V. Klostermann. Der Spruch des Heidegger. In *Durchblicke*, 412-436. Frankfurt am Main: 1970, Mladi Heidegger. In *Treći program*, 2: 359-416. Beograd: 1972; Der 'bürokratische Socialismus' und das Problem der Humanität. In *Marxismusstudien*, 195-220. Tübingen: 1972; With L. Kolakowski and S. Hampshire. Socialism, Revolution and Violence. In *The Socialist Idea: A Reappraisal*, 96-110. London: 1974; With G. Ryle. History and Class-Consciousness. In *Contemporary Aspects of Philosophy*, 239-254. London: 1976; With D. Henrich. Bloch und Hegel oder über die Möglichkeit des philosophischen Systems heute. In *1st Systematische Philosophie möglich*, 651-64. Bonn: 1977; Korespondencija i evidencija. O Brentanovoj teoriji istine. In *Filo-zofske studije*, 9: 3-92. Beograd: 1977.

Petsas, Photios Michael 77s HS, Archaeology

Born 1918 Aristi, Ioannina, Greece. PhD 1966 Archaeology Univ of Thessaloniki. Honors: Brit Council Scholarship Cambridge 1951-1953; Fulbright Princeton 1961-1962; Hon Member Soc of Epirotic Studies; Corr Mem German and Austrian Archaeol Insts. Appointments: Council of Soc of Macedonian Studies, Thessaloniki; Inst of Ionian & Adriatic Stud, Ioannina; Soc for Thracological Stud, Thessaloniki; Co-ed *Makedonika*; Pres of Hellenic Touring Club, Thessaloniki; Fndg Mem Intl Assoc for Study of Greco-Roman Mosaics, Paris; Mem Comm of Intl Assoc for Greek & Latin Epigraphy, Lausanne. Memberships: Collaborator Inst of Balkan Studies, the National Broadcasting Corporation, the National Tourism Organization. Prof Emer, Archaeology, Univ of Ioannina, 11, Anchiolou St, Nea Smyrni, Athens, Greece.

Publications Related to IAS Residence: Ōnai ek tēs Ēmathias. *Arch Ephemeris* (1961) 1-57; *Ho taphos tōn n Leukadiōn*. Athens: 1966; *Pella, Alexander the Great's Capital*. Thessaloniki: Inst for Balkan Studies, 1978.

Other Publications: Latinikai epigraphai ek Thessalonikēs. *Arch Ephem* (1950-51) 52-79; Anaskaphē archaiou nekrotapheiou Verginēs. *Arch Deltion* 17(1961-1962) 218-288; Archaialogika chronika. *Makedonika* 7(1967); 9(1969); 14(1974); 15(1975).

Pflanze, Otto Paul 70-71 HS, Modern European History

Born 1918 Maryville, TN. PhD 1950 Yale Univ. Honors: Humanities Awd McKnight Found 1962; Biennial Book Awd Phi Alpha Theta 1964. Appointments: Editor Am Hist Rev; Examining Bd, GRE, ETS, Princeton, NJ 1972-. Memberships: AHA; Conf Group on Central Eur Hist; AAUP. Prof, History, Indiana University, Ballantine Hall 721, Bloomington, IN 47401.

Publications Related to IAS Residence: *Bismarck and the Development of Germany. The Period of*

Unification, 1815-1871. Princeton: Princeton Univ Press, 1963.

Pflaum, Hans Georg 60-61, 69-70 HS, Roman History

Born 1902 Berlin, Germany. D ès L 1948 Roman History Sorbonne Paris. Honors: Doctor Univ Bern 1972; JD(hc) Freiburg 1977; Corr Fellow: Brit Acad; Acad Göttingen; Römisch Germ Komm Frankfurt; Arch-Epig Germany. Appointments: Kommission Vienna Austria; Membre comite consultatif 1970-1972, Paris; Membre comm Antiquités classiques du CNRS 1954-66. Memberships: Soc Etudes Latines; Soc Stud Grecques; Soc Antiquaires France; Soc Franc Numismatique; Soc Roman Studies; Sec Gen Soc of Epigraphy Grecque et Latine. Deceased.

Publications Related to IAS Residence: *Les sodales antoniniani de l'époque de Marc-Aurèle*. Paris: Imprimerie Nationale, 1966; *Les fastes de la province de Narbonnaise*. In *Gallia*, Suppléments. Paris: CNRS, 1978.

Other Publications: Essai sur le cursus publicus sous le Haut-Empire romain. In *Mémoires présentés par divers savants*, 14 pt 1: 189-390. Paris: Académie des Inscriptions et Belles Lettres, 1940; *Le marbre de Thorigny*. Paris: H. Champion, 1948; *Les carrières procuratoriennes équestres sous le Haut-Empire*. Paris: P. Geuthner, 1960-61; *Inscriptions latines de l'Algérie*. 2 pt 2. Paris: H. Champion, 1922; *Afrique romaine*. In *Scripta varia 1*, Etudes épigraphiques, I. Paris: L'Harmattan, 1978.

Phelps, Robert Ralph 58-60 M, Analysis

Born 1926 San Bernardino, CA. PhD 1958 Functional Analysis Univ Wash. Memberships: AMS; MAA. Prof, Department of Mathematics GN-50, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: Uniqueness of Hahn-Banach Extensions and Unique Best Approximation. *Trans AMS* 95(1960) 238-255; A representation ineqm for bounded convex sets. *Proc AMS* 11(1960) 976-983; Extreme points of polar convex sets. *Proc AMS* 12(1961) 291-296; Some Banach space characterizations of purely atomic measure spaces. *Proc AMS* 12(1961) 447-452.

Other Publications: *Lectures on Choquet's Theorem*. New York: Van Nostrand, 1966; With Errett Bishop. The support functionals of a convex set. *Proc Symp Pure Math Convexity* 7(1963) 27-35.

Philip, Lotte Brand 78-79 HS, History of Fine Arts

Born 1910 Hamburg, Germany. PhD Univ of Freiburg/Breisgau. Honors: AAUW Fellow 1951/52; Belgian Amer Educ Found Fellow 1955; Fulbright Fellow 1957/58; Bollingen Fellow 1964/66; NEH Fellow 1977/79. Memberships: Coll Art Assoc of Amer; Verb Deut Kunsthist EV. Prof, Art History, Queens Coll, CUNY, 58 W 68th St Apt 4F, New York, NY 10023.

Publications Related to IAS Residence: The Portrait Diptych of Dürer's Parents. *Simiolus* in press(1979); *Art of Hieronymus Bosch*. Princeton University Press, forthcoming.

Other Publications: *Stephan Lochner's Hochaltar von St. Katharinen zu Köln*. Hamburg: 1938; The Prado Epiphany by Jerome Bosch. *Art Bull* (1953); The *Peddler* by Hieronymus Bosch, a Study in Detection. *Nederlands Kunsthist Jaarboek* (1958); *Hieronymus Bosch*. New York: 1955; Raum und Zeit in der Verkündigung des Genter Altares. *Wallraf-Richartz Jahrbuch* (1968); *The Ghent Altarpiece and the Art of Jan van Eyck*. Princeton: 1972.

Philippaki, Barbara 51-52 HS, Archaeology

Born 1914 Greece. PhD 1950 Oxford U. *

Phillips, Anthony Valiant 71-72 M, Topology

Born 1938 New York, NY. PhD 1966 Math Princeton Univ. Appointments: AMS. Prof, Math Dept, SUNY, Stony Brook, NY 11794.

Publications Related to IAS Residence: Smooth Maps of Constant Rank. *Bull AMS* 80(1974) 513-517.

Phillips, Kyle Meredith, Jr. 66f HS, Classical Archaeology

Born 1934 Cabot, VT. PhD 1962 Princeton Univ. Honors: For Mem Inst Studi Etruschi; Cavaliere dell'Ordine della Stella della Solidarietà Italiana Ordine del Dignitario dell 'Ombra della Sera. Prof, Classical Archaeology, Bryn Mawr Coll, Co-Dir Excavations in Tuscany Bryn Mawr Coll & Bowdoin Coll; Dir Bryn Mawr Coll Massenzia, Rome, Via Appia Pignatelli, 62, 00178 Roma, Italy.

Publications Related to IAS Residence: Perseus and Andromeda. *Am J Arch* 72(1968).

Other Publications: With Ann Harnwell Ashmead. *Corpus Vasorum Antiquorum, USA*. Ella Riegel Memorial Museum, 13. Bryn Mawr College; With Ann Harnwell Ashmead. Classical Vases. In *Catalogue of the Classical Collection, Museum of Art*. Providence: Rhode Island School of Design, 1976; Poggio Civitate (Siena)-Gli Scavi del Bryn Mawr College dal 1966 al 1974. *Notizie degli Scavi di Antichità Ser* 8 30(1976) 113 ff.

Phillips, Melba N. 36-37 M(NS), Physics

Born 1907 Hazleton, IN. PhD 1933 Physics Univ of Calif. Honors: Hon DS Oakland City Coll 1965; Oersted Medal Amer Assoc of Phys Teachers 1973. Appointments: Comm on Coll Phys 1960-68. Memberships: Am Phys Soc; Am Assoc of Phys Teachers (Pres 1966-67); Am Assoc for Advt Sci, Elected Council member, 1976-80. Prof Emer, Physics, Univ of Chicago. 351 W 24th St, New York, NY 10011.

Publications Related to IAS Residence: With Eugene Feenberg. On the Structure of Light Nuclei. *Phys Rev* 251(1937) 597-608.

Other Publications: With Wolfgang K. H. Panofsky. *Classical electricity and magnetism*. Cambridge: Addison-Wesley, 1955; With J. R. Oppenheimer. Note on the transmutation function for deuterons. *Phys Rev* 48(1935) 500-502.

Phillips, Ralph S. 38-40, 50-51 M, Mathematics

Born 1913 Oakland, CA. PhD 1939 Math Univ of Mich. Honors: Guggenheim Fellow 1954-55, 1974. Memberships: AMS. Prof, Dept of Mathematics, Stanford University, Stanford, CA 94305.

Publications Related to IAS Residence: A Characterization of Euclidean Spaces. *Bull AMS* 46(1940) 930-933; On Linear Transformations. *Trans AMS* 48(1940) 516-541; With S. Bochner. Additive Set Functions and Vector Lattices. *Ann Math* (2) 42(1941) 316-324; Spectral Theory for Semi-Groups of Linear Operators. *Trans AMS* 71(1951) 393-415.

Other Publications: With E. Hille. *Functional Analysis and Semi Groups*. Colloquium Pub, 31. Providence, RI: AMS, 1957; With P. D. Lax. *Scattering Theory*. New York: Academic Press, 1967; With P. D. Lax. *Scattering Theory for Automorphic Functions*. Princeton: Princeton Univ Press, 1976.

Phong, Duong Hong 77-78 M, Partial Differential Equations

Born 1953 Nam-Dinh, Vietnam. PhD 1977 Mathematics Princeton Univ. Honors: AMS Fellow 1977. Memberships: AMS. Ritt Asst Prof, Department of Mathematics, Columbia University, New York, NY 10027.

Publications Related to IAS Residence: With C. Fefferman. On positivity of pseudo-differential operators. *Proc NAS* 75(1978) 4673-4674; On integral representations for the Neumann operator. *Proc NAS* in press.

Piaget, Jean 54f M, Psychology

Born 1896 Neuchatel, Switzerland. DèSc 1918 Univ of Neuchatel. Honors: Hon Doctorates Harvard 1936; Sorbonne 1946; Rio-de-Janeiro 1949; Bruxelles 1949; Chicago 1953; McGill 1954; Varsovie 1958; Manchester 1959; Oslo 1960; Cambridge 1960; Brandeis 1962; Montreal 1964; Aix-Marseille 1964; Pennsylvania 1966; New York 1967; Ann Arbor 1967; Padoue 1967; Clark 1968; Gand 1969; Yale 1970; Colombia 1970; Bristol 1970; Catholic Univ, Washington 1970; Barcelone 1970; Sassari 1970; Temple Univ, Philadelphia 1971; Bucarest 1971; Yeshiva, New York 1973; Illinois, Chicago 1974; Rockefeller, New York 1974; Council for National Academics Awards, London 1975; Prix de la Ville de Genève 1963; Médaille de l'Université de Moscou 1966; Citation du Conseil des Régents, Minneapolis 1968; Award Amer Research Assoc 1967; Am Psych Assoc 1969; Médaille d'Or Centro Internazionale "Pio Manzo" 1969; Prix Foneme 1970; Médaille Stanley Hall 1972; Prix Erasme 1972; Prix Kittay Foundation 1973; Prix de l'Institut de la Vie 1973. Memberships:

Members

Accad Lincei, Rome; Acad sci Bucarest; Acad sci New York; Acad Boston (Arts and Science); Acad Sci et Lett de Montpellier; Acad royale de Belgique; Acad internat philos des scis; Inst internat philos; Union Internat Psych scientifique; Assoc Psych scientifique de langue française; Soc Suisse logique et philo scis; Soc Suisse Psych; Soc de Psychologie de Belgique, Espagne, France, Grande-Bretagne, Italie, Suède, Turquie; Membre d'honneur de la Federacion Columbiana de Psicologia, Bogota; Membre du Comité de Patronage revue Communication & Cognition. Prof Hon, Univ of Geneva, 1227 Pinchat, Geneva, Switzerland.

Publications Related to IAS Residence: With B. Inhelder. *La genèse de l'idée de hasard chez l'enfant*. Paris: PUF, 1951; *Essai sur les transformations des opérations logiques. Les 256 opérations ternaires de la logique bivalente des propositions*. Paris: PUF, 1952; *Logic and psychology*. New York: Basic Books, 1953; With B. Inhelder. *De la logique de l'enfant à la logique de l'adolescent*. Paris: PUF, 1955; With B. Inhelder. *La genèse des structures logiques élémentaires. Classifications et sériations*. Neuchâtel & Paris: Delachaux & Niestlé, 1959; *Les mécanismes perceptifs. Modèles probabilistes, analyse génétique, relations avec l'intelligence*. Paris: PUF, 1961; *Six études de psychologie*. Genève: Gonthier, 1964; *Etudes sociologiques*. Genève: Droz, 1965; *Sagesse et illusions de la philosophie*. Paris: PUF, 1965; With B. Inhelder et coll. *L'image mentale chez l'enfant. Etude sur le développement des représentations imagées*. Paris: PUF, 1966; With B. Inhelder. *La psychologie de l'enfant*. Paris: PUF; *Biologie et connaissance*. Paris: Gallimard, 1967; *Ed Logique et connaissance scientifique*. Paris: Gallimard, 1967; With B. Inhelder et coll. *Mémoire et intelligence*. Paris: PUF, 1968; *Le structuralisme*. Paris: PUF; *Psychologie et pédagogie*. Paris: Denoël-Gonthier, 1969; *Genetic epistemology*. New York: Columbia University Press, 1970; *Psychologie et épistémologie*. Paris: Denoël-Gonthier; *Problèmes de psychologie génétique*. Paris: Denoël-Gonthier, 1972.

Other Publications: *Epistémologie des sciences de l'homme*. Paris: Gallimard, 1972; *Où va l'éducation?*. Paris: Denoël-Gonthier, 1974; With Centre d'Epistémologie Génétique. *La prise de conscience*. Paris: PUF, 1974; *Adaptation vitale et psychologie de l'intelligence. Sélection organique et phénocopie*. Paris: Hermann; With Centre d'Epistémologie Génétique. *Réussir et comprendre*. Paris: PUF; *Le Comportement, moteur de l'évolution*. Collection "Idées". Paris: Gallimard, 1976; ed with Evert Beth, W. Mays. *Epistémologie génétique et recherche psychologique*. Paris: PUF, 1957; ed with L. Apostel, B. Mandelbrot. *Logique et équilibre*. Paris: PUF, 1957; ed with L. Apostel, Mandelbrot et A. Morf. *Logique, langage et théorie de l'information*. Paris: PUF, 1957; ed with L. Apostel, W. Mays, A. Morf. *Les liaisons analytiques et synthétiques dans les comportements du sujet*. Paris: PUF, 1957; ed with A. Jonckeere, B. Mandelbrot. *La lecture de l'expérience*. Paris: PUF, 1958; ed with J. Bruner, F. Bresson, A. Morf. *Logique*

et perception. Paris: PUF, 1958; ed with P. Gréco. *Apprentissage et connaissance*. Paris: PUF, 1959; ed with L. Apostel, A. Jonekeere et B. Matalon, 1959. *Logique, apprentissage et probabilité*. Paris: PUF, 1959; ed with A. Morf, J. Smedsylv Vinh-Bang et J. Wohlwill. *L'apprentissage des structures logiques*. Paris: PUF, 1959; ed with M. Goustard, P. Gréco, B. Matalon. *La logique des apprentissages*. Paris: PUF, 1959; ed with P. Gréco, J-B. Grize, S. Papert. *Problèmes de la construction du nombre*. Paris: PUF, 1960; ed with D. Berlyne. *Théorie du comportement et opérations*. Paris: PUF, 1960; ed with P. Gréco, A. Morf. *Structures numériques élémentaires*. Paris: PUF; ed with E. Beth. *Epistémologie mathématique et psychologie*. Paris: PUF, 1961; With L. Apostel, J-B. Grize, S. Papert. *La filiation des structures*. 1963; With E. Beth, J-B. Grize, R. Martin, B. Matalon. *Implication, formalisation et logique naturelle*. 1962; With P. Gréco, B. Inhelder, B. Matalon. *La formation des raisonnements récurrentiels*. 1963; With Vinh-Bang, P. Gréco, J-B. Grize, Y. Hatwell, G. Sea-grim & E. Vurpillot. *L'épistémologie de l'espace*. 1964; With Vinh-Bang, E. Lunzer. *Conservations spatiales*. 1965; With J-B. Grize, K. Henry, M. Meylan, F. Orsini, N. Van den Bogaert-Rombouts. *L'épistémologie du temps*. 1966; With M. Bovet, P. Gréco, S. Papert, G. Voyat. *Perception et notion du temps*. 1967; With G. Cellerier, S. Papert, G. Voyat. *Cybernétique et épistémologie*. 1968; With J-B. Grize, A. Szeminska, Vinh-Bang. *Epistémologie et psychologie de la fonction*. 1968; With H. Sinclair, Vinh-Bang. *Epistémologie et psychologie de l'identité*. 1968; With M. Bunge, F. Halbwachs, T. Kuk, L. Rosenfeld. *Les théories de la causalité*. 1971; With R. Garcia. *Les explications causales*. 1971; *La transmission des mouvements*. 1972; *La direction des mobiles lors de chocs et de poussées*. 1972; *La formation de la notion de force*. 1972; *La composition des forces et le problème des vecteurs*. 1973; *Recherches sur la contradiction. I. Les différentes formes de la contradiction*. 1974; *Recherches sur la contradiction. II. Les relations entre affirmations et négations*. 1974; *L'équilibration des structures cognitives. Problème central du développement*. 1975; *Recherches sur l'abstraction réfléchissante*. 1977; *Recherches sur la généralisation*. 1978.

Pinchuk, Bernard 71-72 M, Analysis

Born 1943 Chicago, IL. PhD 1967 Mathematics Yeshiva Univ. Memberships: AMS. Assoc Prof, Dept of Mathematics, Bar-Ilan University, Ramat Gan, Israel.

Publications Related to IAS Residence: The Hardy class of Functions, of Bounded Boundary Rotation. *Proc AMS* 38(1973) 355-360; Integral Means of Analytic Functions. *Israel J of Math* 12(1973).

Pines, David 58-59 M(NS), Theoretical Physics

Born 1924 Kansas City, MO. PhD 1950 Princeton Univ. Physics Dept, Univ of Ill, Urbana, IL 61801. *

Pines, Shlomo 58-59, 66-67 HS, History of Philosophy

Born 1908 Paris, France. PhD 1934 Univ of Berlin. *

Pingree, David Edwin 68-69, 78-79 HS

Born 1933 New Haven, CT. PhD 1960 Classics and Sanskrit Harvard Univ. Honors: Member Amer Philos Soc 1975; Fellow AAAS. Memberships: Amer Oriental Soc; Med Soc; Bhandarkar Oriental Res Inst; Viśveśvarānanda Vedic Res Soc; Renaissance Soc of Amer. Prof, History of Mathematics, Brown University, Box 1900, Providence, RI

Publications Related to IAS Residence: With O. Neugebauer. *The Pañcasiddhāntikā of Varāhamihira*. København: 1970-71; *Dorothei Sidonu Carmen Astrologicum*. Leipzig: 1976; *Hephaestionis Thebani Apotelesmatica*. Leipzig: 1972-73; *Sanskrit Astronomical Tables in the United States*. Philadelphia: 1968.

Other Publications: *The Yavanajātaka of Sphujidhvaja*. Cambridge, Mass: 1978; *The Thousands of Abū Maṣhar*. London: 1968; *Census of the Exact Sciences in Sanskrit*. Philadelphia: 1971-; With E.S. Kennedy. *The Astrological History of Māshā'allāh*. Cambridge, Mass: 1971.

Pippidi, Dionis Michael 74-75 HS, Ancient History, Epigraphy

Born 1905 Craiova, Rumania. DPhil Univ of Bucharest. Honors: Corr Fellow Rumanian Acad 1963; Dr(hc) Univ of Lyon 1965; Corr Fellow British Acad 1973; Hon Member Soc Roman Studies 1973; Fellow German and Austrian Insts of Archaeol 1975; Assoc Fellow Acad Inscript Belles Lett 1975. Prof Emer, Ancient History, Univ of Bucharest, Dir Inst of Archaeology, Bucharest, 15 A, Boul. Ana Ipatescu, Bucharest, Rumania.

Publications Related to IAS Residence: *Scythica Minora. Recherches sur les colonies grecques du littoral roumain de la mer Noire*. Bucharest-Amsterdam: 1975; *Dictionarul de istorie veche a României*. Bucuresti: 1976.

Other Publications: *Recherches sur le culte impérial*. 1939; *Autour de Tibère*. 1944; *Epigraphische Beiträge zur Geschichte Histrias*. 1962; *I Greci nel Basso Danubio dall'età arcaica alla conquista romana*. 1971.

Piran, Tsvi 80s NS, General Relativity, Astrophysics

Born 1949 Tel-Aviv, Israel. PhD 1976 Hebrew Univ. Res Assoc, Center for Relativity, U of Texas, Austin, 1300 S Pleasant Valley Rd, Austin, TX 78741. *

Pirrenne, Jean C. L. 53-54 M(NS)

Born 1913 Belgium. *

Pitcher, Everett 35-36, 45-46, 47-49 M

Born 1912 Hanover, NH. PhD 1935 Harvard Univ. Honors: DSc Western Reserve Univ 1957. Appointments: Secy AMS. Memberships: AMS; MAA; SIAM; Am Assn Adv Sci. Consult to the Pres, Lehigh University, Bldg 14, Bethlehem, PA 18015.

Publications Related to IAS Residence: With J. L. Kelley. Exact Homomorphism Sequences in Homology Theory. *Ann Math (2)* 48(1947) 682-709; A Proof of Lower Semicontinuity. In *Proc NAS*, 33: 386-392. 1947; Homotopy Groups of the Space of Curves with Application to Spheres. In *Proc Intl Cong Math, Cambridge, Mass, 1950, Vol 1*, 528-529. Providence, RI: AMS, 1952.

Other Publications: With M. F. Smiley. Transitivity of Betweenness. *Trans AMS* 52(1942) 95-114; Inequalities of Critical Point Theory. *Bull AMS* 64(1958) 1-30.

Pittie, Harsh V. 69-70 M, Topology, Algebra

Born 1944 India. PhD 1970 Princeton Univ. Department of Mathematics, University of Georgia, Athens, GA 30601. *

Pizzorno, Alessandro De Giovanni 77-78 Soc, Exchange Theory, Pluralist Theory of the State

Born 1924 Italy. PhD 1949 Univ of Turin. Prof, Sociology, Milan State Univ, Via Santa Croce, 3, Milano, Italy. *

Plebanski, Jerzy 58-59 M(NS), Theoretical Physics

Born 1928 Warsaw, Poland. PhD 1954 Warsaw U. *

Pleijel, Åke Vilhelm Carl 47-48, 48f M

Born 1913 Sweden. PhD 1940 Stockholm Univ. Dept of Math, Univ of Uppsala, Sysslomansgatan 8, 752 23 Uppsala, Sweden. *

Pletsch, Carl Erich 77-78 Soc, Intellectual History

Born 1943 Boston, MA. PhD 1977 History Univ of Chicago. Asst Prof, History, Univ of NC, 248 Seminole Drive, Chapel Hill, NC 27514.

Plezia, Marian 74-75 HS, Classical Philology

Born 1917 Cracow, Poland. PhD Classical Philology Cracow Univ. Honors: Officers Cross Polonia Restituta 1966. Appointments: Secy Comm of Class Philol Cracow Branch Polish Acad. Prof, Polish Academy of Sciences, Friedleina 28c/4, 30-009 Cracow, Poland.

Publications Related to IAS Residence: *Aristotelis Privatorum Scriptorum Fragmenta*. Leipzig: Teubner, 1977.

Other Publications: *De Commentariis Isagogicis*. Cracow: 1949; With J. Bielawski. *Lettre d'Aristote à Alexandre sur la Politique*. Wrocław: 1970.

Plummer, John H. 70s, 76-77 HS, History of Art

Members

Born 1919 Rochester, MN. PhD 1953 Columbia Univ.*

Podolsky, Boris 34-35 M(NS), Physics

Born 1896 USSR. PhD 1928 Cal Tech. Deceased.
Publications: An Interpretation of e^2/me^2 and h/mc . *Phys Rev* 2 46(1934) 734-738; With A. Einstein and N. Rosen. Can Quantum-Mechanical Description of Physical Reality Be Considered Complete? *Phys Rev* 2 47(1935) 777-780.

Poenaru, Valentin-Alexandre 64-65 M, Topology

Born 1932 Bucharest, Rumania. DèSc 1963 Math Univ of Paris. Full Prof, Dept de Mathématiques, Université Paris Sud (Orsay), 91405 Orsay, France.

Publications Related to IAS Residence: On regular homotopy in codimension 1. *Ann of Math* 83(1966) 257-265.

Other Publications: On recursively unsolvable problems in topology and their classification. In *Contributions to Math Logic Colloquium Hannover 1966*, 37-74. Amsterdam: North-Holland, 1968.

Pogorzelski, Henry Andrew 64-65, 66-67 M, Semiological Number Theory

Born 1922 Harrison, NJ. PhD 1969 Mathematics Graduate Center, CUNY. Memberships: Assoc of Members of Inst for Adv Study; AMS. Prof, Mathematics, Univ of Maine, P.O. Box 45, Orono, ME 04473.

Publications Related to IAS Residence: Goldbach sentences in abstract arithmetics $A^k(A)$, I, II. *J Reine Angew Math* 237, 243(1969, 1970) 65-96, 32-54; On the Goldbach conjecture and the consistency of general recursive arithmetic. *J Reine Angew Math* 268/269(1974) 1-16; Dirichlet theorems and prime number hypotheses of a conditional Goldbach theorem. *J Reine Angew Math* 286/287(1976) 33-45; Semisemiological structure of the prime numbers and conditional Goldbach theorems. *J Reine Angew Math* 290(1977) 77-92; Goldbach conjecture. *J Reine Angew Math* 292(1977) 1-12.

Pohlmeyer, Klaus 70-71 NS, Quantum Field Theory

Born 1938 Bielefeld, Germany. Dr-rer-nat 1966 Theor Physics Hamburg Univ. Honors: Physics Prize Göttingen Akad der Wissensch 1971. Prof, Theoretical Physics, Fakultät für Physik, Albert-Ludwigs-Universität, 3 Hermann-Herder-Str, D-78, Freiburg, Germany.

Publications Related to IAS Residence: The Equation $\text{Curl } W_{\mu}(x)=0$ in Quantum Field Theory. *Commun Math Phys* 25(1972) 73; Higher Order Perturbation Theory for Exponential Lagrangians: Third Order. *Comm Math Phys* 26(1972) 130.

Other Publications: *Comm Math Phys* 7(1968) 80. Inte-grable Hamiltonian Systems and Interactions Through Quadratic Constraints. *Comm Math Phys* 46(1976) 207.

Polkinghorne, John Charlton 62s M(NS), Theoretical Elementary Particle Physics

Born 1930 Weston-Super-Nare, Somerset, England. ScD 1974 Physics Univ of Cambridge. Honors: FRS 1974. Appointments: Mem, Sci Res Council, UK 1975-; Chm, Nuclear Phys Bd, SRC 1978-. Memberships: Royal Soc. Prof, Mathematical Physics, Univ of Cambridge, Fellow Trinity Coll, Cambridge, D.A.M.T.P. Silver St, Cambridge CB3 9EW, England.

Publications Related to IAS Residence: *Phys Rev* 128(1962) 2459.

Other Publications: With R. J. Eden, P. V. Landshoff, D. I. Olive. *The Analytic S-matrix*. Cambridge U Press, 1966; *Models of High Energy Processes*. Cambridge U Press, forthcoming.

Pollard, Harry 52-53 M

Born 1919 Boston, MA. PhD 1942 Harvard Univ. Appointments: Argonne Natl Lab CUPM 1964; SIAM Visit Lect 1965-68. Memberships: AMS; MAA. Prof, Dept of Math, Purdue Univ, Lafayette, IN 47907.

Poncet, Jean 59-61 M, Transformation Groups

Born 1923 Switzerland. DSci 1958 Math ETH. Faux-Blanc 12A, 1009 Pully, Switzerland. *

Poni, Carlo 79-80 Soc, Economic History

Born 1927 Forli, Italy. Lib Doc 1966 Economic History Univ of Rome. Honors: Member Acad of Sci Bologna; Dir Museum of Agric Bologna 1974-1979; Member Sci Comm F. Datini Inst; Co-ordinator Museum of Material Culture of Bologna; Co-editor *Quaderni Storici*. Appointments: CNR Natl Comm for Hist of Italian Industrialization. Memberships: Vice-Pres of the Natl Inst for Hist of Agriculture (1975-1979). Prof, Econ Hist, Univ of Bologna, Q. Filopanti 4, 40126 Bologna, Italy.

Publications: *Gli aratri e l'economia agraria nel bolognese dal XVII al XIX secolo*. Bologna: 1963; *Archéologie de la Fabrique: la diffusion des moulins àsoie "alla bolognese" dans les Etats Vénitiens du XVI au XVIII siecle*. *Ann ESC* 6(Nov-Dec 1972) 1475-1496; All' origine del sistema di fabbrica. tecnologia e organizzazione produttiva dei mulini da seta nell' Italia settentrionale (sec XVII-XVIII). *Riv Storica Italiana* 88, 3(1975) 444-497; Family and "podere" in Emilia Romagna. *J of Ital Hist* 1, 2(Autumn 1978) 201-234.

Ponomarev, Paul 74-75 M, Number Theory

Born 1944 Czestochowa, Poland. PhD Mathematics Yale Univ. Memberships: AMS. Assoc Prof, Dept of Mathematics, The Ohio State University, Columbus, OH 43210.

Publications Related to IAS Residence: A correspondence between quaternary quadratic forms. *Nagoya Math J* 62(1976) 125-140.

Other Publications: Arithmetic of quaternary quadratic forms. *Acta Arith* 29(1976) 1-48.

Ponzano, Giorgio Enrico 67-69, 73-74 NS, Mathematical Physics

Born 1939 Alessandria, Italy. Laurea 1961 Physics Univ Di Torino. Assoc Prof, Math Phys, Istituto Di Fisica, Università Di Torino, C. M. D'Azeglio 46, 10125 Torino, Italy.

Publications Related to IAS Residence: With T. Regge. The monodromy group of one-loop relativistic Feynman integrals. In *Problems in Theoretical Physics*, 140-167. 1969; With P. Goddard & A.J. Hanson. The quantization of a massless relativistic string in a time-like gauge. *Nuclear Physics B* 89(1975) 76-92; With T. Regge, E.R. Speer, M.J. Westwater. The monodromy rings of one loop Feynman Integrals. *Commun Math Phys* 18(1970) 1-64; With T. Regge, E.R. Speer, M.J. Westwater. The monodromy rings of a class of self-energy graphs. *Commun Math Phys* 15(1969) 83-132.

Poole, De Witt C. 41f HS(EP)

Deceased.

Poor, Walter Andrew 76-77 M, Geometry

Born 1943 Corpus Christi, TX. PhD 1973 Mathematics SUNY, Stony Brook. Appointments: AMS. Visiting Prof, Dept of Math Sciences, Rensselaer Polytechnic Inst, Troy, NY 12181.

Publications Related to IAS Residence: A holonomy proof of the positive curvature operator theorem. *Proc AMS* in press; *Differential Geometric Structures*. McGraw-Hill, forthcoming.

Other Publications: Some exotic spheres with Positive Ricci curvature. *Math Ann* 216(1975).

Posner, Donald 76s HS, Art History

Born 1931 New York, NY. PhD 1962 Art History New York Univ. Honors: Fellow Amer Acad in Rome; Founder's Day Award NYU 1962; PBK; Chas Rufus Morey Award College Art Assoc 1972. Memberships: College Art Assoc; Am Soc for 18th Century Studies; Soc d'Etude XVIII^e siècle. Prof, Art History, New York Univ, Institute of Fine Arts, 1 E 78 St, New York, NY 10021.

Publications Related to IAS Residence: Jacques Callot and the Dances Called Sfessania. *Art Bull* 59(1977) 203-216; Un chef-d'oeuvre de Watteau au Louvre. *La revue du Louvre* 27(1977) 81-85.

Other Publications: *Annatale Carracci*. London: 1971; *Watteau: "A Lady at her Toilet"*. London: 1973.

Possony, Stefan Thomas 40-42 HS(EP)

Born 1913 Vienna, Austria. PhD 1935 Philosophy and Sociology Univ of Vienna. Honors: Exceptional Civilian Service Decoration US Air Force 1959; Bundesverdienstkreuz, I. Klasse 1969. 1370 Montclair Way, Los Altos, CA 94022.

Publications: With Heinz Timmermann and Walter F. Hahn. *Brandt and the Destruction of NATO*. ed. by Goeffrey Stewart-Smith. Richmond: Foreign Affairs

Pub Co, 1973; *Der Casus Belli der NATO*. Munich: Olzog, 1965; *A Century of Conflict; Communist Techniques of World Revolution*. Chicago: Regnery, 1953; With Nathaniel Weyl. *The Geography of Intellect*. Chicago: Regnery, 1963; With Robert Strausz-Hupé. *International Relations in the Age of the Conflict between Democracy and Dictatorship*. New York: McGraw-Hill, 1950; *Lenin Reader*. Chicago: Regnery, 1966; *Lenin: the Compulsive Revolutionary*. Chicago: Regnery, 1964; *The Nature and Aims of the Sino-Soviet Dispute*. Jamaica, NY: Center of Asian Studies, St. John's Univ, 1970; Reflections on the Russian Revolution. In *Three Revolutions*. Westport, Conn: Greenwood Press, 1976; *The Revolution of Madness*. Taipei: Inst of Internat Rels, Rep of China, 1971; *Strategic Air Power, the Pattern of Dynamic Security*. Washington: Infantry J Press, 1949; With J.E. Pournelle. *The Strategy of Technology: Winning the Decisive War*. Cambridge, Mass: University Press of Cambridge, 1970; With E.M. Rhodie. *The Third Africa*. New York: Twin Circle Pub Co, 1968; *To-morrow's War, its Planning, Management and Cost*. London, Edinburgh: W. Hodge & Co, 1938; *Waking up the Giant; the Strategy for American Victory and World Freedom*. New Rochelle, NY: Arlington House, 1974; *Zur Bewätigung der Kriegsschuldfrage; Völkerrecht und Strategie bei der Auslösung zweier Weltkriege*. Köln: Westdeutscher Verlag, 1968.

Post, Gaines 59-60, 63-64 HS

Born 1902 Haskell, TX. PhD 1931 History Harvard Univ. Honors: Fulbright 1951-52; Fellow Med Acad; Fellow AAAS; Cor Mem Heidelberger Acad der Wissenschaften; Haskins Gold Medal 1966. Memberships: AHA. Prof Emer, History, Princeton Univ. 408 N Ave E, Haskell, TX 79521.

Publications Related to IAS Residence: *Studies in Medieval Legal Thought. Public Law and the State 1100-1322*. Princeton: Princeton Univ Press, 1964.

Postan, Sir Michael 51f HS, Economic History

Born 1898 England. 2 Sylvester Rd, Cambridge, England. *

Publications Related to IAS Residence: Edited by with E. E. Rich. Trade and Industry in the Middle Ages. In *The Cambridge Economic History of Europe*, Volume II. Cambridge University Press, 1952; The Trade of Medieval Europe: The North. In *The Cambridge Economic History of Europe*, Volume II: 119-256. Cambridge: 1952; Economic Growth. *Econ Hist Rev* (2) 6(1953) 78-83.

Postman, Leo J. 56-57 M(NS), Psychology

Born 1918 St. Petersburg, USSR. PhD 1946 Harvard Univ. Dept of Psychology, Univ of California, Berkeley, CA 94720. *

Pottasch, Stuart Robert 61s, 61f M(NS), Astrophysics

Members

Born 1932 New York, NY. PhD 1959 Univ of Colorado. Prof, Astrophysics, Univ of Groningen, Hoogbouw WSN, Postbus 800, Groningen, Netherlands.

Pour-Ei, Marian Boykan 62-64 M, Mathematical Logic

PhD ,1958 Mathematics Harvard Univ. Honors: Inv hour address, Nat Mtng AMS, Toronto 1976; Inv addresses, Internatl Cong in Math Logic and Computers Cambridge, England; Prague, Czech; Budapest-Tihany, Hungary 1971, 1973, 1967; Inv lect series Polish Acad of Sci 1974; Chmn, Inv addresses at special sessions of the AMS 1971, 1975 and 1978; Panelist CBMS Symp on Computer Science Nat Meetings of Assoc for Computing Machinery 1978, and AMS 1979; NAS grant to Intl Cong of Math, Moscow 1966. Appointments: Trustee, CBMS 1978-, Council mem 1977-; Mem, Natl Panel of Visiting Lect for MAA 1977-. Memberships: AMS; Assoc for Symbolic Logic; MAA; AAAS; IMACS. Prof, School of Mathematics, University of Minnesota, Minneapolis, MN 55455.

Publications Related to IAS Residence: With S. Kripke. Deduction-preserving "recursive isomorphisms" between theories. *Fund Math* 61, 2(1967) 141-163; Independent axiomatization and its relation to the hypersimple set. *Zeit für Math Logik und Grundlagen d Math* 14, 5(1968) 449-456; With D. A. Martin. Axiomatizable theories with few axiomatizable extensions. *JSL* 35, 2(1970) 205-209.

Other Publications: Abstract computability and its relation to the general purpose analog computer. *Trans AMS* 199(1974) 1-28.

Powell, William Chamber 74-76 M, Logic

Born 1945 Bryn Mawr, PA. PhD 1972 Math SUNY at Buffalo. Memberships: AMS; Assoc for Symbolic Logic. Asst Prof, Math, Ohio State Univ. c/o N.D. Powell, 321 E Shawmont, Philadelphia, PA 19128.

Publications Related to IAS Residence: Extending realizability through all the ordinals. *J of Symbolic Logic* 43(1978) 618-619.

Other Publications: An axiomatization of set theory with predication. *J of Symbolic Logic* 36(1971) 585-6; With T. Jech. Standard models of set theory with predication. *Bull AMS* 77(1971) 808-813; Almost huge cardinals and Vopenka's principle. *AMS Notices* 19(1972) 616; Variations of Keisler's theorem for complete embeddings. *Fund Math* 81(1974) 121-132; How much classical model theory depends on the law of excluded middle? *AMS Notices* 21(1974) 403; Extending Gödel's negative interpretation to ZF. *J of Symbolic Logic* 40(1975) 221-229; A completeness theorem for Zermelo-Fraenkel set theory. *J of Symbolic Logic* 41(1976) 323-327; An axiomatization of the theory of Heyting-valued models generated by order topologies. In *Contributed papers of the 5th Internat Congr of Logic, Methodology & the Philosophy of Science*, 2-17. 1975; Constructive non-standard analysis. In *ASL Contributed Paper*.

Washington DC: 1977; Representation of distributive complete Heyting algebras by topologies of complete Boolean algebras. *AMS Notices* 26(1979) 4-5.

Power, Sheila Christine 48-49 M(NS), Nuclear Physics

Born 1918 Ireland. PhD 1941 Edinburgh Univ. *

Publications Related to IAS Residence: Decay of a Heavy τ -Meson into Three Lighter Mesons. *Phys Rev* (2) 76 (1949) 865-866.

Powers, Robert T. 70-71 NS, Mathematical Physics

Born 1941 Philadelphia, PA. PhD 1967 Physics Princeton Univ. Honors: Sloan Fellow 1970-1974. Memberships: Amer Phys Soc. Prof, Dept of Mathematics, Univ of Pennsylvania, Philadelphia, PA 19104.

Publications Related to IAS Residence: Self-Adjoint Algebras of Unbounded Operators I, II. *Comm of Math Phys* 21(1971) 85-124; *Trans AMS* 187(1974) 261-293.

Prakken, Donald W. 60-61 HS, Greek Epigraphy

Born 1915 Holland, MI. PhD 1943 Columbia Univ. *

Prange, Richard E. 60-61 M(NS), Theoretical Physics

Born 1932 Lancaster, OH. PhD 1958 Physics Univ of Chicago. Prof, Dept of Physics, Univ of Maryland, College Park, MD 20742.

Prasad, Gopal 73-74 M, Algebraic Groups and Discrete Subgroups

Born 1945 Ghazipur, India. PhD 1976 Mathematics Univ of Bombay. Reader, Math, Tata Institute of Fundamental Research, Homi Bhabha Rd, Colaba, Bombay 400005, India.

Publications Related to IAS Residence: Discrete subgroups isomorphic to lattices in semi-simple Lie groups. *Amer J of Math* 98(1976) 241-261; Discrete subgroups isomorphic to Lattices in Lie groups. *Amer J of Math* 98(1976) 853-863.

Other Publications: With M. S. Raghunathan. Cartan subgroups and lattices in semi-simple groups. *Ann of Math* 96(1972) 296-317; Strong rigidity of \mathbf{Q} -rank 1 lattices. *Inventiones Math* 21(1973) 255-286; Strong approximation for semi-simple groups over function fields. *Ann of Math* 105(1977) 553-572.

Pratt, Robert Armstrong 55f, 57-58 HS, Palaeography

Born 1907 Rockingham, VT. PhD 1933 English Yale Univ. Honors: Guggenheim Fellow 1946, 1954; Visit Fellow Merton Coll Oxford 1976. Memberships: Am Philol Assoc; MLA; Mediaeval Acad Amer (Fellow); Modern Humanities Research Assoc; Am Assoc Teachers of Italian; Acad of Literary Studies. Emer

Prof, English, Univ of Penn, Seven Gates Farm, Vineyard Haven, MA 02568.

Publications Related to IAS Residence: Jankyn's Book of Wikked Wyves: Medieval Antimatrimonial Propaganda in the Universities. *Annuaire Mediaevale* 3(1962) 5-27; Chaucer and the Hand that Fed Him. *Speculum* 41(1966) 619-642; Three Old French Sources of the Nonnes Preestes Tale. *Speculum* 47(1972) 422-44, 646-68; Some Latin Sources of the Nonnes Preest on Dreams. *Speculum* 52(1977) 538-570.

Other Publications: The Knight's Tale. In *Sources and Analogues of Chaucer's "Canterbury Tales"*, ed. by W.F. Bryan & G. Dempster, 82-105. Chicago: 1941; With Karl Young. The Literary Framework of the *Canterbury Tales*. In *Sources and Analogues of Chaucer's "Canterbury Tales"*, ed. by W.F. Bryan and G. Dempster, 1-81. Chicago: 1941; Conjectures Regarding Chaucer's Manuscript of the Teseida. *Studies in Philology* 42(1945) 745-763; Chaucer's Use of the Teseida. *PMLA* 63(1947) 598-621; Chaucer's Claudian. *Speculum* 22(1947) 419-429; The Importance of Manuscripts for the Study of Medieval Education, as Revealed by the Learning of Chaucer. *Progress of Medieval and Renaissance Studies in the United States and Canada Bull* 20(1949) 43-51; A Note on Chaucer's Lollius. *Mod Lang Notes* 45(1950) 183-187; The Order of the *Canterbury Tales*. *PMLA* 46(1951) 1141-1167; Chaucer and *Le Roman de Troyle et de Criseida*. *Studies in Philology* 53(1956) 509-539; The Development of the Wife of Bath. In *Studies in Medieval Literature in Honor of Albert Croll Baugh*, ed. by MacEdward Leach, 45-79. Philadelphia: 1961; ed, *Geoffrey Chaucer "The Tales of Canterbury (Complete)"*. Boston: Houghton Mifflin, 1974.

Prendergast, Kevin H. 61-62 M(NS), Astrophysics

Born 1929 Brooklyn, NY. PhD 1954 Columbia Univ. *

Prenowitz, Walter 36-37, 53-54 M

Born 1906 New York, NY. PhD 1936 Mathematics Columbia Univ. Honors: Fac Fship Ford Found 1953-54; Fac Fship NSF 1960-61. Appointments: US Comm on Math Instruction 1966-69. Memberships: AMS. Prof Emer, Mathematics, Brooklyn Coll, CUNY. 239 E 79 St, New York, NY 10021.

Publications Related to IAS Residence: Descriptive Geometries as Multigroups. *Trans AMS* 59(1946) 333-380; Spherical Geometries and Multigroups. *Can J Math* 2(1950) 100-119; Partially Ordered Fields and Geometries. *Amer Math Monthly* 53(1946) 439-449; With James Jantosciak. *Join Geometries*. New York: Springer-Verlag, 1979.

Other Publications: Total Lattices of Convex Sets and Linear Spaces. *Ann Math* 49(1948) 659-688.

Pressouyre, Léon 71-72 HS, History of Art

Born 1935 Bayonne, France. Prof agrégé 1963 Histoire Sorbonne. Honors: Prix de l'Inst France 1957;

Prix Lefèvre-Pontalis 1977; Chevalier de l'Ordre National du Mérite 1978. Appointments: Comm Supérieure des Monuments hist; Comm Nationale de l'Inventaire des monuments et des richesses artistiques France; Conseil Supérieur Recherche archéol; Com nat CNRS; Com Travaux Hist et Sci. Memberships: L'Ecole Française de Rome. Soc française d'ar-chéol; Soc Nat Antiquaires de France; Com Français d'Hist art. Maître de recherche, CNRS, Curator Cloître de Notre-Dame-en-Vaux Châlons-sur-Marne, 296, rue Saint-Jacques, 75005 Paris, France.

Publications Related to IAS Residence: Saint Bernard to Saint Francis: Monastic Ideals and Iconographie Programs in the Cloister. *Gesta* 12(1973) 71-92; Deux têtes de rois provenant du Jubé de Chartres, actuellement aux Etats-Unis. *Bull Soc Nat Antiquaires France* (1972) 171-180.

Other Publications: L'art gothique. In *Les Formes de l'art, architecture et sculpture*, 3. Paris: Fernand Nathan, 1971.

Price, Derek de Solla 58s, 58f HS, History of Science

Born 1922 London, England. PhD 1946 Physics Univ London.; PhD(Cantab.) 1954 History of Science. Honors: MA(hc) Yale University 1960; Leonardo da Vinci Medal Soc for Hist of Technology 1976; Fellow American Association for the Advancement of Science 1977. Appointments: 1969-70 Jt Working Cttee UNESCO & International Union for Hist & Philos of Sci, Developing Countries; 1970-71 President's Sci Adv Council; UNESCO/Sci Policy Egypt; 1974, US/USSR Task Group Forecasting Sci and Tech Info. Memberships: Soc for Hist of Tech; Hist of Sci Soc; Internatl Acad for Hist of Sci; Brit Soc for Hist of Sci; Internatl Council for Sci Policy Studies; Soc for Social Studies of Sci; Soc Internatle de l'Astrolabe; Antiquarian Horological Soc. Avalon Prof, History of Science, Yale Univ, Curator Historic Scient Instruments Yale Univ, 2036 Yale Station, New Haven, CT 06520.

Publications Related to IAS Residence: An Ancient Greek Computer. *Scientific American* 201(1959) 60-67; *Science Since Babylon*. New Haven: Yale Univ Press, 1961.

Other Publications: Gears From the Greeks: The An-tikythera Mechanism - A Calendar Computer from ca. 80 B.C. In *Trans Am Philo Soc*, 64, Pt 7. 1974; A General Theory of Bibliometric and other Cumulative Advantage Processes. *JASIS* 27, 5/6(1976) 292-306; An Extrinsic Value Theory for Basic and 'Applied' Research. In *Science & Technology Policy*. 1977.

Price, Justin Jesse 64-65 M, Analysis

Born 1930 Philadelphia, PA. PhD 1956 Univ of Penn. Honors: Lester R. Ford Award MAA 1976. Memberships: AMS; MAA. Prof, Mathematics Dept, Purdue University, West Lafayette, IN 47907.

Publications Related to IAS Residence: With Robert E. Zink. On sets of functions that can be

Members

multiplicatively completed. *Ann Math* 82(1965) 139-145.

Other Publications: Topics in Orthogonal Functions. *Am Math Monthly* 82(1975) 594-609.

Price, Peter J. 52-53 M(NS), Physics

Born 1924 London, England. PhD 1951 Physics Cambridge Univ. Memberships: Am Phys Soc. IBM Research Center, Yorktown Heights, NY 10598.

Publications Related to IAS Residence: The Macroscopic Theory of Superfluid He³-He⁴ Mixtures. *Phys Rev* 89(1953) 1209-1215; Density Fluctuations at Low Temperatures. *Phys Rev* 94(1954) 257-261.

Prikry, Karel L. 74-75 M, Logic

Born 1944 Czechoslovakia. PhD 1968 Univ of Calif, Berkeley. Memberships: Assoc for Symbolic Logic; AMS. Assoc Prof, School of Math, Univ of Minn, Minneapolis, MN 55455.

Publications Related to IAS Residence: Ideals and powers of cardinals. *Bull AMS* 81(1975) 907-909; With J. Baumgartner. On a theorem of Silver. *Discr Math* 14(1976) 17-21; With T. Jech. On ideals of sets and the power set operation. *Bull AMS* 82(1976) 593-595.

Other Publications: Changing measurable into accessible cardinals. *Dissert Math* 68(1970) 55; On a problem of Gillman & Keisler. *Ann Math Logic* 2(1970) 179-187; Kurepa's hypothesis and a problem of Ulam. *Monatshefte Für Math* 81(1976) 41-57.

Pritchard, James Bennett 78f HS, Archaeology

Born 1909 Louisville, KY. PhD 1942 Oriental Studies Univ of Penn. Honors: LHD Swarthmore Coll 1977; DD Uppsala Univ Sweden 1977. Appointments: Pres Archaeol Inst Amer 1973, 1974; Trustee Amer Univ of Beirut 1970-. Memberships: Amer Philos Soc; Amer Oriental Soc. Prof Emer, Univ of Penn. Tunbridge Rd, Haverford, PA 19041.

Pritchett, W. Kendrick 36-42, 45-47 HS(H), Greek History

Born 1909 Atlanta, GA. PhD 1942 Johns Hopkins Univ. Honors: Corr FBA; MRIA, Honorary. Prof Emer, Greek, Univ Calif Berkeley. 34 Rock Ln, Berkeley, CA 94708.

Publications Related to IAS Residence: With B. D. Me-ritt. *The Chronology of Hellenistic Athens*. Cambridge: Harvard Univ Press, 1940; With O. Neugebauer. *The Calendars of Athens*. 1947.

Other Publications: *The Greek State at War*. 1. 1971; 2. 1974; 3. 1979.

Protter, Murray H. 51-53, 59s M

Born 1918 New York, NY. PhD 1946 Math Brown Univ. Prof, Math Dept, Univ of Calif, Berkeley, CA 94720.

Protter, Philip E. 77-78 M, Probability

Born 1949 Syracuse, NY. PhD 1975 Mathematics Univ Calif, San Diego. Memberships: AMS; AAAS; IMS; MAG. Asst Prof, Math & Stat, c/o Mathematics Dept, Purdue Univ, West Lafayette, IN 47907.

Publications Related to IAS Residence: Hp Stability of Stochastic Differential Equations. *Z Wahr* 44: 337-352; A Comparison of Stochastic Integrals. *Ann Prob* 7; Martingales with Given Absolute Value. *Ann Prob* forthcoming.

Other Publications: Right Continuous Solutions of Stochastic Integral Equations. *J Mult Anal* 7: 204-214; Markov Solutions of Stochastic Differential Equations. *Z Wahr undverw Geb* 41: 39-58.

Pryce, Maurice Henry Lecorney 35-37 M(NS)

Born 1913 England. PhD 1937 Princeton Univ. *

Publications Related to IAS Residence: With W. E. Kock and B. Hoffmann. A Geometrical Interpretation of the Method of Symmetrical Components. *J Math Physics* 15(1936) 187-190; On the New Field Theory. *Proc Roy Soc London A* 155(1936) 597-613; On the New Field Theory. II: Quantum Theory of Field and Charges. *Proc Roy Soc London A* 159(1937) 355-382; Zur Neutrinotheorie des Lichtes. *Z Physik* 105(1937) 127-132; On the Neutrino Theory of Light. *Proc Roy Soc London A* 165(1938) 247-271; The Mass-Centre in the Restricted Theory of Relativity and Its Connexion with the Quantum Theory of Elementary Particles. *Proc Roy Soc London A* 195(1948) 62-81.

Puckett, William Thomas, Jr. 48-49 M, Topology

Born 1905 Radford, VA. PhD 1937 Univ of Va. 11361 Homedale St, Los Angeles, CA 90049. *

Pugh, Ralph Bernard 63-64, 69-70 HS, English Medieval History

Born 1910 Sutton, Surrey, England. DLit English Hist London Univ. Memberships: FSA; FR Hist S. Prof Emer, English History, London Univ, Pres Wiltshire Record Soc, 67 Southwood Park, London, N.6 5SQ, England.

Publications Related to IAS Residence: *Imprisonment in Medieval England*. Cambridge Univ Press, 1968; *Calendar of London trailbaston trials under commissions of 1305 and 1306*. London: HMSO, 1975; Some reflections of a medieval criminologist. Raleigh lecture on history. London: Oxford University Press, 1973.

Other Publications: *Wiltshire Gaol Delivery and Trailbaston Trials 1275-1306*. 33. Devizes: Wiltshire Record Soc, 1978; Ed, *Court rolls of the Wiltshire manors of Adam de Stratton*. 25. Devizes: Wiltshire Record Soc, 1970.

Puig, Lluís 78-79 M, Finite Group Theory

Born 1943 Sta Coloma de Gramanet, Spain. D ès S 1975 Math Univ of Paris. Memberships: AMS; Soc

Math de France. Chargé de recherche, Math, CNRS, 3, rue Jules Guesde, Appt 322, 94140 Alfortville, France.

Publications: Structure Locale dans les Groupes Finis. *Bull Soc Math France* 47(1976); Sous-groupes de contrôle et critères de non-simplicité. *J of Algebra* 52(1978).

Puppe, Dieter 57-58 M, Topology

Born 1930 Łódź Poland. Dr rer nat 1954 Math U Heidelberg. Honors: Heidelberger Ak d W 1972. Appointments: Sek Der Math-Naturw KI Heidelberger Ak d W. Memberships: AMS; DMV. Prof, Mathematisches Institut der Univ Heidelberg, im Neuenheimer Feld 288, 6900 Heidelberg, Fed Rep. Germany,

Publications Related to IAS Residence: With A. Dold. Non-Additive Functors, Their Derived Functors and the Suspension Homomorphism. *Proc NAS* 44(1958) 1065-1068; With A. Dold. Homologie Nicht-Additiver Funktoren Anwendungen. *Ann Inst Fourier* 11(1961) 201-312; A Theorem on Semi-Simplicial Monoid Complexes. *Ann Math* 70(1959) 379-394.

Puppi, Lionello 78f HS, History of Art

Born 1931 Belluno, Italy. PhD 1964 History of Mediaeval and Modern Art Ministero Pubblica Istruzione, Rome, Italy. Honors: Fellow Villa I Tatti, Florence 1968; Vis Schol Dumbarton Oaks 1976-1977; Mem Ateneo Veneto, Venice, Accad Olimpica, Vicenza. Memberships: ICOMOS; CIHA, Comité Intern d' Hist de l' Art; Centro Intern Studi di Architettura A. Palladio, Vicenza. Prof, History of Architecture, Univ of Padua, Dir Ins of History of Art Univ of Padua, Piazza Insurrezione 10, 35100 Padua, Italy.

Publications Related to IAS Residence: Espiazione e caritas erasmiana in un monumento padovano del Cinquecento: Cà Lando. *Architettura* in press; Verso Gerusalemme. *Arte Veneta* in press; Il purissimo liocorno. In *Atti del Convegno Intern su Giorgione*. Venezia: 1979.

Other Publications: *Bartolomeo Montagna*. Venezia: N Pozza, 1962; *Michele Sanmicheliarchitetto di Verona*. Padova: Marsilio, 1971; With S. Bettini. *La chiesa degli Eremitani di Padova*. Vicenza: Neri Pozza, 1970; *Villa Badoer a Fratta Polesine*. Vicenza: Corpus Palladianum, 1972; *Scrittori vicentini d'architettura del secolo XVI*. Vicenza: Accademia Olimpica, 1973; *Andrea Palladio L'opera completa*. Milano: Electa, 1973; With L. Olivato. *Mauro Codussi*. Milano: Electa, 1977; *Ritratto di Verona*. Verona: BCV, 1978.

Pursey, Derek L. 60-61 M(NS), Theoretical Physics

Born 1927 Glasgow, Scotland. PhD 1952 Univ of Glasgow. Physics Dept, Iowa State Univ, Ames, IA 50010.*

Putnam, Alfred L. 48-49 M, Algebra

Born 1916 Forestville, NY. PhD 1942 Mathematics Harvard Univ. Appointments: College Board Math Adv Comm, Chmn 1974-1979. Memberships: MAA; AMS; Natl Council of Teachers of Math; AAAS. Prof, Mathematics, Univ of Chicago, 5834 Stony Island Av, Chicago, IL 60637.

Putnam, Calvin Richard 50-51 M

Born 1924 Baltimore, MD. PhD 1948 Math Johns Hopkins Univ. Memberships: AMS; MAA. Prof, Dept of Mathematics, Purdue Univ, West Lafayette, IN 47907.

Publications Related to IAS Residence: With A. Wintner. The Connectedness of the Orthogonal Group in Hubert Space. *Proc NAS* 37(1951) 110-112; With A. Wintner. Linear Differential Equations with Almost Periodic or Laplace Transform Coefficients. *Amer J Math* 73(1951) 792-806; On Normal Operators in Hubert Space. *Amer J Math* 73(1951) 357-362; With A. Wintner. On the Addition of Symmetric Normal Frequency Curves. *Math Notae* 2(1951) 79-86; On the Least Eigenvalue of Hill's Equation. *Quart Appl Math* 9(1951) 310-314; The Quantum-Mechanical Equations of Motion and Commutation Relations. *Physical Rev* 2, 83(1951) 1047-1048; With A. Wintner. The Orthogonal Group in Hubert Space. *Amer J Math* 74(1952) 52-78; The Spectra of Quantum-Mechanical Operators. *Amer J Math* 74(1952) 377-388.

Other Publications: *Commutation Properties of Hilbert Space Operators and Related Topics*. Ergebnisse Der Math, 36. Springer-Verlag, 1967.

Queller, Donald Edward 79-80 HS, Medieval and Renaissance History

Born 1925 St. Louis, MO. PhD 1954 Univ of Wisconsin. Honors: Fulbright Fellow Belgium 1954-55; Fulbright Research Fellow Italy 1962-63; Rockefeller Foundation Fellow 1962-63; Guggenheim Fellow 1972-73; Pres, Midwest Medieval Conf 1978-79. Appointments: Prog Cttee, AHA, 1960. Memberships: AHA; Med Acad Amer. Prof, Medieval Hist, 2406 S Prospect Ave, Champaign, IL 61820.

Publications Related to IAS Residence: *Medieval Diplomacy and the Fourth Crusade*. London: Variorum, 1980.

Other Publications: *Early Venetian Legislation on Ambassadors*. Geneva: Droz, 1966; *The Office of the Ambassador in the Middle Ages*. Princeton: Princeton Univ Press, 1967; *Two Studies on Venetian Government*. Geneva: Droz, 1977; *The Fourth Crusade*. Philadelphia: Penn Univ Press, 1977; With Susan J. Stratton. A Century of Controversy on the Fourth Crusade. *Studies in Medieval and Renaissance History* 6(1969) 235-277.

Quillen, Daniel G. 69-70 M, Topology, Algebra

Born 1940 Orange, NJ. PhD 1964 Harvard Univ. Honors: Fields Medal. Math Dept, MIT, Cambridge, MA 02139. *

Members

Quine, Willard Van Orman 56-57 HS/M, Logic

Born 1908 Akron, OH. PhD 1932 Philosophy Harvard Univ. Honors: DLitt Oxford 1970; Cambridge 1978; Dr(hc) Lille 1965; LHD Chicago 1967; LLD Ohio State 1957; LittD Oberlin 1955; Akron 1965; Washington U 1966; Temple 1970; Nicholas Murray Butler Gold Medal Columbia 1970; NAS; AAAS; Am Philos Soc. Memberships: Assn for Symbolic Logic (Pres 1953-56); Amer Philos Assn (Pres 1957). Edgar Pierce Prof Philos Emeritus, Harvard Univ, Emerson Hall, Cambridge, MA 02138.

Publications Related to IAS Residence: *Word and Object*. MIT Press, 1960.

Other Publications: *Mathematical Logic*. 1940; *Methods of Logic*. 1950; *Set Theory and Its Logic*. 1963; *Roots of Reference*. 1974.

Quinn, Frank S. 71-73 M, Topology

Born 1946 Havana, Cuba. PhD 1969 Math Princeton Univ. Memberships: AMS. Asst Prof, Math Dept, Virginia Polytechnic Inst, Blacksburg, VA 24061.

Publications Related to IAS Residence: With W. Browder. A Surgery Theory for σ -Manifolds and Stratified sets. In *Proc Japan Topology Conf*, ed. by A. Hat-tori. U Tokyo Press, 1975; With W. A. Hatcher. Bordism Invariants of Intersections of Manifolds. *Trans AMS* 200(1973) 327-344.

Rabi, Isidor Isaac 38f M(NS), Physics

Born 1898 Austria. PhD 1927 Columbia Univ. Honors: Nobel Prize Physics 1944; DSc(hon.): Princeton 1947; Harvard 1955; Williams Coll 1958; Birmingham 1960; Clark U 1962; Adelphi Coll 1962; Technion 1963; Franklin & Marshall Coll 1964; Brandeis U 1965; UCoim-bra, Portugal 1966; Hebrew U, Jerusalem 1972; Coll City NY 1977; Bates Coll 1977; LI U 1977; LHD Hebrew Union Coll, Cin 1958; Oklahoma City U 1960; LLD Dropsie Coll 1956; DHL Yeshiva U 1964; LittD Jewish Theol Sem 1966; Off French Legion of Honor 1956, Cmdr 1968; Am Philos Soc; NAS; Japan Acad Sci. Appointments: Mem Gen Adv Comm AEC 1946-, chmn 1952-56; chmn sci adv comm ODM 1953-57; Consultant State Dept 1958-; mem Naval Res Adv Comm 1952-; VP Internat Conf on Peaceful Uses Atomic Energy, Geneva, 1955, 1958, 1964; US rep adv comm to Secy Genl UN 1955-; mem NATO Sci Comm 1958; US del UNESCO Conf Florence, Italy 1950; Assoc Ed *Phys Rev* 1935-38, 1941-44. Prof Emer, Columbia Univ, 450 Riverside Dr, New York, NY 10027.

Rabin, Michael O. 58s M, Logic

Born 1931 Breslau, Germany. PhD 1957 Mathematics Princeton Univ. Honors: Weizmann Prize Exact Sci 1960; Rothschild Prize Math 1974; A.M. Turing Award in Computer Sci 1976. Memberships: AMS; ASL. Prof, and Pro-Rector, Dept of Math, The Hebrew University of Jerusalem, Jerusalem, Israel.

Rabinowitch, Alexander 73-74 HS, Modern History, Russia

Born 1934 London, England. PhD 1965 History Indiana Univ. Honors: NEH Grants 1967-68, 1973-74; ACLS Fellowship 1970-71. Appointments: Inter-University Committee IREX Fellowships for research in the Soviet Union. Memberships: AHA; Am Assoc for The Adv of Slavic Studies; Midwest Slavic Conf. Prof, and Director Russian and East European Inst, History Department, Indiana University, Bloomington, IN 47401.

Publications Related to IAS Residence: *The Bolsheviks Come to Power: The Revolution of 1917 in Petrograd*. W.W. Norton, 1976.

Other Publications: ed with Janet Rabinowitch, L.K.D. Kristof. *Prelude to Revolution: The Petrograd Bolsheviks and the July 1917 Uprising*. Indiana University Press, 1968; *Revolution and Politics in Russia: Essays in Memory of B.I. Nicolaevsky*. Indiana University Press, 1972.

Rabinowitch, Eugene I. 62-63 M(NS), Biophysics

Born 1901 USSR. PhD 1926 Univ of Berlin. Deceased.

Rabinowitz, Wilson Gerson 57-58 HS, History of Ancient Greek Philosophy

Born 1919 Kansas City, MO. PhD 1955 U of Calif., Berkeley. *

Racah, Giulio 50-51 M(NS), Theoretical Physics

Born 1909 Italy. PhD 1930 Univ of Florence. Deceased.

Publications Related to IAS Residence: Directional Correlation of Successive Nuclear Radiations. *Phys Rev* 2 84(1951) 910-912.

Rademacher, Hans 53s, 60-61 M, Analytic Theory of Numbers

Born 1892. PhD 1917 Univ of Göttingen. Deceased.

Publications Related to IAS Residence: Generalization of the Reciprocity Formula for Dedekind Sums. *Duke Math J* 21(1954) 391-397; On the Condition of Rie-mann Integrability. *Amer Math Monthly* 61(1954) 1-8; On Dedekind Sums and Lattice Points in a Tetrahedron. In *Studies in Mathematics & Mechanics*, Presented to Richard von Mises: 49-53. New York: 1954.

Rader, Cary Baker 71-72 M, Harmonic Analysis on Semi-Simple Lie Groups

Born 1941 Seattle, WA. PhD 1971 Univ of Wash. Dept of Math, Rutgers U, New Brunswick, NJ 08903. *

Radha, Thayyoor K. 65-66 M(NS), Physics

Born 1938 India. PhD 1962 Univ of Madras. *

Radicati di Brozolo, Luigi A. 59-61, 68f M(NS),
Physics

Born 1919 Milano, Italy. PhD Physics Torino Univ. Honors: Member Accad dei Lincei, Rome; Premio Feltrinelli Fisica Roma 1966. Appointments: Comite Scientifique, IHES. Memberships: Europ Phys Soc; Am Phys Soc. Prof, Physics, Scuola Normale Superiore, Pisa, 56100, Italy.

Publications Related to IAS Residence: With Fonda and Regge. Mandelstam Representation for Non-relativistic Many Channel Problems. *Ann Phys* 12(1961) 68; With Michel. Properties of the Breaking of Hadronic Internal Symmetry. *Ann Phys* 66(1971) 758.

Radin, Max 49-50 HS, Legal History

PhD Columbia Univ. Deceased.

Publications Related to IAS Residence: The Loyalty Oath at the University of California. *Amer Scholar* 19(1950) 275-284; The Method of Law. *Washington Univ Law Q* (1950) 471-497; Natural Law and Natural Rights. *Yale Law J* 59(1950) 214-237; The Goal of Law. *Washington Univ Law Q* (1951) 1-29.

Other Publications: Rev. of Northrop, P.S.C., "Ideological Differences and World Order". *New York Times Book Review* (March 27, 1949) 7; Rev. of Cahn, E.N., "The Sense of Injustice". *Cornell Law Q* 35(1950) 933-935; Rev. of Hurst, J. W., "The Growth of American Law". *New York Univ Law Rev* 25(1950) 670-672; Rev. of Reel, A. F., "The Case of General Yamashita". *Calif Law Rev* 38(1950) 363-365.

Radjavi, Heydar 62-63 M, Theory of Operators

Born 1935 Tabriz, Azarbayjan, Iran. PhD 1962 Math Univ of Minn. Appointments: Member Granting Comm of Canadian NRC Mathematics 1975-1978. Memberships: AMS; Canadian Math Soc. Prof, Dept of Mathematics, Dalhousie University, Halifax, Canada B3H 4H8.

Publications: Structure of $A^*A - AA^*$. *J Math Mech* 16(1966) 19-26; With P. Rosenthal. On invariant subspaces and reflexive algebras. *Amer J Math* 91(1969) 683-692; With P. Rosenthal. A sufficient condition that an operator algebra be self-adjoint. *Can J Math* 23(1971) 588-597; With P. Rosenthal. On transitive and reductive operator algebras. *Math Ann* 209(1974) 43-56; Isomorphisms of transitive operator algebras. *Duke Math J* 41(1974) 555-564; With M. Radjabalipour. On decomposability of compact perturbations of normal operators. *Can J Math* 27(1975) 725-735; With E. Nordgren and P. Rosenthal. On Arve-son's characterization of hyperreducible triangular algebras. *Indiana Univ Math J* 26(1977) 179-182; With E. Nordgren, M. Radjabalipour and P. Rosenthal. On invariant operator ranges. *Trans AMS* (in press); With P. Rosenthal. *Invariant Subspaces*. Ergebnisse der Mathematik und ihrer Grenzgebiete, 77. Heidelberg: Springer-Verlag, 1973.

Radó, Tibor 44-45 M

Born 1895 Hungary. PhD 1921 Univ of Szeged. Deceased.

Publications Related to IAS Residence: On Continuous Mappings of Peano Spaces. *TAMS* 58(1945) 420-454; On Surface Area. *Proc NAS* 31 (1945) 102-106; *Length and Area*. Colloquium Publications, 30. New York: Amer Math Soc, 1948.

Rådström, Hans Vilhem 49s, 49-50 M

Born 1919 Sweden. PhD 1946 Univ of Stockholm. Deceased.

Publications Related to IAS Residence: On the Zeros of Successive Derivatives of Entire Functions. *Proc NAS* 35(1949) 399-404; With O. Hanner. A Generalization of a Theorem of Fenchel. *Proc AMS* 2(1951) 589-593; An Embedding Theorem for Spaces of Convex Sets. *Proc AMS* 3(1952) 165-169; Convexity and Norm in Topological Groups. *Ark Mat* 2(1954) 99-137.

Rafael, Eduardo de 72f M(NS), Particle Physics

Born 1938 Begas Barcelona, Spain. D d'Etat 1966 Physics Univ of Paris. Dir de Recherche, Centre de Physique Théorique, CNRS, Luminy Case 907, 13288 Marseille Cedex 2, France.

Publications Related to IAS Residence: With J. L. Rosner. Short-Distance Behaviour of QED and the Callan-Symanzik Equation for the Photon Propagator. *Ann of Phys* 82(1974) 369-405.

Other Publications: With J. Fernandez. Campo Estacionario con Simetria Cilindrica en ElectroDnamica no Lineal de Born-Infeld. *Anales Fis y Quim* 56(1960) 273; Strong Interaction Symmetries and Relations between Polarizations for $pp \rightarrow \Lambda\Lambda$. *Nuovo Cimento* 25(1962) 320; $\Sigma^0 \rightarrow \Lambda^0$ Relative Parity from $\Lambda^0 \rightarrow \Sigma^0$ Conversion Induced by the Coulomb Field of a Nucleus. *Phys Rev* 128(1962) 2435; With J. Nuys. Some remarks Concerning Hyperon-Antihyperon Production by Antiprotons on Hydrogen. *Nuovo Cimento* 30(1963) 449; A New Test for the Spin-Parity Determination of Strange Baryonic Resonances. *Nuovo Cimento* 33(1964) 237; Test for the Spin of the πp (1310) Resonance from its Decay Angular Distributions. *Phys Letters* 11(1964) 260; Relativistic Theory of Angular Correlations in Successive Two-Body Decays of Unstable Particles. *Ann Inst Henri Poincaré* 2(1965) 87; With M. G. Doncel. Tests of $SU(6)_W$ from Predictions on Spin Alignments. *Nuovo Cimento* 42(1966) 426; Théorie Relativiste des Corrélations Angulaires et Application à l'Analyse Phénoménologique des Particules et Résonnances. *Ann Inst Henri Poincaré* 5(1966) 83; With M. L. Good and L. Michel. Theory of Neutral Leptonic Currents. *Phys Rev* 151(1966) 1194; Neutral Semileptonic Decays of K Mesons. *Phys Rev* 151(1968) 1486; With B. R. Martin. Phenomenological Analysis of $K \rightarrow \pi\pi$ ($l = 2$) Amplitudes and Violation of CP Invariance. *Phys Rev* 162(1967) 1453.

Members

Ragab, Fouad Mohamed 56f M, Analysis

Born 1922 Egypt. PhD 1951 Math Glasgow Univ. Honors: DSc Glasgow Univ 1954. Prof, and Head Dept Math-Fac of Engineering Cairo University, 30 Manshietel-Bakry St, Manshietel-Bakry Cairo, Egypt.

Raghavan, Srinivasacharya 65-67 M, Number Theory, Automorphic Forms

Born 1934 Thanjavur, Tamil Nadu, India. PhD 1960 Mathematics Univ of Bombay. Memberships: Indian Math Soc. Prof, School of Mathematics, Tata Institute of Fundamental Research, Homi Bhabha Rd, Bombay 400005, India.

Publications Related to IAS Residence: With S.S. Rangachari. On Zeta functions of quadratic forms. *Ann Math* 85(1967) 46-57.

Ragunathan, Madabusi Santanam 66-67 M, Lie Groups, Algebraic Groups

Born 1941 Anantapur, Andhra, India. PhD 1966 Mathematics Bombay Univ. Memberships: Indian Natl Sci Acad. Prof, School of Mathematics, Tata Institute of Fundamental Research, Bombay-5, India.

Publications Related to IAS Residence: Cohomology of Arithmetic Subgroups of Algebraic groups, I. *Ann Math* 87(1968) 279-304; II. 86(1967) 409-424; A Note on Quotients of Real Algebraic Groups by Arithmetic Subgroups. *Inv Math* 4(1968) 318-335.

Other Publications: On the Congruence Subgroup Problem. *Publ Math IHES* 46(1976) 107-161.

Rajaraman, Ramamurti 67-69, 73-75 NS, Theoretical Particle Physics and Statistical Mechanics

Born 1939 Coimbatore, India. PhD 1963 Theoretical Physics Cornell Univ. Memberships: Indian Acad of Scis. Prof, Center for Theoretical Studies, Indian Institute of Science, Bangalore, India 560012.

Publications Related to IAS Residence: Some Non-perturbative Semiclassical Methods in Quantum Field Theory. *Phys Reports* 21C 5(1975); With R. F. Dashen. Narrow Resonances in Statistical Mechanics. *Phys Rev D* 10(1974) 694; With R. F. Dashen. Effective Elementarity of Resonances and Bound States in Statistical Mechanics. *Phys Rev D* 10(1974) 708; With E. Weinberg. Internal Symmetry and the Semiclassical Method in Quantum Field Theory. *Phys Rev D* 11(1975) 2950; With R. F. Dashen and S. K. Ma. Finite Temperature Behaviour of a Relativistic Field Theory with Dynamical Symmetry Breaking. *Phys Rev D* 11(1975) 1499; With S. K. Ma. Comments on the Absence of Spontaneous Symmetry Breaking in Low Dimensions. *Phys Rev D* 11(1975) 1701; Self Consistent High Energy Scattering of Zero Mass Leptons: The Coupled Channel Case. *Phys Rev* 178(1969) 2221; The High Energy Behaviour of Scattering due to Massless (Neutrino) Exchange. *Phys Rev* 178(1969) 2211; With

B. H. J. McKellar. Many Body Forces and the Binding Energy of High Density Nuclear Matter. *Phys Rev* C10(1974) 871; Very High Energy Inelastic Hadron-Hadron Collisions. *Phys Rev D* 1(1970) 118; With B. H. J. McKellar. Three Body Forces in Nuclear Matter. *Phys Rev Letters* 21 (1968) 450; With S. Rai Choudhury. Backward Compton Scattering Sum Rule and the $\pi^0 \rightarrow 2\gamma$ and $\eta \rightarrow 2\gamma$ Decay Rates. *Phys Rev* 169(1968) 1218; With S. J. Chang. Remarks on the Kinematics of Multiperipheral Processes. *Phys Rev* 183(1969) 1517; With S.J. Chang. Long Range Corrections to the Coulomb Potential and Their Implications about Weak Interactions. *Phys Rev* 183(1969) 1442; Effect of Nuclear Correlations on Pion Condensation in Neutron Stars. *Phys Letters* 48B(1974) 179; With E.W. Colglazier Jr. Polarized Electroproduction as a test of parton models with Structure. *Phys Rev D* 10(1974) 334.

Other Publications: With Hans A. Bethe. The Three Body Problem in Nuclear Matter. *Rev Mod Phys* 39(1967) 745; The Three Body Effect in Nuclear Matter to All Orders in Perturbation. *Phys Rev* 131(1963) 1244; With B.H.J. McKellar. Three and Many-body Forces in Nuclear Physics. In *Pions in Nuclei*, ed. by M. Rho and Sir Denys Wiliamson. North Holland Publishing Co, 1977; Evaluation of the Triple Pomeranchukon Vortex from Experiment. *Phys Rev Letters* 27(1971) 683; Decoupling of the Pomeron Pole from All Inelastic Processes. *Phys Letters* 42B(1972) 271.

Rallis, Stephen J. 68-70 M, Representation Theory

Born 1942 VT. PhD 1968 Mathematics MIT. Assoc Prof, Dept of Mathematics, Ohio State University, Columbus, OH 43210.

Publications Related to IAS Residence: With B. Kostant. Orbits and Representations Associated with Symmetric Spaces. *Am J Math* 93(1971) 753-809; With B. Kostant. On Orbits Associated with Symmetric Spaces. *Bull AMS* 75(1969) 879-883; With B. Kostant. On Representations Associated with Symmetric Spaces, *Bull AMS* 75(1969) 884-888; New and Old Results in Invariant Theory Applications to Arithmetic Groups. In *Symmetric Spaces*, 443-458. New York: Dekker, 1972; Distributions Invariantes par le Groupe Orthogonal. In *Analyse Harmonique sur les Groupes de Lie*, Springer Lecture Notes, #497: 494-643. 1974.

Ramachandra, Kankanahalli 70-71 M, Riemann Zeta Function, Distribution of Prime Numbers

Born 1933 India. PhD 1964 Bombay U. School of Math, Tata Inst of Fundamental Research, Bombay 5, India. *

Ramakrishnan, Alladi 57-58 M(NS), Theoretical Physics

Born 1923 Madras, India. PhD Univ of Manchester. Appointments: Expert Committee on Math, Univ Grants Comm 1959-61; Phys Res Comm, Council of Sci & Indust Res 1959-62; Govt Aeronautics Comm

1968-9. Memberships: Life Fellow, Indian Acad of Scis; Life Member, Indian Math Soc. Dir, Matscience, Institute of Mathematical Sciences, Madras 20, India.

Publications Related to IAS Residence: Multiple product densities. *J Math Biophys* (1959).

Other Publications: Probability and Stochastic processes. In *Handbuch der Physik*, 3. Springer Verlag, 1959; *Elementary Particles and Cosmic Rays*. Pergamon Press, 1963; *L Matrix Theory or Grammar of Dirac Matrices*. McGraw Hill, 1972.

Ramanan, Sundavaraman 77-78 M, Algebraic Geometry

Born 1936 Tamil Nadu, India. PhD 1965 Bombay University. Memberships: Fellow Indian Natl Sci Acad. Prof, School of Mathematics, Tata Institute of Fundamental Research, Bombay, India.

Publications Related to IAS Residence: *Vector bundles over algebraic curves*. Helsinki: IMC, 1978.

Ramanathan, Annamalai 78-79 M, Algebraic Groups

Born 1946 Madras, India. PhD 1977 Math Tata Inst. Fellow, School of Mathematics, Tata Institute of Fundamental Research, Homi Bhabha Rd., Colaba, Bombay, 400005, India.

Ramanathan, K. Gopalaiyer 48-51, 61-62 M, Number Theory

Born 1920 Hyderabad, India. PhD 1951 Math Princeton U. Honors: SS Bhatnagar Award for Math Scis 1965; J Nehru Fellow 1972. Appointments: Math Panel, Univ Grants Comm, Govt of India 1972-75. Memberships: Fellow Indian Natl Sci Acad 1959; Fellow Indian Acad of Scis; Founder Fellow Maharashtra Acad. Senior Prof, Math, School of Mathematics, Tata Institute of Fundamental Research, Bombay 400 005, India.

Ramirez de Arellano, Enrique 72-73 M, Analysis

Born 1937 Mexico City, Mexico. PhD 1969 Mathematics Göttingen Univ. Memberships: Soc Matemática Mexicana. Full Prof, Dept of Mathematics, CIEA del IPN, Apartado 14-740, Mexico 14, DF, Mexico.

Ramnoux, Clémence 55-56, 60f HS, History of Hellenic Philosophy

Born 1905 Langeais, France. Doctorat 1958. Honors: Cmdr l'Ordre des Palmes Académiques; Chevalier de la Légion d'Honneur. Memberships: Soc Fr Philosoph; Soc Fr Psychanalyse. Prof Hon, Univ de Paris X, 66, av Breteuil, 75007 Paris, France.

Publications Related to IAS Residence: *Heraclite ou l'Homme entre les choses et les mots*. Paris: les Belles lettres, 1958; *La Nuit de les Enfants de la Nuit*. Paris: Flammarion, 1958; *Mythologie*. Paris: Colin, 1962.

Other Publications: *Parmenide et ses successeurs immédiats*. Paris: Editions du Rocher, 1979.

Ran, Ziv 78-79 M, Algebraic Geometry

Born 1957 Tel Aviv, Israel. PhD 1978 Math Univ Calif, Berkeley. Member, School of Mathematics, Institute for Advanced Study, Princeton, NJ 08540.

Randell, Richard C. 76-77 M, Topology

Born 1946 Fairfield, IA. PhD 1973 Math U of Wisc. Memberships: AMS. Asst Prof, Dept of Math, U of Mich, Ann Arbor, MI 48109.

Publications Related to IAS Residence: With P Orlik. Monodromy of weighted homogeneous singularities. *Inv math* 39(1977) 199-212; Quotients of complete intersections by C^* -actions. *Pac J Math* 74(1978) 209-219; The Milnor number of some isolated complete intersection singularities with C^* -action. *Proc AMS* 72(1978) 375-380.

Other Publications: The topology of non-isolated singularities. In *Proceedings of 1977 Georgia Topology conference*, ed. by J Cantrell. Academic Press, 1978.

Randels, William C. 35-36 M

Born 1909 Valley City, ND. PhD 1934 Brown Univ. 1618 Willow 204, Palo Alto, CA 94304.

Publications Related to IAS Residence: With J. A. Clark-son. Fourier Series Convergence Criteria as Applied to Continuous Functions. *Duke Math J* 2(1936) 112-116; On the Summability of Fourier Series. *Trans AMS* 41(1937) 24-47.

Randol, Burton 66-67 M, Analysis

Born 1937 New York, NY. PhD 1962 Mathematics Princeton University. Memberships: AMS. Professor, Dept of Mathematics, Graduate Center CUNY, 33 W 42 St, New York, NY 10036.

Publications Related to IAS Residence: Small eigenvalues of the Laplace operator on compact Riemann surfaces. *Bull AMS* 80(1974) 996-1,000; The Riemann hypothesis for Selberg's zeta-function and the asymptotic behavior of eigenvalues of the Laplace operator. *Trans AMS* 236(1978) 209-223; On the asymptotic distribution of closed geodesics on compact Riemann surfaces. *Trans AMS* 233(1977) 241-247; On the Fourier transform of the indicator function of a planar set. *Trans AMS* 139(1969) 271-278; On the asymptotic behavior of the Fourier transform of the indicator function of a convex set. *Trans AMS* 139(1969) 279-285.

Randolph, John F. 36-38 M

Born 1904 . PhD 1934 Cornell Univ. Dept of Math, Rochester Inst of Tech, Rochester, NY 14623. *

Publications Related to IAS Residence: The Vitali Covering Theorem for Carathéodory Linear Measure. *Ann Math* (2) 40(1939) 299-308; With A. P. Morse.

Members

Gillespie Measure. *Duke Math J*6(1940) 408-419; Metric Separability and Outer Integrals. *Bull AMS* 46(1940) 934-939.

Rangachari, Sundaravaradan Srinivasa 65-67 M, Number Theory

Born 1934 Erode Tamilnadu, India. Dr rer nat 1959 Math Univ of Göttingen. Memberships: Indian Math Soc Fellow, Maharashtra Acad of Sci. Reader, School of Mathematics, Tata Institute of Fundamental Research, Bombay 5, India.

Publications Related to IAS Residence: With S. Raghavan. On Zeta functions of quadratic forms. *Ann Math* 85, 1: 46-57.

Other Publications: Modulare Korrespondenzen und L-Reihen. *J. reine angew Math* 205(1961) 119-155.

Ranum, Orest Allen 73-74 HS, Modern History

Born 1933 Lyle, MN. PhD 1961 Univ of Minnesota. Memberships: AHA; Soc for French Hist Studies. Prof, History, Johns Hopkins Univ. 208 Ridgewood Rd, Baltimore, MD 21210.

Publications Related to IAS Residence: *Artisans of Glory; Writers and Historical Thought in Seventeenth-Century France*. Chapel Hill: UNC Press, 1979.

Other Publications: *Richelieu and the Councilors of Louis XIII*. Oxford: 1963; *Paris in the Age of Absolutism*. New York: 1968.

Rao, Malempati M. 70-72 M, Functional Analysis, Probability

Born 1929 Nimmagadda, Andhra, India. PhD 1959 Probability & Statistics Univ of Minn. Honors: Fellow Inst Math Stats 1968; Elected Member Internat Stat Inst 1978. Memberships: AMS. Prof, Department of Mathematics, University of California, Riverside, CA 92521.

Publications Related to IAS Residence: *Stochastic Processes and Integration*. Alphen aan den Rijn-Netherlands: Sijthoff & Noordhoff, 1978/79; Conditional measures and operators. *J Multivariate Anal* 5(1975) 330-413; Two Characterizations of conditional probability. *Proc AMS* 59(1976) 75-80.

Other Publications: Smoothness of Orlicz spaces. *Indag Math* 27(1965) 671-690; Linear functionals on Orlicz spaces: General theory. *Pacific J Math* 25(1968) 553-585; Convolutions of vector fields and interpolation. *Proc NAS* 57(1967) 222-226.

Rao, R. Ranga 68f M, Harmonic Analysis

Born 1935 India. PhD 1961 Calcutta Univ. Dept of Math, Univ of Illinois, Urbana, IL 61801. *

Raphael, Robert B. 56-57 M(NS), Theoretical Physics

Born 1929 Los Angeles, CA. PhD 1954 Theoretical Physics Harvard U. Memberships: Am Phys Soc.

Assoc Prof, Physics, Oglethorpe Univ. 1998 Jordon Terrace NE, Atlanta, GA 30395.

Publications Related to IAS Residence: Generalized Effective Range Theory for Nucleous Nuclear Scattering. *Phys Rev* 107(1957) 1135-99.

Other Publications: With M. Rosen. On the Effect of Dynamical Deformations on the Calcium Isotopes. *Phys Rev C-2*(1970) 1040-1047.

Rapp, Richard Tilden 76f HS, Modern History

Born 1944 Miami Beach, FL. PhD 1970 Economic History Univ of Penn. Honors: Soc for Italian Hist Studies Prize 1971; Arthur H. Cole Prize The Econ Hist Assoc 1976. Memberships: AM Econ Assn; AHA; Econ Hist Assn. Adj Assoc Prof, History, SUNY at Stony Brook, Senior Economist, National Economic Research Associates, 80 Broad St, New York, NY 10004.

Publications Related to IAS Residence: With Edward Ames. The Birth and Death of Taxes: A Hypothesis. *J Econ Hist* 37(1977) 161-178.

Other Publications: *Industry and Economic Decline in Seventeenth-Century Venice*. Cambridge, Mass: Harvard University Press, 1976.

Rasetti, Mario G. 74-75 NS, Mathematical Physics

Born 1941 Turin, Italy. PhD 1969 Theoretical Physics University of Turin. Prof, Solid State Theory, Turin Inst of Tech, Strada Del Mainero, 6615, 10131 Turin, Italy.

Publications Related to IAS Residence: With T. Regge. Coherent States and Virial Theorem for Liquid Helium II. *J Low Temp Phys* 13(1973) 249; With T. Regge. Helium in Small Assemblies and Heavy Nuclei. In *Fundamental Interactions in Physics*, ed. by B. Kursunoglu and A. Perlmutter, 337. 1973; Generalized Definition of Coherent States and Dynamical Groups. *Int J Theor Phys* 13(1975) 425; Coherent States and Partition Function. *Int J Theor Phys* 14(1975) 1; With F. Iachello. Effective Interaction Approach to Liquid Helium. *Phys Rev* 12 B(1975) 134; With T. Regge. Vortices in He II, Current Algebras and Quantum Knots. *Physica* 80 A(1975) 217; With T. Regge. Vortices and Current Algebra. In *Mathematical Sciences and their Applications*. Roma, 1975; With F. Lund & T. Regge. Statistical Mechanics Models and the Modular Group. *Commun Math Phys* 51(1976) 15; With F. Lund and T. Regge. Dimer and Ising Model on the Lobachevskii Plane. *Teor Mat Fiz* 11(1977) 246.

Ratner, Sidney 56-57 HS, Modern History, World War II Economic History

Born 1908 New York, NY. PhD 1942 History & Economics Columbia Univ. Honors: Chmn, Conf on Methods in Philos & the Scis 1949-50; Chmn John Dewey Centenn Comm 1959-60; SSRC Grant 1957. Appointments: AAAS Member, Soc Sci Theory Prize Jury, 1962-63; Lect US State Dep't Amer Studies Sem, Kyoto, Japan, Summer 1964 and Universities in Nigeria, Spring 1967. Memberships: AAAS; Am Econ

Assoc; AHA; Econ Hist Assoc; Brit Econ Hist Assoc. Emer Prof, History, Rutgers Univ, Member Natl Seminar on Economic Hist Columbia Univ. 11 Cleveland Lane, Princeton, NJ 08540.

Publications Related to IAS Residence: *Taxation and Democracy in America*. New York: Wiley, 1967; *The Tariff in American History*. New York: Van Nostrand, 1972; *The Evolution of the American Economy*. NY: Basic Books, 1979.

Other Publications: Article in *Vision & Action*. New Brunswick, NJ: Rutgers U Press, 1953; editor, *Philosophy and History*. NY: NYU Press, 1963; *John Dewey and Arthur F. Bentley, A Philosophical Correspondence*. New Brunswick, NJ: Rutgers U Press, 1964.

Rattansi, Pyarally M. 69f HS, History of Science

Born 1930 Kenya. PhD 1967 U of London. *

Raubitschek, Antony Erich 38 42, 44-45, 54-55 HS, Greek Archaeology & Epigraphy

Born 1912 Vienna, Austria. DPhil 1935 Univ of Vienna. Prof Emer, Stanford Univ, 475 Embarcadero, Palo Alto, CA 94301.

Publications Related to IAS Residence: Notes on Attic Prosopography. *Hesperia* 2(1942) 304-313; Greek Inscriptions. *Hesperia* 12(1943) 12-88; With J. S. Creaghan. Early Christian Epitaphs from Athens. *Hesperia* 16(1947) 1-54; ed with Lilian H. Jeffery. *Dedications from the Athenian Akropolis; a Catalogue of the Inscriptions of the Sixth and Fifth Centuries B.C* Cambridge Mass: Archaeol Inst Amer, 1949; Leagros. *Hesperia* 8(1939) 155-164; The Heroes of Phyle. *Hesperia* 10(1941) 284-295.

Rauch, Harry Ernest 49-51 M, Functions of Several Variables

Born 1925 . PhD 1947 Princeton Univ. Deceased.

Publications Related to IAS Residence: A Contribution to Differential Geometry in the Large. *Ann Math (2)* 54(1951) 38-55; Geodesics, Symmetric Spaces, and Differential Geometry in the Large. *Comment Math Helv* 27(1953) 294-320; On Differential Geometry in the Large. *Proc AMS* 39(1953) 440-442.

Rauch, Jeffrey B. 76-77 M, Analysis

Born 1945 New York, NY. PhD Mathematics New York U. Honors: Distinguished Service Award U of Michigan 1976. Assoc Prof, Univ of Michigan, Department of Mathematics, Angell Hall, Ann Arbor, MI 48109.

Publications Related to IAS Residence: Asymptotic Behavior of Solutions to Hyperbolic Partial Differential Equations with Zero Speeds. *Communications Pure Applied Math* (1978); Local Decay of Scattering Solutions to Schrödinger's Equation. *Communications Math Phys* (1978); The Leading Wavefront for

Hyperbolic Mixed Problems. *Bull Soc Royale des Sci de Liège* (1977).

Ravenel, Douglas Conner 74-75 M, Algebraic Topology

Born 1947 Alexandria, VA. PhD 1972 Math Brandeis U. Honors: Sloan Fellow 1977-79. Memberships: AMS. Assoc Prof, Dept of Math, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: With H.R. Miller & W.S. Wilson. Periodic Phenomena in the Adams-No-vikov Spectral Sequence. *Ann Math* 106(1977) 469-516; With H.R. Miller. Morava Stabilizer Algebras and the Localization of Novikov's E_2 -Term. *Duke Math J* 44(1977) 433-447; The Structure of BP^* BP Modulo an Invariant Prime Ideal. *Topology* 15(1976) 149-153; The Structure of Morava Stabilizer Algebras. *Inv Math* 37(1976) 109-120; The Cohomology of the Morava Stabilizer Algebras. *Math Z* 152(1977) 287-297.

Other Publications: With W.S. Wilson. The Hopf Ring for Complex Cobordism. *J Pure & Applied Algebra* 9(1977) 241-280; The Nonexistence of Odd Primary Arf Invariant Elements in Stable Homotopy Theory. *Math Proc Camb Phil Soc* 83(1978) 429-443.

Ravenhall, David Geoffrey 52-53 M(NS), Elementary Particle Physics

Born 1927 Birmingham, England Physics Dept, Univ of Ill, Urbana, IL 61801. *

Ravetz, Jerome R. 77s Soc

Born 1929 Philadelphia, PA. PhD (Cantab.) Mathematics. Appointments: Genetic Manipulation Adv Grp (UK) 1977-8. Reader, History & Philosophy of Science, Department of Philosophy, The University, Leeds 2, England.

Publications: *Scientific Knowledge and its Social Problems*. Oxford University Press, 1971; *The Acceptability of Risks*. Council for Science Society, 1976.

Rawls, John 77f Soc

Dept of Philosophy, Harvard Univ, Cambridge, MA 02138. *

Ray, Daniel Burrill 58s, 59s, 60-61 M, Analysis

Born 1928 Cleveland, OH. PhD 1953 Cornell Univ. Deceased.

Raymond, Frank Albert 58-60, 66-67, 70-71, 80s M

Born 1932 Syracuse, NY. PhD Math University of Michigan. Honors: NSF Sr Post Doc Fellow. Memberships: AMS. Prof, Dept of Math, Univ of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: Classification of actions of the circle on 3 manifolds. *Trans AMS* 131(1968) 51-78; With P. Conner.

Members

Manifolds with Few Period Homeomorphisms, Holomorphic Seifert Filtering. In *Proc Conf on Compact Transformation Groups, Amherst, 1971*, ed. by HT. Ku et al, Lect Notes in Math 299: 1-75, 124-204. Berlin: Springer-Verlag, 1972.

Other Publications: With P. Conner. Deforming Homotopy Equivalences to Homeomorphisms in Aspherical Manifolds. *Bull AMS* 83(1977) 36-85.

Reddy, Aluru Raghuram 76s, 76-77 M, Analysis

Born 1941 Vidavalur, India. PhD 1967 Mathematics University of Madras. Prof, School of Mathematics, Hyderabad Univ, Nampally Station Rd, Hyderabad 500 001, India.

Publications Related to IAS Residence: Recent advances in rational approximation. *J Approximation Theory* 22(1978) 59-84; With P. Erdős and D. J. Newman. Rational approximation II. *Advances in Math* 29(1978) 135-156; On certain results of Chebyshev, Zolotarev, Bernstein and Akhiezer. *Inv Math* 45(1978) 83-110; With P. Erdős. Rational approximation I. *Advances in Math* 21(1976) 78-109; With D. J. Newman. Rational approximation of e^{-x} on the positive real axis. *Pacific J Math* 64(1976) 227-232; With D. J. Newman. Rational approximation to x^n . *Pacific J Math* 67(1976) 247-250; Some results in Chebyshev rational approximation. *J Approximation Theory* 18(1976) 251-263; A contribution to rational approximation. *J London Math Society* 14(1976) 441-444; With G. Freud & D.J. Newman. Chebyshev rational approximation to $e^{-1/x}$ on the whole real line. *Quart J Math* 28(1977) 117-122; Rational approximation to $x^{n+1} - \alpha x^n$. *Quart J Math* 28(1977) 123-127; With D. J. Newman. Rational With D. J. Newman. Rational approximation e^{-x} . *J Approximation Theory* 25(1979) 21-30; Rational approximation to $\sqrt{1-x}$. *J Approximation Theory* 25(1979) 31-33; A note on urban density function. *J Urban Economics* 5(1978) 409-410.

Reddy, William Lawrence 69-70 M, Topology

Born 1938 Albany, NY. PhD Mathematics Syracuse Univ. Honors: MA ad eundem gradam Wesleyan U 1975. Memberships: AMS; MAA; Am Assoc Adv Sci. Prof, and Chairman, Mathematics Department, Wesleyan University, Middletown, CT 06457.

Publications Related to IAS Residence: Branched Coverings. *Mich Math J* 18(1971) 103-114; Special Cohomology and Branched Coverings. *Ind U Math J* 23(1974) 959-973; With T.V. O'Brien. Each Compact Orientable Surface of Positive Genus Admits an Expansive Homeomorphism. *Pacific J Math* 35(1970) 737-741.

Other Publications: With David DeGeorge. A Branch Set Linking Theorem. *Math Scand* 37(1975) 326-333.

Reddy, William M. 75-76 Soc, Anthropology

Born 1947 Berwyn, IL. PhD 1974 History University of Chicago. Visiting Assistant Prof, History, Duke University, 1101 N. Duke St, Durham, NC 27701.

Publications Related to IAS Residence: The Textile Trade and the Language of the Crowd at Rouen (1752-1871). *Past and Present* 74(February 1977) 62-89.

Reeb, Georges 54f M, Topology

Born 1920 Saverne, France. D d'état 1948 Strasbourg University. Appointments: Consultant NSF Beirut Oberwolfach. Memberships: Soc Math France; AMS. Prof, Université Louis Pasteur, 3 Bd Gambetta, 67000 Strasbourg, France.

Publications Related to IAS Residence: Sur la Théorie Générale des Systèmes Dynamiques. *Ann Inst Fourier Grenoble* 6(1955-56) 89-112.

Other Publications: Sur Certaines Propriétés Topologiques des Trajectoires des systèmes Dynamiques. *Mem Acad Royale Belgique* 24(1952); *Sur les Espaces Fibres et les Variétés Feuilletées*. Paris: Hermann, 1952.

Reeh, Helmut Rudolf 64-66 M(NS), Quantum Field Theory

Born 1932 Halberstadt, Germany. Dr rer nat 1959 Univ of Göttingen. Prof, Theoretical Physics, University of Göttingen, Institut für Theoretische Physik, Bunsenstr 9, D 34 Göttingen, Germany.

Publications Related to IAS Residence: With J. Łopuszanski. On Goldstone's Theorem. *Phys Rev* 140(1965) 926; With J. Łopuszanski. On a Quantum Field Theory with Degenerate Vacuum and a Special Type of Symmetry. *J Math Phys* 7(1966) 148; With J. Łopuszanski. A Remark on a Reducible Quantum Field Theory with a One-Parameter Symmetry Group. *J Math Phys* 7(1966) 1821; One Parameter Symmetry Transformations. *Nuovo Cim* 10, 51(1967) 638.

Rees, David Arthur 62-63 HS, Ancient Philosophy

Born 1922 Leicester, England. DPhil 1953 Greek Philosophy Oxford. Memberships: Aristotelian Soc; Royal Inst of Philos; Soc for Prom of Hellenic Studies. Univ Lect, Philosophy, and Fellow & Tutor Philosophy; Vice-Principal and Archivist, Jesus College, Oxford, OX1 3DW, England.

Publications Related to IAS Residence: Intro. In *Plato, Republic*, ed. by J. Adam, 2nd ed. 1963; Some Features of the Textual History of Marcus Aurelius' "Meditations". In *Philomathes: Studies in Memory of Philip Merlan*. 1971; Aristotles Treatment of Phantasia. In *Essays in Ancient Greek Philosophy*, ed. by Anton & Kustas. 1971; Plato and the Third Man. *Proc Arist Soc Supp Vol*(1963).

Other Publications: The Classification of Goods in Plato and Aristotle. In *Islamic Philosophy and the Classical Tradition: Essays Presented to Richard Walzer*. 1972; Magnanimity in the Eudemean and Nicomachean Ethics. In *Untersuchungen zur Eudemischen Ethik*, ed. by Moraux and Harlfinger. 1970.

Rees, Elmer G. 69-70 M, Topology

Born 1941 Llandybie, Wales. PhD Univ of Warwick. Prof. Univ of Edinburgh, Department of Mathematics, JCMB, King's Buildings, Mayfield Rd, Edinburgh, Scotland.

Rees, Martin John 69-70 NS, Astrophysics

Born 1942 York, England. PhD(Cantab.) 1967 Applied Mathematics. Honors: Fellow of Royal Society 1979; Foreign Hon Member, AAAS 1975. Memberships: AAS; RAS; EPS. Pluman Prof, Astronomy and Experimental Philosophy, and Director Cambridge Inst of Astronomy; Fellow, King's College, Cambridge, Inst of Astronomy, Madingley Rd, Cambridge CB3 0HA, England.

Rees, S. Mary 78-79 M, Dynamical Systems

Born 1953 Cambridge, England. PhD 1978 University of Warwick. 6 Hillcrest Park, Exeter EX6 6SH, England.

Reff, Theodore 63s HS, History of Art

Born 1930 New York, NY. PhD 1958 Fine Arts Harvard Univ. Honors: Guggenheim Fellow 1968, 1975; Fellow ACLS 1963, 1964; Amer Phil Soc Grants 1963, 1964, 1972. Appointments: Bd of Dir, Coll Art Assoc of Amer, 1977-80; Ed Bd, Art Bull, 1976-80; NEH panels, 1976-present. Memberships: Coll Art Assoc of Amer. Prof, Department of Art History, Columbia University, New York, NY 10027.

Publications Related to IAS Residence: Cézanne in the Twentieth Century. *Columbia Univ Forum* 6, 2(1963) 31-35; Degas's Copies of Older Art. *Burlington Mag* 105(1963) 241-251; Cézanne: The Logical Mystery. *Art News* 62, 2(1963) 28-31.

Other Publications: *Degas: The Artist's Mind*. New York: Metropolitan Museum of Art, 1976; *Manet*. "Olympia", New York: Viking Press, 1977; *The Notebooks of Edgar Degas*. Oxford: Clarendon Press, 1976; The Meaning of Titian's Venus of Urbino. *Pantheon* 21(1963) 359-366.

Regge, Tullio see Present Faculty

Reich, Edgar 54 55 M

Born 1927 Vienna, Austria. PhD 1954 Mathematics UCLA. Honors: NSF Sr postdoc fellow 1954-5; Guggenheim fellow 1960-1; Fulbright fellow 1960-1. Memberships: AMS; MAA. Prof, School of Mathematics, Vincent Hall, University of Minnesota, Minneapolis, MN 55455.

Publications Related to IAS Residence: On a Bloch-Landau Constant. *Proc AMS* 7(1956) 75-76; Schlicht Functions with Real Coefficients. *Duke Math J* 23(1956) 421-428.

Other Publications: On the Convergence of the Classical Iterative Method of Solving Linear Simultaneous Equations. *Ann Math Stat* 20(1949) 448-451; Waiting Times When Queues are in

Tandem. *Ann Math Stat* 28(1957) 768-773; With Kurt Strebel. Extremal Quasi-conformal Mappings with Given Boundary Values. In *Contributions to Analysis, A Collection of Papers Dedicated to Lipman Bers*, 375-391. Academic Press, 1974.

Reid, William Thomas 36f M

Born 1907 . PhD 1929 Univ of Texas. Deceased.

Reidemeister, Kurt Werner Friedrich 48-50 M, Topology

Born 1893 Germany. PhD 1921 Univ of Hamburg. Deceased.

Publications Related to IAS Residence: Complexes and Homotopy Chains. *Bull AMS* 56(1950) 297-307; Zur Logik der Lehre vom Raum. *Dialectica* 6(1953) 327-342.

Reiner, Irving 47-48, 54-56 M, Algebra, Number Theory

Born 1924 Brooklyn, NY. PhD 1947 Cornell Univ. Honors: Guggenheim Fellow 1962; Distinguished Alumnus Award Brooklyn College 1963; NATO Sr Fellow 1977. Memberships: AMS; MAA; Amer Women in Math; AAUP. Prof, Math Dept, Univ of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: With C.W. Curtis. *Representation theory of finite groups and associative algebras*. Wiley & Sons, 1962; With L.K. Hua. Automorphisms of the unimodular group. *Trans AMS* 71(1951) 331-348; Integral representations of cyclic groups of prime order. *Proc AMS* 8(1957) 142-146.

Other Publications: Representations of cyclic groups in rings of integers I, II. *Ann Math* 76(1962) 73-92; With A. Heller. 77(1963) 318-328; *Maximal Orders*. London: Academic Press, 1975; Integral representation algebras. *Trans AMS* 124(1966) 111-121; With T.Y. Lam. Relative Grothendieck groups. *J Algebra* 11(1969) 213-242; With A. Heller. Grothendieck groups of orders in semisimple algebras. *Trans AMS* 112(1964) 344-355; With S. Ullom. Class groups of integral group rings. *Trans AMS* 170(1972) 1-30.

Reinhardt, William Nelson 73-74 M, Logic

Born 1939 Bartlesville, OK. PhD Mathematics Univ of Calif Berkeley. Appointments: NAS panel to select NSF grad fellows. Memberships: AMS; MAA; Assoc Symbolic Logic; Am Philos Assoc. Assoc Prof, Math Dept, 426, Univ of Colorado, Boulder, CO 80309.

Publications Related to IAS Residence: Remarks on Reflection Principles, Large Cardinals, and Elementary Embeddings. In *AMS Proceedings Symp in Pure Math*, 13, 2: 189-205. 1974.

Other Publications: With A. Kanamori & R. M. Solovay. Strong Axioms of Infinity and Elementary Embeddings. *Ann Math Logic* 13, 1(1978) 23-116; Set existence principles of Shoenfield, Ackerman, and

Members

Powell. *Fund Math* 84(1974) 7-34; Satisfaction definitions and axioms of infinity in a theory of properties with necessity operator. In *Proceedings of the IV Latin American Symposium on Mathematical Logic*, 267-303. North Holland: in press.

Reiter, Hans 61-62 M, Harmonic Analysis

Born 1921 Vienna, Austria. PhD 1952 Mathematics Rice University. Memberships: AMS; DMV; Österreichische Math Ges. Prof, Mathematics, University of Vienna, Mathematisches Institut der Universität, Strudlhofgasse 4, A-1090 Vienna, Austria. **Publications Related to IAS Residence:** *Classical Harmonic Analysis and Locally Compact Groups*. Oxford Math Monographs. Oxford: Clarendon Press, 1968.

Other Publications: L^1 -Algebras and Segal Algebras. Springer Lecture Notes in Math. 1971; Über den Satz von Weil-Cartier. *Monatsh f Math* 86(1978) 13-62.

Reiz, S. Anders 64-65 M (NS), Astrophysics

Born 1915 Denmark. PhD 1941 Lund Univ. University Observatory, Kobenhavns Universitet, Brorfelde, Tollose, Denmark. *

Remmert, Reinhold 59-60 M, Several Complex Variables

Born 1930 Germany. PhD 1954 Univ of Münster. Berliner Str. 7, D-4540 Lengerich, Germany. *

Rendić-Miočević, Duje 67-68 HS, Greek and Latin Epigraphy

Born 1916 Split (Croatia), Yugoslavia. PhD 1948 Classical Archaeology Univ of Zagreb. Honors: Yugoslav Acad Sci and Arts 1966; Corr mem Acad Sci and Arts Bosnia and Herzegovina 1975; Corr mem German Archaeol Inst 1955; Ital Nat Inst of Prehist and Protohist; Oesterreichische Archaeol Inst; Rep of Croatia awd for work in historical scis 1971. Appointments: Pres Comm Ital and Yugoslav Acad for Res of Prehist and Protohist of the Adriatic Area (1972-1977); from 1977 Mem of Bd of Comm; Former Pres Yugoslav Archaeol Assoc. Memberships: Intern Society of Greek and Latin Epigraphy; Intern Comm for Organisation of Congresses on Greek and Latin Epigraphy. Univ Prof, Classical Archaeology, Univ of Zagreb, Dir Archaeol Museum; Dir Dept Archaeol Yugoslav Acad Science and Arts, Uj Proleterskih brigada 35, 41000 Zagreb, Yugoslavia.

Publications Related to IAS Residence: Dva signirana reljefa iz radionice majstora maksimina. *Arheoloski radovi i rasprave Jazu* 4-5(1967).

Other Publications: Zur Frage der Datierung des Psephisma aus Lumbarda. *Archaeologia Jugoslavica* 6(1965).

Renner, Bruno Karl 67-68 NS, Physics

Born 1940 Germany. PhD 1967 Cambridge Univ. Deceased.

Renninger, George Hill 69-70 NS, Particle Physics

Born 1938 Sunbury, PA. PhD 1963 Princeton Univ. Dept of Physics, Univ of Guelph, Guelph, Ontario N1G 2W1, Canada. *

Resnikoff, Howard L. 64-66, 73s M, Automorphic Function Theory

Born 1937 New York, NY. PhD 1963 Math Univ of Calif, Berkeley. Honors: von Humboldt Foundation US Sr Scientist 1974. Appointments: NSF 'Task Force on Science Information Activities', 1977. Memberships: AMS; SIAM. Prof, Math, Univ of Calif, Irvine, Dir Div of Info Sci & Tech NSF. 11323 Rolling House Rd, Rockville, MD 20852.

Publications Related to IAS Residence: On a class of linear differential equations for automorphic forms in several complex variables. *Am J Math* 95(1973) 321-332; On the graded ring of Hilbert modular forms associated with $\mathbb{Q}(\sqrt{5})$. *Math Ann* 208(1974) 161-170; On differential operators and automorphic forms. *Trans AMS* 124(1966) 334-346; A differential equation for the theta function. *Proc NAS USA* 53(1965) 692-693.

Other Publications: Differential equations for automorphic forms in several complex variables. *Proc AMS* 24(1970) 492-496; Automorphic forms and automorphy preserving differential operators on products of halfplanes. *Abh Math Sem Univ Hamburg* 38(1972) 168-198; With R.L. Saldaña. Some properties of Fourier coefficients of Eisenstein series of degree two. *J reine angew Math* 265(1974) 90-103; On the geometry of color perception. In *Lectures in the Life Sciences*, 7:217-232. AMS, 1974; Automorphic forms of singular weight are singular forms. *Math Ann* 215(1975) 173-193; On the psychophysical function. *J Math Biology* 2(1975) 265-276; Theta functions for Jordan algebras, *Inv Math* 31 (1975) 87-104.

Restrepo, Guillermo S. 64-65 M, Analysis

Born 1935 Ebejico, Colombia. PhD Univ Southern Calif. Memberships: AMS; Colombian Math Society. Prof, and Dean Faculty of Sciences, Math Dept, Univ of Valle, Apartado Postal 2188, Cali, Colombia.

Publications Related to IAS Residence: Differentiable Norms in Banach Spaces. *Bol Soc Mat Mexicana* (1966).

Other Publications: An infinite dimensional version of a theorem of Bernstein. *Proc AMS* (1969).

Reynolds, Leighton Durham 65-66 HS, Classics

Born 1930 Abercanaid, Glam, Wales. MA(Cantab.) 1952. Appointments: Ed *Classical Review*. Fellow and Tutor Lect, Classics, Brasenose College, Oxford OX1 4AJ, England.

Publications Related to IAS Residence: With H. G. Wilson. *Scribes and Scholars*. Oxford: 1968; *Seneca, "Dialogi"*. Oxford Classical Text, 1977.

Other Publications: *Seneca, "Epistulae Morales"*. Oxford Classical Text, 1965; *The Medieval Tradition of Seneca's Letters*. 1965.

Rham, Georges de 50s, 57-58 M, Topology, Analysis

Born 1903 Roche, Switzerland. D ès Sci 1931 Math Paris. Honors: Dr(hc) Univ of Strasbourg 1954; Grenoble 1955; Lyon 1959; Ecole polytechnique fédérale (Zürich) 1961; Prix Marcel Benoist 1966; Prix de la Ville de Lausanne 1979. Appointments: Pres IMU (1962-1966); Swiss Natl Council for Sci Research (1956-1969). Memberships: Math Socs of Switzerland, France, Germany. Prof Hon, Univs of Lausanne and Geneva, 7, Av Bergières, CH-1004 Lausanne, Switzerland.

Publications Related to IAS Residence: *Variétés différentiables. Formes, courants, formes harmoniques*. Paris: Hermann et Cie, 1955; *Complexes à automorphismes et homéomorphie différentiable*. *Ann de l'Inst Fourier* 2(1950) 51-67.

Rhodes, Frank 56-57 M

Born 1931 Wakefield, England. PhD 1954 Univ of Liverpool. Memberships: LMS; AMS; Math Assoc. Senior Lect, Mathematics Department, University of Southampton, Southampton, England, SO9 5NH.

Publications: Homotopy Groups of Transformation Groups. *Canad J Math* 21(1969) 1123-1136; Asymptotic Cycles for Continuous Maps of Geodesic Spaces. *J LMS* 9(1975) 433-465; With E.M. Goven, C.A. Hedlund. The Commuting Block Maps Problem. *Trans AMS*(1979).

Rhodes, John L. 66s M, Algebra

Born 1937 Columbus, OH. PhD 1962 MIT. Math Dept, UCB, Berkeley, CA 94720. *

Ricabarra, Rodolfo Alfredo 59f M, Complex Manifolds

Born 1925 Argentina. PhD 1948 Univ of La Plata. Dept of Math, Univ of La Plata, Casilla 172, La Plata, Argentina. *

Ricci, Giovanni 50f M, Theory of Numbers

Born 1904 Italy. PhD 1925 Univ of Pisa. *

Rice, Eugene Franklin, Jr. 62-63 HS, Renaissance History

Born 1924 Lexington, KY. PhD 1953 Harvard Univ. Honors: AAAS. Appointments: Council, AHA (Vice-president for Research, elected for three-year term, 1978). Memberships: AHA; Exec Dir Renaissance Soc of Amer; Am Soc for Reformation Res. William R. Shepherd Prof, Department of History, Columbia University, New York, NY 10027.

Publications Related to IAS Residence: *The Foundations of Early Modern Europe, 1460-1559*. New York: W. W. Norton, 1970; *The Prefatory Epistles of Jacques Lefevre d'Étaples and Related Texts*. New York: Columbia U Press, 1972.

Other Publications: *The Renaissance Idea of Wisdom*. Cambridge, Mass: Harvard U Press, 1958.

Richardson, Lawrence, Jr. 67f HS, Classical Studies

Born 1920 Altoona, PA. PhD Yale Univ. Honors: Guggenheim Fellow 1958-59; Fellow ACLS 1967, 1972-73; FAAR. Appointments: Trustee, AAR, 1969-; Chmn of the Comm on the Classical School, 1972-. Memberships: Am Philolog Assoc; Archaeolog Inst of Amer; Deut Archaeolog Inst. James B. Duke Prof, Latin, Duke Univ, Adj Prof Classics Univ of No Carolina, 312 Carr Bldg, Duke University, East Campus, Durham, NC 27708.

Publications Related to IAS Residence: edited, with an introduction and commentary, *Propertius, "Elegies I-IV"*. Norman, Oklahoma: 1977.

Other Publications: *Poetical Theory in Republican Rome*. Yale University Press, 1944; Pompeii: The Casa dei Dioscuri and its Painters. In *Mem of the Amer Acad in Rome*, 23. 1955; With F.E. Brown and E.H. Richardson. Cosa II: The Temples of the Arx. In *Mem of the Amer Acad in Rome*, 26. 1960.

Richardson, Moses 36-38, 52-53 M, Topology

Born 1911 Brooklyn, NY. PhD 1936 Columbia Univ. Deceased.

Publications Related to IAS Residence: With P. A. Smith. Periodic Transformations of Complexes. *Ann Math (2)* 39(1938) 611-633; Special Homology Groups. *Proc NAS* 24(1938) 21-23; Extension Theorems for Solutions of Irreflexive Relations. *Proc NAS* 39(1953) 649-655; Solutions of Irreflexive Relations. *Ann Math (2)* 58(1953) 573-590.

Richardson, Roger W., Jr. 63-64, 69-70 M, Topology

Born 1930 LA. PhD 1958 Univ of Mich. Math Dept, U of Durham, Durham, England. *

Richmond, Donald Everett 44-45 M

Born 1898 Meriden, CT. PhD 1926 Cornell Univ. Honors: DSc(hc) Williams College 1958. Prof Emer, Williams Coll, 293-E Heritage Village, Southbury, CT 06488.

Publications Related to IAS Residence: Elementary Evaluation of Laplace Transforms. *Amer Math Monthly* 52: 481-487.

Other Publications: Calculus-A New Look. *Math Monthly* 70(1963) 415-423.

Richter, Curt Paul 57s, 57f M(NS), Biology

Born 1894 Denver, CO. PhD 1921 Johns Hopkins Univ. Honors: PBK; DSc (hc) University of Chicago 1968; LLD (hc) Johns Hopkins University 1970; DSc

Members

(hc) University of Pennsylvania 1976; Passano Award 1977; NAS; AAAS; Am Philos Soc. Appointments: Nat Acad Sci Committees on Food Habits, Neurology, Insect and Rodent Control, Stress. Prof Emer, Psychobiology, Johns Hopkins Univ, Johns Hopkins Hospital, Baltimore, MD 21205.

Publications Related to IAS Residence: *Biological Clocks in Medicine and Psychiatry*. Springfield, Ill: Charles C. Thomas, 1965.

Other Publications: Total Self Regulatory Functions in Animals and Human Beings. *Harvey Lecture Series* 38(1942-43) 63-103; Discovery of Fire by Man-Its effects on his 24-hour Clock and Intellectual and Cultural Evolution. *Johns Hopkins Medical Journal* 141 (1977) 47-61.

Richter, Melvin 78-79 Soc

Born 1921 Revere, MA. PhD 1953 Political Science Harvard. Honors: PBK 1943; Triennial Prize, Conf on Brit Studies 1966; SSRC, Rockefeller Foundation, NEH, Guggenheim and Fulbright Fships. Appointments: Exec Cttee, Ed Bd, *Political Theory*; Exec Cttee, Conf for Study of Political Thought, Memberships: Soc francaise d'Etude du 18^e siècle; Deut Gesellschaft für die 5 Erforschung des achtzerten Jahrhunert; APSA. Prof, Political Science, Hunter Coll, City University of New York Graduate School, 33 W. 42nd St., New York, NY 10036.

Rickert, Neil William 66-67 M, Functional Analysis

Born 1939 Australia. PhD 1965 Yale Univ. Math Dept, U of Illinois at Chicago Circle, Chicago, IL 60680. *

Rickert, Yao-Chun Yen 66-67 M, Functional Analysis

Born 1940 Taiwan. PhD 1966 Yale Univ. Math Dept, U of Ill at Chicago Circle, Chicago, IL 60680. *

Rickman, Seppo U. 80s M, Theory of Quasiregular Mappings

Born 1935 Helsinki, Finland. PhD 1966 Univ of Helsinki. Dept of Math, Univ of Minnesota, Minneapolis, MN 55455. *

Ridenour, Louis N., Jr. 35-36 M(NS), Physics

Born 1911 . PhD 1936 Cal Tech. Deceased.

Ridgway, Brunilde Sismondo 68s HS, Classical Archaeology

Born 1929 Chieti, Italy. PhD 1958 Archaeology Bryn Mawr Coll. Honors: Guggenheim Fellow 1974-75; Summer Grants NEH, ACLS, Phila Philos Soc. Appointments: Rev panels for Archaeology and Ancient Art, NEH; Exec Comm, Am Ctr of Internatl Lexikon of Classical Iconography. Memberships: Archaeolog Inst of Amer; Corr member, Ger Archaeolog Inst; Member, Internat Assoc of Class Archaeology. Rhys Carpenter Prof, Classical & Near Eastern Archaeology, Bryn Mawr College, Ed in Chief

Am J of Archaeology 1977-, Dept of Archaeology, Bryn Mawr College, Thomas Library, Bryn Mawr, PA 19010.

Publications Related to IAS Residence: *The Severe Style in Greek Sculpture*. Princeton U Press, 1970; *Sculpture in Stone*. In *The Muses at Work*, ed. by C. Roebuck. MIT Press, 1969.

Other Publications: *The Archaic Style in Greek Sculpture*. Princeton U Press, 1977; *Classical Sculpture, Catalogue of the RISD Museum*. Providence, 1972; The Piombino Apollo. *Antike Plastik* 7 (1968).

Riehm, Carl Richard 66-67 M, Number Theory, Algebraic Groups

Born 1935 Kitchener, Canada. PhD 1961 Math Princeton Univ. Memberships: AMS; MAA; Can Math Soc. Prof, and Chairman, Dept of Mathematics, McMaster Univ, Hamilton, Ont, Canada L8S 4K1.

Publications Related to IAS Residence: The Norm 1 Group of p -adic Division Algebras. *Am J Math* 92(1970) 499-523; The Congruence Subgroup Problem over Local Fields. *Am J Math* 92(1970) 771-778.

Other Publications: On the Integral Representations of Quadratic Forms over Local Fields. *Am J Math* 86(1964) 25-62; Orthogonal Groups over the Integers of a Local Field II. *Am J Math* 89(1967) 549-577; The Corestriction of Algebraic Structures. *Invent Math* 11(1970) 73-98; With I. Hambleton. Splitting of Hermitian Forms over Group Rings. *Invent Math* 45(1978) 19-33.

Riemenschneider, Oswald W. 70-71 M, Complex Analysis

Born 1941 Kassel, Germany. Dr rer nat 1966 Mathematics Univ Göttingen. Memberships: DMV; AMS. Full Prof, Mathematics, Univ of Hamburg, Mathematisches Seminar der Universität, Bundesstrasse 55, D-2000 Hamburg 13, West Germany.

Publications Related to IAS Residence: Halbstetigkeitssätze für 1-konvexe holomorphe Abbildungen. *Math Ann* 192(1971) 216-226; Characterizing Moisozon Spaces by Almost Positive Coherent Analytic Sheaves. *Math Z* 123(1971) 263-284.

Other Publications: With H. Grauert. Verschwindungssätze für analytische Kohomologiegruppen auf komplexen Räumen. *Inv Math* 11(1970) 263-292; Deformationen von Quotienten Singularitäten (nach zyklischen Gruppen). *Math Ann* 209(1974) 211-248.

Riesman, David 71-72 Soc, Social Change and Education in the US

Born 1909 Philadelphia, PA. LLB 1934 Harvard Univ. Honors: LLD Marlboro Coll 1954; Grinnell Coll 1957; Temple Univ 1962; Univ of Sussex 1965; LHD Williams Coll 1977; St Ambrose Coll 1966; Franklin & Marshall Coll 1976; LLD Muhlenberg Coll 1967; U of

Calif, Berkeley 1968; U of Penn 1972; Fordham Univ 1972; Lafayette Coll 1974. Appointments: Carnegie Comm for Study Higher Educ 1967-. Memberships: Am Anthropol Soc; Am Sociol Soc; Soc Applied Anthropol; Am Assoc Pub Opinion Research. Henry Ford II Prof, Soc Sci, Dept of Sociology, Harvard University, William James Hall 380, Cambridge, MA 02138. *

Publications Related to IAS Residence: With Gerald Grant. *The Perpetual Dream: Experiment and Reform in the American College*. 1978.

Other Publications: *The Lonely Crowd: A Study of the Changing American Character*. 1950; *Faces in the Crowd*. 1952; *Thorstein Veblen*. 1953; *Individualism Reconsidered and Other Essays*. 1954; *Constraint and Variety in American Education*. 1956; *Abundance for What? and Other Essays*. 1963; With Evelyn T. Riesman. *Conversations in Japan: Modernization, Politics and Culture*. 1967; With Christopher Jencks. *The Academic Revolution*. 1968; With Joseph Gusfield and Zelda Gamson. *Academic Values and Mass Education: the Early Years of Oakland and Monteith*. 1970; With Seymour M. Lipset. *Education and Politics at Harvard*. 1975.

Riley, Robert Freed 80s M, Kleinian Groups and 3-dimensional Manifolds

Born 1935 New York, NY. AB 1957 Cornell Univ. Research Asst, Southampton University, Math Dept, The University, Southampton SO9 5NH, England. *

Rioch, David M. 58-59 M(NS), Experimental Psychology

Born 1900 Mussoorie, UP, India. MD 1924 Johns Hopkins. Honors: Walter Reed Medal 1970; Thos W. Salmon Medal 1976. Memberships: Am Psych Assn; Psychonomic Soc; Am Assn Anal; Am Physiol Soc; Pavlovian Soc of Am. Part time-Senior Scientist Inst for Behavioral Res, 5525 Surrey St., Chevy Chase, MD 20015.

Risch, Robert Henry 70-72 M, Solutions of Differential Equations in Closed Form

Born 1939. PhD 1968 Univ of Calif, Berkeley. T. J. Watson Research Center, PO Box 218, Yorktown Heights, NY 10598. *

Rittenberg, David 53f M(NS), Biochemistry

Born 1906 New York, NY. PhD 1934 Columbia Univ. Deceased.

Publications Related to IAS Residence: With A. I. Krasna. The Inhibition of Hydrogenase by Nitric Oxide. *Proc NAS* 40(1954) 225-227; With H. F. Fisher and A. I. Krasna. The Interaction of Hydrogenase with Oxygen. *J of Bio Chem* 209(1954) 569-578; With A. I. Krasna. The Mechanism of Action of the Enzyme Hydrogenase. *J of Amer Chem Soc* 76(1954) 3015-3020; With L. Ponticorvo. O¹⁸ Exchange Reactions between Anhydrides and Carboxylic Acids. *J of Amer*

Chem Soc 76(1954) 1705-1706; With A. I. Krasna. Reduction of Nitrate with Molecular Hydrogen by Proteus Vulgaris. *J of Bacteriology* 68(1954) 53-56.

Rivaud, Juan-José 71-72 M, Mathematical Analysis

Born 1943 Mexico City, Mexico. PhD 1970 Northwestern Univ. Assoc Prof, Dept de Matemáticas del C.I.E.A., Ap Postal 14-740, Mexico 14 D.F., Mexico.

Robb, David M. 39s HS(H), History of Art

Born 1903 Tak Hing Chau, China. PhD 1941 History of Art Princeton Univ. Appointments: Fulbright Sr Rev Comm. Memberships: College Art Assn; Soc of Arch Historians. Prof Emer, History of Art, Univ of Penna, 506 Narberth Ave, Merion Station, PA 19066.

Publications Related to IAS Residence: The Romanesque Sculpture of Languedoc and Spain: The Capitals of the Panteón de los Reyes, San Isidoro of León. *Art Bull* 27(Sept 1945) 165-174.

Other Publications: With J. J. Garrison. *Art in the Western World*. 4th ed. NY: Harper & Row, 1963; *Harper History of Painting*. 2nd ed. NY: Harper & Bros, 1953; *The Art of the Illuminated Manuscript*. Philadelphia: Art Alliance, 1973.

Robbins, Caroline 61s HS

Born 1903 Sipson, Mdx, England. PhD 1926 History Univ of London. Honors: Christie Fellow Univ of London 1924-26; LLD(hc) Smith College 1971; DLitt(hc) Wilson College 1971; Christian and Mary Limdback award for teaching 1971; Guggenheim Fellow 1953-54; Huntington fellow 1962; Folger fellow 1969; ACLS grant 1965; Herbert Baxter Adams Prize AHA 1960; FRHS. Appointments: Chairman, The Papers of Wm Penn Project, 1967. Memberships: AHA; HSP; FRHS; Conference on Brit Studies, President 71-73; Mass Hist Soc 1970-. 815 The Chetwynd Apts, Rose-mont, PA 19010.

Publications Related to IAS Residence: Was Marvel I a New Methodist?. *J Hist Ideas* 23, 2(1962) 268-272; Absolute Liberty: the Life and Thought of William Popple. *Wm & Mary Q* 24, 2(1967) 191-223.

Other Publications: *The Eighteenth Century Common-wealthman*. Cambridge: Harvard U Press, 1959; *The Diary of John Milward*. Cambridge Univ Press, 1938; *Two Republican Tracts*. Cambridge Univ Press, 1969.

Robbins, Herbert Ellis 38-39, 52-54 M

Born 1915 New Castle, PA. PhD 1938 Math Harvard Univ. Honors: ScD(hc) Purdue 1974; AAAS; NAS; Guggenheim Fellow 1952 and 1975. Memberships: Internat Statistical Inst. Higgins Prof, Mathematical Statistics, Columbia Univ, Visiting Prof SUNY, Stony Brook, 17 Woodhull Rd, East Setauket, NY 11733.

Publications Related to IAS Residence: Ergodic theory of Markov claims. *Proc NAS* 39(1953) 860-864; On the equidistribution of sums. *Proc AMS*

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4(1953) 786-799; Ergodic property of Brownian Motion process. *Proc NAS* 39(1953) 525-533.

Other Publications: A Stochastic approximation method. *Ann Math Statist* 22(1951) 400-407; Compound statistical decision problems. In *Proc Second Berkeley Symp Math Stat and Prob*, 131-148. 1951.

Robbins, Lionel (Lord Robbins) 49-50 HS, Economics

Born 1898 Middlesex, England. BSc Econ London Univ. Honors: CB; CH; FBA; Am Philos Soc; Accad dei Lincei; AAAS; LHD(hc) Columbia Univ; DLitt(hc) Durham, Exeter, Strathclyde, Sheffield; LLD(hc) Strasbourg, Leicester, Cambridge, Univ of Calif. Appointments: Head of Economic Section of the War Cabinet 1941-5; Chairman Prime Minister's Committee on Higher Education 1961-63. Memberships: Royal Econ Society. Member House of Lords. 10 Meadway Close, London NW 11, England.

Publications Related to IAS Residence: *The Theory of Economic Policy in English Classical Political Economy*. London: Macmillan, 1952.

Other Publications: *Essays on the Nature and Significance of Economic Science*. London: Macmillan, 1935; *The Theory of Economic Development in the History of Economic Thought*. London: Macmillan, 1965; *The Evolution of Modern Economic Theory*. Chicago: Aldine, 1970; *Money, Trade and International Relations*. London: Macmillan, 1971; *Political Economy: Past and Present*. London: Macmillan, 1976; *Autobiography of an Economist*. London: Macmillan, 1971.

Robert, Alain 70-71 M, Algebraic Groups, Representations

Born 1941 Neuchatel, Switzerland. PhD 1967 Neuchatel Univ. Memberships: Soc Math Suisse; AMS. Prof, Neuchatel Univ, Institut de Mathématiques, Chantemerle 20, CH-2000 Neuchatel, Switzerland.

Publications Related to IAS Residence: Modular Representations of the Group $G_1(2)$ over a Local Field. *J Alg* 22(1972) 386-405; *Formes Automorphes sur G_{12}* (d'après Jacquet et Langlands). Springer Lect Notes in Math, 317. 1972.

Other Publications: *Elliptic curves*. Springer Lect Notes in Math, 326. 1973; Exemples de groupes de Fell. *C.R.Acad Sc Paris* 287(1978) 603-606; Des Adèles: Pourquoi? *L'Enseignement Math* 20(1974) 133-145.

Robert, Gilles 79-80 M, Number Theory

Born 1949 Paris, France. PhD 1977 Univ of Paris-Sud. 39, Amiral Mouchez, 75013 Paris, France. *

Roberts, Colin Henderson 51f HS, Classical Studies

Born 1909 London, England. MA(Oxon.) 1936. Honors: FBA 1947; DLitt(hc) Oxford 1975. Appleton House, Near Abingdon, Oxford, England.

Publications Related to IAS Residence: The Codex. In *Proceeding of the British Academy*, 40. London: Oxford Univ Press, 1954.

Other Publications: *Catalogue of the Greek and Latin Papyri in the John Rylands Library*. 3; With E. G. Turner. 4. Manchester Univ Press, 1911-1952; *Antinoopolis Papyri*. 1. London: Egypt Explor Soc, 1950.

Roberts, Fred Stephen 71-72 Soc, Theoretical Models of Space Perception

Born 1943 New York, NY. PhD 1968 Stanford Univ. Dept of Math, Rutgers Univ, New Brunswick, NJ 08903. *

Roberts, John Morris 60f HS

Born 1928 Bath, Somerset, England. DPhil(Oxon.) 1953. Appointments: Council Royal Hist Soc 1973-7. Memberships: Br Assn Amer Studies; Historical Assn; Royal Hist Society. Acting Warden, Merton College, Vice-Chancellor Univ of Southampton, Merton College, Oxford, England.

Publications Related to IAS Residence: *French Revolution Documents*. 1. Oxford: Blackwell, 1966; *The Mythology of the Secret Societies*. NY: Scribner, 1972.

Other Publications: *The Paris Commune from the Right*. London: Longman, 1973; *The Hutchinson History of the World*. London: Hutchinson, 1976; *The French Revolution*. NY: Oxford Univ Press, 1978.

Roberts, Keith Varnden 51-52 M(NS), (Particle Physics), Plasma Physics

Born 1925 Twickenham, Middlesex, England. PhD 1951 Quantum Field Theory Cambridge Univ. Memberships: Inst of Physics (UK); British Computer Soc; Eur Phys Soc. Head Division B, UKAEA Culham Laboratory, Abingdon, Oxford OX143DB, England.

Publications Related to IAS Residence: An objective interpretation of Lagrangian Quantum Mechanics. *Proc Roy Soc A* 360(1978) 135-160; With D.E. Potter. Magnetohydrodynamic Calculations. *Methods in Computational Phys* 9(1970) 339; With H.L. Berk. The Waterbag Model. *Methods in Computational Phys* 9(1970) 88; With J.B. Taylor. Magnetohydrodynamic Equations for Finite Larmor Radius. *Phys Rev Lett* 8(1963) 197; With J.B. Taylor. Gravitational Resistive Instability of an Incompressible Plasma in a Sheared Magnetic Field. *Phys Fluids* 8(1965) 315; With J.P. Christiansen. Evolution of the Reversed-Field Pinch. *Nucl Fus* 18(1978) 181; The Publication of Scientific FORTRAN Programs. *Computer Physics Communications* 1(1969) 1; With H.L. Berk, C.E. Nielsen. Phase Space Hydrodynamics of Equivalent Non-linear Systems: Experimental and Computational Observations. *Phys Fluids* 13(1970) 980; With J.P. Christiansen. Topics in Computational

Fluid Mechanics. *Computer Physics Communications* 3 (Suppl)(1972) 14; With N.O. Weiss. Convective Difference Schemes. *Math Comp* 20(1966) 272; An Introduction to the OLYMPUS System. *Computer Physics Communications* 7 (1974) 237; With J.P. Christiansen. OLYMPUS: A Standard Control and Utility Package for initial-value FORTRAN Programs. *Computer Physics Communications* 7(1974) 245; With J.P. Christiansen, D.E.T.F. Ashby. MEDUSA, A One-Dimensional Laser Fusion Code. *Computer Physics Communications* 7(1974) 271; With J.P. Christiansen, J.W. Long. ATHENE 1, A One-Dimensional Equilibrium-Diffusion Code. *Computer Physics Communications* 14(1978) 423; With J.P. Boris. The Optimization of Particle Calculations in 2 and 3 Dimensions. *J Computational Phys* 4(1969) 552; With J.P. Boris. The Solution of Partial Differential Equations using a Symbolic Style of Algol. *J Computational Phys* 8(1971) 83; With M. Petravic, G. Kuo-Petravic. Automatic Optimization of Symbolic Algol Progress, I. General Principles. *J Computational Phys* 10(1972) 503.

Robertson, C. Martin 68-69 HS, Greek Art and Archaeology

Born 1911 England. MA 1948 Cambridge Univ. *

Robertson, Giles H. 65-66 HS, History of Art

Born 1913 Cambridge, England. MA(Oxon.) Litt Hum. Honors: HRSA 1972. Appointments: Trustee Nat Galleries of Scotland. Memberships: Assoc of Art Historians. Prof, Fine Art, Univ of Edinburgh, 4 Saxe-Coburg Pl, Edinburgh EH3 5BR, Scotland.

Publications Related to IAS Residence: *Giovanni Bellini*. Oxford: Clarendon Press, 1968; The Architectural Setting of Antonello da Mesima's Son Cassiane Al-tehici. In *Studies in Late Medieval and Renaissance Painting in Honor of Millard Meiss*. New York: 1978,.

Other Publications: *Vincenzo Catina*. Edinburgh University Press, 1954.

Robinson, Abraham 73s M, Mathematical Logic

Born 1918 Germany. PhD 1949 London U. Deceased.

Robinson, Francis W. 36s, 38f HS(H), Early Christian Glass

MFA 1935 Princeton Univ. *

Robinson, Henry S. 52-53, 69-70 HS, Greek Archaeology

Born 1914 Brooklyn, NY. PhD 1941 Princeton Univ. Dept of Classics, Case Western Reserve Univ, Cleveland, OH 44106. *

Robinson, Richard 60f HS, Philosophy

Born 1902 England. PhD 1930 Oxford Univ. Oriel College, Oxford Univ, Oxford, England. *

Robinson, Robert William 66-67 M, Logic

Born 1941 South Bend, IN. PhD 1966 Mathematics Cornell Univ. Appointments: Pure Math Policy Cttee of Australian Math Soc and Australian Academy of Scis. Memberships: AMS; Assoc for Symbolic Logic; Australian Math Soc; Combinatorial Math Soc of Australasia. Prof, and Dean Faculty of Math, U of Newcastle, New South Wales, Australia 2308.

Publications Related to IAS Residence: A Dichotomy of the Recursively Enumerable Sets. *Z Math Logik Grund Math* 14(1968) 339-356.

Other Publications: *Ann Math* 93(1971) 285-314 and 586-596.

Robinson, Ronald E. 59-60 HS, History of the British Commonwealth

Born 1920 England. PhD 1951 Cambridge Univ. *

Roca-Puig, Ramon 69f HS, Latin Papyrology

Born 1906 Algerri, Spain. Dr 1928 Theol Univ of Tarragona.; PhD 1958 Univ of Salamanca Memberships: Internat Assn Papyrologists; Egypt Exploration Soc. Dir St Luke Evangelist Found & Papyri Barcinonenses, Consejo de Ciento 381, Barcelona 9, Spain.

Publications Related to IAS Residence: *Cicero "Catlinaries" (I & II in Cat)*. Papyri Barcinonenses. Barcelona: 1977.

Other Publications: *An Early Greek Papyrus of St Matthew's Gospel*. P. Barc, 1; *A Coptic Parchment of Luke's Gospel*. P. Barc, 8.

Rockmore, Ronald Marshall 57s, 57-58 M(NS), Theoretical Physics

Born 1930 New York, NY. PhD 1957 Physics Columbia Univ. Honors: PBK; Sigma Xi; NSF Postdoc Fellow 1957-58; Rutgers Fac Fellow 1968-69. Memberships: APS; AAUP. Prof, Physics Dept, Rutgers Univ, New Brunswick, NJ 08903.

Publications Related to IAS Residence: Single Particle Energies in a Degenerate Electron Gas at High Density. *Phys Rev* 114(1959) 941.

Other Publications: Effects of Particle-Particle Interaction on the Moment of Inertia of Many-Fermion Systems. *Phys Rev* 116(1959) 469; Some Equivalent Approaches to the Self-Consistent Bound State of Strongly Interacting Particles. *Phys Rev* 132(1963) 878.

Rodrigues, Alexandre Martins 60-61 M, Differential Geometry

Born 1930 São Paulo, Brazil. 1957 Mathematics Univ of Chicago. Prof, Inst Mat E Estatística, Universidade De São Paulo 20570, São Paulo, Brazil.

Publications Related to IAS Residence: Théorème de realization pour les algèbres de Lie filtrées transitives. *C R Acad Sc Paris* (1970); With A. Petitjean. Correspondence entre algèbres de Lie abstraites et pseudo-groupes de Lie transitifs. *Ann*

Members

Math (1974); With N. van Quê. Troisième théorème fondamental de Cartan. *Ann Inst Fourier* (1974).

Roebuck, Carl A. 53-54 HS, Historical Archaeology

Born 1914 Toronto, Ontario, Canada. PhD 1941 Greek History Univ of Chicago. Honors: Guggenheim Fellow 1953-54; NEH Senior Fship 1968-69; LHD (hc) Univ of Vermont 1966. Appointments: NEH Consultant and Panelist. Memberships: AHA; AIA; APA. John Evans Prof, Dept of Classics, Northwestern Univ, Evanston, IL 60201.

Publications Related to IAS Residence: *Ionian Trade and Colonization*. 9. New York: Archaeological Inst of Amer, 1959.

Other Publications: *The World of Ancient Times*. New York: Scribner's, 1966.

Roelcke, Walter O. P. 55-56 M, Automorphic Functions

Born 1928 Görlitz, Germany. PhD 1954 Mathematics Univ of Heidelberg. Prof, Univ of Munich, Mathematisches Institut, Theresienstr 39, München 2, Federal Republic of Germany.

Publications Related to IAS Residence: Das Eigenwert-problem der automorphen Formen in der hyperbolischen Ebene, I und II. *Math Ann* 167(1966) 292-337.

Other Publications: On the finest locally convex topology agreeing with a given topology on a sequence of absolutely convex sets. *Math Ann* 198(1972) 57-80.

Roethel, Hans K. 68-69 HS, History of Art

Born Hamburg, Germany. 23 Edgerstone Rd, Princeton, NJ 08540.

Roethlisberger, Marcel G. 60-61 HS, History of Art

Born 1929 Zürich, Switzerland. PhD 1956 History of Art Univ of Berne. Prof, Dept History of Art, University of Geneva, Geneva, Switzerland.

Publications Related to IAS Residence: *Claude Lorrain, The Paintings*. Yale Univ Press, 1961

Roffman, Eric H. 66-67 NS, Particle Physics

Born 1941 New York, NY. PhD 1965 Brandeis U. Memberships: APS. Consultant, PO Box 1523, New York, NY 10019.

Publications Related to IAS Residence: A Group Theoretic Approach to the Relativistic Theory of Scattering. *PR* 169(1968) 1424; Localized Solutions of Relativistic Non-linear Differential Equations. In *Proc Inst Theoret Phys, Boulder Colorado 1969*. Gordon & Breach,.

Rogers, Claude Ambrose 49-50 M, Theory of Numbers

Born 1920 Cambridge, England. DSc 1952 Mathematics Univ of London. Honors: Fellow of the

Royal Soc 1959; De Morgan Medal of the London Math Soc 1977. Appointments: Pres London Math Soc, 1970-72; Chmn Royal Soc British Nat Comm for Math 1972-75. Memberships: AMS; Inst of Math & its Applications. Astor Prof, Mathematics, and Joint Head of Mathematics Dept, University College London, Gower St, London WC1E 6BT, England.

Publications Related to IAS Residence: The Closest Packing of Convex Two-Dimensional Domains. *Acta Math* 86(1951, 1961) 310-321, 305-306; With N.C. Ankeny. A Condition for a Real Lattice to Define a Zeta Function. *Proc NAS USA* 37(1951) 159-163; With N.C. Ankeny. A Conjecture of Chowla. *Ann Math* 53(1951) 541-550; On Theorems of Siegel and Hlawka. *Ann Math* 53(1951) 531-540; With A. Dvoretzky. Absolute and Unconditional Convergence in Normed Linear Spaces. *Proc NAS* 36 (1950) 192-197.

Other Publications: *Packing and Covering*. Cambridge University Press, 1964.

Rohrlich, David Ephraim 79-80 M, Number Theory

Born 1951 Washington, DC. PhD 1976 Math Yale Univ. Honors: Yale Univ Fship 1972-1976. Memberships: AMS. Dept of Math, Rutgers Univ, New Brunswick, NJ 08903.

Rohrlich, Fritz 48-49 M(NS), Quantum Field Theory

Born 1921 Vienna, Austria. PhD 1948 Harvard Univ. Honors: Fulbright Award 1974; Hon prof Univ of Graz, Austria 1974. Memberships: Am Phys Soc; Am Assoc Phys Teachers; AAAS; FAS. Prof, Dept of Physics, Syracuse University, Syracuse, NY 13210.

Publications Related to IAS Residence: The Self-Stress of the Electron. *Phys Rev* 77(1950) 357.

Other Publications: With J.M. Jauch. *Theory of Photons and Electrons*. Addison-Wesley, 1955; *Classical Charged Particles*. Addison-Wesley, 1965.

Roitberg, Joseph 73-74 M, Topology

Born 1942 New York, NY. PhD 1968 Mathematics NYU (Courant Inst). Memberships: AMS. Prof, Mathematics, Hunter Coll, 900 Madison PI, Jericho, NY 11753.

Publications Related to IAS Residence: With P. Hilton and G. Mislin. Localization of nilpotent groups and spaces. In *Notas de Matematica*, North-Holland Mathematics Studies, Vol 15. 1975; Dilatation phenomena in the homotopy groups of spheres. *Adv Math* 15(1975) 198-206; Rational Lie algebras and p-iso-morphisms of nilpotent groups and homotopy types. *Comm Math Helv* 50(1975) 1-8; Erratum. *ibid* 51(1976) 435-436.

Other Publications: With P. Hilton. On principal S^3 - bundles over spheres. *Ann Math* 90(1969) 91-107; The signature of quasi-nilpotent fiber bundles. *Invent Math* 39(1977) 91-94.

Roitman, Judith 77f M, Set Theory

Born 1945 New York, NY. PhD 1974 Mathematics Univ of Calif, Berkeley. Appointments: AMS; AWM; MAA; ASL; AAAS; AWIS; WME. Asst Prof, Math Dept, University of Kansas, Lawrence, KS 66045.

Publications Related to IAS Residence: More paracom-act box products. *Proc AMS* (1979); Easy S and L groups. *Proc AMS* in press.

Other Publications: Paracompact box products in iterated forcing extensions. *Fund Math* (1978); Adding a Cohen or a random real. *Fund Math* in press.

Rolfesen, Dale Preston Odin 67-69 M, Topology

Born 1942 Chicago, IL. PhD 1967 Univ of Wisconsin. Assoc Prof, Math Dept, Univ of British Columbia, Vancouver, Canada.

Publications Related to IAS Residence: Isotopy of Links in Codimension Two. *J Ind Math Soc* (1970).

Other Publications: Localized Alexander Invariants. *Ann Math* (1975); *Knots and Links*. Berkeley: 1977.

Roll, Eric 41s HS(EP), Economics

Born 1907 Austria. PhD 1930 Birmingham Univ. *

Publications Related to IAS Residence: Great Britain's Overseas Trade. In *The British Commonwealth at War*, ed. by Elliott, W. Y., 251-282. New York: 1943.

Ronga, Felice L. L. 72-73 M, Topology

Born 1942 Varazze, Italy. PhD 1970 Math Univ of Geneva. Asst Prof, Univ of Geneva, Section De Math, 2-4 Rue Du Lievre, 1211 Genève 24, Switzerland.

Publications Related to IAS Residence: Stabilité Locale Des Applications Equivariantes. In *Differential Topology and Geometry, Dijon 1974*, Lecture Notes In Math: 23-25. Berlin: 1975.

Rood, Herbert Jesse 72-73, 80s NS, Astrophysics

Born 1937 New Brunswick, NJ. PhD 1965 Astronomy Univ of Mich. Memberships: Am Astron Soc; IAU. Assoc Prof (Retd), Michigan State Univ, 52 Elizabeth St, South Bound Brook, NJ 08880.

Publications Related to IAS Residence: Spiral and Irregular Galaxies in Rich Regular Clusters. *Pub of Astron Soc of Pacific* 86(1974) 99; Empirical Properties of the Mass Discrepancy in Groups and Clusters of Galaxies II. *Ap J* 188(1974) 451.

Other Publications: With T.L. Page, E.C. Kintner, I.R. King. The Structure of the Coma Cluster. *Ap J* 175(1972) 627; Nearby Groups of Galaxy Clusters. *Ap J* 207 (1976) 16; With G. Chincarini. The Coma Super-cluster: Analysis of Zwicky-Herzog Cluster 16 in Field 158. *Astrophys J* 206(1976) 30; With J.R. Dickel. Virial Properties of Groups of Galaxies. *Astrophys J* 224(1978) 724.

Room, Thomas Gerald 49s, 57-58 M, Pure Mathematics

Born 1902 London, England. ScD 1955 Pure Mathematics Cambridge Univ. Honors: FRS; Fellow Australian Acad Sci. Memberships: London Math Soc; Cambridge Philos Soc; AMS; Australian Math Soc. Prof Emer, Sydney Univ, "High Waiden" 100 Rosedale Rd, St Ives NSW 2075, Australia.

Publications Related to IAS Residence: *A Background to Geometry*. Cambridge University Press, 1967; The Generation by Two Operators of the Symplectic Group over $6F(2)$. *J Australian Math Soc* 1, 1(1959) 38-46; Spinors, Pseudo-quaternions, and orthogonal Groups. *J Indian Math Soc* 24, 3 & 4(Sep-Dec 1960); Veblen-Wedderburn Hybrid Planes. *Proc Royal Society A*309 (1969) 157-170.

Other Publications: *Geometry of Determinantal Loci*. Cambridge University Press, 1938; *The Sorting Process*. Sydney University Press, 1966.

Roquette, Peter Jaques 54-56 M, Algebra and Number Theory

Born 1927 Königsberg, Germany. Dr rer nat Univ Hamburg. Appointments: Ed Bd *J Number Theory*; Ed Bd *J Reine Angew Math*. Memberships: DVM; AMS; Heidelberger Ak dW. Prof, Universität Heidelberg, Mathematisches Institut, Im Neuenheimer Feld 288, D-6900 Heidelberg, Germany.

Publications Related to IAS Residence: Über das Has-sesche Klassenkörper-Zerlegungsgesetz und seine Verallgemeinerung für beliebige abelsche Funktionenkörper. *J Reine angew Math* 197(1957) 49-67; On the finiteness theorem of Siegel and Mahler concerning diophantine equations. *J Number Theory* 7(1975) 121-176.

Rosaldo, Michelle Zimbalist 75-76 Soc, Symbolic Anthropology

Born 1944 New York, NY. PhD 1972 Social Anthro Harvard Univ. Honors: Fellow Ctr Adv Study in Behavioral Scis 1979-80. Appointments: SSRC Joint Comm on SE Asia. Memberships: Am Anth Assoc; Royal Anth Assoc. Asst Prof, Anthro, Stanford Univ, 235 Embarcadero Rd, Palo Alto, CA

Publications Related to IAS Residence: *Knowledge & Passion: Ilongot Notions of Self & Social Life*. Cambridge: in press.

Other Publications: ed with Louise Lamphere. *Woman, Culture & Society*. Palo Alto: Stanford Univ Press.

Rosaldo, Renato Ignacio 75-76 Soc, Cultural Anthropology

Born 1941 Champaign, IL. PhD 1971 Anthropology Harvard Univ. Honors: Fellow Ctr for Adv Study in Behav Scis 1980-81. Assoc Prof, Department of Anthropology, Stanford University, Stanford, CA 94305.

Publications Related to IAS Residence: *Ilongot Headhunting, 1883-1974: A Study in History and Society*. Stanford Univ Press, 1979.

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Other Publications: Where Precision Lies. In *The Interpretation of Symbolism*, ed. by R. G. Willis, 1-22. London: Malaby Press .

Rose, Morris E. 35-36 M(NS), Theoretical Physics

Born 1911 . PhD 1935 Univ of Mich. Deceased.

Publications Related to IAS Residence: A Note on the Possible Effect of Screening in the Theory of Beta-Disintegration. *Phys Rev* 2 49(1936) 727-729; With L. Motz. On Space Quantization in Time Varying Magnetic Fields. *Phys Rev* 2 50(1936) 348-355; Remarks on the Polarization Effects in the Positron Theory. *Phys Rev* 2 49(1936) 462-465.

Rose, Paul Lawrence 78s HS, History of Science

Born 1944 Glasgow, Scotland. D en Hist 1973 Univ de Paris. Honors: FRHS. Appointments: Ren Soc of Amer, Council, 1973-74. Reader, History Dept, James Cook University, Post Office, Queensland 4811, Australia.

Publications Related to IAS Residence: *The Moral Universe of Jean Bodin*. Geneva: Droz, in press.

Other Publications: *The Italian Renaissance of Mathematics*. Geneva: Droz, 1975.

Rosen, Nathan 34-36 M(NS), Theoretical Physics

Born 1909 Brooklyn, NY. DSc 1932 Physics MIT. Honors: Weizmann Prize for Res in the Exact Sciences 1968; Landau Research Awd 1975. Memberships: Israel Acad of Sci; Am Phys Soc; Eur Phys Soc; Israel Phys Soc; Int Soc for General Relativity and Gravitation. Research Prof, Dept of Physics, Technion, Haifa, Israel.

Publications Related to IAS Residence: With A. Einstein & B. Podolsky. *Phys Rev* 47(1935) 777; With A. Einstein. *Phys Rev* 48(1935) 73; With A. Einstein. *J Franklin Inst* 223(1937) 43.

Other Publications: *Lett Nuovo Cim* 25(1979) 266.

Rosen, Ronald H. 63-64 M, Topology

Born 1933 Cleveland, OH. PhD 1959 Univ of Wis, Madison. Memberships: AMS. Assoc Prof, Dept of Mathematics, University of Michigan, Ann Arbor, MI

Publications Related to IAS Residence: Stellar Neighborhoods in Polyhedral Manifolds. *Proc AMS* 14(1963) 401-406; Examples of Non-Orthogonal Involutions of Euclidean Spaces. *Ann Math* 78(1963) 560-6; The Five Dimensional Polyhedral Schoenflies Theorem. *Bull AMS* 70(1964) 511-16.

Other Publications: E^4 is The Cartesian Product of a Totally Non-Euclidean Space and E^1 . *Ann Math* 73(1961) 349-361; Concerning Suspension Spheres. *Proc AMS* 23(1969) 225-231; Regular Neighborhoods of Graphs in Manifolds. *J London Math Soc* 15(1977) 566-572.

Rosenberg, Alex 55-57 M, Algebra

Born 1926 Berlin, Germany. PhD 1951 Math U of Chicago. Honors: Humboldt Sr Scientist Award U of Munich 1975-6. Appointments: AMS Committees 1960-1973; Trustee AMS 1974-85. Memberships: AMS; MAA. Prof, Dept of Math, Cornell University, Ithaca, NY 14853.

Publications Related to IAS Residence: With M. Auslander. Dimension of prime ideals in polynomial rings. *Can J Math* 10(1958) 287-293; On the structure of the infinite general linear group. *Ann Math* 68(1958) 278-294; Blocks and centres of Group Algebras. *Math Zeit* 76(1961) 209-216; With S. Eilenberg. Dimension of rings and modules VIII Tensor Products. *Nagoya Math J* 12(1957) 71-93; With D. Zelinsky. Tensor products of semiprimary algebras. *Duke Math J* 24(1957) 555-560; Finiteness of the injective hull. *Math Zeit* 70(1959) 372-380.

Other Publications: The number of irreducible representations of simple rings with no minimal ideals. *Amer J Math* 75(1954) 523-530; With D. Harrison and S. U. Chase. Galois theory and galois cohomology of commutative rings. *AMS Memoir* 52(1965) 15-33; With R. Ware, M. Knebusch. Structure of Witt Rings and Quotients of Abelian Group Rings. *Amer J Math* 94(1972) 119-155; With R. Ware, M. Knebusch. Signatures on Semilocal Rings. *J of Alg* 26(1973) 208-250; With T.C. Craven and R. Ware. The Map of the Witt Ring of a Domain into the Witt Ring of its Field of Fractions. *Proc AMS* 51 (1975) 25-30.

Rosenberg, Charles Ernest 79-80 HS, History of Science

Born 1936 New York, NY. PhD History Columbia Univ. Honors: William H. Welch Medal; Am Assoc Hist Med 1969; Pres elect Soc for the Social Hist of Medicine 1981. Appointments: NIH rev committees; Consultant NRC & NEH Committees; ed bd, ISIS, J Hist Medicine. Memberships: AHA; Hist Science Society; Am Studies Assn; Am Assoc Hist Med. Prof, and Chmn, Dept of History, Univ of Penn, Philadelphia, PA 19104.

Publications: *The Cholera Years*. Chicago: 1962; *The Trial of the Assassin Guiteau: Psychiatry & Law in the Gilded Age*. Chicago: 1968; *No Other Gods: Science & American Social Thought*. Baltimore: 1976.

Rosenberg, Jonathan M. 79s M, Representations of Lie Groups

Born 1951 Chicago, IL. PhD 1976 Mathematics Univ of Calif, Berkeley. Memberships: AMS. Asst Prof, Department of Mathematics, Univ of Pennsylvania, Philadelphia, PA 19104.

Publications: With Calvin C. Moore. Groups with T, primitive ideal spaces. *J Functional Analysis* 22(1976) 204-224; Square-integrable factor representations of locally compact groups. *Trans AMS* 237 (1978) 1-33; A quick proof of Harish-Chandra's Plancherel theorem for spherical functions on a semisimple Lie group. *Proc AMS* 63(1977) 143-149; With Edward G. Effras. C^* -algebras with approximately inner flip. *Pac J Math* 77(1978) 417-443; With Elliot C. Gootman. The

structure of crossed product C^* -algebras: a proof of the generalized Effros-Hahn conjecture. *Invent Math* in press.

Rosenberg, Pierre Max 76f HS, Art History

Born 1936 Paris, France. 35, rue de Vaugirard, 75006 Paris, France.

Rosenblatt, Alfred 47s M

Born 1880 Cracow, Poland. PhD 1907 Univ of Cracow. Deceased.

Rosenbloom, Paul C. 53-54, 71-72 M, Analytic Functions

Born 1920 Portsmouth, VA. PhD 1944 Stanford Univ. Prof, Dept of Math, Teachers College, Columbia Univ, New York, NY 10027. *

Rosenblum, Marvin 59-60 M, Analysis

Born 1926 Brooklyn, NY. PhD 1955 Univ of Cal, Berkeley. *

Rosenfeld, Léon 39s M (NS)

Born 1904 Belgium. PhD 1926 Univ of Liège. Deceased.

Publications Related to IAS Residence: *Sur le Tenseur d'Impulsion-Énergie*. Bruxelles: Académie Royale de Belgique, 1940.

Rosenstein, Joseph G. 76s, 77s M, Logic

Born 1941 London, England. PhD 1966 Mathematics Cornell Univ. Memberships: AMS; MAA; ASL. Assoc Prof, Mathematics Dept, Rutgers University, New Brunswick, NJ 08903.

Publications Related to IAS Residence: *Linear Orderings*. NY: Academic Press, 1979; With Manaster. Two-Dimensional Partial Orderings: Recursive Model Theory. *J of Symb Logic* in press; With Manaster. Two-Dimensional Partial Orderings: Undecidability. *J of Symb Logic* in press.

Other Publications: With Manaster. Effective Matchmaking. *Proc London Math Soc* 3, 25(1972) 615-654; X -Categoricity of Groups. *J of Alg* 25(1973) 435-467; With MacIntyre. X -Categoricity of Rings without Nilpotent Elements and for Boolean Structures. *J of Alg* 43(1976) 129-154; With Hay and Manaster. Small Recursive Ordinals, Many-One Degrees, and the Arithmetical Difference Hierarchy. *Ann Math Logic* 8(1975) 297-343.

Rosenthal, Edward 47f M, Number Theory

Born 1916 Iberville, Quebec, Canada. PhD 1944 Diophantine Analysis Cal Tech. Peter Redpath Prof, Mathematics, McGill Univ, Dept Chmn, 10th Fl Burnside Hall, 805 Sherbrooke St W, Montreal, P.O., Canada H3A 2K6.

Publications Related to IAS Residence:

Diophantine Systems Suggested by Bhascara's Problem. *Duke Math J* 15(1948) 921-928; Multiplicative Diophantine Equations in Quaternions. *Amer J Math* 71(1949) 791-799.

Rosinski, Herbert 40-41 HS(EP), War and Society

Born 1903 Germany. PhD 1930 Berlin Univ. Deceased.

Rosner, Jonathan Lincoln 72f, 76-77 NS, Elementary Particle Theory

Born 1941 New York, NY. PhD 1965 Physics Princeton Univ. Honors: ΦBK , $\Sigma \Xi$ 1962. Appointments: Prog Adv Comms: Argonne Natl Lab, (1971-74); Fermilab, (1975-78); High Energy Physics Advisory Panel, 1975; Subpanel on New Facilities, 1977; Ed Bd, *Phys Rev*. Memberships: Am Phys Soc. Prof, Physics, Univ of Minnesota, 148 Physics, Minneapolis, MN 55455.

Publications Related to IAS Residence: The Classification and Decays of Resonant Particles. *Physics Reports* 11C, 4(1974); With E. de Rafael. Short-Distance Behavior of Quantum Electrodynamics and the Callan-Symanzik equation for the Photon Propagator. *Ann Phys, NY* 82(1974) 369; With Shau-Jin Chang. Asymptotic Behavior of Trajectory Functions and Size of Classical Orbits. *Phys Rev D* 8(1973) 450; With Glennys Farrar. On Direct Measurements of the Quark Charge. *Phys Rev D* 7(1973) 2747; With Murray Peshkin. Isospin Restrictions on Charge Distributions in Charmed Particle Decays. *Nucl Phys B* 122(1977) 144; With Maurice Goldhaber. Mixing of Neutral Charmed Mesons and Tests for CP Violation in their Decays. *Phys Rev D* 15(1977) 1254; Final States in Charmed Particle Decays. In *Proceedings of Orbis Scientiae 1977 on Deeper Pathways in High-Energy Physics*, ed. by Behram Kursunoglu, Arnold Perlmutter and Linda F. Scott, 489. New York: Plenum Press, 1977; Improved Lower Limits on Neutral Fermion Masses. *Nucl Phys B* 126(1977) 124; With Chris Quigg. Hadronic Decays of η_c . *Phys Rev D* 16(1977) 1497; With Chris Quigg. Hadronic Decays of Charmed Mesons. *Phys Rev D* 17(1978) 239.

Other Publications: Higher Order Contributions to the Divergent Part of Z_3 in a Model Quantum Electrodynamics. *Ann Phys, NY* 44(1967) 11; Possibility of Baryon-Antibaryon Enhancements with Unusual Quantum Numbers. *Phys Rev Letters* 21(1968) 950; Graphical Form of Duality. *Phys Rev Letters* 22(1969) 689; Review of Exotic Mesons. In *Proceedings of the Second Philadelphia Meson Conference*, ed. by C. Baltay and A. Rosenfeld, 499. New York: Columbia University Press, 1970; With E. W. Colglazier. Quark Graphs and Angular Distributions in Positive-Parity Meson Decays. *Nuclear Physics B* 27(1971) 349; With W. P. Petersen. Resonance Decays Involving Two Partial Waves. *Phys Rev D* 6(1972) 820; With D. Faiman. Phases of

Members

Resonant Amplitudes: $\pi N \rightarrow \pi \Delta$. *Physics Letters* 45B(1973) 357.

Ross, Braxton 74-75 HS, Latin Palaeography and Medieval History

Born 1931 Denver, CO. PhD 1964 History Univ of Colo. Honors: Fship ACLS; Fulbright Sr Res Fship to Italy. Memberships: Medieval Academy of America. Assoc Prof, Latin Palaeography, Assoc Dean Grad Div of Humanities and Assoc Dean of the College. Department of Classics, University of Chicago, 1010 E 59th St, Chicago, IL 60637.

Publications Related to IAS Residence: Giovanni Colonna, Historian at Avignon. *Speculum* 45, 4(1970) 533-63; Audi Thoma ...Henriciani Nota: A French Scholar Appeals to Thomas Becket? *English Hist Rev* 89(1974) 333-38.

Ross, David W. 70-71 NS, Physics

Born 1937 Highland Park, MI. PhD 1964 Physics Harvard U. Memberships: Am Phys Soc; AAAS. Asst Dir, Fusion Research Cntr, Physics Dept, University of Texas, Austin, TX 78712.

Publications Related to IAS Residence: With M.N. Rosenbluth & D.P. Kostomarov. Stability Regions of Dissipative Trapped Ion Instability. *Nuclear Fusion* 12, 3(1972).

Other Publications: With S.M. Mahajan. Are Drift Wave Eigenmodes Unstable?. *Phys Rev Lett* 40(1978) 327.

Ross, James F. 75-76 HS, Philosophy

Born 1931 Providence, RI. PhD 1958 Philosophy Brown University; JD 1954 Univ of Pa. Honors: Disting Teaching Awd 1966; Disting Scholarship Awd Catholic Univ of Amer 1971. Memberships: Am Philos Assoc; Am Catholic Phil Assoc; Soc for Medieval Philos; Pennsylvania Bar. Prof, Dept of Philosophy, University of Pennsylvania, 305 Logan Hall CN, Philadelphia, PA 19104.

Publications Related to IAS Residence: A Natural Rights Theory of Substantive Due Process of Law in US Jurisprudence. *Universal Human Rights* 1 (July-Sept 1979).

Other Publications: *Philosophical Theology*. Indianapolis: Bobbs Merrill, 1969.

Ross, Randy Richard 78-79 NS, Astrophysics

Born 1945 Seattle, WA. PhD 1978 Astrophysics Univ of Colo. Honors: PBK; Woodrow Wilson Fellow 1967; Boettcher Foundation Fellow 1976; NATO Postdoc Fellow 1978. Memberships: Am Astron Soc. NATO Postdoc Fellow, Joint Inst for Lab Astrophysics, Univ of Colorado, Boulder, CO 80309.

Publications: With R. Weaver and R. McCray. The Comptonization of Iron X-ray Features in Compact X-ray Sources. *Ap J* 219(1978) 292.

Rossmann, Wulf T. 76s M

Born 1948 Gerabronn, Germany. PhD 1975 Math Univ of Brit Columbia. Memberships: AMS. Asst Prof, Dept of Math, Mc Master U, Hamilton, Ont, Canada L8S 4K1.

Publications Related to IAS Residence: Analysis on Real Hyperbolic Spaces. *J of Func Anal* 30(1978) 222.

Rothaus, Oscar S. 79-80 M, Logarithmic Sobolev Inequalities

Born 1927 Baltimore, MD. PhD 1958 Princeton Univ. Prof, Math Dept, Cornell Univ, Ithaca, NY 14853. *

Rothschild, Linda Preiss 74-75, 78s M

Born 1945 Philadelphia, PA. PhD 1970 MIT. Honors: Sloan Fellow 1976-80. Appointments: Exec Comm & Council AMS. Memberships: AMS. Assoc Prof, Dept Math, Univ of Wisconsin, Madison, WI 53706.

Publications Related to IAS Residence: Hypoelliptic Differential Operators & Nilpotent Groups. *Acta Math* (1976).

Other Publications: Unbounded conjugacy classed in Lie groups. *Acta Math* 132(1974).

Rourke, Colin Patrick 67-68 M, Geometric Topology

Born 1943 England. PhD 1966 Cambridge Univ. Math Inst, Univ of Warwick, Coventry, England. *

Roux, Georges 62f HS

Born 1919 Sorgues (Vaucluse), France. Dèsl 1957. Honors: Officier des Palmes Académiques; Chevalier de l'Ordre Hellénique du Phénix. Memberships: Assoc pour l'Encouragement des Études Grecques; Société Archéologique (France). Prof, Greek Lang & Civ, Univ Lyon II, 36 Rue Thévenet, 69004 Lyon, France.

Publications Related to IAS Residence: *Fouilles de Delphes: La Terrasse d'Attale* ¹. Paris: De Boccard, 1979; Meurtre dans un sanctuaire, sur l'amphore de Panagurište. *Antike Kunst* (1964) 30-41.

Other Publications: *Delphi, Orakel und Kultstätten*. Munich: 1971; With Jeanne Roux. *L'Amphictionie, Delphes et le Temple d'Apollon au IV^e Siècle*. Paris, Lyorr: 1978; *Grèce*. Grenoble: Arthaud, 1969; *L'Architecture de l'Argolide aux IV^e et III^e Siècles*. Paris: De Boccard, 1961; *Pausanias en Corinthie*. Annales de l'Université de Lyon. Paris: Belles Lettres, 1958; With Charles Delvoye. *Direction de "la Civilisation Grecque"*. Bruxelles: La Renaissance du Livre, 1967.

Rovnyak, James L. 66-67 M, Analysis

Born 1939 Ford City, PA. PhD 1963 Math Yale Univ. Memberships: AMS; MAA. Prof, Math, Univ of Virginia, 2811 Magnolia Dr, Charlottesville, VA 22901.

Publications Related to IAS Residence: With V. Rovnyak. Sonine spaces of entire functions. *J Math Anal Appl* 27(1969) 68-100; With J. Pincus. A spectral theory for some unbounded singular integral

operators. *Amer J Math* 91(1969) 619-636; With J. Pincus. A representation theorem for determining functions. *Proc AMS* 22(1969) 498-592.

Rowley, George 38f HS(H), Fine Arts

Born 1892 . MFA 1926 Princeton Univ. Deceased.
Publications Related to IAS Residence: *Principles of Chinese Painting*. 2nd ed. Princeton: Princeton Univ Press, 1959.
Other Publications: *Ambrogio Lorenzetti*. Princeton: 1958; With C. Gray. Chinese & Western Composition. *Coll Art J* 15(1955) 6-17.

Roy, Prabir 61-62 M, Geometric Topology

Born 1937 India. PhD 1961 Univ of N Carolina. Dept of Math Sci, SUNY at Binghamton, Binghamton, NY 13901. *

Royden, Halsey Lawrence 69f, 74s M, Analysis

Born 1928 Phoenix, AZ. PhD 1951 Mathematics Harvard Univ. Appointments: Math Div, NRC 1971-75; Adv Comm on Research & Adv Council, NSF. Memberships: AMS; MAA; Am Inst of Archeology. Prof, Mathematics, and Dean Sch of Humanities and Sciences, Mathematics Department, Stanford University, Stanford, CA 94305.

Publications Related to IAS Residence: Automorphisms and isomorphisms of Teichmüller space. In *Advances in the Theory of Riemann Surfaces*, Ann of Math Studies 66. 1971; Remarks on the Kobayashi metric. In *Several Complex Variables II*, Springer Lecture Notes in Mathematics 185: 125-137. 1971; The extension of regular holomorphic maps. *Proc AMS* 41(1974) 306-310; Holomorphic fiber bundles with hyperbolic fiber. *Proc AMS* 41 (1974) 311-312; Invariant Metrics on Teichmüller space. In *Contributions to Analysis*, ed. by L.V. Ahlfors et al, 393-399. New York: Academic Press, 1974; Intrinsic metrics on Teichmüller space. In *Proc Internatl Congr of Mathematicians*, 217-221. Vancouver: 1974.

Royster, Wimberly Calvin 62s, 66s M, Analysis

Born 1925 Robards, KY. PhD 1952 Mathematics Univ of Kentucky. Appointments: NRC; Bd of Govs, MAA. Memberships: AMS; MAA; AAAS; Sigma Xi. Prof, Math, and Dean Graduate School, Coordinator for Research, University of Kentucky, 359 Patterson Tower, Lexington, KY 40506.

Publications Related to IAS Residence: Meromorphic starlike multivalent functions. *Trans AMS* 107(1963) 300-308; With V. F. Cowling. Domains of variability for univalent functions. *Proc AMS* 19(1968) 767-772; A Poisson Integral Formula for the Ellipse and some applications. *Proc AMS* 15(1964) 661-670.

Rubel, Lee A. 56-58, 67-68 M

Born 1928 New York, NY. PhD 1954 Math Univ Wisconsin. Prof, Dept of Math, University of Illinois, Urbana, IL

Rubin, Herman 47-48 M

Born 1926 Chicago, IL. PhD 1947 Univ of Chicago. Statistics Dept, Purdue Univ, Lafayette, IN 47907. *
Publications Related to IAS Residence: With T. W. Anderson. Estimation of the Parameters of a Single Equation in a Complete System of Stochastic Equations. *Ann Math Statistics* 20(1949) 46-63; With T. W. Anderson. The Asymptotic Properties of Estimates of the Parameters of a Single Equation in a Complete System of Stochastic Equations. *Ann Math Statistics* 21(1950) 570-582.

Rubinstein, Nicolai 63-64, 70f HS, Renaissance History

Born 1911 Berlin, Germany. Doctorate 1935 Lettere Univ of Florence. Honors: Fellow British Acad; Serena Medal of the British Acad. Memberships: RHS; Medieval Acad of Amer; Renaissance Soc of Amer. Emer Prof, History, Univ of London. 16, Gardner Mansions, Church Row, London, NW3 6UR, England.
Publications Related to IAS Residence: *The Government of Florence under the Medici 1434-1494*. Oxford: 1968; ed, *Lorenzo de' Medici, Lettere*. 3. Florence: 1977; Marsilius of Padua and Italian political thought of his time. In *Europe in the Late Middle Ages*, ed. by J.R. Hale et al. London: 1965.

Ruderman, Malvin Avram 72-73 NS, Physics

Born 1927 New York, NY. PhD 1953 Calif Inst of Tech. Honors: NAS 1971; AAAS 1973; Pregel Medal NY Acad of Sci. Memberships: Am Phys Soc; Am Astron Soc; NY Acad of Sci. Prof, Dept of Physics, Columbia University, New York, NY 10027.

Rudkjøbing, Mogens Hegelund 59-60 M(NS), Astronomy

Born 1915 Roskilde, Denmark. DPhil 1948 Astronomy Univ of Copenhagen. Honors: Member Royal Danish Acad of Sci & Lett 1961-; Gold Medal Copenhagen University 1941. Appointments: Pres, Danish Natl Comm of Astron 1976-; Member, ESO Observing Prog Comm 1977-78. Prof, Astronomy, Univ of Aarhus, Hej-rebakken 22, DK-8220 Brabrand, Denmark.

Publications Related to IAS Residence: The shape of the $1^1 S_0 - 2^1 P_1$ Fano Resonance in the H- Photo-ion-ization Continuum. *JQSRT* 13(1973) 1479-1501.
Other Publications: Wave-Mechanical Calculation of Electron Collision Damping Constants for Fraunhofer Lines. *Ann D'Astroph* 12(1949) 229-242; The Solar Centre-Limb Wavelength Shift as a Relativistic Effect. *Astronomical Papers dedicated to Bengt Strömgren* (1978) 125-134.

Ruegg, Henri E. 63-64 M(NS), Particle Physics

Members

Born 1930 Schaffhouse, Switzerland. PhD 1959 Geneva. Appointments: Scientific Policy Comm Swiss Phys Soc. Memberships: Pres Assoc Professeurs Univ Geneve. Full Prof, Dept Phys Theor, University of Geneva, 24 Quai Ernest Anserret, 1211 Geneva, Switzerland.

Publications Related to IAS Residence: With M.A.B. Begi. A set of Harmonic Functions for the Group SU(3). *J Math Phys* 6(1965) 677.

Other Publications: With K. Bardakci. Reggeized Resonance Model for the Production Amplitude. *Phys Lett* 28B(1968) 342.

Ruelle, David Pierre 62-64, 70-71 M(NS),
Mathematical Physics

Born 1935 Ghent, Belgium. PhD 1959 Physics Université Libre. Honors: Boris Pregel Award for Research in Chemical Physics NYAS 1974; PhD(hc) Ecole Polytechnique Fédérale, Lausanne, Switz 1977. Memberships: Am Phys Soc; Soc Math France; Internatl Assoc Math Physicists. Prof, Physics, IHES, 91440 Bures-sur-Yvette, France.

Publications Related to IAS Residence: Correlation Functions of Classical Cases. *Ann Phys* 25(1963) 109; Cluster Property of the Correlation Functions of Classical Gases. *Rev Mod Phys* 36(1964) 580; Correlation Functionals. *J Math Phys* 6(1965) 201; Bifurcation in the presence of a symmetry group. *Archive Rat Mech Anal* 51(1973) 136-159.

Other Publications: *Statistical mechanics, Rigorous Results*. NY: Benjamin, 1969; *Thermodynamic Formation*. Reading, Mass: Addison-Wesley, 1978.

Rufener, Ernst 51-52 M, Functional Analysis

Born 1920 Switzerland. PhD 1948 Univ of Berne. *

Ruffini, Remo Jacopo 68-70, 74-75 NS, Theoretical
Physics and Astrophysics

Born 1942 La Brique, Alpes Maritimes, France. Dr 1967 Physics Univ of Rome. Honors: NASA Postdoc New York Acad Sci 1967-68; Cressy Morrison Awd 1972; Sloan Fellow 1974-76. Memberships: Am Phys Soc; Sigma Xi. Prof, Chair of Theoretical Physics, Istituto Di Fisica "Guglielmo Marconi", Pizzale delle Scienze 5, 1 00185 Roma, Italy.

Publications Related to IAS Residence: With J. A. Wheeler. *Cosmology from Space Platforms*. SP52. ESRO; With J. Bardeen, B. Carter, H. Gursky, S. Hawking, I. Novikov, K.S. Thorne. *Black Holes*. Gordon and Breach, 1973; With M. Rees and J.A. Wheeler. *Black Holes, Gravitational Waves and Cosmology*. Gordon and Breach, 1974; with H. Gursky. *Neutron Stars, Black Holes and Binary X-ray Sources*. Dordrecht, Holland: D. Reidel, 1975; *The "Marcel Grossman Meeting" on the recent progress of the fundamentals of General Relativity*. North Holland, 1976.

Ruhm von Oppen, Beate 68-69 HS, Modern History,
Religion

Born 1918 Zurich, Switzerland. BA Hon 1939 Modern Languages and Literature Univ of Birmingham, England. Memberships: Royal Inst of Internat Affairs, London. Tutor, St. John's College, Annapolis, MD 21404.

Publications Related to IAS Residence: Trial in Berlin. *The College* (January 1977); *Religion and Resistance to Nazism*. Princeton, 1971; Nazis and Christians. *World Politics* (April 1969); Revisionism and Counter-revisionism in the Historiography of the Church Struggle. In *The German Church Struggle and the Holocaust*, ed. by Littell and Locke. Detroit: 1974.

Other Publications: Bach's Way with Words. In *Essays in Honor of Jacob Klein*. Annapolis: St. John's College Press, 1976; *Documents on Germany under Occupation 1945-1954*. Oxford University Press, 1955.

Ruijgrok, Theodorus W. 60-61 M(NS), Physics

Born 1927 Zuilen, Netherlands. PhD 1958 Field Theory Univ of Utrecht. Prof, Institute for Theoretical Physics, Princetonplein 5, Utrecht, Netherlands.

Ruiz-Martín, Felipe 78-79 HS, Economic History

Born 1915 Valladolid, Spain. PhD 1945 Univ of Madrid. Catedrático Fac Econ, Univ of Madrid, Avda. Concha Espina 8, Madrid 16, Spain.

Publications: *La Banca en España hasta 1782*. Madrid: 1970; *Lettres marchands échangées entre Florence et Medina del Campo*. Paris: 1965; *Les alguns espagnols; Indice de la conjonture économique de l'Europe au XVI^e siècle*. Paris: 1960; Demografía eclesiástica. In *Diccionario de Historia Eclesiástica de España*. Madrid: 1972.

Rumelhart, David Everett 71s Soc, Models of
Perception and Decision-making

Born 1942 Mitchell, SD. PhD 1967 Stanford Univ. Dept of Psychology, Univ of Calif, P.O. Box 109, La Jolla, CA 92037. *

Rumney, Jay 38-40 HS(EP), Sociology

Deceased.

Publications Related to IAS Residence: *The Science of Society*. London: Duckworth, 1938; Biology of War. *J of Social Philosophy* 4(1938/39) 327-335; British Sociology. In *Twentieth Century Sociology*, ed. by Gurvich, G. D., 562-585. New York: 1945.

Ruse, Harold Stanley 33-34, 52-53 M

Born 1905 Hastings, England. DSc Univ of Edinburgh. Honors: Keith Prize Royal Soc of Edinburgh 1935-1937; Rockefeller Research Fellow 1933-34. Memberships: Royal Soc of Edinburgh; London Math Soc; Edinburgh Math Soc; Tensor Soc. Deceased.

Publications Related to IAS Residence: The Cayley-Spottiswoode Coordinates of a Conic in 3-

Space. *Compositio Math* 2(1935) 438-462; On the Geometry of the Electromagnetic Field in General Relativity. *Proc London Math Soc* 241(1936) 302-322; On the Geometry of Dirac's Equations and Their Expression in Tensor Form. *Proc Roy Soc Edinburgh A* 57(1936/37) 97-127; The Ricci Calculus. *Nature* 171(1953) 61-62.

Ryff, John Vincent 67-68 M, Analysis

Born 1932 Jersey City, NJ. PhD 1962 Stanford Univ. Memberships: AMS; MAA. Prof, Analysis, Department of Mathematics, University of Connecticut, Storrs, CT 06268.

Publications Related to IAS Residence: With L. Rubel. The bounded weak-star topology and the bounded analytic functions. *J Funct Anal* 5(1970) 167-83; Majorized functions and measures. *Indag Math* 71(1968) 431-37.

Other Publications: Subordinate H^p -functions. *Duke Math J* 33(1966) 347-54; The functional equation $F(ax) + F(bx + a) = F(bx) + F(ax + b)$. Entire and almost periodic solutions. *J Reine Angew Math* (1978).

Ryser, Herbert John 48-49 M, Algebra

Born 1923 Milwaukee, WI. PhD 1948 Math Univ of Wis. Memberships: AMS; MAA. Prof, Mathematics 253-37, Calif Institute of Technology, Pasadena, CA 91125.

Publications Related to IAS Residence: With S. Chowla. Combinatorial Problems. *Can J Math* 2(1950) 93-99; With C.J. Everett. Rational Vector Spaces I, II. *Duke Math J* 16, 17(1949, 1950) 553-570, 135-145; A Note on a Combinatorial Problem. *Proc AMS* 1(1950) 422-424.

Saavedra, Neantro R. 74s M, Algebraic Geometry

Born 1946 Chile. PhD 1972 Univ of Paris. Dept of Math, Columbia Univ, New York, NY 10027. *

Sabidussi, Gert Otto 53-55 M, Algebra and Category Theory

Born 1929 Graz, Austria. PhD 1952 Mathematics Univ of Vienna. Appointments: Adv Comm Sci Council of Canada on Policy in the Math Scis, 1972. Memberships: Canadian Math Soc. Prof titulaire, Département de mathématiques, Université de Montréal, CP 6128, Montréal, H3C 3J7, Canada.

Publications Related to IAS Residence: Loewy-groups related to linear graphs. *Am J Math* 76(1954) 477-487; Graphs with given group and given graph-theoretical properties. *Can J Math* 9(1957) 515-525.

Sacerdote, George S. 72-74 M, Logic

Born 1945 Englewood, NJ. PhD U of Illinois. Honors: NATO Fellow 1971. Memberships: AMS; Assn for

Symbolic Logic; Assoc for Comp Mach. Arthur D. Little, Inc., Acorn Park, Cambridge, MA 02140.

Publications Related to IAS Residence: With M. Fried. Solving diophantine problems over all residue class fields of a number field and all finite fields. *Ann Math* 104(1976) 203-233.

Other Publications: Subgroups of finitely presented groups. *Proc London Math Soc* (3) 35(1977) 193-212; The Boone-Higman theorem and the conjugacy problem. *J Algebra* 49(1977) 212-221; Projective model completeness. *J Symbolic Logic* 39(1974) 117-123; Infinite coforcing in model theory. *Adv in Math* 17(1975) 261-280; Projective model theory and coforcing. In *Model Theory and Algebra: A Memorial Tribute to Abraham Robinson*, ed. by D.H. Saracino & V.B. Weispfennig, Lect Notes in Math 498: 276-306. Berlin: Springer-Verlag, 1975.

Sachs, Abraham J. 45-46 M

Born 1914 . PhD 1940 Johns Hopkins Univ. *

Publications: With O. Neugebauer. *Mathematical Cuneiform Texts*. New Haven, Conn: American Oriental Society and American Schools of Oriental Research, 1945; Some Metrological Problems in Old Babylonian Mathematical Texts. *Amer Schools of Oriental Research, Bulletin* 96(1944) 29-39; Notes on Fractional Expressions in Old Babylonian Mathematical Texts. *J of Near Eastern Studies* 5(1946) 203-214; Babylonian Mathematical Texts. I: Reciprocals of Regular Sexagesimal Numbers. *J of Cuneiform Studies* 1(1947) 219-240; Two Neo-Babylonian Metrological Tables from Nippur. *J of Cuneiform Studies* 1(1947) 67-71; A Classification of the Babylonian Astronomical Tablets of the Seleucid Period. *J of Cuneiform Studies* 2(1948) 271-290.

Sachs, Judith 64-68 HS, Classical and Mediaeval Studies

Born 1912 . Appointments: Librarian, Inst for Advanced Study 1944-64.

Sachse, William Lewis 65s HS, Modern History

Born 1912 Morris, IL. PhD History Yale Univ. Honors: FRHS. Appointments: Exec Comm Conf on Brit Studies; Pres, Midwest Branch, Conf on British Studies; Exec Comm, Anglo-Amer Associates. Memberships: Colonial Soc of Mass; Royal Hist Soc. Prof Emer, History, U of Wisconsin. 4066 Whitney Ave, Mt. Carmel, CT 06518.

Publications Related to IAS Residence: *Lord Somers: a Political Portrait*. Univ of Wisconsin Press, 1975.

Other Publications: *The Colonial American in Britain*. Madison: 1956; ed, *Diary of Roger Lowe*. 1938.

Sacks, Gerald Enoch 61-62, 74-75 M, Mathematical Logic

Born 1933 Brooklyn, NY. PhD 1961 Cornell Univ. *

Members

Sadosky, Cora S. 78-79 M, Analysis

Born 1940 Buenos Aires, Argentina. PhD 1965 Mathematics Univ of Chicago. Memberships: AMS; Union Matematica Argentina; Asociacion Venezolana Para El Avance De La Ciencia. Prof, Math, Univ Central De Venezuela, San Bartolome 11D, Necrin, La Florida, Caracas 105, Venezuela.

Publications Related to IAS Residence: *Interpolation of operators and Singular Integrals*. New York: M. Dekker, 1979; With M. Cotlar. On the Helson-Szego theorem and a related class of modified Toeplitz Kernels. In *Proc Symp Pure Math*. 1979 in press.

Säflund, Lars G. 65-66 HS, History of Art, Greek Archaeology

Born 1903 Sweden. PhD 1932 Univ of Uppsala. *

Sagen, Oswald Karl 34-35 M

Born 1906 . PhD 1934 Univ of Chicago. Deceased.

Saito, Makoto 78-79 HS, American History

Born 1921 Tokyo, Japan. LLB 1942 Univ of Tokyo. Honors: Rockefeller Fnd Res Fellow Harvard Univ 1951-53; ACLS Sr Scholarship for Am Studies Columbia 1967; Yoshida Memorial Award. Appointments: Fulbright Commission (1967-72) Chm Am Studies Comm; US-Japan Cult & Educ Conf Min of For Affairs (1970-). Memberships: Japanese Assoc Amer Stud. Hepburn Prof, Am Hist & Gov't, Univ of Tokyo, 57 Minamienokicho Shinjuku-ku, Tokyo, Japan 162.

Publications Related to IAS Residence: *A Context of American History*. Iwanami Publishers; *A History of the United States*. Tokyo: Univ of Tokyo Press.

Other Publications: *Logic and Realities of American Diplomacy*. Univ of Tokyo Press, 1962; *A History of Modern America*. Yamakawa Publishers, 1976.

Sakurai, Jun John 58-59 M(NS), Theoretical Physics

Born 1933 Tokyo, Japan. PhD 1958 Cornell Univ. Honors: Sloan Fellow 1962-66; Guggenheim Fellow 1975-76. Memberships: Am Phys Soc. Prof, Department of Physics, UCLA, Los Angeles, CA 90024.

Publications: *Advanced quantum mechanics*. Addison-Wesley series in advanced physics. Reading, Mass: Addison-Wesley, 1967; *Invariance principles and elementary particles*. Investigations in physics, 10. Princeton: Princeton Univ Press, 1964.

Salam, Abdus 51s M(NS)

Born 1926 Jhang, Pakistan. PhD 1952 Theoretical Physics Cambridge Univ. Honors: Hopkins Prize Cambridge University 1957-1958; Adams Prize Cambridge University 1958; Nobel Prize in Physics (jointly) 1979; First recipient of Maxwell Medal and Award Physical Society, London 1961; Hughes Medal

Royal Society, London 1964; Atoms for Peace Medal and Award Atoms for Peace Foundation 1968; J. Robert Oppenheimer Memorial Medal and Prize University of Miami 1971; Guthrie Medal and Prize 1976; Matteuci Medal Accademia Nazionale di XL, Rome 1978; John Torrence Tate Medal American Institute of Physics 1978; Royal Medal Royal Society, London 1978; FRS 1959; Royal Swedish Acad Sci 1970; AAAS; USSR Acad Sci 1971. Appointments: Sci Secy, Geneva Conf on Peaceful Uses of Atomic Energy 1955 & 1958; Member, UN Adv Comm on Sci & Tech 1964-1975, Chmn 1971-72; Member, UN Panel & Foundation Comm for UN Univ 1970-1973; Member, Sci Council, Stockholm Internat Peace Res Inst 1970; VPRES, Internat Union of Pure & App Phys 1972-; Pakistan AEC 1958-; Pres, Pakistan Assoc for Adv of Sci 1961-1962; Chairman, Pakistan Space and Upper Atmosphere Committee 1961-1964; Governor from Pakistan to the Internat Atomic Energy Agency 1962-1963; Member, Nat Sci Council, Pakistan 1963-; Member, Board of Pakistan Sci Found 1973-. Prof, Physics, Imperial Coll, London, Dir Physics, International Centre for Theoretical Physics, PO Box 586, 34100 Trieste, Italy.

Publications Related to IAS Residence: With P.T. Matthews. The intermediate coupling theory of the pseu-doscalar meson-nucleon interaction. *Phys Rev* 86(1952) 715-726; Renormalized s-matrix for scalar electrodynamics. *Phys Rev* 86(1952) 731-744; With J.C. Ward. On the symplectic symmetry. *N Cim* 20(1961) 1228-1230.

Salinas, Norberto 71-72 M, Functional Analysis

Born 1940 Buenos Aires, Argentina. PhD 1970 Mathematics Univ of Michigan. Memberships: AMS. Assoc Prof, Mathematics, University of Kansas, Lawrence, KS 66045.

Publications Related to IAS Residence: Symmetric norms and relative conjugate ideals. *Trans AMS* 188, 2(1974); With C. Pearcy. Operators with compact self commutator. *Can J Math* 26, 1(1974) 115-120; Ideal sets and ideals of compact operators on Hubert space. *Indiana U Math J* 22, 6(1972); With R.G. Douglas and C. Pearcy. Hyperinvariant Subspaces via Topological properties of lattices. *Michigan Math J* 20(1973) 109-113; Ideals of commutators of compact operators. *Acta Sci Math Szeged* 36 1-2(1974); With D.A. Herrero. Operators with disconnected spectra are dense. *Bull AMS* 78, 4(1972); A characterization of the Browder spectrum. *Proc AMS* 38, 2(1973).

Other Publications: Homotopy Invariance of Ext (A). *Duke Math J* 44, 4(1977); Extensions of C*-algebras and essentially n-normal operators. *Bull AMS* 82, 1(1976) 143-146; Reducing essential eigenvalues. *Duke Math J* 40, 3(1973).

Sally, Paul Joseph, Jr. 67-68, 71-72 M, Analysis

Born 1933 Boston, MA. PhD 1965 Brandeis Univ. Dept of Math, U of Chicago, Chicago, IL 60637. *

Salvini, Roberto 73-74 HS, Art History

Born 1912 Florence, Italy. PhD 1933 Univ of Florence. Honors: Accad dei Lincei, Rome 1973. Prof, Art History, Univ Florence, 2, Via dei Coverelli, 50125 Florence, Italy.

Publications Related to IAS Residence: Paralipomena su Leonardo e Dürer. In *Studies in honor of M. Meiss*. New York: 1977; Aux Sources de la Sculpture Romane: Les chapiteaux de la Rotonde de Dijon. *Acta Historiae Artium* (1978).

Other Publications: *Mediaeval Sculpture*. New York: 1969; *Il Chiostro di Monreale*. Palermo: 1962; *Botticelli*. Milano: 1958; *Wiligelmo e le Origini della Scultura Romanica*. Milano: 1956.

Samelson, Hans 41-42, 52-54, 60-61 M, Topology

Born 1916 Strasbourg, Germany. Dr Sc Math Prof. Appointments: NSF Grant Comm, Math; ONR Grant Comm, Math. Memberships: AMS; Swiss Math Soc; MAA. Department of Math, Stanford University, Stanford, CA 94305.

Publications Related to IAS Residence: With D. Montgomery. Groups Transitive on Spheres. *Ann Math* 44(1943) 454-470; Groups and Spaces of Loops. *Comm Math Helv* 28(1954) 278-287; With D. Montgomery. Examples for Differentiable Group Actions. *Proc NAS* 47(1961) 1 202-1204.

Sampson, Joseph Harold 62-63 M, Analysis and Geometry

Born 1925 Spokane, WA. PhD 1951 Princeton U. Memberships: AMS; Soc Math de France. Prof, and Chairman, Dept of Mathematics, Johns Hopkins University, Baltimore, MD 21218.

Publications Related to IAS Residence: With James Eells. Harmonic Mappings of Riemannian Manifolds. *Am J Math* (1964); With G.D. Mostow and J.P. Meyer. *Fundamental Structures of Algebra*. McGraw-Hill, 1964.

Other Publications: Some properties and applications of harmonic mappings. *Ann Sci Ecole Norm Sup* 2(1978).

Samuel, Deborah Hobson 78-79 HS, Classics

Born 1938 Canada. PhD 1965 Yale Univ. 13 Hillcrest Park, Toronto, Ont. M4X 1E8, Canada. *

Samuel, Stuart Alan 79f NS, Physical Sciences

Born 1953 Buffalo, NY. PhD 1979. 14 Pierson St, Beverly, MA

Publications: Topological Symmetry Breakdown and Quark Confinement. *Nucl Phys B*154(1979) 62.

Sanchez-Albornoz, Claudio 58-59 HS, History of Spain

Born 1893 Madrid, Spain. PhD 1914 History. Honors: Natl Covadonga Prize 1924; Royal Acad of Hist, Madrid 1925; Dr(hc) Univs of Bordeaux, Gante,

Tubinga, Lima, Buenos Aires & Oviedo; Lisbon Acad of Scis 1936; Acad Inscript et Belles Lett Inst of France; Acad Scis Galicia; Feltrianelli Hist Prize Accad Naz Lincei. Appointments: Rector, Univ of Madrid 1932; Min of Foreign Exchange 1933; Ambassador to Lisbon 1936. Memberships: Mediaeval Acad of Hist of U.S.; Soc Français Hist de Droit; Soc Belgica Jean Bodin; Hispanic Soc of NY. Prof, and Dir, Inst of the History of Spain, Univ of Buenos Aires, Buenos Aires, Argentina.

Sanders, James 52-54 M, Partial Differential Equations

Born 1921 Canada. PhD 1951 Syracuse Univ. Deceased.

Sanderson, Brian Joseph 64-65 M, Algebraic Topology

Born 1939 Dent, Yorkshire, England. PhD 1963 Algebraic Topology Liverpool Univ. Memberships: AMS; London Math Soc. Reader, Alg Top, Math Inst, U of Warwick, Coventry CV4 7AL, United Kingdom.

Publications Related to IAS Residence: With C.P. Rourke. Block Bundles I, III. *Ann Math* 87(1968) 1-28, 431-438.

Other Publications: With C.P. Rourke. *Introduction to Piecewise Linear Topology*. Ergeb der Math, Band 89. New York: Springer-Verlag, 1972; With U. Koschorke. Self-intersections and higher Hopf invariants. *Topology* 17(1978) 283-290.

Sandri, Guido 59s M(NS), Theoretical Physics

Born 1930 Mexico. PhD 1958 MIT. Dept of Physics & Astronomy, Hunter College of CUNY, New York, NY 10021. *

Santaló, Luis Antonio 48-49 M, Differential Geometry

Born 1911 Gerona, Spain. Dr Mathematics Univ of Madrid. Honors: Member Acad Sci Buenos Aires 1962. Memberships: Union Matemática Argentina; AMS. Prof Emérito, Universidad Buenos Aires, Cochabamba 780, 1150 Buenos Aires, Argentina.

Publications Related to IAS Residence: Integral geometry in projective and affine spaces. *Ann Math* 51(1950) 739-755; *Integral Geometry and Geometric Probability*. Addison-Wesley, 1976.

Sapir, J. David 75-76 Soc, Social Anthropology

Born 1932 New Haven, CT. PhD 1964 Social Anthropology Harvard Univ. Appointments: NEH Panelist for Individual Fships. Memberships: Am Anthro Assoc; Royal Anthro Inst. Assoc Prof, Anthropology, Univ of Va, Ed (Chair) *Ethnography of Symbolic Forms*, A series published by the University of Penna Press. 906 Old Farm Rd, Charlottesville, VA 22903.

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Publications Related to IAS Residence: Fecal animals, an example of complementary totemism. *Man* 12(1977) 1-21.

Other Publications: With J.C. Crocker. *The Social Use of Metaphor*. Univ of Pa Press, 1977; *The Fabricated Child*. *Poetics* 5 no 2 18(1976) 157-184; *A Grammar of Diola-Fogny*. Cambridge: Cambridge Univ Press, 1965.

Sarason, Donald Erik 63-64 M

Born 1933 Detroit, MI. PhD 1963 Math Univ of Mich. Memberships: AMS; MAA. Prof, Dept of Math, Univ of Calif, Berkeley, CA 94720.

Publications Related to IAS Residence: With P. R. Ahern. The HP spaces of a class of function algebras. *Acta Math* 117(1967) 123-163; With P. R. Ahern. On some hypo Dirichlet algebras of analytic functions. *Amer J Math* 89(1967) 932-941; On spectral sets having connected complement. *Acta Sci Math Szeged* 26(1965) 289-299; A remark on the Volterra operator. *J Math Anal Appl* 12(1965) 244-246.

Sarazin, Craig Leish 75-77 NS, Astrophysics

Born 1950 Milwaukee, WI. PhD 1975 Physics Princeton Univ. Honors: Haren Lee Fisher Physics Prize Caltech. Memberships: Am Astron Soc; IAU. Asst Prof, Department of Astronomy, Univ of Virginia, PO Box 3818, Univ Station, Charlottesville, VA 22903.

Publications Related to IAS Residence: Abundance Gradients in Extragalactic HII Regions and Internal Absorption by Dust. *Ap J* 208: 323; The Role of Dust in HII Regions. *Ap J* 211:772; With J.N. Bahcall. Models for the X-Ray Line Emission from Clusters of Galaxies. *BAAS* 8: 355; With J.N. Bahcall. Parameters and Predictions for the X-Ray Emitting Gas in Coma, Perseus, and Virgo. *Ap J Lett* 213: 99; With J.N. Bahcall. X-Ray Line Emission for Clusters of Galaxies: I Comparison to Observation. *Ap J* 219: 781; With J.N. Bahcall. II Numerical Models. *Ap J Suppl* 34: 451; The Effect of Multiple Grain Components on Infrared Radiation Transfer and the 10μ Silicate Feature. *Ap J* 220: 165; With J.N. Bahcall. On the Zeeman Splitting of X-Ray Lines by Neutron-Star Magnetic Fields. *Ap J Lett* 216: 67; Dips in the Cosmic Background. *Physics News* (1977) 10.

Other Publications: With B. Flannery and G. Rybicki. On the Distance From Quasars to Absorbing Clouds. *Ap J Lett* in press.

Sario, Leo Reino 50-52 M, Complex Analysis

Born 1916 Lieksa, Finland. PhD 1948 Mathematics Helsinki Univ. Honors: Cross of the Commander of Finland's Order of Knighthood 1957. Memberships: AMS; MAA. Prof, Mathematics, UCLA. 521 Georgina Ave, Santa Monica, CA 90402.

Publications Related to IAS Residence: With L. Ahlfors. *Riemann Surfaces*. Princeton Math Series. 1960; A linear operator method on arbitrary Riemann surfaces. *Trans AMS* 72(1952) 281-295; An extremal method on arbitrary Riemann surfaces. *Trans AMS*

72(1952) 459-470; *Conformally invariant measures*. Stanford University, 1952; Construction of functions with prescribed properties on Riemann surfaces. *Ann Math Stud* 30(1953) 63-76; Modular criteria on Riemann surfaces. *Duke Math J* 20(1953) 279-286; Minimizing operators on subregions. *Proc AMS* 4(1953) 350-355; Alternating method on arbitrary Riemann surfaces. *Pacific J Math* 3(1953) 631-645; Capacity of the boundary and of a boundary component. *Ann Math* 59(1954) 135-144.

Other Publications: With K. Noshiro. *Value Distribution Theory*. Van Nostrand Univ Series. Van Nostrand, 1966; With B. Rodin. *Principal Functions*. Van Nostrand Univ Series. Van Nostrand, 1968; With K. Oikawa. *Capacity Functions*. Springer Yellow Series. 1969; With M. Nakai. *Classification Theory of Riemann Surfaces*. Springer Yellow Series. 1970; With M. Nakai, C. Wang and L. Chung. *Classification Theory of Riemannian Manifolds*. Springer Lecture Notes. 1977.

Sasaki, Shigeo 52-54 M, Differential Geometry

Born 1912 Matsuyama-machi, Yamagata-ken, Japan. DSc 1943 Differential Geometry Tôhoku Univ. Appointments: Member of exec comm of Japan Math Soc; Judging Comm of res funds of the Ministry of Educ in Japan. Memberships: AMS; Japan Math Soc; Soc Math de France. Prof, Mathematics and Science, Univ of Tokyo, B 305 Sun-heights, 2-31-1 Tokiwadaira, Matsudo, Chiba 270, Japan.

Publications Related to IAS Residence: With M. Goto. Some theorems on holonomy groups of Riemannian manifolds. *Trans AMS* 80(1955); On the influence of the topological structure of Riemannian manifolds etc. *TMJ* 6(1954); With K. Yano. Pseudo-analytic vectors on pseudo-Kählerian manifolds. *Pacific J Math* 5(1955).

Other Publications: On the spaces with normal conformal connexions whose groups of holonomy fix a point or a hypersphere. I, II, III. *Jap J Math* 18(1943) 615-622, 623-633, 791-795; With Y. Hatakeyama. On differentiable manifolds with contact metric structures. *J Math Soc Japan* 14(1962) 249-271.

Sasakura, Nobuo 69-71 M, Moduli Theory of Algebraic Varieties

Born 1941 Japan. MA 1966 U of Tokyo. Dept of Math, Penn State Univ, University Park, PA 16802. *

Šašel, Jaroslav 69-70 HS, Ancient History

Born 1924 Šmarje pri Jelšah, Yugoslavia. PhD 1969 Ancient History and Archaeol Ljubljana Univ. Honors: Hon Fellow Soc of Antiquaries 1978; Ord Mitglied Deut Archäolog Inst 1977, corr memb 1964; Corr Memb Austrian Archaeolog Inst 1975; Hon Member Deputaz-ione di Storia Patria per le Venezie 1964. Memberships: Soc for the Prom of Roman Studies; Archaeolog Soc of Yugoslavia. Prof, Ancient History and Archaeology, Academia Scientiarum, Langusova 17, Yu-61000 Ljubljana, Yugoslavia.

Publications Related to IAS Residence: With Anna Šašel. *Inscriptiones Latinae quae in Iugoslavia inter annos MCMLX et MCMLXX repertae et editae sunt; accedunt nonnulla ad annos MCMXL-MCMLX pertinentia*. Ljubljana: Narodni muzej, 1979; Pro legato. *Chiron* 4(1974) 9-17; The Struggle Between Magnentius and Constantius II for Italy and Illyricum. *Živa antika* 21(1971) 205-216; Zur Rekrutierung der Prätorianer. *Historia* 21(1971) 474-480; Zur Erklärung der Inschrift am Tropaeum Alpium (Plin. n. h. 3, 136-137 CIL V 7817). *Živa antika* 22(1972) 135-144; Trajan's Canal at t[?]e Iron Gate. *J Roman Stud* 63(1973) 80-85.

Other Publications: With Anna Šašel. *Inscriptiones Latinae quae in Iugoslavia inter annos MCMXL et MCMLX repertae et editae sunt; accedunt corrigenda ad volumen I open's V. Horfiller et B. Saria*. Antike Inschriften aus Jugoslawien, Zagreb, 1938. Ljubljana: Narodni muzej, 1963; Fontes. *Claustra Alpium Iuliarum*, 1. Ljubljana: Narodni muzej, 1971; ed, *Tabula imperii Romani*, Sheet K 34 (Naissus). Ljubljana: Academy, 1975; Caesernii. *Živa antika* 10(1960) 201-221; Barbu. *Eirene* 5(1966) 117-137; Bellum Serdicense. *Situla* 4(1961) 3-30; Keltisches Portorium in den Ostalpen. In *Corolla memoriae Erich Swoboda dedicata*, 198-204. Graz-Köln: 1966; Huldigung norischer Stämme am Magdalensberg in Kärnten. *Historia* 16(1967) 70-74; Emona. *RE Suppl* 11(1968) 540-578; Siscia. *RE Suppl* 14(1974) 702-741; Probleme und Möglichkeiten onomastischer Forschung. In *Akte des IV. internationalen Kongresses für griechische und lateinische Epigraphik*, 352-368. Wien: 1964.

Satake, Ichiro 58-60, 67f M

Born 1927 Yamaguchi, Japan. DSc 1950 Univ of Tokyo. Memberships: Math Soc of Japan; AMS; Soc Math France. Prof, Dept of Math, Univ of Calif, Berkeley, CA 94720.

Publications Related to IAS Residence: On representations and compactifications of symmetric Riemannian spaces. *Ann Math* 71 (1960) 77-110; On compactifications of the quotient spaces for arithmetically defined discontinuous groups. *Ann Math* 72(1960) 555-580.

Other Publications: *Algebraic structures of symmetric domains*. Iwanami & Princeton Univ Press, 1979.

Sato, Mikio 60-62 M, Analysis

Born 1928 Japan. MA 1956 Tokyo Univ of Ed. Prof, Inst for Math'l Sciences, Kyoto University, Kyoto, Japan. *

Sauerländer, Willibald 61-62, 73s HS, Art History

Born 1924 Waldsee, Germany. DPhil 1953 University of Munich. Appointments: Senat der Deut Forschungsgemeinschaft 1975-; Vorst Deut Ver für Kunstwiss; Verwaltungsrat German Natlmuseum; Bayer Landes-denkmalrat. Memberships: Member

Bayer Ak d Wiss; Deut Kunsthistorikerverb; Soc française d'Archéologie; Soc des Antiquaires de France; Comité Internat d'Hist de l'Art. Dir, Zentralinst für Kunstgeschichte, Hon Prof Univ of Munich, Meiserstrasse 10, D-8000 Munich 2, Germany.

Publications Related to IAS Residence: *Jean-Antoine Houdon: Voltaire*. Stuttgart: Reclam, 1963; *Von Sens bis Strassburg: Ein Beitrag zur Kunstgeschichtlichen Stellung der Strassburger Querhausskulpturen*. Berlin: de Gruyter, 1966; Die Skulpturen des Kreuzgangs von Notre-Dame-en-Vaux. *Z Kunstgeschichte* (1962).

Other Publications: *Gotische Skulptur in Frankreich 1140-1270*. München: 1970.

Saunders, Trevor John 71-72 HS, Greek Philosophy

Born 1934 Corsham, Wiltshire, England. PhD 1962 (Cantab.) Greek Philosophy. Appointments: Member, Council of Soc for Prom of Hellenic Studies, 1968-71, 1974-7; Member, Council of the Class Assoc, 1973-5, 1976-9. Memberships: Cambridge Philological Soc. Prof, Greek, and Head, Department of Classics, University of Newcastle Upon Tyne, England NE1 7RU.

Publications Related to IAS Residence: *Bibliography on Plato's Laws, 1920-70, with additional citations through May 1975*. New York: Arno Press, 1976; Penology and Eschatology in Plato's "Timaeus" and "Laws". *Class Quart* 23(1973) 232-44; Plato on killing in anger: a reply to Professor Woozley. *Philosoph Quart* 23(1973) 350-6.

Other Publications: translated. *Plato, "The Laws"*. London: Penguin Books, 1970; Notes on the Laws of Plato. *Bull Inst Class Studies Suppl* 28(1972); The Socratic Paradoxes in Plato's "Laws". *Hermes* 96(1968) 421-34; Antiphon the Sophist on natural laws'. *Proc of the Aristotelian Soc* 78(1977-8) 215-36.

Savage, Leonard Jimmie 41-42 M

Born 1917 Detroit, MI. PhD 1941 Univ of Mich. Deceased.

Publications Related to IAS Residence: On the Crossing of Externals at Focal Points. *Bull AMS* 49(1943) 467-469; The Application of Vectorial Methods to Metric Geometry. *Duke Math J* 13(1946) 521-528.

Sawada, Katuro 58-60 M(NS), Physics

Born 1925 Kyoto, Japan. PhD 1956 Tokyo Univ of Education. Honors: Nishina Prize 1958. Prof, Institute of Physics, Tsukuba University, Sakura-Mura, Niiharu-Gun, Ibaraki-Ken, Japan.

Publications Related to IAS Residence: Ground State Energy of Bose-Einstein Gas with Repulsive Interaction. *Phys Rev* 116(1960) 1344; Ground and Excited States of Many Body System with Singular Interaction. *Phys Rev* 119(1960) 2090.

Other Publications: Correlation Energy of High Density Electron Gas. *Phys Rev* 106(1957) 372; *Phys Rev* 108(1957) 509; Integrability and a Solution for

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the One-Dimensional N-Particle System with Inversely Quadratic Pair Potentials. *J of Phys Soc Japan* 39(1975) 1614.

Sawyer, Raymond Francis 61-62 M(NS), Physics

Born 1932 Northfield, MN. PhD 1958 Harvard Univ. Univ of Calif, Santa Barbara, CA 93106. *

Sayles, George Osborne 69f HS, Mediaeval History

Born 1901 Chesterfield, Derbyshire, England. DLitt 1932 Legal History Glasgow Univ. Honors: Fellow Brit Acad 1962; James Barr Ames Medal, Faculty of Law Harvard University 1958; DLitt(hc) Trinity College, Dublin 1965. Appointments: Chmn, Adv Comm, Official War Hist of No Ireland; Member Adv Comm, Official Histories of War (Great Britain); Member Irish Manuscripts Comm, Dublin; Member Scottish Comm on Hist of Scottish Parliaments; Member, Commission Internat Pour l'Hist des Assembles D'Etat. Memberships: Vice-Pres, Seiden Society, London; Royal Irish Academy. Warren Hill, Crowborough, Sussex, England.

Publications Related to IAS Residence: *The King's Parliament of England*. New York: Norton, 1974; King Richard II of England: A Fresh Look. *Proc Amer Philos Soc* 115(1971).

Other Publications: *The Medieval Foundations of England*. New York: Barnes & Co., 1961; *The Court of King's Bench in Law and History*. London: Quaritch, 1959; With H.G. Richardson. The early records of the English parliaments. In *London University Institute of Historical Research Bulletin*, 5, 129-54, 6: 71-88, 129-55. London: 1928-29; ed, Trans, with H.G. Richardson. *Fleta*. 1,2. London: Quaritch, 1955, 1971; With H.G. Richardson. *The Governance of Medieval England from the Conquest to Magna Carta*. Edinburgh: Univ Press, 1963; With H.G. Richardson. *The Irish Parliament in the Middle Ages*. Philadelphia: Univ of Pennsylvania Press, 1952; *The King's Parliament of England*. New York: Norton, 1974; With H.G. Richardson. *Law and Legislation from Aethelbert to Magna Carta*. Edinburgh: University Press, 1966.

Schaerf, Henry Maximilian 53-54 M, Measure Theory and Related Fields

Born 1907 Rohatyn, Poland. D ès S 1943 Mathématiques ETH, Zurich. Honors: Fac Fship Found for Adv of Ed 1953-4. Appointments: Nat Comm AMS on Econ Status of Teachers, 1956-9. Memberships: AMS; Swiss Math Soc; Assoc of Swiss Actuaries; Polish Inst of A&S in America. Prof Emer, Department of Mathematics, Washington University, St. Louis, MO 63130.

Publications: Ueber Links-und Rechtsseitige Stieltjes-Integrale und deren Anwendungen. *Port Math* 3(1943-1944) 73-118.

Schafer, Alice Turner 58-59 M, Projective Differential Geometry, Group Theory

Born 1915 Richmond, VA. PhD 1942 Mathematics Univ of Chicago. Honors: PBK 1936; NSF Fac Fship 1958; DSc University of Richmond 1964; Distinguished Alumna Award Westhampton College 1977; Helen Day Gould Professor of Mathematics Wellesley College 1969. Appointments: Chair, AMS Postdoc Fship Comm 1973-76; Chair AMS-MAA, SIAM Comm on Women in Math, 1975-; Pres, Assoc for Women in Math, 1973-75, Past Pres, 1975-78; NSF Panel to select NATO Fellows in Sci, 1973-75; Committee W, State (Mass.) Conf AAUP, 1971-74, 1977-, Recording Secretary, 1975-77. Memberships: AMS; Assoc for Women in Math; MAA; AAUP; Sigma Xi. Prof, Mathematics, Wellesley Coll, 60 Spring Valley Rd, Belmont, MA 02178.

Publications: The Neighborhood of an Undulation Point of a Space Curve. *Amer J Math* (1948) 351-363; Two Singularities of Space Curves. *Duke Math J* 11 (1944) 655-670.

Schafer, Richard Donald 46-48, 58-59 M, Algebra

Born 1918 Buffalo, NY. PhD 1942 Mathematics Univ of Chicago. Appointments: Sci Manpower Comm, 1959-63. Memberships: AMS; MAA; PBK. Prof, Mathematics, MIT, 60 Spring Valley Rd, Belmont, MA 02178.

Publications Related to IAS Residence: With C. Chevalley. The Exceptional Simple Lie Algebras F_4 and E_6 . *Proc NAS USA* 36(1950) 137-141; The Wedderburn Principal Theorem for Alternative Algebras. *Bull AMS* 55(1949) 604-614; Inner Derivations of Non-Associative Algebras. *Bull AMS* 55(1949) 769-776; On Cubic Forms Permitting Composition. *Proc AMS* 10(1959) 917-925; Nodal Noncommutative Jordan Algebras and Simple Lie Algebras of Characteristic p . *Trans AMS* 94(1960) 310-326; The Exceptional Simple Jordan Algebras. *Amer J Math* 70(1948) 82-94; Structure of Genetic Algebras. *Amer J Math* 71(1949) 121-135.

Other Publications: *An Introduction to Nonassociative Algebras*. New York: Academic Press, 1966; Structure and Representation of Nonassociative Algebras. *Bull AMS* 61(1955) 469-484.

Schafroth, Max Robert 55f M(NS), Theoretical Physics

Born 1923 Switzerland. PhD 1949 ETH. Deceased.

Schanuel, Stephen Hoel 65-66 M

Born 1933 St Louis, MO. PhD 1963 Columbia Univ. Dept of Math, Cornell Univ, Ithaca, NY 14850. *

Scharlau, Winfried Wilhelm 69-70 M

Born 1940 Berlin, Germany. Dr 1967 Mathematics Univ of Bonn. Memberships: DMV. Prof, Mathematics, Univ of Münster, Zurwiese 14, 4400 Münster-Albachten, West Germany.

Publications Related to IAS Residence: Induction Theorems and the Structure of the Witt Group. *Invent Math* 77(1970) 37-44; Quadratic Reciprocity Laws. *J Number Theory* 4(1972) 78-97.

Scharlemann, Martin George 74-75 M, Topology

Born 1948 Carlisle, PA. PhD 1974 Univ of Calif. Memberships: AMS. Assoc Prof, Math Dept, University of California, Santa Barbara, CA 93106.

Publications Related to IAS Residence: Constructing Strange Manifolds with the Dodecahedral Space. *Duke Math J* 43(1976) 33-40; Transversality theories at dimension four. *Inv Math* 33(1976) 1-14.

Schatten, Robert 44-46, 50f, 52-53 M, Linear Transformations

Born 1911 Lwow, Poland. PhD 1942 Columbia Univ. Deceased.

Publications Related to IAS Residence: *A Theory of Cross Spaces*. Annals of Mathematics Studies, 26. Princeton: Princeton Univ Press, 1950; The Cross-Space of Linear Transformations. *Ann Math (2)* 47(1946) 73-84; With J. von Neumann. The Cross-Space of Linear Transformations, II. *Ann Math (2)* 47(1946) 608-630; With N. Dunford. On the Associate and Conjugate Space for the Direct Product of Banach Spaces. *TAMS* 59(1946) 430-436; On Projections with Bound I. *Ann Math (2)* 48(1947) 321-325; With J. von Neumann. The Cross-Space of Linear Transformations, III. *Ann Math (2)* 49(1948) 557-582; "Closing-Up" of Sequence Spaces. *Amer Math Monthly* 57 (1950) 603-616.

Schäublin, Christoph 79f HS, Classics

Born 1941 Basel, Switzerland. DPhil 1967 Univ of Basel. Memberships: Prof, Classics, Univ of Basel, 49, Sevogelstr, CH-4052 Basel, Switzerland.

Publications: *Untersuchungen zu Methode und Herkunft der antiochenischen Exejeze, Theophanea* 23. Köln/Bonn: 1974.

Schechter, Martin 65-66 M

Born 1930 Philadelphia, PA. PhD 1957 Math NYU. Honors: NSF Sr Postdoc Fellow 1965-66. Memberships: AMS; PBK; Pi Mu Epsilon; Assoc of Orthodox Jewish Scientists. Prof, Math, Yeshiva Univ, 2495 Amsterdam Ave, New York, NY 10033.

Publications Related to IAS Residence: *Spectra of Partial Differential Operators*. North Holland, 1971; On the invariance of the essential spectrum of an arbitrary operator. *Ricerche di Matematica* 16(1967) 3-26; Basic theory of Fredholm operators. *Ann Scuola Norm Sup Pisa* 21 (1967) 361-380; Riesz operators and Fredholm perturbations. *Bull AMS* 74(1968) 1139-1144.

Other Publications: *Principles of Functional Analysis*. NY: Academic Press, 1971 ; *Modern Methods in Partial Differential Equations*. McGraw-

Hill, 1977; General boundary value problems for elliptic partial differential equations. *Comm Pure Appl Math* 12(1959) 457-486; Mixed boundary value problems for general elliptic equations. *Comm Pure Appl Math* 13(1960) 183-201; Coerciveness in LP. *Trans AMS* 107(1963) 10-29; Invariance of the essential spectrum. *Bull AMS* 72(1966) 526-533; Hamiltonians for singular potentials. *Indiana Univ Math J* 22(1972) 483-503; Scattering theory for elliptic operators of arbitrary order. *Comment Math Helv* 49(1974) 84-113; A new criterion for scattering theory. *Duke Math J* 44(1977) 863-872.

Schechter, Paul 74-76 NS

Born 1948 Bronx, NY. PhD 1974 Cal Tech. Steward Observatory, Univ of Arizona, Tucson, AZ 85721. *

Schefold, Karl 58-59, 66f HS, Archaeology

Born 1905 Heilbronn (Württemberg), Germany. Ordinarius 1953 Univ of Basel. Honors: Member Ger Arch Inst 1945; Hon Member Am Arch Inst 1962; Dr(hc) Thessaloniki 1963; Korresp Mitglied Bayr Akad 1975; Brit Academy 1976. Appointments: Pres Ver Freunde Antiker Kunst; Leiter Ausgrabungen in Eretria; Dir Schweiz Arch Schule Athens 1964-75. Prof Emer, Univ of Basel. Spalenterweg 52, 4051 Basel, Switzerland.

Publications Related to IAS Residence: *Vergessenes Pompeji*. Bern: 1962; Die Griechen und ihre Nachbarn. *Propyläen Kunstgeschichte* 1 (1967).

Other Publications: Verzeichnis. In *Gestalt und Geschichte: Festschrift Karl Schefold*, 4 Beiheft. Antike Kunst, 1967; *Wort und Bild*. Basel: 1975.

Schenberg, Mario 41f M

Born 1914 Brazil. PhD 1935 Univ of São Paulo. *

Schenkman, Eugene Victor 53-55 M, Group Theory, Lie Algebras

Born 1922 New Market, NJ. PhD 1950 Yale Univ. Deceased.

Publications Related to IAS Residence: Two Theorems on Finitely Generated Groups. *Proc AMS* 5(1954) 497-498.

Scheuch, Erwin K. 73-74 Soc, Sociology

Born 1928 Cologne, Germany. DHabil 1961 Univ of Cologne. Honors: First prize, *Liberal*. Appointments: Comm on Future Energy Needs; Adv Comm Natl Info Systems; Fed Comm on Aged; Comm on Changing Election Laws; Sec Gen IFDO. Memberships: Past Pres, Ger Sociolog Assoc; Past Pres, Assoc of Soc Sci Res Insts; Past Exec Comm, Internat Sociolog Assoc. Prof, Sociology, and Co-Dir Inst of Applied Soc Res; University of Cologne, Greinstr 2, 5000 Cologne 41, Germany.

Publications Related to IAS Residence: ed with Alexander Szalai et al. *Cross National-Comparative*

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Survey Research. Oxford, 1977; *Grundbegriffe der Soziologie*. Stuttgart, 1975; *Soziologie des Konsums. Hamburger Jahrbuch für Wirt und Gesellschaftspolitik* 20(1975); *Kulturintelligenz als Machtfaktor*. Zürich: Edition Interfronn, 1974.

Other Publications: With Gerhard Scherhorn. *Soziologie des Freizeit und des Konsums*. Stuttgart, 1977; ed, *Das Forschungsinstitut*. Erlangen-Nürnberg, 1978; ed with Rudolf Wildenmann. *Soziologie der Wahl*. Opladen, 1965; ed with Rolf Meyersohn. *Soziologie der Freizeit*. Köln: 1972; *Haschisch und LSD als Modedrogen*. Osnabrück: 1971; *Wird die Bundesrepublik unregierbar?.* Köln: 1976.

Scheuneman, John 69-70 M

Born 1937 Chicago, IL. PhD 1966 Math Purdue Univ. Memberships: AMS; MAA. 47 N Central Ave, Hartsdale, NY 10530.

Publications Related to IAS Residence: With Jay Fill-more. *Fundamental Groups of Compact Complete Locally Affine Complex Surfaces*, I, II. *Pacific J of Math* 44, 52(1973, 1974) 487-496, 553-566.

Schieder, Theodor W. 68s HS, Modern History

Born 1908 Oettingen, Bavaria, Germany. PhD 1933 Univ of Munich. Honors: Pour le Mérite für Wissenschaften und Künste 1971. Memberships: Academies in Düsseldorf, Mainz, München, Copenhagen. Prof Emer, Univ of Cologne. Gyrfhofstr 21, 5000 Cologne 41, BRD.

Publications Related to IAS Residence: *Geschichte als Wissenschaft*. Second Edition. Munich: Oldenbourg, 1968.

Schiffer, Walter Bernhard 43-48 HS(EP), International Relations

Born 1906 Breslau, Germany. PhD 1927 Univ of Heidelberg. Deceased.

Publications Related to IAS Residence: *The Legal Community of Mankind; a Critical Analysis of the Modern Concept of World Organization*. New York: Columbia Univ Press, 1954.

Schiffmann, Gerard 69-70 M, Semi-simple Groups

Born 1940 France. PhD 1969 Univ of Paris. *

Schild, Alfred 47-48 M(NS)

Born 1921 Canada. PhD 1946 Univ of Toronto. Deceased.

Publications Related to IAS Residence: With J. L. Synge. *Tensor Calculus*. Mathematical Expositions, 5. Toronto: Univ of Toronto Press, 1949; *Discrete Space-Time and Integral Lorentz Transformations*. *Phys Rev (2)* 73(1948) 414-415; With L. Infeld. *On the Motion of Test Particles in General Relativity*. *Rev Modern Phys* 21(1949) 408-413; With F. A. E. Pirani. *On the Quantization of Einstein's Gravitational Field Equations*. *Phys Rev (2)* 79(1950) 986-991.

Schiller, A. Arthur 73s HS, Law

Born 1902 San Francisco, CA. JD 1932 Columbia Univ. Deceased.

Schilling, Otto Franz Georg 35-37 M

Born 1911 Germany. PhD 1934 Marburg Univ. Deceased.

Publications Related to IAS Residence: With H. Hasse. *Die Normen aus einer Normalen Divisionsalgebra über einem Algebraischen Zahlkörper*. *J Reine Angew Math* 174(1936) 248-252; *Zur Algebraischen Theorie der Funktionenkörper Mehrerer Variabler*. *J Reine Angew Math* 175(1936) 1-5; *Arithmetic in a Special Class of Algebras*. *Ann Math* 238(1937) 116-119; *Arithmetic in Fields of Formal Power Series in Several Variables*. *Ann Math* 2 38(1937) 551-576; *Class Fields of Infinite Degree over p-adic Number Fields*. *Ann Math* 2 38(1937) 469-476; With M. Moriya. *Divisionsalgebren über Unendlichen Perfekten Körpern*. *J of Fac of Science, Hokkaido Univ I* 6(1937) 103-111; *Some Remarks on Class Field Theory over Infinite Fields of Algebraic Numbers*. *Amer J Math* 59(1937) 414-422; *The Structure of Certain Rational Infinite Algebras*. *Duke Math J* 3(1937) 303-310.

Other Publications: *A Theory of Cross Spaces*. *Annals of Mathematics Studies*, 26. Princeton: Princeton Univ Press, 1950.

Schlesinger, Arthur M., Jr. 66s HS, American History

Born 1917 Columbus, OH. AB 1938 Harvard Univ. Honors: Honorary Degrees Muhlenberg College 1950; Bethany College 1956; University of New Brunswick 1960; New School for Social Research 1966; Tusculum College 1966; Rhode Island College 1969; Aquinas College 1971; Western New England College 1974; Ripon College 1976; Iona College 1977; Utah State University 1978; University of Louisville 1978; Pulitzer Prize for History 1946; Guggenheim Fellow 1946; American Academy of Arts and Letters grant 1946; Francis Parkman Prize 1957; Bancroft Prize 1958; Pulitzer Prize for Biography 1966; National Book Award 1966; Gold Medal National Institute of Arts and Letters 1967; Ohio Governor's Award for History 1973; Sidney Hillman Foundation Award 1973; Eugene V. Debs Award in the Field of Education 1974. Appointments: OWI, 1942-43; OSS, 1943-45; Consultant, ECA, 1948; MSA, 1951-52; Spec Asst to Pres Kennedy, 1961-63; Adv Bd, Arthur and Elizabeth Schlesinger Library on Hist of Women in Amer; Bd of Dirs, Harry S. Truman Library Institute; Bd Trustees, John F. Kennedy Ctr for Perfg Arts (1967-1976); Bd Dirs, John Fitzgerald Kennedy Library; Bd Trustees, Robert F. Kennedy Memorial; Bd Trustees, Amer Natl Theatre and Acad; Bd Trustees, Recorded Anthology of Amer Music; Bd Trustees, Twentieth Century Fund; Bd Dirs, Ralph Bunche Inst. Memberships: AHA; Assoc for Study of Afro-Amer Life and Hist; Organiz of Amer Historians;

Soc for Historians of Amer For Rels; Mass Hist Soc; Colonial Soc of Mass; Natl Inst Arts and Letters; Center for Inter-Amer Rels; Council on For Rels; ADA (Natl Chmn, 1953-54); National Council, ACLU. Albert Schweitzer Prof, Humanities, CUNY, 33 W 42nd St, New York, NY 10036.

Publications Related to IAS Residence: Introduction. In *The State of the Union Messages of the Presidents, 1790-1966*, ed. by Fred Israel, 3 vols. New York: Chelsea House, 1966; *The Bitter Heritage: Vietnam and American Democracy, 1944-1966*. Boston: Houghton Mifflin, 1966.

Other Publications: *Orestes A. Brownson: A Pilgrim's Progress*. 1939; *The Age of Jackson*. 1945; *The Vital Center*. 1949; With R. H. Rovere. *The General and the President*. 1951; co-editor, *Harvard Guide to American History*. 1954; *The Crisis of the Old Order. The Age of Roosevelt*, 1. 1957; *The Coming of the New Deal. The Age of Roosevelt*, 2. 1958; *The Politics of Upheaval. The Age of Roosevelt*, 3. 1960; *Kennedy or Nixon*. 1960; *The Politics of Hope*. 1963; ed with Morton White. *Paths of American Thought*. 1963; *A Thousand Days: John F. Kennedy in the White House*. 1965; *Violence: America in the Sixties*. 1968; *The Crisis of Confidence: Ideas, Power and Violence in America*. 1969; ed with F. L. Israel. *History of American Presidential Elections*. 1971; ed, *History of US Political Parties*. 1973; *The Imperial Presidency*. 1973; gen ed, *The Dynamics of World Power: A Documentary History of United States Foreign Policy: 1945-1973*. 1973; ed with Roger Bruns. *Congress Investigates*. 1975; *Robert Kennedy and His Times*. 1978.

Schlumberger, Daniel 72f HS, Archaeology of the Near East

Born 1904 France. PhD 1950 Univ of Paris. Deceased.

Schmeiser, Mabel, see Barnes, Mabel Schmeiser

Schmid, Wilfried 69-70 M

Born 1943 Hamburg, Germany. PhD Mathematics Univ of Calif, Berkeley. Prof, Department of Mathematics, Harvard University, Cambridge, MA 02138.

Schmid, Wolfgang 60-61 HS, Roman History, Ancient Philosophy

Born 1913 Mörs, Germany. DPhil Habil 1942 Classics Univ of Hamburg. Honors: Corr member Accad Pontaniana, Naples 1976-. Memberships: Mommsen-Gesellschaft (Verb der Altertums-wiss Deut); since 1952; Pres 1966-1970; Vice-Pres FIEC 1974-1979. Full Prof, Classical Philology, Univ of Bonn, Am Kottenforst 43, 5300 Bonn 1, Germany.

Publications Related to IAS Residence: Epicurus and the Christians. *RAC* 5(1961) 681-819; Bildloser Kult u christl Intoleranz. *Jahrbuch für Antike u*

Christentum Suppl 1(1964); Eutropsuren in der Historia Augusta. *Antiquitas* 4, 2(1964); Die Koexistenz von Sarapiskult u Christentum im Hadrianbrief bei VOPISCUS. *Antiquitas* 4, 3(1966); Lucretius ethicus. In *Lucrèce*, 24. Genève: Fondation Hardt, 1978.

Schmidt, Gerhard 64s, 70f HS, History of Art

Born 1924 Vienna, Austria. PhD 1952 History of Art. Memberships: Inst Für Kunstgesch. Full Prof, Hist of Art, Vienna University, Linzerstr 352/8, A-1140 Vienna, Austria.

Publications Related to IAS Residence: Die österreichische Kreuzigungstafel in der Huntington Library. *Österr Zs f Kunst u Denkmalpflege* (1966) 1-15; Beiträge zu Stil und Oeuvre des Jean de Liège. *Metropolitan Museum J* 4(1971) 81-107; Bemerkungen zur Königsgalerie der Kathedrale von Reims. *Wiener Jb f Kunstgesch* 25(1972) 96-106.

Other Publications: Peter Parler und Heinrich IV. Parler als Bildhauer. *Wiener Jb f Kunstgesch* 23(1970) 108-153; Andreas me pinsit. *Wiener Jb f Kunstgesch* 26(1973) 57-73; Die Wiener "Herzogswerkstatt" und die Kunst Nordwesteuropas. *Wiener Jb f Kunstgesch* 30/31(1977/78) 179-206; Malerei bis 1450. In *Gotik in Böhmen*, ed. by K.M. Swoboda, 167-321. 1969.

Schmidt, Olaf Henrik 52s M, History of Mathematics

Born 1913 Denmark. PhD 1942 Brown Univ. Math Institut, Universitetsparken 5 NY Munkegade, 8000 Aarhus C, Denmark. *

Publications Related to IAS Residence: With O. Neugebauer. Hindu Astronomy at Newminster in 1428. *Annals of Science* 8(1952) 221-228; On the Computation of the Ahargana. *Centaurus* 2(1952) 140-180.

Schmidt, Wolfgang M. 70-71 M, Number Theory

Born 1933 Vienna, Austria. PhD 1955 Univ of Vienna. Honors: Cole Prize AMS 1972. Memberships: AMS. Prof, Math, Univ of Colorado, Boulder, CO 80309.

Publications Related to IAS Residence: Approximation to algebraic numbers. *L'Enseignem Math* 17(1971) 187-253; Irregularities of Distribution VI & VII. *Compositio Math* 24(1972) 63-74; *Acta Arith* 21 (1972) 45-50; On a problem of Heilbronn. *London Math Soc* 2, 4(1972) 545-550.

Schneider, Chester R. 69-70 M, Semi-simple Lie Groups

Born 1945 New York, NY. *

Schoen, Richard M. 79-80 M, Geometry, General Relativity

Born 1950 Celina, OH. PhD 1976 Stanford Univ. Asst Prof, Courant Inst, 251 Mercer St., New York, NY 10012. *

Members

Schoenberg, Isaac Jacob 33-34, 63-64 M

Born 1903 Galatz, Rumania. PhD 1926 Analysis Univ of Jassy. Honors: Lester R. Ford Award MAA 1977; Outstanding Civilian Svce Medal Dept of Army 1978. Appointments: L. R. Ford Award Comm Chmn, 1977-78. Memberships: AMS; MAA; SIAM; Dutch Math Soc. Prof Emer, Math, Univ of Wisconsin, Madison. 1111 Oak Way, Madison, WI 53705.

Publications Related to IAS Residence: *Cardinal Spline Interpolation*. Regional Conference Monograph. Philadelphia: SIAM, 1973.

Schoenfeld, Lowell 54-55 M, Number Theory

Born 1920. PhD 1944 Univ of Penn. Dept of Math, SUNY at Buffalo, 4246 Ridge Lea Rd, Amherst, NY 14226. *

Schofield, Robert Edwin 67-68, 74-75 HS, History of Science

Born 1923 Milford, NE. PhD 1955 Hist of Science Harvard. Honors: Fulbright Fellow 1953-54; Guggenheim Fellow 1959-60, 1967-68; Pfizer Prize History of Science Society 1964. Appointments: NSF Advisory Panel Hist & Philos of Sci; US Natl Comm International Union, Hist & Philos of Sci. Memberships: Am Phys Soc; Hist of Sci Soc; Soc for Hist of Tech; Am Soc 18th C Studies; Midwest Junto; Corresp, Acad Intern d'Hist Scis; Roy Soc of Arts. Lynn Thorndike Prof, History of Sci, and Chmn Dept of Interdiscply Studies, Case Western Reserve University, Mather House, Cleveland, OH 44106.

Publications Related to IAS Residence: *Mechanism and Materialism: British Natural Philosophy in an Age of Reason*. Princeton: 1970; Joseph Priestley on Sensation and Perception. In *Studies in Perception: Interrelations in History of Philosophy and Science*, ed. by Peter K. Machamer and Robert G. Turnbull. Columbus: Ohio S Univ Press, 1978; Joseph Priestley, Eighteenth-Century British neo-Platonism, and S. T. Coleridge. In *Festschrift for I. Bernard Cohen*, ed. by Everett Mendelsohn. Cambridge Univ Press, forthcoming; *The Lunar Society of Birmingham: A Social History of Provincial Science and Technology in 18th Century England*. Oxford: Clarendon Press, 1963; *A Scientific Autobiography of Joseph Priestley: Selected Scientific Correspondence...with commentary*. Cambridge: MIT Press, 1966; With D.G.C. Allan. *Stephen Hales (1677-1761) FRS, Scientist and Philanthropist*. London: Scolar Press, 1979.

Schorske, Carl E. 67-68, 70s, 71s, 72s HS, Modern European History

Born 1915 New York, NY. PhD 1950 History Harvard. Honors: Hum Lit D (hc) Wesleyan University 1967. Appointments: Bd Member: Inst for Humanities, NYU; AAAS; Inst for Architecture and Urban Planning, NYC. Memberships: AHA. Prof, History, Princeton Univ. 106 Winant Rd, Princeton, NJ 08540.

Publications Related to IAS Residence: *German Social Democracy, 1905-1917*. Harvard Univ Press, 1955; *Explorations in Crisis*. Cambridge: Harvard Univ Press, 1969; *Fin de Siècle Vienna-Politics and Culture*. Knopf, 1979.

Schroer, Bert 63-64 M(NS), Physics

Born 1933 Germany. PhD 1962 Univ of Hamburg. *

Schuchhardt, Walter 65f HS, Greek Archaeology

Born 1900 Germany. PhD 1937 Freiburg Univ. Deceased.

Schultz, Reinhard Edward 73s M, Topology

Born 1943 Chicago, IL. PhD 1968 Mathematics Univ of Chicago. Appointments: Ed Comm *Proc AMS*. Memberships: AMS. Prof, Department of Mathematics, Purdue University, West Lafayette, IN 47907.

Publications Related to IAS Residence: Differentiable group actions on homotopy spheres I. *Invent Math* 31(1975) 105-128; Rational h-cobordism invariants for lens space bundles. *Quart J Math Oxford* 2, 25(1974) 497-511; Circle actions on homotopy spheres bounding generalized plumbing manifolds. *Math Ann* 205(1973) 201-210.

Other Publications: On the topological classification of linear representations. *Topology* 16(1977) 263-269.

Schulz, Juergen 72-73 HS, History of Art

Born 1927 Kiel, Germany. PhD 1958 History of Art. Honors: Guggenheim Fellow 1966/67; NEH Fellow 1972/73 and 1978/79; Grande Ufficiale Stella dellá Solidarietà della Repubblica Italiana 1969. Appointments: Nat Comm for Hist of Art. Memberships: Coll Art Assn; Ren Soc of Amer; Soc of Arch Historians; Ver Zur Erhaltung des Kunsthis Inst Florence. Prof, History of Art, Brown Univ, 192 Bowen St, Providence, RI 02906.

Publications Related to IAS Residence: Jacopo dei Bar-bari's View of Venice. *Art Bulletin* 60(1978) 425-474.

Other Publications: *Venetian Painted Ceilings of the Renaissance*. Berkeley: U Calif, 1968; *The Printed Plans and Panoramic Views of Venice 1486-1797*. Venice: 1972.

Schumacher, Clifford Rodney 61-62 M(NS), Physics

Born 1929 Waukegan, IL. PhD 1961 Cornell Univ. *

Schütte, Kurt 59-60 M, Mathematical Logic

Born 1909 Salzwedel, Germany. DPhil 1933 Univ of Göttingen. Prof, Mathematik, Univ of Munich, Am Brombeerschlag 34, 8000 München 70, Germany.

Publications Related to IAS Residence: Syntactical and semantical properties of simple type theory. *J Symbolic Logic* 25(1960) 307-326.

Other Publications: J. N. Crossley. *Proof theory*. Grundlehren der Mathematischen Wissenschaften, 225. Berlin: Springer-Verlag, 1977.

Schwabacher, Wilhelm H. 65-66 HS, Greek Numismatics

Born 1897 Sweden. PhD 1959 Univ of Stockholm. Deceased.

Schwartz, Jacques 65-66 HS, Roman History

Born 1914 Bordeaux, France. D ès L 1958 Greek Lit Sorbonne. Honors: Membre corr Inst d'Egypte. Appointments: Commission de l'Institut Français d'Archéologie Orientale du Caire; Comité de l'Assoc Internatle de Papyrologues (Bruxelles). Memberships: Assoc profs langues anciennes de l'Enseignement Sup. Prof, Littérature grecque et Papyrologie, Université de Strasbourg II, Dir Inst de Papyrologie Strasbourg et de l'ERA 432 du CNRS, 16 rue Daniel Hirtz, 67000, Strasbourg, France.

Publications Related to IAS Residence: La fin du Séra-péum d'Alexandrie. In *Essays in honor of C. Bradford Welles*, 97-111. New Haven: Am Soc Papyrol, 1966; Arguments philologiques pour dater l'Histoire Auguste. *Historian*, 15 4(1966) 454-65; L'Egypte à la fin du III^e s. p.C. et son historiographie. *Bull de la Faculté des Lettres de Strasbourg* (1967) 294-303.

Other Publications: *Papyri variae Alexandrinae et Gis-senses*. Papyrologica Bruxellensia, 7. Brussels: Fondation égyptologique reine Elisabeth, 1969; With A. Badawy, R. Smith et H. Wild. *Qasr-Qārūn/Dionysias, 1950*. Publications de l'Institut français d'archéologie orientale du Caire. Fouilles franco-suissees, Rapports 2. Cairo: Institut français d'archéologie orientale, 1969; *L. Domitius Domitianus: étude numismatique et papyrologique*. Papyrologica Bruxellensia, 12. Brussels: Fondation égyptologique reine Elisabeth, 1975.

Schwarz, Gerald Walter 75-76 M, Transformation Groups

Born 1946 Portland, OR. PhD 1972 Analysis MIT. Memberships: AMS. Assoc Prof, Analysis, Brandeis Univ. 269 Harvard St, Cambridge, MA 02139.

Publications Related to IAS Residence: Lifting Smooth Homotopies of Orbit Spaces. *Pub Math IHVES* 49(forth-coming).

Other Publications: Smooth functions invariant under the action of a compact Lie group. *Topology* 14(1975) 63-68.

Schwarz, Roberto 79-80 Soc, Literature and Ideology

Born 1938 Vienna, Austria. PhD 1976 The Sorbonne. Asst Prof, Univ de Campinas, Brazil. *

Schwarzenberger, Rolph Ludwig Edward 61-62 M

Born 1936 London, England. PhD (Cantab.) 1961 Mathematics. Memberships: London Math Soc Hon Treas. Prof, Mathematics Institute, University of Warwick, Coventry CV4 7AL, England.

Publications Related to IAS Residence: Jacobians and Symmetric Products. *Illinois J Math* 7(1963) 257-268; The Secant Bundle of a Projective Variety. *Proc Lond Math Soc* 14(1964) 369-384.

Schweigen, Eugene W. 39-40 HS(H), Classics *

Publications: Epigraphical Notes. *Hesperia* 8(1939) 170-176; Greek Inscriptions. *Hesperia* 8(1939) 1-90; The Athenian Cleruchy on Samos. *Amer J Philol* 61(1940) 194-198; Greek Inscriptions. *Hesperia* 9(1940) 309-357.

Schweitzer, Paul Alexander, S. J. 70-71 M, Topology

Born 1937 Yonkers, NY. PhD 1962 Math Princeton Univ. Honors: Putnam Math Competition-Hon Ment 1955; Spker Internat Cong Math Vancouver August 1974. Appointments: Organizing Comm, Brazil Math Colloquium, 1976; Gov Bd, Brazil Math Soc, 1978-. Memberships: AMS; Sigma Xi; Soc Mat Mexicana. Assoc Prof, Depto de Matematica, Pontificia Univ Catolica do Rio de Janeiro, 22453 Rio de Janeiro, Brazil.

Publications: Counterexamples to the Seifert conjecture and opening closed leaves of foliations. *Ann Math* 100(1974) 386-400; Compact leaves of foliations. *Proc Internat Cong Math Vancouver 1974* 1(1975) 543-546.

Sciama, Dennis William 54-55 M(NS), Astrophysics

Born 1926 Manchester, England. PhD(Cantab.) 1953. Senior Research Fellow, All Souls Coll, Professor of Physics University of Texas. All Souls College, Oxford, England.

Publications Related to IAS Residence: On the formation of galaxies in a steady state universe. *Monthly Notices of Royal Astron Soc* 115(1955) 3.

Other Publications: *The Unity of the Universe*. Garden City: Doubleday, 1959; *Physical Foundations of General Relativity*. Science Study Series. Heinemann Educ, 1972; *Modern Cosmology*. Cambridge University Press, 1971 ; *The Thermodynamics of Black Holes*. Cambridge University Press.

Scobie, James R. 74-75 HS, Latin American and Urban History

Born 1929 Valparaiso, Chile. PhD 1954 History Harvard Univ. Honors: Corr Member Acad Nacional de la Historia 1965-; Guggenheim Fellow 1968; Conference Prize Lat Amer Hist 1973; Todo Es Historia Award 1976. Appointments: Fulbright Adv Comm for Lat Amer, 1976-79; US Rep to Comm on Hist of the Pan Am Inst of Hist and Geog, 1969-1977; Chmn, Conf on Lat Amer Hist of AHA, 1977-78.

Members

Memberships: AHA (Beveridge Prize Committee); Handbook of Latin American Studies, Board of Advisory Editors, 1972-. Prof, History, Univ of Calif, San Diego. RFD Box P-9, Del Mar, CA 92014.

Publications Related to IAS Residence: *Buenos Aires, del centro a los barrios, 1870-1910*. Buenos Aires: Solar/Hachette, 1977.

Other Publications: *Buenos Aires: Plaza to Suburb, 1870-1910*. NY: Oxford Univ Press, 1974; *Argentina: A City and a Nation*. NY: Oxford Univ Press, 1971; *Revolution on the Pampas: A Social History of Argentine Wheat, 1860-1910*. Austin: Univ of Texas Press, 1964; *La lucha para la consolidación de la nacionalidad Argentina, 1852-1862*. Buenos Aires: Hachette, 1964.

Scott, Joan Wallach 78-79 Soc, Social History

Born 1941 New York, NY. PhD 1969 Univ of Wisc. Honors: AHA Herbert Baxter Adams prize 1974; Berkshire Conf prize Jan 1975. Appointments: NEH review panels. Memberships: AHA; Soc for French Hist Studies; Soc Sci Hist Assn. Prof, History, Univ of N Carolina, 208 Davie Lane, Chapel Hill, NC 27514.

Publications: *The Glass workers of Carmaux*. Harvard U Press, 1974; With Louise Tilly. *Women, Work & Family*. Holt, Rinehart & Winston, 1978.

Scott, Leonard L., Jr. 79s M, Finite and Algebraic Groups

Born 1942 . PhD 1968 Yale Univ. Dept of Mathematics, University of Virginia, Charlottesville, VA 22903. *

Scott, William Raymond 55-56 M, Algebra (Group Theory)

Born 1919 Bloomingburg, OH. PhD 1947 Mathematics Ohio State Univ. Memberships: AMS; MAA; AAAS. Prof, Math Dept, Univ of Utah, Salt Lake City, UT 84112.

Publications Related to IAS Residence: Solvable fac-torizable groups. *Ill J Math* 1(1957) 1141-1144; With Ralph B. Crouch. Normal subgroups of monomial groups. *Proc AMS* 8(1957) 931-936; On a result of B. H. Neumann. *Math Zeit* 66(1956) 240.

Other Publications: *Group Theory*. Englewood Cliffs, NJ: Prentice-Hall, 1964; Products of A_5 and a simple group. *J Algebra* 37(1975) 165-171.

Seeberg, Axel 72-73 HS, Archaeology

Born 1931 Oslo, Norway. MA Classical Archaeology Oslo Univ. Prof, Classical Archaeology, Oslo Univ, 22 Sörvangen, Oslo 2, Norway.

Seferis, George 68f HS, Literary Criticism

Born 1900 Greece. Honors: Nobel Prize 1963. Deceased.

Segal, Graeme 69-70 M, Topology

Born 1941 Sydney, Australia. DPhil(Oxon.) 1968 Math. Memberships: London Math Soc. Reader, Mathematics, and Fellow, St. Catherine's College, Oxford, England.

Publications Related to IAS Residence: Categories and Cohomology Theories. *Topology* 13(1974) 293-312; Permutation Representations of Finite p-groups. *Quart J Math* 23(1972) 375-381; Stable homotopy of complex projective Space. *Quart J Math* 93(1973) 1-5.

Other Publications: Classifying spaces and spectral sequences. *Publ Math IHES* 34(1968); Configuration spaces and iterated loop spaces. *Invent Math* 21(1973) 213-221.

Segal, Irving Ezra 45-47, 48-49, 51-52, 54-55, 80s M, Physical Mathematics, Analysis

Born 1918 New York, NY. PhD Mathematics Yale Univ. Honors: Guggenheim Fellow 1947; 1951; 1967; Member NAS; Amer Acad; Royal Danish Acad. Appointments: NAS Review Panel on Space Science. Memberships: AAS; AMS; Am Phys Soc. Prof, Mathematics, Dept of Math, Room 2-244, MIT, Cambridge, MA 02139.

Publications Related to IAS Residence: The group algebra of a locally compact group. *Trans Amer Math Soc* 61 (1947) 69-105; Irreducible representations of operator algebras. *Bull Amer Math Soc* 53(1947) 73-88; Postulates for general quantum mechanics. *Ann of Math* 48(1947) 930-948; A class of operator algebras which are determined by groups. *Duke Math J* 18(1951) 221-265; Equivalences of measure spaces. *Amer J Math* 73(1951) 275-313; A non-commutative extension of abstract integration. *Annals of Math* 57(1953) 401-457; 58(1953) 595; With Y. Fours. Causality and analyticity. *Trans Amer Math Soc* 78(1955) 385-405; Tensor algebras over Hubert spaces. I. *Trans Amer Math Soc* 18(1956) 106-134; Tensor algebras over Hubert spaces. II. *Annals of Math* 63(1956) 160-175.

Other Publications: Distributions in Hubert space and canonical systems of operators. *Trans Amer Math Soc* 88(1958) 12-41; Foundations of the theory of dynamical systems of infinitely many degrees of freedom. I. *Math-fys Meed K Danske Vidensk Selsk* 31, 12(1959) 1-38; Quantization of non-linear systems. *J Math Phys* 1(1960) 468-488; Quantization and dispersion for non-linear relativistic equations. In *Proc Confon Mathematical theory of elementary particles, Endicott House, 1965*, ed. by R. Goodman & I. Segal, 79-108. Cambridge, Mass: MIT Press, 1966; Notes towards the construction of non-linear relativistic quantum fields. I. The Hamiltonian in two space-time dimensions as the generator of a C^* -automorphism group. *Proc Nat Acad Sci* 57(1967) 1178-1183; II. Dispersion for non-linear relativistic equations. *Ann Sci Ecole Norm Sup A*, 1(1968) 459-497; Nonlinear functions of weak processes. I. *Jour Func Anal* 4(1969) 404-456; Notes towards the construction of nonlinear relativistic quantum fields, II. The basic nonlinear functions in general space-times.

Bull Amer Math Soc 75(1969) 1383-1389; Notes towards the construction of nonlinear relativistic quantum fields, III. Properties of the C^* -dynamics for a certain class of interactions. *Bull Amer Math Soc* 75(1969) 1390-1395; The mathematical theory of quantum fields. *OAR Research Review USAF* 9(1970) 10-12; *Mathematical cosmology and extragalactic astronomy*. New York: Academic Press, 1976.

Segal, Jack 63-64 M, Topology

Born 1934 Philadelphia, PA. PhD 1960 Mathematics U of Georgia. Memberships: AMS. Prof, Department of Mathematics, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: Generalized Fréchet Varieties. *Fund Math* 58(1966) 31-43.

Other Publications: With S. Mardešić. Shapes of Compacta and ANR-Systems. *Fund Math* 72(1971) 41-59; With J. Dydak. *Shape Theory: An Introduction*. Lect Notes in Math, 688. Berlin: Springer, 1978.

Segall, Berta 45-49 HS(H), Art History

Born Kirchenjahn, Germany. PhD 1928 Univ of Vienna.*

Publications: Two Hellenistic Gold Medallions from Thessaly. *Princeton Mus Rec* 4, 2(1945) 1-11; The Problem of Phoenician Artisans in Egypt. *Walters J* 9(1946) 97-101; Realistic Portraiture in Greece and Egypt. *Walters J* 9(1946) 52-67; *Tradition und neuschöpfung in der frühalexandrinische Kleinkunst*. Winckelmanns-programm der Archäol Ges. Berlin: 1966; *Zur griechischen Goldschmiedekunst des vierten Jahrhunderts v. Chr. Eine griechische Schmuckgruppe im Schmuckmuseum Pforzheim*. Wiesbaden: 1966; The lion-riders from Timna. In *Archeological discoveries in South Arabia*, ed. by R.L. Bowen, Jr., 155-178. Baltimore: Johns Hopkins U Press, 1958; Sculpture from Arabia Felix: The earliest phase. *Ars Orientalis* 2(1957) 35-42.

Segre, Beniamino 50f M, Algebraic Topology

Born 1903 Italy. PhD 1923 Univ of Turin. Deceased.

Publications Related to IAS Residence: *Forme Differenziali e Loro Integrali*. 1: Calcolo Algebrico Esterno e Proprietà Differenziali Locali. Rome: Edizioni Docet, 1951; Arithmetical Properties of Algebraic Varieties. *Proc Internat Cong Math, Cambridge, Mass, 1950* 1(1952) 490-493; On the Rational Solutions of Homogeneous Cubic Equations in Four Variables. *Math Notae* 11(1951) 1-68; Sull'Esistenza, Sia nel Campo Razionale ehe nel Campo Reale, di Involuzioni Piane Non Birazionali. *Atti della Accademia Nazionale del Lincei. Rendiconti* 8(1951) 10: 94-97.

Seidel, Wladimir 52-53 M

Born 1906 Odessa, USSR. PhD 1933 Analysis Univ Munich. Prof, Analysis, Wayne State Univ. 201 E Kirby Ave, Detroit, MI

Publications Related to IAS Residence: Note on a Per-symmetric Determinant. *Quart J Math Oxford Ser* (2) 4(1953) 150-151.

Seifert, Herbert 48f M, Topology, Morse Theory

Born 1907 Bernstadt, Germany. Honors: Akad der Wissensch Heidelberg 1948; Akad der Wissensch Göttingen 1959. Prof, Mathematics, Univ of Heidelberg, Unter der Schanz 2, 69 Heidelberg, Germany.

Publications Related to IAS Residence: With W. Threlfall. *Variationsrechnung im Grossen Theorie von Marston Morse*. Leipzig und Berlin: B.G. Teubner, 1938.

Other Publications: With W. Threlfall. *Lehrbuch der Topologie*. Leipzig und Berlin: B.G. Teubner, 1934.

Seiler, Erhard Karl 73-75 NS, Mathematical Physics

Born 1942 Rothausen, Bavaria, Germany. Dr rer nat 1971 Physics Tech Univers Munich. Memberships: Assoc of Math Physicists. Max-Planck-Institut für Physik, Postfach 401212, D-8000 München, West Germany.

Publications Related to IAS Residence: *Comm Math Phys* 42(1975) 163-182; *Ann Phys* 97(1976) 470-518; Contribution. In *Renormalization Theory*, ed. by G. Velo and A. S. Wightman. Dordrecht and Boston: D. Reidel, 1976; *Comm Math Phys* 45(1975) 99-114; *J Math Phys* 16(1975) 2289-2293; *Proc NAS* 72(1975) 3277.

Selberg, Atle see Present Faculty

Seiberg, Henrik Ludvig 63-64 M

Born 1906 Norway. DPhil 1934 Math Oslo Univ. Stora Gråmunkegränd 1, 11127 Stockholm, Sweden.

Publications Related to IAS Residence: Über den Zusammenhang zwischen Kapazität und Logarithmischem Mass Ebener Punktmengen. *Det Kgl Norske Vid Selskabs Skrifter* 6(1964); Über die Greensche Funktion eines Mehrfach Zusammenhängenden Gebietes. *Det Kgl Norske Vid Selskabs Forhandlingler* 38 (1963).

Other Publications: Eine Ungleichung der Potentialtheorie und ihre Anwendung in der Theorie der mero-morphen Funktionen. *Comm Math Helv* 18(1946) 309-348; Algebroide Funktionen und Umkehrfunktionen Abelscher Integrale. *Norske Vid-Akad Oslo, Mat-Natur Klasse* 8(1934); Über einen Satz von Fabry. *Det Kgl Norske Vid Selskabs Skrifter* 2(1967).

Seligman, George Benham 77f M, Algebraic Lie Theory

Born 1927 Attica, NY. PhD 1954 Yale Univ. Appointments: Adv Bd Fulbright Grants; Adv Bd on

Members

NRC Travel Grants to ICM 1978; Various AMS Comms. Memberships: AMS; MAA; AAUP. Prof, Dept of Mathematics, Yale University, New Haven, CT 06520.

Publications Related to IAS Residence: *Rational Methods in Lie Algebras*. NY: Marcel Dekker, 1976; Representations of isotropic simple Lie algebras over general non-modular fields. In *Queen's Papers in Math*, 48. Kingston: Queen's University, 1978.

Other Publications: *Modular Lie Algebras*. *Ergeb der Math*, 40. Springer, 1967; On Lie Algebras of Prime Characteristic. *AMS Memoir* 19(1956).

Sella, Domenico 71-72 HS, Social and Economic History of Europe

Born 1926 Milan, Italy. Docenza 1962 Economic History Univ of Venice. Honors: Visit Mellon Professor of History U of Pittsburgh 1977. Prof, History Dept, U of Wisconsin, Humanities Bldg, Madison, WI 53706.

Publications Related to IAS Residence: *Crisis and Continuity in the Economy of Spanish Lombardy During the Seventeenth Century*. Harvard U Press, 1979.

Other Publications: *Commerci e industrie a Venezia nel secolo XVII*. Venice-Rome: Inst per la collaborazione cult, 1961.

Selmer, Ernst Sejersted 51s, 52s M, Computer Design

Born 1920 Oslo, Norway. PhD 1952 Univ of Oslo. Appointments: Member, Norwegian Bd on Computers, 1961-73; Chief Ed, *Nordisk Mat Tidsskrift*, 1954-78. Memberships: Oslo Acad of Sci. Prof, and Chmn Bd Computer Dept, Department of Mathematics, University of Bergen, N-5014 Bergen, Norway.

Publications Related to IAS Residence: The diophantine equation $ax^3 + by^3 + cz^3 = 0$. Completion of the tables. *Acta Math* 92(1954) 191-197; Sufficient congruence conditions for the existence of rational points on certain cubic surfaces. *Math Scand* 1(1953) 113-119; A conjecture concerning rational points on cubic curves. *Math Scand* 2(1954) 49-54.

Other Publications: The diophantine equation $ax^3 + by^3 + cz^3 = 0$. *Acta Math* 85(1951) 203-362; On the linear diophantine problem of Frobenius. *J reine angew Math* 293/294(1977) 1-17; *Linear Recurrence Relations Over Finite Fields*. Bergen, Norway: Univ of Bergen, 1966.

Sen, Pritam 50-51 M(NS), Theoretical Physics

Born 1915 Dehra Dun UP, India. PhD 1942 Theoretical Physics Cornell Univ. c/o Ugra Sen, Barrister, 15 Old Dispensary Rd, Dehra Dun UP, India.

Publications: A Simple Non-Local Quantum Electrodynamics. *Nuovo Cimento* 3(1956) 390; Field Metrics. *Nuovo Cimento* 15(1960) 513; 18(1960) 613; 21(1961) 710; 27(1963) 575.

Sennett, Richard 73-74, Soc, Sociology

Born 1943 Chicago, IL. PhD 1969 Urban Studies Harvard Univ. Honors: Guggenheim Fellowship 1973; Senior Research Award NEH 1976; Freud Memorial Lectures 1977. Appointments: Advisor-NEH Public Programs in the Humanities. Memberships: International Sociological Association; American Sociological Assoc; Tocqueville Society. Univ Prof, Social Thought, and Dir, NY Institute for the Humanities, NYU, 19 University Place, 5th Floor, New York, NY 10003.

Publications Related to IAS Residence: *The Fall of Public Man*. NY: Knopf, 1977.

Serbin, Hyman S. 37-39 M

Born 1914 . PhD 1937 Univ of Pittsburgh. 381 Arno Way, Pacific Palisades, CA 90272. *

Publications Related to IAS Residence: Factorization in Principal Ideal Rings. *Duke Math J* 4(1938) 656-663; Weierstrass Preparation Theorem. *Bull AMS* 46(1940) 168.

Sergeraert, Francis Georges 73s M, Differential Analysis

Born 1943 Livarot, Calvados, France. DSc 1972 Orsay (France). Memberships: Soc Math de France. Prof, Mathématiques, Univ of Poitiers, La Râlerie, Sèvres-Annaumont, 86800 St Julien Lars, France.

Publications Related to IAS Residence: Expression explicite de certains polynômes de Thom. *C R Acad Sc Paris* 276(1973) 1661-1663; Utilisation des flottants du hardware pour le calcul rationnel exact. *Bull Soc Math de France* 49-50: 187-195.

Other Publications: Feuilletages et difféomorphismes infiniment tangents à l'identité. *Invent Math* 39(1977) 253-275.

Serre, Jean-Pierre 55-57, 57f, 59f, 61f, 67f, 70f, 72f, 78s M

Born 1926 Bages, France. D d'Etat 1951. Honors: Royal Soc (London); Fields Medal. Memberships: AMS; SMF; London Math Soc. Prof, Collège De France, 6, Ave Montespan, 75116 Paris, France.

Sertorio, Luigi 67-68, 68f NS, Particle Physics

Born 1933 Torino, Italy. PhD 1961 Univ of Rome. Memberships: INFN. Prof, Statistical Mechanics, Istituto Di Fisica, University of Torino, Corso Massimo d'Azeglio 46, Torino, Italy.

Publications Related to IAS Residence: Regge Pole. In *McGraw Hill Encyclopaedia of Science*. 1968.

Other Publications: Statistical Mechanics at High-Energy Density. *Nuovo Cimento* (1978).

Seshadri, Conjeeveram Srirangachari 75-76 M

Born 1932 Kancheepuram, India. PhD 1958 Bombay University. Honors: Fellow Indian Natl Sci Acad and Indian Acad of Sci 1971; S.S. Bhatnagas Award 1972.

Appointments: Indian Nat Comm for IMU-1978-81. Senior Prof, School of Mathematics, Tata Institute of Fundamental Research, Bombay-400005, India.

Publications Related to IAS Residence: Geometric reductivity over arbitrary base. *Adv in Math* 26(1977) 225-274; Geometry of G/P-I. In *C.P. Ramanujam, A Tribute*, 207-239. Springer-Verlag, 1978.

Other Publications: Triviality of vector bundles over the affine space K^2 . *Proc NAS* 44(1958) 456-458; Variete de Picard d'une Variete complete. *Annali di Mat* 4, 57(1962) 117-142; Quotient space by an Abelian variety. *Math Ann* 152(1963) 185-194; With M. S. Narasimhan. Stable and unitary vector bundles on a compact Riemann surface. *Ann Math* 82(1965) 540-567; Space of unitary vector bundles on a compact Riemann surface. *Ann Math* 85(1967) 303-336; Mumford's conjecture for $GL(2)$ and applications. *Proc Inter Colloq on Algebraic Geometry* (1968) 347-371; Quotient spaces modulo reductive algebraic groups. *Ann Math* 95, 3(1972) 511-556; With V. Lakshmibai and C. Musili. Cohomology of line bundles on G/B. *Ann Sci Ecole Norm Sup* (4) 7,1(1974) 89-138; Moduli of vector bundles on curves with parabolic structures. *Bull AMS* 83(1977) 124-126; With V. Lakshmibai. Geometry of G/P-II. (The work of De Concini and Procesi and the basic conjectures). *Proc Indian Acad Sci* 87A, 2(1978) 1-54; Compactifications of the generalized Jacobian variety. *TAMS* (in press); With V. Lakshmibai and C. Musili. Geometry of G/P. *Bull AMS* (in press); Desingularisation of the moduli varieties of vector bundles on curves. In *Proc Symp on Algebraic Geometry, Tokyo 1977*. in press.

Seton-Watson, Christopher Ivan William 53f HS, Modern Italian History

Born 1918 London, England. MA(Oxon.) 1946 Philosophy, Politics and Economics. Memberships: Socio onorario, Istituto per in Storia del Risogimento Italiano, Rome. Fellow and Lecturer, Politics, Oriel College, Oxford OX1 4EW, England.

Publications Related to IAS Residence: *Italy from Liberalism to Fascism*. London: Methuen, 1967.

Ševčenko, Ihor 55-56 HS, Mediaeval Studies

Born 1922 Radość, Poland. DPhil 1945 Prague Univ.; DPhil et L 1949 Louvain Univ. Honors: Corr Member Austrian Ak de W; Accad Arti di Palermo; AAAS; Fellow Mediaeval Acad Amer; Am Philos Soc. Memberships: AHA; Amer Assoc for Adv Slavic Studies. Prof, Byzantine History and Literature, and Assoc Dir Harvard Univ, Ukr Rsch Inst, 6 Folien St, Cambridge, MA 02138.

Publications Related to IAS Residence: The Definition of Philosophy in the Life of Saint Constantine. In *For Roman Jakobson*, 140-148. The Hague: 1956; Nicholas Cabasilas' "Anti-Zealot" Discourse: A Reinterpretation. *Dumbarton Oaks Papers* 11(1957) 81-171; Etudes sur la polémique entre Théodore Métochite et Nicéphore Choumnos.

Series Subsidia, 3. Corpus Bruxellense Historiae Byzantinae, 1962.

Other Publications: A Neglected Byzantine Source of Muscovite Political Ideology. *Harvard Slavic Studies* 2(1954) 141-179; Intellectual Repercussions of the Council of Florence. *Church History* 24(1955) 291-323; The Decline of Byzantium Seen Through the Eyes of Its Intellectuals. *Dumbarton Oaks Papers* 15(1961) 169-186; The Illuminators of the Menologium of Basil II. *Dumbarton Oaks Papers* 16(1962) 245-276; Three Paradoxes of the Cyrillo-Methodian Mission. *Slavic Rev* 23, 2(1964) 220-236; The Greek Source of the Inscription on Solomon's Chalice in the *Vita Constantini*. In *To Honor Roman Jakobson, 1806-1817*. The Hague: 1967; Poems on the Deaths of Leo VI and Constantine VII in the Madrid Manuscript of Scylitzes. *Dumbarton Oaks Papers* 23-24(1970) 187-228; The Date and Author of the So-called Fragments of Toparcha Gothicus. *Dumbarton Oaks Papers* 25(1971) 117-188; With Cyril Mango. Some Churches and Monasteries on the Southern Shore of the Sea of Marmara. *Dumbarton Oaks Papers* 27(1973) 235-277; Society and Intellectual Life in the Fourteenth Century. *Actes du XIVe Congrès International des Études Byzantines* 1(1974) 69-92; Theodore Metochites, the Chora, and the Intellectual Trends of His Time. In *Kariye Djami*, ed. by P.A. Underwood, 4: 19-91. 1975; Hagiography of the Iconoclast Period. In *Iconoclasm*, ed. by A. Bryer and I. Herrin, 113-131. 1977; Storia Letteraria. In *La Civiltà bizantina dal IV al IX Secolo*, 89-m. Bah: 1977; Agapetus East and West: The Fate of a Byzantine "Mirror of Princes". *Revue des Études Sud-Est Européennes* 16(1978) 3-44.

Sevici, Constantin 79-80 M, Number Theory

Born 1950 Ohaba, Rumania. PhD 1979 Univ of Mich. Dept of Math, Univ of Michigan, Ann Arbor, MI 48104.*

Sewell, William H., Jr. 71-72, 75-80 Soc, Social History

Born 1940 Stillwater, OK. PhD 1971 History Univ of Calif, Berkeley. Honors: PBK; SSRC Training Grant 1966-68; NSF Res Grant 1972-75. Appointments: Screening Comm SSRC-ACLS West Europe Fships. Memberships: AHA; Soc for French Hist Studies. Member with Long-Term Appointment, School of Social Science, Institute for Advanced Study, Princeton, NJ 08540.

Publications Related to IAS Residence: *Labor and Revolution in France, 1789-1848: From Corporate Community to Socialist Republic*. Cambridge Univ Press, 1980; Social Change and the Rise of Working-Class Politics in Nineteenth Century Marseille. *Past and Present* 65(1974); Property, Labor and the Emergence of Socialism in France, 1789-1848. In *Consciousness and Class Experience in Nineteenth Century Europe*, ed. by John M. Merriman. New York: Holmes and Meier, 1979; Social Mobility in a Nineteenth-Century City: Some Findings and

Members

Implications. *J Interdisc Hist* 7:2(1976); Corporations Républicaines: The Revolutionary Idiom of Parisian Workers in 1848. *Comp Stud Soc & Hist* 21:2 (1979); *Work and Revolution in France: The Language of Labor from the Old Regime to 1848*. Cambridge Univ Press, 1980.

Sexl, Roman U. 62-63 M(NS), Relativity

Born 1939 Vienna, Austria. PhD 1961 Univ of Vienna. Appointments: Internat Cttee General Relativity & Gravitation; Internat Comm Physics Ed. Memberships: Austrian Phys Soc. Prof, Physics, Univ of Vienna, Bolt-zmann-gasse 5, 1090 Wien, Austria.

Seymour, Robert M. 69-70 M, Algebraic Topology

Born 1944 England. PhD 1969 Warwick Univ. *

Seyrig, Henri 64s, 65s, 66s, 67f, 68f, 69f HS, Archaeology

Born 1893 France. PhD 1922 Univ of Paris. Honors: Légion d'honneur; FBA. Deceased.

Sgro, Joseph Anthony 77-78 M, Mathematical Logic and Foundations

Born 1949 San Diego, CA. PhD 1975 Univ of Wisc, Madison. 6702 N Kendall Dr, Apt 207, Miami, FL 33156. *

Shadmi, Yehuda 61-62 M(NS), Physics

Born 1922 USSR. PhD 1961 Hebrew Univ. *

Shahid, Irfan A. 76s HS, Late Roman and Early Mediaeval History

Born 1926 Nazareth, Israel. PhD 1954 Near East Lang & Lit Princeton Univ. Honors: Fulbright Fellow; Rockefeller Fndn Fellow; Amer Philos Soc Fellow. Memberships: Am Oriental Soc; Middle East Studies Assoc; Medieval Acad of America. Prof, Arabic, Georgetown University, SLL, Washington, DC 20057.

Publications Related to IAS Residence: *The Martyrs of Najran*, *Société des Bollandistes*. Subsidia Hagiographica, 49. Brussels: 1971; Pre-Islamic Arabic. In *Cambridge History of Islam*, 2: 3-29. 1970; Arabic Literature. In *Cambridge History of Islam*, 2: 657-671. 1970; *Themistius, on the Practice of Government* Teubner Classical Series. Leipzig: 1975; On the Patriate of Imru' al-Qays. In *The World of Islam, Studies in honor of Philip K. Hitti*, 74-82. Macmillan, 1959; A Contribution to Qur'anic Exegesis. In *Arabic and Islamic Studies in honor of Hamilton A. R. Gibb*, 563-580. 1965; The Etymology of Hira. In *Studies in Memory of Richard S. Harrell*, 163-173. Washington: Georgetown U Press, 1967; Arethas, Son of Jabala. *J Amer Oriental Soc* (1955) 205-216; Procopius and the Ghassanids. *J Amer Oriental Soc* (1957) 79-87; The Arabs in the Peace Treaty of AD 561. *Arabica* (1956) 181-213; The Last Days of Salih. *Arabica* (1958) 145-158; Ghassan and Byzantium, a

new terminus a quo. *Der Islam* Band 33, Heft 3: 232-355; Byzantino-arabica: The Conference of Ramla, AD 524. *J Near East Stud* (1964); The Book of the Himjarites, authorship and authenticity. *Le Muséon* (1963) 349-352; The "Kebra Nagast" in the Light of Recent Research. *Le Muséon* (1976); Procopius and Arethas, Parts One & Two. *Byzan Z*(1957) 39-67, 362-382; The Patriate of Arethas. *Byzan Z*(1959) 321-343; Procopius and Kinda. *Byzan Z*(1960) 74-78; Byzantium and Kinda. *Byzan Z*(1960) 57-73; Procopius and Arethas Again. *Byzantion* (1971) 313-339; The Iranian Factor in Byzantium during the Reign of Heraclitus. *Dumbarton Oaks Papers* (1972) 295-320.

Shahidi, Freydoon 75-76 M, Automorphic Forms and Group Representations

Born 1947 Tehran, Iran. PhD 1975 Mathematics Johns Hopkins Univ. Asst Prof, Dept of Math, Purdue University, West Lafayette, IN 47907.

Publications Related to IAS Residence: Functional Equation Satisfied by Certain L-Functions. *Compositio Math* 37 (1978) 171-208.

Shale, David 63-64 M, Functional Analysis, Quantum Theory

Born 1932 New Zealand. PhD 1960 Univ of Chicago. Math Dept, Univ of Penn, Philadelphia, PA 19104. *

Shalika, Joseph Andrew 65-66 M, Applications of the Theory of Representations to Number Theory

Born 1941 Baltimore, MD. PhD 1965 Johns Hopkins Univ. Dept of Math, Johns Hopkins Univ, Baltimore, MD 21218. *

Shanks, Merrill Edward 57-58 M, Topological Algebra

Born 1911 Mason City, IA. PhD 1936 State Univ of Iowa. Appointments: Bd Govs MAA Ind Member. Memberships: MAA; AMS; Nat Council Teachers of Math; AAAS. Prof Emer, Mathematics Dept, Purdue Univ, West Lafayette, IN 47907.

Publications Related to IAS Residence: Topologies on the Rational Field. *Bull AMS* 79(1973); Locally Bounded Topologies on the Rational Field. *Fund Math* 92(1976).

Shannon, Claude Elwood 40-41 M

Born 1916 . PhD 1940 MIT. 5 Cambridge St, Winchester, MA 01890. *

Shapere, A. Dudley 78-79 HS, Reason and Scientific Change

Born 1928 Harlingen, TX. PhD 1957 Harvard Univ. 11200 Buckwood Lane, Rockville, MD 20852. *

Shapiro, Alan E. 77-78 HS, History of Science

Born 1942 New York, NY. PhD 1970 History of Science Yale U. Memberships: Hist of Sci Soc; AAAS. Assoc Prof, History of Science, School of Physics and Astronomy, University of Minnesota, Minneapolis, MN 55455.

Publications Related to IAS Residence: Evaluation of Experiment and Newton's 'Achromatic' Dispersion Law. *Arch Hist Exact Sci* (in press); Newton and Huygens' Explanation of the 22° Halo. *Centaurus* (in press).

Other Publications: Kinematic Optics. *Arch Hist Exact Sci* 11(1973) 134-266.

Shapiro, Arnold Samuel 55-57 M, Algebraic Topology

Born 1921 Boston, MA. PhD 1950 Univ of Chicago. Deceased.

Shapiro, Paul R. 78-80 NS, Theoretical Astrophysics

Born 1953 New Haven, CT. PhD 1978 Harvard Univ. 58 Ansonia Rd, Woodbridge, CT 06525. *

Shapiro, Victor L. 53-55, 58-59 M, Mathematical Analysis

Born 1924 Chicago, IL. PhD 1952 Mathematics Univ of Chicago. Honors: Postdoc NSF Fship 1954-55; Fac Res Lect Univ of Calif, Riverside 1978. Memberships: AMS; MAA; SIAM; AAAS. Prof, Dept of Mathematics, University of California Riverside, Riverside, CA 92521.

Publications Related to IAS Residence: Uniqueness of multiple trigonometric series. *Ann Math* 66(1957) 467-580; Topics in Fourier and geometric analysis. *Mem AMS* 39: 1-100; Pressure, capacity, and the Navier-Stokes equations. *J Math Anal & Appl* 65(1978) 236-246.

Other Publications: Removable sets for pointwise solutions of the generalized Cauchy-Riemann equations. *Ann Math* 92(1970) 82-101; Algebraic integers and distributions on the N-torus. *J Func Anal* 13(1973) 138-153; Isolated singularities in steady-state fluid flow. *SIAM J Math Anal* 7(1976) 577-601; A counterexample in the theory of planar viscous incompressible flow. *J Diff Equations* 22(1976) 164-179.

Sharp, Rodney Yorke 70-71 M, Algebraic Geometry

Born 1944 Liverpool, England. DPhil (Oxon.) 1969 Math. Memberships: London Math Soc; AMS; Edinburgh Math Soc; Assoc of Univ Teachers Lecturer, Department of Pure Mathematics, The University of Sheffield, Hicks Bldg, Sheffield S3 7RH, England.

Publications Related to IAS Residence: Finitely Generated Modules of Finite Injective Dimension over certain Cohen-Macaulay Rings. *Proc London Math Soc* 25(1972) 303-328; Dualizing Complexes for Commutative Noetherian Rings. *Math Proc Camb Philos Soc* 78(1975) 369-386; The Construction of a

Module of Finite Projective Dimension from a Finitely Generated Module of Finite Injective Dimension. *Comment Math Helv* 50(1975) 15-26.

Other Publications: The Cousin Complex for a Module over a Commutative Noetherian Ring. *Math Z* 112(1969) 340-356; Gorenstein Modules. *Math Z* 115(1970) 117-139; Local Cohomology Theory in Commutative Algebra. *Quart J Math Oxford* 21(1970) 425-434; Cousin Complex Characterizations of Two Classes of Commutative Noetherian Rings. *J London Math Soc* 3(1971) 621-624; On Gorenstein Modules over a complete Cohen-Macaulay Local Ring. *Quart J Math Oxford* 22(1971) 425-434; With I.G. Macdonald. An Elementary proof of the Non-Vanishing of certain Local Cohomology Modules. *Quart J Math Oxford* 23(1972) 197-204; The Euler Characteristic of a Finitely Generated Module of Finite Injective Dimension. *Math Z* 130(1973) 79-93; The Cousin Complex and Integral Extensions of Noetherian Domains. *Proc Camb Philos Soc* 73(1973) 407-415; A Note on Northcott's work on Generalized Koszul Complexes and Artinian Modules. *Quart J Math Oxford* 26(1975) 19-22; Some Results on the Vanishing of Local Cohomology Modules. *Proc London Math Soc* 30(1975) 177-195; Ramification Indices and Injective Modules. *J London Math Soc* 11(1975) 267-275; The Effect on Associated Prime Ideals Produced by an Extension of the Base Field. *Math Scand* 38(1976) 43-52; Secondary Representations for Injective Modules over Commutative Noetherian Rings. *Proc Edinburgh Math Soc* 20(1976) 143-151; Acceptable Rings and Homomorphic Images of Gorenstein Rings. *J Algebra* 44(1977) 246-261; Local Cohomology and the Cousin Complex for a Commutative Noetherian Ring. *Math Z* 153(1977) 19-22; The Dimension of the Tensor Product of Two Field Extensions. *Bull London Math Soc* 9(1977) 42-48; Simplifications in the Theory of Tensor Products of Field Extensions. *J London Math Soc* 15(1977) 48-50; A Note on the Dimensions of Commutative Noetherian Domains. *J London Math Soc* 15(1977) 415-418; A Commutative Noetherian Ring which possesses a Dualizing Complex is Acceptable. *Math Proc Camb Philos Soc* 82(1977) 197-213; On the Fibre Rings of a Formal Power Series Extension. *Quart J Math Oxford* 28(1977) 487-494; With P. Vámos. The Dimension of the Tensor Product of a Finite Number of Field Extensions. *J Pure and Applied Algebra* 10(1977) 249-252; With J.E. Hall. Dualizing Complexes and Flat Homomorphisms of Commutative Noetherian Rings. *Math Proc Camb Philos Soc* 84(1978) 37-45.

Shearman, John K. G. 64f HS, History of Art

Born 1931 Aldershot, Surrey, England. PhD 1957 History of Art Courtauld Inst. Honors: FBA 1976. Appointments: British Academy Committees; Comité Internat de l'Histoire de l'Art. Prof, and Chmn, Dept of Art & Archaeology, Princeton Univ, McCormick Hall, Princeton, NJ 08540.

Members

Publications Related to IAS Residence: *Raphael's Cartoons in the Collection of Her Majesty the Queen, and the Tapestries for the Sistine Chapel*. London: Phai-don, 1972; *Mannerism*. Harmondsworth: Penguin Books, 1967.

Other Publications: *Andrea del Sarto*. Oxford: Clarendon Press, 1965; *The Vatican Stanze: functions and decorations*. London: Oxford Univ Press, 1972.

Sheehan, James J. 73-74 HS, Modern Europe

Born 1937 San Francisco, CA. PhD 1964 History Univ of Calif. Appointments: Nominating Committee, AHA. Memberships: AHA. Prof, Dept of History, Northwestern University, Evanston, IL 60201.

Publications Related to IAS Residence: *German Liberalism in the Nineteenth Century*. U of Chicago Press, 1978.

Other Publications: *The Career of Lujo Brentano: A Study of Liberalism and Social Reform in Imperial Germany*. Chicago and London: U of Chicago Press, 1966; Political Leadership in the German Reichstag, 1871-1918. *American Historical Review* 74(1968) 511-28; The Primary of Domestic Politics: Eckart Kehr's Essays on Modern German History. *Central European History* 1(1968) 166-74; Germany, 1890-1918: A Survey of Recent Research. *Central European History* 1(1968) 345-72; Liberalism and the City in Nineteenth Century Germany. *Past and Present* 51(1971) 116-37; Quantification in the Study of German Social and Political History. In *Dimensions of the Past*, ed. by V. Lorwin and J. Price. New Haven, Conn: Yale Press, 1972; Conflict and Cohesion among German Elites in the Nineteenth Century. In *Modern European Social History*, ed. by R. Bezucha. Lexington, Mass: D.C. Heath, 1972; Liberalism and Society in Germany, 1815-1848. *Journal of Modern History* 45(1973); Partei, Volk and Staat: Some Reflections on the Relationship between Liberal Thought and Action in Vormärz. In *Festschrift für Hans Rosenberg*. Göttingen: 1974; editor, *Industrialization and Industrial Labor in Nineteenth Century Europe*. New York: Wiley, 1974; editor, *Imperial Germany*. New York: Franklin Watts, 1976; Liberalismus im postliberalen Zeitalter. *Geschichte und Gesellschaft* 4(1978) 29-48; Totalitarianism and Everyday Life: Germany, 1933-1945. *Arts and Sciences* 1(1978) 7-11; *German Liberalism in the Nineteenth Century*. U of Chicago Press, 1978; Begriffsgeschichte: Theory and Practice. *Journal of Modern History* 50(1978) 312-19.

Shefter, Martin Allen 77-78 Soc, Political Science

Born 1943 New York, NY. PhD 1970 Government Harvard Univ. Honors: PBK. Memberships: APSA. Assoc Prof, Government, Cornell Univ, 145 Pine Tree Rd, Ithaca, NY 14850.

Publications Related to IAS Residence: *Political Patronage in America*. Basic Books, forthcoming.

Other Publications: New York City's Fiscal Crisis: The Politics of Inflation and Retrenchment. *The Public Interest* 48(Summer 1978); Party Bureaucracy, and Political Change in the United States. *Sage Electoral Studies Yearbook* 4(1978); Party and Patronage: Germany, England, and Italy. *Politics & Society* 7(1977); The Electoral Foundations of the Political Machine: New York City, 1884-1897. In *The History of American Electoral Behavior*, ed. by Joel Silbey et al. Princeton University Press, 1978; Local Politics, State Legislatures and the Urban Fiscal Crisis: New York City and Boston. In *Territorial Politics in Industrial Nations*, ed. by Sidney Tarrow et al. Praeger, 1978; The Emergence of the Political Machine: An Alternative View. In *Theoretical Perspectives in Urban Politics*, ed. by Willis Hawley and Michael Lipsky. Prentice-Hall, 1976.

Shei, Sun-Sheng 75-77 NS, High Energy Physics

Born 1941 Taipei, Taiwan. PhD 1969 Physics Harvard Univ. Memberships: Am Phys Soc. Member Research Staff, Xerox Corporation, MS 109, 1341 West Mockingbird Lane, Dallas, TX 75248.

Publications Related to IAS Residence: Semiclassical bound states in a model with chiral symmetry. *Phys Rev D* 14(1976) 535; Failure of the U(12) algebra in quantum chromodynamics. *Phys Rev D* 15(1977) 3049; Scalar Quantum Chromodynamics in Two Dimensions and the parton model. *Nuclear Physics B* 141(1978) 445; Semiclassical Approach to Lattice Theories. *Nuclear Physics B* 130(1977) 221.

Sheingorn, Mark Elliot 76s M, Number Theory

Born 1944 New York, NY. PhD 1970 Math University of Wisconsin. Assoc Prof, Department of Math, Baruch College-CUNY, Box 320 17 Lexington Ave, New York, NY 10010.

Publications Related to IAS Residence: With D. Niebur. Characterization of Fuchsian Groups whose integrable forms are bounded. *Ann Math* 106(1977) 239-258.

Other Publications: Boundary behavior of automorphic forms and transitivity for $\Gamma(1)$. *Ill J Math* in press; Poincaré series bounded away from zero in a fundamental region. *Am J Math* 95, 4(1973) 729-749; With M. Newman. Continuous solution of a homogeneous functional equation. *Aeq Math* 13(1975) 47-59.

Shelstad, Diana 73-75 M

Born 1947 Australia. Math Dept, Columbia Univ, New York, NY 10027. *

Shelton, Robert Orrin 75-76 M, Analysis

Born 1949 Fort Worth, TX. PhD 1975 Mathematics Rice Univ. Asst Prof, Department of Mathematics, University of Tennessee, Knoxville, TN 37916.

Publications: Noncollision Singularities in the Four-Body Problem. *Trans AMS* 249, 2(1979).

Sheng, Ping 71-73 NS, Physics

Born 1946 Shanghai, China. PhD 1971 Theoretical Physics Princeton Univ. Honors: Invited Speaker, APS Meeting March 1974; Conf on Electrical Transport and Optical Properties of Inhomogeneous Media Sept 1977. Memberships: Am Phys Soc. Member of Technical Staff, RCA Laboratories, Princeton, NJ 08540.

Publications Related to IAS Residence: Hopping Conductivity in Granular Metals. *Phys Rev Lett* 31(1973) 44; New Technique for the Measurement of Magnetic Critical Exponent β . *Phys Rev Lett* 30(1973) 234; Effects of Bundling in a Lattice Gas Model of Liquid Crystals. *J Chem Phys* 59(1973) 1942.

Other Publications: *Introduction to Liquid Crystals*. Plenum Press, 1975; Structural and Electrical Properties of Granular Metal Films. *Adv Phys* 24(1975) 407; Phase Transition in Surface Aligned Nematic Films. *Phys Rev Lett* 37(1976) 1059; Fluctuation-Induced Tunneling Conduction in Carbon-Polyvinylchloride Composite. *Phys Rev Lett* 40(1978) 1197; Voltage-Induced Tunneling Conduction in Granular Metals at Low Temperatures. *Phys Rev Lett* 28(1972) 34; Theoretical Considerations of Optical Diffraction from RCA Video Disc Signals. *RCA Review* 39(1978) 512; Signal Distortion Noise in Volume phase Holograms. *Optical & Quantum Electronics* 9(1977) 427-436.

Shepard, Harvey Kenneth 77f NS, Theoretical (Elementary Particle) Physics

Born 1938 Chicago, IL. PhD 1966 Theoretical Physics Calif Inst of Tech. Honors: PBK 1960; NSF Grad Fellow 1960-64; Woodrow Wilson Fellow 1960. Memberships: American Physical Soc; AAUP. Prof, Physics, DeMeritt Hall, University of New Hampshire, Durham, NH 03824.

Publications Related to IAS Residence: With Barry J. Harrington. Periodic Euclidean solutions and the finite-temperature Yang-Mills gas. *Physical Review D* 17(1978) 2122-2125; With Barry J. Harrington. Thermodynamics of the Yang-Mills gas. *Physical Review D* 18(1978) 2990-2994.

Shepherdson, John Cedric 53-54 M, Logic

Born 1926 Huddersfield, Yorkshire, England. MA (Cantab.) 1951 Math. Appointments: 1968-71 Member Math Comm Science Research Council (UK); Assn for Symbolic Logic, Member Executive Committee for European Affairs 1966-72 (Chmn 1966-68); Member Comm on Logic in E Asia 1967-70. Memberships: London Math Soc; AMS; Assn for Symbolic Logic; MAA; Fellow, Inst of Math and Its Applications. Prof, Univ Bristol, School of Mathematics, University Walk, Bristol B58 1TW, England.

Publications Related to IAS Residence: With A. Fröhlich. On the Factorisation of Polynomials in a Finite Number of Steps. *Math Z* 62(1955) 331-334; With A. Fröhlich. Effective Procedures in Field Theory. *Phil Trans Roy Soc* 248 (1956) 407-432; With J. Myhill. Effective Operations on Partial Recursive Functions. *Zeit Für Math Logik U. Grundlagen der Math* 1(1955) 310-317; Inner Models for Set Theory, Parts I-III. *J Symbolic Logic* 16(1951) 161-190; 17(1952) 225-237; 18(1953) 145-167; With M.E. Sturgis. Computability of Recursive Functions. *J Assoc Cond Math* 10(1963) 217-255; Machine Configuration and Word Problems of Given Degree of Unsolvability. *Zeit für Math Logik U. Grundlagen der Math* 11(1965) 149-175; With Rose. Computation over Abstract Structures: Serial and Parallel Procedures and Friedman's Effective Definitional Schemes. In *Logic Colloquium '73*, 449-517. Amsterdam: 1975.

Sher, Richard B. 69-70 M, Topology

Born 1939 Flint, MI. PhD 1966 Mathematics Univ of Utah. Memberships: AMS; MAA. Prof, Dept of Mathematics, Univ of North Carolina at Greensboro, Greensboro, NC 27412.

Publications Related to IAS Residence: Determining the cellularity of a 1-complex by properties of its arcs. *Proc AMS* 26(1970) 491-498; With J.G. Hollingsworth. Triangulating neighborhoods in topological manifolds. *Gen Topology and Appl* 1 (1971) 345-348.

Other Publications: Realizing cell-like maps in Euclidean space. *Gen Topology and Appl* 2(1972) 75-89; With B.J. Ball. A theory of proper shape for locally compact metric spaces. *Fund Math* 86(1974) 163-192; The union of two Hubert cubes meeting in a Hubert cube need not be a Hubert cube. *Proc AMS* 63(1977) 150-152; A theory of absolute proper retracts. *Fund Math* 88(1975) 241-247.

Sherman, Seymour 40-41, 48-50 M, Measure Theory

Born 1917 New York, NY. PhD 1940 Cornell Univ. Deceased.

Publications Related to IAS Residence: On Denumerably Independent Families of Borel. *Amer J Math* 72(1950) 612-614; A Problem of Raikov. *Duke Math J* 17(1950) 21-26; With D. Gale. Solutions of Finite Two-Person Games. In *Contributions to the Theory of Games, 1*, Annals of Math Studies, 24: 37-49. Princeton: 1950.

Sherman, Thomas Oakley 64-65 M, Functional Analysis

Born 1939 Brooklyn, NY. PhD 1964 MIT. Math Dept, Northeastern U, Boston, MA 02115. *

Shiftman, Bernard 75f M, Complex Analysis

Members

Born 1942 New York, NY. PhD 1968 Mathematics U Calif, Berkeley. Honors: Sloan Fellow 1973. Memberships: AMS. Prof, Dept of Mathematics, Johns Hopkins University, Baltimore, MD 21218.

Publications Related to IAS Residence: Holomorphic and meromorphic mappings and curvature. *Math Ann* 222(1976) 171-194; Holomorphic curves in algebraic manifolds. *Bull AMS* 83(1977) 553-568.

Other Publications: With Reese Harvey. A characterization of holomorphic chains. *Ann Math* 99(1974) 553-587; Extension of holomorphic maps into hermitian manifolds. *Math Ann* 194(1971) 249-258; Extension of positive line bundles and meromorphic maps. *Invent Math* 15(1972) 332-347.

Shiftman, Max 51f M, Analysis

Born 1914 New York, NY. PhD 1938 NYU. 16913 Meekland Ave, Apt 7, Hayward, CA 94541. *

Publications Related to IAS Residence: On the Existence of Subsonic Flows of a Compressible Fluid. *Proc NAS* 38(1952) 434-438.

Shigemitsu, Junko 78-80 NS, Elementary Particle Physics

Born 1949 Tokyo, Japan. PhD 1978 Physics Cornell Univ. Daizawa 3-16-3, Setagaya-Ku, Tokyo, Japan.

Publications: With S. Elitzur. Lattice Hamiltonian Results for the Spectrum of an $1 + 1$ dim. Asymptotically Free Field Theory. *Phys Rev D* 14(1976) 1988; With J. Kogut. Comparison of Recent Massive Muon Pair Data with the Asymptotically free Parton Model. *Phys Lett* 71B(1977) 165; With J. Kogut. Estimates for W_{\pm} , Z and Massive muon-pair Production in the Asymptotically free Parton Model. *Nucl Phys B* 129(1977) 461; Spectrum Calculations in Lattice Gauge Theory using Wilson's Fermion Method. *Phys Rev D* 18(1978) 1709.

Shih, Kuang-Yen 72-73 M, Number Theory

Born 1945 Taipei, Taiwan, China. PhD 1972 Math Princeton Univ. Memberships: AMS. Asst Prof, Math, Univ of Michigan, 3550 Charter Place, Ann Arbor, MI 48105.

Publications Related to IAS Residence: Anti-holomorphic automorphisms of arithmetic automorphic function fields. *Ann Math* 103(1976) 81-102.

Other Publications: On the construction of Galois Extensions of Function fields and number fields. *Math Ann* 207(1974) 99-120; Existence of certain canonical models. *Duke Math J* 45(1978) 63-66.

Shih, Weishu 63-64, 67f M, Global Analysis and Topology

Born 1931 Peking, China. D sS 1962 Univ de Paris. Memberships: AMS; Soc Math de France. Directeur de recherche, Mathematics, CNRS, Institut des

Hautes Etudes Scientifiques, I.H.E.S., Bures-sur-Yvette 91440, France.

Publications Related to IAS Residence: Characteristic classes and topological index of classical elliptic operators. In *Ann Math Studies*, 57. Princeton Univ Press, 1965; Une remarque sur les operateurs integraux. In *Proceedings of Symposia*, 16. AMS, 1970.

Shimizu, Hideo 62-64 M, Number Theory

Born 1935 Tokyo, Japan. DSc 1965 Mathematics Univ of Tokyo. Memberships: Math Soc of Japan. Prof, Department of Mathematics, University of Tokyo, College of General Education, Komaba, Meguro, Tokyo, Japan.

Publications Related to IAS Residence: On zeta functions of quaternion algebras. *Ann Math* 81(1965) 166-193.

Other Publications: Theta series and automorphic forms on GL_2 . *J Math Soc Japan* 24(1972) 638-683.

Shimkin, Demitri Boris 47 48 HS(EP)

Born 1916 Omsk, USSR. PhD 1939 Anthropology Univ Calif, Berkeley. Honors: Legion of Merit US War Dept 1946; Fellow Center for Advanced Study in the Behavioral Sciences 1970-71. Appointments: 1964-67 Am Anthro Assoc Rep NRC; 1965-69 US Nat Comm on Internat Bio Prog NAS; 1968-69 Nat Inst Environ Health Scis (HEW), Task Force; 1972 Woods Hole Inst of Ecology— NSF Task Force Critical Problems of the Coastal Zone; 1975-78 Task Comm on Civ Engin in Biomed and Health Care Am Soc Civ Engineers; 1977-78 Principal Investigator Proj on Anthro for the Future (Smithsonian Institution/Wenner Gren Found/NEH), US and India, Internat Union of Anthro and Ethno Scis; 1979 Planning Officer and Chairman Designate, Comm on Internat Assessment of Anthro, Internat Union of Anthro and Ethno Scis. Memberships: Am Anthro Assoc; Soc for Applied Anthro; Am Assoc for Adv Sci; Assoc of Am Geographers; Am Pub Health Assoc; Arctic Inst of No Amer; Am Assoc for Adv Slavic Studies; PBK; Sigma Xi. Prof, Anthropology and Geography, Univ of Ill at Urbana-Champaign, Prof School of Public Health (Medical Center) U of Illinois, 106 W Pennsylvania Ave, Urbana, IL 61801.

Publications Related to IAS Residence: The automobile industry that's behind the Iron Curtain. *Automotive Industries* 98, 3(1948) 25-7, 47, 58, 60; 98, 4(1948) 34-7, 68, 70, 72, 74; 98, 6(1948) 30-3, 53-4; Industrialization, A Challenging Problem for Cultural Anthropology. *Southwest J Anthropol* 8(1952) 84-91.

Other Publications: Shoshone-Comanche Origins and Migrations. *Proc Sixth Pacific Sei Cong* 4(1940) 17-25; The Uto-Aztecans System of Kinship Terminology. *Am Anthropologist* 44(1941) 351-362; Wind River Sho-shone Ethno-Geography. In *Anthro Records*, 5: 245-88. University of California, 1947; Wind River Sho-shone Literary Forms: An Introduction. *J Wash Acad of Sci* 37(1947) 329-52;

Russian Industrial Expansion. *Fortune* May (1951) 106-11; Economic Regionalization in the Soviet Union. *Geograph Rev* 42(1952) 591-614; Scientific Personnel in the Soviet Union. *Science* 116(1952) 512-3; *Minerals. A Key to Soviet Power*. Cambridge: Harvard U Press, 1953; The Economy of a Trapping Center: The Case of Fort Yukon, Alaska. *Econ Devel and Cultural Change* 3(1955) 219-40; With H. S. Piquet et al. *Trends in Economic Growth: A Comparison of the Western Powers and the Soviet Bloc*. 83d Congress, 2d Session, Joint Committee Print, 1955; With J. H. Steward. Some Mechanisms of Socio-cultural Evolution. *Daedalus* 90(1961) 477-97; Man, ecology and health. *Archives of Environmental Health* 20(1970) 111-27; With Norton Nelson et al. *Man's Health and the Environment. Some Research Needs*. Washington, DC: US Dept HEW, 1970; Models for the Downfall: Some Ecological and Culture-Historical Considerations. In *The Classic Maya Collapse*, ed. by T. Patrick Culbert, 269-300. Albuquerque: Univ of New Mexico Press, 1973; With James Schoenberger et al. Hypertension in Holmes County, Mississippi. In *Epidemiology and Control of Hypertension*, ed. by Paul Oglesby, 485-501. Miami, Fla: Symposic Specialists, 1975; With others. *The Extended Family in Black Societies*. The Hague: Mouton, 1978; With others. *Anthropology for the Future*. Research Report, 4. Urbana: Dept of Anthropol, Univ of Ill, 1978.

Shimura, Goro 58-59, 67s, 70-71, 74-75, 79s M, Number Theory

Born 1930 Hamamatsu, Shizuoka-ken, Japan. DSc 1958 Univ of Tokyo. Honors: Frank Nelson Cole Prize in Number Theory 1977. Prof, Department of Mathematics, Princeton University, Princeton, NJ 08540.

Shintani, Takuro 71-73 M

Born 1943 Kurosaki Fukuoka, Japan. PhD 1971 Univ of Tokyo. Honors: Iyanaga Prize Math Soc Japan 1978. Assoc Prof, Department of Mathematics, University of Tokyo, Hongo Bunkyo, Tokyo, Japan.

Publications Related to IAS Residence: With M. Sato. On zeta functions associated with Prehomogeneous vector spaces. *Ann Math* 100(1974); On zeta functions associated with the vector space of quadratic forms. *Jour Fac Sc Univ Tokyo* 22(1975).

Other Publications: On evaluation of zeta functions of totally real algebraic number fields at non-positive integers. *Jour Fac Sc Univ Tokyo* 23(1976); Two remarks on irreducible characters of finite general linear groups. *Jour Math Soc Japan* 28(1976).

Shoe, Lucy, see Meritt, Lucy Shoe

Shoenfeld, Joseph Robert 56-57 M

Born 1927 Detroit, MI. PhD 1952 Mathematics Univ of Michigan. Memberships: AMS; ASL. Prof, Dept of Mathematics, Duke University, Durham, NC 27706.

Shorey, Tarlok Nath 76s M, Theory of Numbers

Born 1945 Patti, Panjab, India. PhD 1976 Mathematics TIFR. Reader, School of Mathematics, TIFR, Homi Bhabha Rd, Bombay 400005, India.

Shorter, Edward 70-71 Soc, Social Anthropology, Social History

Born 1941 Evanston, IL. PhD 1967 Harvard Univ. Prof, Department of History, University of Toronto, Toronto, Canada.

Publications Related to IAS Residence: With Charles Tilly. *Strikes in France*. Cambridge Univ Press, 1974; *The Making of the Modern Family*. New York: Basic Books, 1975.

Shu, Shien Siu 47-48 M, Differential Equations, Fluid Mechanics

Born 1912 Wenchow, China. PhD 1947 Brown Univ. Honors: Disting Svce Awd Ministry of Educ ROC 1975. Appointments: Pres Chinese Soc of Math ROC 1971-74; Pres Nat Tsinghua Univ ROC 1970-75. Memberships: AMS; Sigma XI. Prof, Purdue Univ, Chairman Nat Science Council Taipei, Taiwan. 111 Colony Rd, W Lafayette, IN

Publications Related to IAS Residence: Note on the Collapse of a Spherical Cavity in a Viscous Incompressible Fluid. In *Proceedings of the First US Nat Cong Applied Mechanics Chicago 1951*, 823-825. 1952.

Shudeman, Conrad L. B. 34-35 M

Born 1879. PhD 1908 Harvard Univ. Deceased. **Publications Related to IAS Residence:** Equivalent Electrons and Their Spectroscopic Terms. *J Franklin Inst* 224(1937) 501-518.

Shult, Ernest E. 68-69 M, Group Theory

Born 1933 Tonica, IL. PhD 1964 Math Univ of Ill. Honors: Sigma Xi Kaplan Research Award 1970. Prof, Dept of Mathematics, Kansas State University, Manhattan, KS 66502.

Publications Related to IAS Residence: On a class of Doubly Transitive Groups. *Illinois J Math* 16(1972); With F. Buekenhaut. On the foundations of polar Geometry. *Geometriae Dedicata* 3(1974) 155-170; With P. Camero, J. M. Goethals and J. J. Seidel. Line graphs, root systems and elliptic geometry. *J Alg Math* 43(1976) 305-327; Disjoint triangular sets. *Ann Math* forthcoming.

Other Publications: The solution of Boen's Problem. *Bull AMS* 74(1968) 268-270; With A. Yanushka. Near n-gons and line systems. *Geometriae Dedicata* in press.

Members

Shyr, Jih-Min 75-76 M, Number Theory

Born 1947 San Tung, China. PhD 1974 Johns Hopkins U. Department of Mathematics, University of Georgia, Athens, GA 20602. *

Sibner, Lesley M. 71-72 M

Born 1934 New York, NY. PhD 1964 Math Courant Inst, New York Univ. Memberships: AMS. Assoc Prof, Math, Polytechnic Inst of New York, 15 Charles St, New York, NY 10014.

Publications Related to IAS Residence: With R.J. Sibner. A constructive proof of the Riemann-Roch theorem for curves. In *Contributions to Analysis*, 401-405. New York: Academic Press, 1974; With R.J. Sibner. A note on the Atiyah-Bott fixed point formula. *Pac J Math* 53(1974) 605-609; Non-linear Hodge theory: Compact Manifolds. *Proc Conf Global analysis and its applications* 3(1974) 121-129.

Other Publications: The Tricomi problem for an equation of abruptly changing type. *Comm Pure Appl Math* 19(1966) 35-47; A generalization of the Morse index theorem to a class of degenerate elliptic equations. *J Rat Mech Anal* (1968); With R.J. Sibner. Nonlinear Hodge theory: Applications. *Adv Math* 31(1979) 1-15.

Sibner, Robert J. 70-72 M

Born 1935 New York, NY. PhD 1963 Math Courant Inst New York Univ. Memberships: AMS. Assoc Prof, Math, Brooklyn College CUNY. 15 Charles St, New York, NY 10014.

Publications Related to IAS Residence: With L.M. Sibner. A non-linear Hodge deRham theorem. *Acta Math* 125(1970) 57-73; With L.M. Sibner. A constructive proof of the Riemann-Roch Theorem for curves. In *Contributions to Analysis*, ed. by L.V. Ahlfors, 401-405. New York: Academic Press, 1974; A note on the Atiyah-Bott fixed point formula. *Pac J Math* 53(1974) 605-609; Non linear Hodge theory: manifolds with boundary. In *Global Analysis and its applications Proc Conf Trieste 1972*, 3: 129-135. Vienna: IAAE, 1974.

Other Publications: Symmetric Fuchsian Groups. *Amer J Math* 90(1968) 1237-1259; A remark on the Koebe Kreisnormierungs problem. *Comm Math Helv* 43(1968) 289-295; Domains bounded by analytic Jordan curves. *Bull AMS* 76(1970) 61-63; With L.M. Sibner. Non linear Hodge theory: Applications. *Adv Math* 31(1979) 1-15.

Sichert, Martin 68-69 HS, Classics

Born 1914 Mirschowitz, Czechoslovakia. DPhil 1937 Classics German Univ of Prague. Memberships: Mommsen-Ges; Görres-Ges; Altphilologenverb. Prof, Classics, Inst für Altertumskunde, Univ of Münster, Sektionsleiter Görres-Gesellschaft, Weierstrassweg 8, D-4400 Münster, Germany.

Publications Related to IAS Residence: Die Tragik des Aias. *Hermes* 98(1970) 14-37; Musuros-Hands-

chriften. In *Serta Turyniana, Studies in Greek Literature and Palaeography in honor of Alexander Turyn*, 564-608. Univ of Illinois Press, 1974; Die Editio princeps Aldina des Euripides und ihre Vorlagen. In *Harold F. Cherniss zum 70. Geburtstag*, Rheinisches Museum, NF 118: 205-225. 1975; *Handschriftliche Vorlagen der Editio princeps des Aristoteles*. Nr 8. Abh Akademie Mainz, 1976; Die Musaios-Ausgabe des Aldus Manutius und ihre lateinische Übersetzung. *Italia medievale e umanistica* 19(1976) 257-276; Die Humanistenkursive des Marsilio Ficino. In *Studia Codicologica*, 423-429. Berlin: 1977; Aldinen (1495-1516). In *Griechische Handschriften und Aldinen*, ed. by D. Harlfinger, M. Sicherl. Wolfenbüttel: 1978.

Other Publications: *Johannes Cuno, ein Wegbereiter des Griechischen in Deutschland*. Heidelberg: Carl Winter Verlag, 1978; *Beiträge zur Kritik und Erklärung des Favonius Eulogius*. Mainz: Verlag der Ak d Wiss und d Lit, 1960; *Die Handschriften, Ausgaben und Übersetzungen von Iamblichos De mysteriis; eine kritisch-historische Studie*. Texte und Untersuchungen zur Geschichte der altchristlichen Literatur, 62. Berlin: Akad-Verlag, 1957; *Zwei Reuchlin-Funde aus der Pariser Nationalbibliothek*. Mainz: Verlag der Ak d Wiss und d Lit, 1963.

Siebenmann, Laurence C. 68-69, 76-77 M, Topology

Born 1939 Toronto, Canada. PhD 1965 Math Princeton U. Honors: Médail 1973. Memberships: Soc Math de France; AMS. Directeur de recherches, Mathématiques, CNRS, Univ de Paris-Sud, Bât 425, 91405 Orsay, France.

Publications Related to IAS Residence: With R.C. Kirby. *Foundational Essays on Topological Manifolds Smoothings and Triangulations*. Ann Math Study, 88. 1977.

Siegel, Carl L. see Past Faculty/Resigned

Siegel, James T. 72-73 Soc, Anthropology

Born 1937 Superior, WI. PhD 1968 U C, Berkeley. Honors: ACLS 1973-74; Fulbright Fellow 1968-69. Appointments: SE Asia Council, Assoc for Asian Studies 1969-71. Memberships: Royal Institute for Linguistics, Geography & Anthropology The Netherlands; Royal Anthropological Inst Great Britain. Prof, Anthropology & Southeast Asian Studies, Cornell Univ, External Examiner Dept of Anthropology Univ of Malaya. Anthropology Dept, Cornell Univ, McGraw Hall, Ithaca, NY 14853.

Publications Related to IAS Residence: *Shadow & Sound*. Chicago: Univ of Chicago Press, 1979; *The Writing in The Wall. Indonesia* (Spring 1978).

Other Publications: *The Rope of God*. Berkeley: Univ of California Press, 1968; *Dreams, Curing Rites & Domestic Politics. Glyph* 3(1978).

Siegel, Warren David 79-80 NS, Physics

Born 1952 Flint, MI. PhD 1977 Univ of Calif., Berkeley. Lyman Lab, Harvard Univ, Cambridge, MA 02138. *

Siegert, Arnold John Frederick 53-54 M(NS), Theoretical Physics

Born 1911 Dresden, Saxony, Germany. PhD 1934 Physics Univ of Leipzig. Honors: Guggenheim Fellow 1953-54; Lorentz Fund Fellow University of Leiden, Holland 1934-36; Sr Postdoc Fellow NSF 1962-64; Visit Prof U of Utrecht 1971-72. Memberships: Am Phys Soc; AAUP. Prof, Department of Physics and Astronomy, Northwestern University, Evanston, IL 60201.

Publications Related to IAS Residence: On the Theory of Condensation. *Phys Rev* 96(1954) 243; Metastable States of a Finite Lattice Gas. *Phys Rev* 97(1955) 1456.

Other Publications: On the First Passage Time Probability Problem. *Phys Rev* 81(1951) 617; Field Operators for Bosons with Impenetrable Cores. Equations which Replace the Commutation Rules. *Phys Rev* 116(1959) 1057; Partition Functions as Averages of Functionals of Gaussian Random Functions. In *Physica (Supplement: Congress on Many Particle Problems, Utrecht, the Netherlands)*, 26: 30-35. 1960; With D. Vezzetti. On the Ising Model with Long Range Interaction. *J Math Phys* 9(1968) 2173.

Sikorski, Roman 58f M, Function Theory

Born 1920 Poland. PhD 1949 Univ of Warsaw. Ul. Cho-cimska 35 m 9, 00-791 Warsaw, Poland. *

Silberger, Allan J. 71-73 M, Harmonic Analysis, Semi-simple Groups

Born 1933 York, PA. PhD 1966 Math Johns Hopkins. Memberships: MAA; AMS. Assoc Prof, Dept of Math, Cleveland State University, Cleveland, OH 44115.

Publications Related to IAS Residence: *Introduction to Harmonic Analysis on Reductive p-adic Groups*. Princeton Math Notes. Princeton: Princeton U Press, 1979; Special representations of reductive p-adic groups are not integrable. *Annals of Math* in press.

Silberner, Edmund 42-44 HS(EP)*

Publications Related to IAS Residence: *The Problem of War in Nineteenth Century Economic Thought*. Princeton: Princeton Univ Press, 1946.

Silk, Joseph Ivor 75-76, 76f NS, Astronomy

Born 1942 London, England. PhD 1968 Astronomy Harvard Univ. Honors: Sloan Fellow 1972-74; First Prize Gravity Research Foundation 1925; Guggenheim Fellow 1975-76. Appointments: NASA Mgt Ops Working Grp for Shuttle Astron.

Memberships: IAU; AAS; RAS. Prof, Astronomy Dept, Univ of California, Berkeley, CA 96720.

Publications Related to IAS Residence: On the Fragmentation of Cosmic Gas Clouds. I: The Formation of Galaxies and the First Generation of Stars. *Ap J* 211(1977) 638-648; On the Fragmentation of Cosmic Gas Clouds. II: Opacity-Limited Fragmentation. *Ap J* 214(1977) 152-160; On the Fragmentation of Cosmic Clouds. III: The Initial Stellar Mass Function. *Ap J* 214(1977) 718-724; With J. McClelland. The Evolution of the Correlation Function for Density Perturbations in an Expanding Universe. I: Linear Theory. *Ap J* 216(1977) 665-681; With P. Mészáros. X-Rays from Massive Black Holes. In *Astron & Ap*, 55: 284-293. 1977; With M.J. Barlow. Sputtering in Interstellar Shocks: A Model for Heavy Element Depletion. *Ap J Lett* 211 (1977) 83-87; With M.J. Barlow. Graphite Grain Surface Reactions in Interstellar and Protostellar Environments. *Ap J* 215(1977) 800-804; With J. Burke. The Dynamical Interaction of a Newly Formed Protostar with infalling Matter: The Origin of Interstellar Grains. *Ap J* 210(1976) 341-364; Accretion by Galaxy Clusters and the Relationship between X-Ray Luminosity and Velocity Dispersion. *Ap J* 208(1976) 646-649; With E. Jenkins and G. Wallerstein. Interaction of the Vela Supernova Remnant with the Cloudy Interstellar Medium. *Ap J Lett* 209(1976) L87-L92.

Other Publications: Cosmic Black Body Radiation and Galaxy Formation. *Ap J* 151(1968) 459-47; Large Scale Inhomogeneity of the Universe: Implications for the Deceleration Parameter. *Ap J* 193(1974) 525-528.

Silva, Alessandro 74-76 M

Born 1945 Genoa, Italy. PhD 1971 Math Univ of Genoa. Honors: Bonavera Prize Turin Acad of Scis 1978; First Prize in Geometry Italian Math Union 1974. Memberships: AMS; Unione Matematica Italiana. Prof, Dipartimento di Matematica, Università di Trento, 39060 Povo (TN), Italy.

Publications Related to IAS Residence: Rungescher Satz and a condition for Steinness for an increasing sequence of Stein spaces. *Ann Inst Fourier* (1978); Relative Vanishing Theorems I: Applications to Ample Divisors. *Comm Math Helvetici* (1977).

Other Publications: Behnke-Stein theorem for analytic spaces. *TAMS* (1949); The comohology of an open subspace of a Stein space. *J Reine Angew Math* (in press).

Silver, Larry Arnold 77-78 HS, Art History

Born 1947 Los Angeles, CA. PhD 1974 Harvard Univ. Honors: Arthur Kingsley Porter Prize College Art Assn 1975. Memberships: Coll Art Assoc; Renaissance Soc; Soc for Values in Higher Ed. Assoc Prof, Dept of Art History, Northwestern University, Evanston, IL 60201.

Silverman, Edward 48-49, 63-64 M

Members

Born 1917 Minneapolis, MN. PhD 1948 Math Univ of Calif, Berkeley. Memberships: AMS. Prof, Division of Mathematical Sciences, Purdue University, West Lafayette, IN 47907.

Publications Related to IAS Residence: A problem of least area. *Pacific J Math* 14(1964) 309-331; Simple areas. *Pacific J Math* 15(1965) 299-303; A sufficient condition for the lower semicontinuity of parametric integrals. *Trans AMS* 167(1972) 465-469.

Other Publications: A weak projection of C onto a Euclidean subspace. *Trans AMS* 136(1969) 381-390; Geodesics and Lebesgue area. *Proc AMS* 15(1964) 775-780; Lower semicontinuity of parametric integrals. *Trans AMS* 175(1973) 499-508.

Silverstein, Martin Louis 75-76 M, Probability Theory

Born 1939 Philadelphia, PA. PhD 1965 Mathematics Princeton Univ. Memberships: AMS. Prof, Mathematics, Washington Univ, 7326 Kingsbury, St Louis, MO 63130.

Publications Related to IAS Residence: Boundary Theory for Symmetric Markov Processes. *Springer Lecture Notes in Mathematics* 516; Application of the Sector Condition to Classification of Submarkovian Semigroups. *TAMS* 244: 103-146; The Sector Condition Implies that Semipolar Sets are Polar. *Zeit-Wahr* 41: 13-33.

Other Publications: With D. Burkholder & R. Gundy. A maximal function characterization of H_p . *Trans AMS* 157(1971) 137-153; Symmetric Markov Processes. *Springer Lecture Notes in Math* 426; Classification of Coharmonic & Co-invariant Functions for a Levy Process. *Annals of Prob* in press.

Silverstein, Theodore 55-56 HS, History of Ideas and of Philosophy

Born 1904 Liverpool, England. PhD English Harvard Univ. Honors: Guggenheim Fellow 1946-47; Fulbright Fellow 1952-53; [?]NEH Fellow 1977. Memberships: MLA; Mediaev Acad of Amer. Prof Emer, English, Univ of Chicago. 5811 S Dorchester Ave, Chicago, IL 60637.

Publications Related to IAS Residence: Liber Hermetis Mercurii Triplicis de VI Rerum Principiis. In *Archives d'Histoire Doctrinale et Littéraire du Moyen Age*, 217-302. 1955; *Medieval Latin Scientific Writings in the Barberini Collection*. Univ of Chicago Press, 1957; Elementatum: Its Appearance Among the Twelfth-Century Cosmogonists. *Mediaeval Studies* 47: 82-86; Hermann of Carinthia and Greek. In *Medioevo e rinascimento: Studi in Onore de Bruno Nardi*, 2: 681-99. Firenze: 1955.

Other Publications: *Visio Sancti Pauli: A Study of the Apocalypse in Latin Together with Nine Texts*. Studies and Documents, 4. London: Christophers, 1935; The Vision of St Paul: New Links and Patterns in the Western Tradition. In *Archives d'Histoire Doctrinale et Littéraire du Moyen Age*, 199-248. 1959; The Graz and Zürich Apocalypse of Saint Paul. In *English Lyrics before 1500*. Northwestern University

Press, 1971; Andreas, Plato and the Arabs. *Modern Philology* 47: 117-26; The Art of Sir Gawain and the Green Knight. *U Toronto Quarterly* 33: 258-78; *Sir Gawain and the Green Knight: A Comedy for Christmas*. Univ of Chicago Press, 1974; The Throne of the Emperor Henry in Dante's "Paradise" and the Medieval Conception of Christian Kingship. *Harvard Theo Rev* 32: 115-29; Dante and the Legend of the Mirčrāj: The Problem of Islamic Influence on the Christian Literature of the Otherworld. *J Near East Studies* 11: 89-110, 187-97.

Simon, Albert 74f NS, Plasma Physics

Born 1924 New York, NY. PhD 1950 Physics Univ of Rochester. Honors: Guggenheim Fellow 1964; UK Sci Res Council; Sr Visit Fellow Oxford 1975. Appointments: Interdepartmental Energy Study, OST, Washington-1963. Memberships: APS; ANS; ASME. Prof, and Chairman, Mech & Aero Sci's Dept, University of Rochester, Rochester, NY 14627.

Publications Related to IAS Residence: With M.N. Rosenbluth. Single-mode Saturation of the Bump-On-Tail Instability. *Phys Fluids* 19(1976) 1567.

Other Publications: *An Introduction to Thermonuclear Research*. London: Pergamon Press, 1959.

Simon, Erika 61-62 HS, Classical Archaeology

Born 1927 Ludwigshafen, Germany. DHabil Classical Archaeology. Honors: Member Heidelberger Ak d W 1978. Memberships: Deut Archaeolog V. Prof, Würzburg Univ, Keeper Ancient Art University Museum Würzburg, Archäologisches Institut der Universität, 82 Würzburg, Germany.

Simon, Leon M. 79-80 M

Born 1945 Australia. PhD 1971 Univ of Adelaide. Prof, Univ of Melbourne, Dept of Math, Parkville, Vic 3052, Australia. *

Simon, Walter M. 60-61 HS, History of Ideas

Born 1922 Germany. PhD 1949 Yale Univ. Deceased.

Simons, Jakob Lennart 49-50 M(NS), Nuclear Physics

Born 1905 Finland. PhD 1932 Molecular Physics Univ of Helsinki. Honors: Cmdr of White Rose of Finland Order 1951; Homén Prize for Physics 1963. Appointments: Chmn Finnish Natl Comm of IUPAP 1966-1973. Memberships: Member Finnish Sci Soc; Finnish Phys Socs; Uppsala and Gothenburg Royal Sci Socs; Am Phys Soc. Prof, Nuclear and Mol Physics, Accel Lab, U of Helsinki, Moerskomvaegen 2, 00600 Helsinki 60, Finland.

Publications Related to IAS Residence: *Measurements of the Neutron-Proton Scattering Cross-Section*. Det Kgl Danske Videnskabernas Selskab., 17:7. Matema-tisk-fysiske Meddelelser,

1939; The influence of induction on ion and electron currents in a thin plasma. *Comm Math-Phys* 24:6(1960) 3-9; With Solveig Bergström and A. Anttila. Angular correlations of gamma cascades in $K\alpha^{82}$. *Nucl Phys* 54:4(1964) 683-688; With I. Forsblom, A. Kiuru, J. Räsänen, M. Viitasalo, B. Fant, P. Sola and K. Österlund. The $^{27}\text{Al}(p,2e)^{28}\text{Si}$ reaction at the proton energies 1118, 1172, 1183, 1199 and 1328 keV. *Comm Math-Phys* 34:8(1964); With G. Bergström, G. Blomfelt, S. Forss, H. Stenbäck and G. Wansén. Laser raman spectroscopy of amino acids, oligopeptides, polypeptides and enzymes. *Comm Math Phys* 42:3(1972) 125-207.

Other Publications: Positronium. In *Handbuch der Physik*, ed. by S. Flügge, 34: 139-165. Berlin: 1958.

Sinclair, Donald Keith 71-73 NS, High Energy Physics, Elementary Particle Theory

Born 1945 Australia. PhD 1971 SUNY, Stony Brook. Dept Theoret Physics, Univ Oxford, Oxford OX1 3PG, England. *

Sinclair, Mary Emily 35 M

Born 1878 . PhD 1908 Univ of Chicago. Deceased.

Sinclair, Robert Keith 76f HS, Greek History and Epigraphy

Born 1927 Sydney, Australia. MA(Cantab.) 1956 Classics and Ancient History. Appointments: Chmn, Hist Teachers' Assoc of NSW, 1966; Hon Treas, Austral Soc for Class Studies, 1966-74. Memberships: Australian Soc for Class Studies. Prof, and Head, Department of History, University of Sydney, Sydney, NSW 2006, Australia.

Publications Related to IAS Residence: The King's Peace and the Employment of Military and Naval Forces, 387-378. *Chiron* 8(1978) 29-54.

Other Publications: Diodorus Siculus and Fighting in Relays. *Classical Quarterly* 16(1966) 249-255; With J.R. Green. Athenians in Eretria. *Historia* 19(1970) 515-527.

Singer, Isadora M. 55-56, 75-76 M, Group Representation Operator Theory

Born 1924 . PhD 1950 Univ of Chicago. Dept of Math, U of California, Berkeley, CA 94720. *

Singer, Michael F. 78-79 M

Born 1950 New York, NY. PhD 1974 Mathematics Univ of Calif, Berkeley. Memberships: AMS; MAA. Asst Prof, Dept of Math, NC State University, Raleigh, NC 27650.

Publications: Functions Satisfying Elementary Relations. *Trans AMS* 227(1977); With M. Rosenlicht. On Elementary, Generalized Elementary and Liouvillian Extension Fields. In *Contributions to Algebra*, ed. by Bass, Cassidy & Kovacic. NY:

Academic Press, 1977; The Model Theory of Ordered Differential Fields. *J Symbolic Logic* 43, 1(1978).

Singh, Virendra 63-64 M(NS)

Born 1938 Bijnore, UP, India. PhD 1962 Univ of California, Berkeley. Honors: Shanti Swaroop Bhatnagar Prize for Phys Scis 1973. Memberships: Indian Acad of Scis; Indian Natl Sci Acad. Prof, Theoretical Physics, Tata Inst of Fund Res, Bombay, India.

Publications Related to IAS Residence: With V. Gupta. Sum Rules for the Decay of the Baryon Decuplet in the Baryon and Meson Octets in Broken SU(3) Symmetry. *Phys Rev* 135(1964) 1442; M.A.B. Beg, Splittings of Spin-Unitary Spin Supermultiplets. *Phys Rev Lett* 13, 13E(1964) 418; With V. Gupta. Sum Rules for Coupling Constants in Broken SU(3) Symmetry. *Phys Rev* 136(1964) 782; With M.A.B. Beg. Splitting of 70-Plet of SU(6). *Phys Rev Lett* 13(1964) 509; Generalization of the Reciprocal Bootstrap Mechanism Between Nu-cleon and (3,3) N isobar to the SU(3) Octet Symmetry Model. *Nuovo Cimento* 33(1964) 762.

Sion, Maurice 55-57, 62f M, Analysis

Born 1928 Skopje, Yugoslavia. PhD 1951 Math NYU. Honors: Canada Council Fellow 1970-71. Appointments: Main Organizer Internatl Congr of Mathematicians Vancouver, Canada 1974. Memberships: AMS. Prof, Dept of Math, Univ of British Columbia, Vancouver, Canada V6T1W5.

Publications Related to IAS Residence: Variational Measure. *Trans AMS* 83 (1956) 205-221; On a Game Without a Value. In *Contributions to Theory of Games III*, ed. by H.W. Kuhn & A.W. Tucker, Annals of Math Studies 39: 299-306. Princeton: Princeton U Press, 1957.

Sjöstrand, Johannes 77-78 M, Analysis

Born 1947 Göteborg, Sweden. PhD 1972 Mathematics Lund Univ. Dept de Mathématiques, Université de Paris Sud, F-91405 Orsay, France.

Publications Related to IAS Residence: With R. Melrose. Singularities of boundary value problems I. *Comm Pure Appl Math* 31(1978) 593-618.

Other Publications: With A. Melin. Fourier integral operators with complex phase functions. In *Fourier Integral Operators and Partial Differential Equations*, *Proc Intl Coll, Nice, 1974*, ed. by J. Chazarain, Lect Notes in Math 459: 120-223. Berlin: Springer Verlag, 1975.

Skemp, Joseph Bright 60f HS, Ancient Greek Philosophy

Born 1910 Bilston, Staffordshire, England. PhD 1937 Greek Philosophy Edinburgh U. Honors: Schuldam Plate (shared) Gonville and Caius College, Cambridge 1934. Memberships: Soc for Hellenic

Members

Studies, London. Emer Prof, Greek, Univ of Durham, 10, Highsett, Hills Rd, Cambridge CB21NX, England.

Publications Related to IAS Residence: *The Theory of Motion in Plato's Latin Dialogues*. 2nd edition. Amsterdam: Hakkert, 1967.

Other Publications: *Plato's "Statesman"*. London: Routledge and Kegan Paul, 1952; *Plato*. New Surveys in the Classics, 10. Oxford: Clarendon Press, 1976.

Skendi, Stavro 72-73 HS, Balkan Peoples under the Ottomans

Born 1906 Korçë, Albania. PhD 1951 Slavic (Balkan) Languages Columbia Univ. Honors: ACLS & SSRC Fships; Guggenheim fellow 1963-64. Memberships: MLA; AHA; Am Assoc for the Adv of Slavic Studies. Prof Emer, Balkan Languages and Culture, Columbia Univ, Co-editor Zeitschrift für Balkanologie Berlin, W. Germany; Board member Südost Forschungen Munich, W. Germany. 50 East 72nd St, Apt 8-c, New York, NY 10021.

Publications Related to IAS Residence: Language and Politics in the Balkans of our Time: Albania, Yugoslavia, and Greece. *Zeitschrift für Balkanologie* 12, 1(1976) 70-84.

Other Publications: *Albanian and South Slavic Oral Epic Poetry*. Mem Am Folklore Soc, 44. Philadelphia: 1954; *The Albanian National Awakening, 1878-1912*. Princeton, NJ: Princeton Univ Press, 1967; *Crypto-Christianity in the Balkan Area under the Ottomans*. *Slavic Review* 26(1967) 227-246.

Skinner, Quentin Robert Duthie 74-75 HS, 76-79 Soc, Social Theory

Born 1940 Oldham, Lancashire, England. BA(Cantab.) 1962. Honors: FRHS 1970-. Appointments: Member School of Historical Studies IAS 1974-75; Member with Long-Term Appointment School of Social Science IAS 1974-79. Prof, Political Science, Cambridge U, Fellow of Christ's College, 41, Marlowe Rd, Cambridge, CB3 9JW, England.

Publications Related to IAS Residence: Some Problems in the Analysis of Political Thought and Action. *Polit Theory* (1974); Hermeneutics and the Role of History. *New Lit Hist* (1976); Explanation and Understanding in the Social Sciences: A Comment. In *Res in Soc of Knowledge*, ed. by Robert A. Jones. Greenwich, Conn: 1978; Action and Context. *Proc of the Aristotelian Soc* (1978); *The Renaissance*. The Foundations of Modern Political Thought, 1. Cambridge: Cambridge University Press, 1978; *The Age of Reformation*. 2. 1978; The Intellectual Background of the Calvinist Theory of Revolution. In *The Making of Early-Modern Europe*, ed. by B. Malament. Philadelphia: Penn Univ Press, 1979.

Skjelbred, Tor 73-74 M, Geometry, Cohomology

Born 1945 Brevik, Norway. PhD 1972 Mathematics Univ of Calif, Berkeley. Memberships: Norsk

Matematisk Forening; AMS. Prof, Univ of Oslo, Matematisk Institutt, Blindern, Oslo 3, Norway.

Publications Related to IAS Residence: *Mathematica Scandinavica* 34(1974) 249-53.

Other Publications: *Ann Math* 100(1974) 307-321 & 322-325; *Bull AMS* 79(1973) 1036-8; *Comm Math Helv* 53(1978) 634-42.

Skolnick, Malcolm Harris 63-64 M(NS), Physics

Born 1935 Salt Lake City, UT. PhD 1963 Cornell Univ.*

Skutsch, Otto 63s, 68s, 74s HS, Classical Studies

Born 1906 Breslau, Germany. DPhil 1934 University of Göttingen. Honors: Foreign Member, Kgl.-Vetenskaps-och Vitterhets-Samhället 1964 Göteborg. Appointments: Hon Secy, Soc for the Protection of Sci and Learning London 1952-72; Vice-Pres, Soc for the Prom of Roman Studies. Retired Prof and Head Dept of Latin, Univ Coll London. 3 Wild Hatch, London NW11 7LD, England.

Publications Related to IAS Residence: Enniana VI. *Class Quart* 58(1964) 85-93; Notes on Ennius. *Bull Inst Class Stud* 21(1974) 75-80; The Structure of the Prop-ertian *Monobiblos*. *Class Philol* 58(1963) 238-9; The Second Book of Propertius. *Harv Stud in Class Philol* 79(1975) 229-33; Symmetry and Sense in the Eclogues. *Harv Stud in Class Philol* 73(1968) 153-67.

Other Publications: *Prosodische und metrische Gesetze der lamben-Kürzung*. Göttingen: 1934; *Studia Enniana*. London: 1968.

Skyrme, Tony Hilton Royle 49-50 M (NS), Quantum Field Theory

Born 1922 England. BA 1943 Cambridge Univ. *

Slater, John C. 37s M(NS), Theoretical Physics

Born 1900 . PhD 1923 Harvard Univ. Deceased.

Slawny, Joseph 79s NS, Mathematical Physics

Born 1941 Poland. PhD 1970 Weizmann Inst. Physics Department, Virginia Polytechnic Inst, Blacksburg, VA 24060. *

Sloan, Millard Lee 68-69 NS, Plasma Physics

Born 1943 San Antonio, TX. PhD 1968 Univ of Texas.*

Slotnick, Murray 49-50 M(NS), Field Theories

Born 1927 New York, NY. PhD 1949 Columbia Univ. Deceased.

Publications Related to IAS Residence: With R. W. Jost and J. M. Luttinger. Distribution of Recoil Nucleus in Pair Production by Photons. *Phys Rev* (2) 80(1950) 189-196.

Słowikowski, Wojciech 60-61 M, Functional Analysis

Born 1932 Warszawa, Poland. Docent (Habil) 1962 Functional Analysis Polish Academy of Sciences. Lektor, Matematisk Institut, Aarhus Universitet, Ny Mun-kegade, 8000 Aarhus C, Denmark.

Publications Related to IAS Residence: On the Theory of (F)-sequences. *Studia Math* 25(1965) 281-296; On the Theory of Inductive Families. *Studia Math* 26(1965) 1-10; Extensions of Sequentially Continuous Linear Functionals in Inductive Sequences of (F) spaces. *Studia Math* 26(1966) 193-221; On Hörmander's Theorem about Surjections of D'. *Math Scand* 30(1972) 267-280; Range of Operators and Regularity of Solutions. *Studia Math* 40(1971) 183-198.

Other Publications: Pre-supports of Linear Probability Measures and Linear Lusin Measurable Functionals. *Dissertationes Math* 93(1972); Vector Space Measures and Applications I. *Lecture Notes in Math* 644.

Smale, Stephen 58-59, 59f, 66f M

Born 1930 Flint, MI. PhD 1956 Math U of Mich. Honors: Fields Medal 1966; DSci(hc) Univ of Warwick 1974. Memberships: AMS; Econometric Soc. Prof, Math Dept, University of California, Berkeley, CA 94720.

Smallwood, E. Mary 71-72 HS, Ancient History

Born 1919 London, England. PhD(Cantab.) 1951. Memberships: Roman Soc; Class Assoc; Brit Soc for Jewish Study; Soc of Antiquaries. Personal Chair, Romano-Jewish History, Latin Dept, Queen's Univ, Belfast 7, Northern Ireland.

Publications Related to IAS Residence: *The Jews under Roman Rule*. Brill, 1976.

Other Publications: *Philonis Alexandrini "Legatio ad Gaium"*. Brill, 1961; *Documents illustrating the principates of Nerva, Trajan & Hadrian*. Cambridge Univ Press, 1966; *Documents illustrating the principales of Gaius, Claudius & Nero*. Cambridge Univ Press, 1967.

Smart, P. Alastair M. 66-67 HS, Art History

Born 1922 Cambridge, England. MA 1942 English Lang & Lit Univ of Glasgow. Honors: Scottish PEN Commendation 1953; Commonwealth Fund Fellow 1954-55. Appointments: Art Panel, Arts Council of Gt Brit; Council of Walpole Soc. Memberships: FRSA; FSA; Assoc Internati de Critiques de l'Art; Soc of Authors; Assoc of Art Historians. Prof, and Dir University Art Gallery, Department of Fine Art, University of Nottingham, University Park, Nottingham, England.

Publications Related to IAS Residence: *The Assisi problem and the Art of Giotto: A Study of the "Legend of St. Francis" in the Upper Church of San Francesco, Assisi*. Oxford: Clarendon Press, 1971; "Quasi tutta la

parte di sotto" del Ghiberti e le attribuzioni del Vasari a Giotto degli affreschi d'Assisi. In *Giotto e il suo tempo: Atti del Congresso Internazionale per la celebrazione del VII centenario della nascita di Giotto*. Rome: 1971; Michelangelo: The Taddeo Taddei "Madonna" and the National Gallery "Entombment". *Jour Royal Soc of Arts* (October 1967).

Other Publications: *The Life and Art of Allan Ramsay*. London: Routledge & Kegan Paul, 1952; With Atfield Brooks. *Constable and His Country*. London: Paul Elek, 1976; *The Dawn of Italian Painting, 1250-1400*. London and Ithaca, NY: Phaidon Press and Cornell University Press, 1978; Taddeo Gaddi, Orcagna, and the Eclipses of 1333 and 1339. In *Studies in Late Medieval and Renaissance Painting in Honor of Millard Meiss*, ed. by Irving Lavin and John Plummer. New York: 1977; Pictorial Imagery in the Novels of Thomas Hardy. *The Review of English Studies* 12(1961); Dramatic Gesture and Expression in the Age of Hogarth and Reynolds. *Apollo* 82(August, 1965); Roger Fry and Early Italian Art. *Apollo* 83(April, 1966); Titian and the *Toro Farnese*. *Apollo* 85(June, 1967); The *Speculum perfectionis* and Bellini's *Frick St Francis*. *Apollo* 97(May, 1973); An Unknown Portrait of James Adam. *Burlington Magazine* 96, 613(April, 1954); The Genuine Portrait of General Burgoyne by Allan Ramsay. *Apollo* 94(September, 1971); Hogarth or Hayman? An-other Look at the *Fairies Dancing on the Green by Moonlight*. *Apollo* 109(March, 1979); Some Unpublished Copies of Frescoes at Assisi. *Apollo* 99(April, 1974); Giotto and Assisi (review of Millard Meiss, *Giotto and Assisi*). *The Burlington Magazine* 102, 693(December, 1960); The St Francis Cycle at Assisi (review of L. Tintori and M. Meiss, *The Painting of "The Life of St. Francis" in Assisi*). *The Burlington Magazine* 107, 725(August, 1963); *Paintings and Drawings by Allan Ramsay (1713-1784)*. London: Royal Academy of Arts, 1964; *Introducing Francis Cotes*, RA. Nottingham Univ Art Gallery, 1971; *Thomas Shotton Boys (1803-1874): Centenary Exhibition*. London: Nottingham Univ Art Gallery, and Thos. Agnew & Sons, 1974; *The Renaissance and Mannerism in Italy*. London and New York: Thames & Hudson and Harcourt Brace Jovanovich, 1972.

Smiley, Dorothy Manning 38-39 M

Born 1909 . PhD 1937 Stanford Univ. 42 W Bayberry Rd, Glenmont, NY 12077. *

Smiley, Malcolm Finlay 37-38 M, Algebra

Born 1912 Monmouth, IL. PhD 1937 Univ of Chicago. Memberships: AMS; MAA; PBK; Sigma Xi. Prof, Math, SUNY, Albany, 42 W Bayberry Rd, Glenmont, NY 12077.

Publications Related to IAS Residence: With L.R. Wil-cox. Metric Lattices. *Ann Math* (2) 40(1939) 309-327.

Other Publications: The Radical of an Alternative Ring. *Ann Math* (2) 49(1948) 702-709.

Members

Smith, A. Mark 79-80 HS, Philosophy and History of Ideas

Born 1942 West Point, NY. PhD 1976 Univ of Wisc, Madison. Asst Prof, Dept. of Phil & Hist of Ideas, Bran-deis Univ, Waltham, MA 02154. *

Smith, H. Lyle 40s M

Born 1892 . PhD 1926 Univ of Chicago. Deceased.

Smith, Morton 66-67 HS, Classical Studies

Born 1915 Philadelphia, PA. PhD 1948 Classical Studies Hebrew Univ Jerusalem.; ThD 1957 Old Testament Harvard Univ. Honors: AAAS. Memberships: Assn of Ancient Historians; Studiorum Novi Testamenti Socie-tas. Prof, Ancient History, Department of History, Columbia University, New York, NY 10027.

Publications Related to IAS Residence: *Clement of Alexandria and a Secret Gospel of Mark*. Harvard, 1973; *Jesus the Magician*. Harper & Row, 1978; *The Secret Gospel*. Harper & Row, 1973.

Other Publications: *Palestinian Parties and Politics that Shaped the Old Testament*. Columbia U Press, 1971; With Elias Bickerman. *The Ancient History of Western Civilization*. Harper & Row, 1976.

Smith, Paul A. 39-40 M

Born 1900 . PhD 1926 Princeton Univ. Math Dept, Columbia Univ, New York, NY 10027. *

Publications Related to IAS Residence: Fixed-Point Theorems for Periodic Transformations. *Amer J Math* 63(1941) 1-8; Transformations of Finite Period, III. *Ann Math (2)* 42(1941) 446-458.

Smith, Peter Hopkinson 72-73 Soc, Political Economy

Born 1940 Brooklyn, NY. PhD 1966 History Columbia Univ. Honors: William H. Kiekhofler Teaching Awd Univ of Wis 1969; Guggenheim Fellow 1975-76; ACLS grant; SSRC grant; NEH grant. Appointments: Joint Cttee Lat Amer Studies (SSRC/ACLS) 1974-77; Exec Council Latin Amer Studies Assoc 1977-present; Bd of Eds Hispanic Amer Hist Rev 1974-present. Memberships: AHA; Lat Amer Studies Assoc; Soc Sci Hist Assoc. Prof, History, Univ of Wis, Assoc Dean Grad Sch, 1636 Adams St, Madison, WI 53711.

Publications Related to IAS Residence: *Argentina and the Failure of Democracy: Conflict Among Political Elites, 1904-1955*. Madison: Univ of Wis Press, 1974; *Labyrinths of Power: Political Recruitment in Twentieth-Century Mexico*. Princeton: Princeton Univ Press, 1979; With Richard Graham. *New Approaches to Latin American History*. Univ of Texas Press, 1974.

Other Publications: *Politics and Beef in Argentina: Patterns of Conflict and Change*. New York: Columbia Univ Press, 1969; With Francesca Cancian and Louis

Wolf Goodman. *The Family in Latin America*. *Jour of Family History* (Winter 1978).

Smithies, Frank 36-38 M

Born 1912 Edinburgh, Scotland. PhD(Cantab) 1937 Mathematics. Honors: FRS Edinburgh 1962. Appointments: Secy ICM Edinburgh 1958. Memberships: London Math Soc; AMS; Inst Math & Its Applications; Cambridge Philos Soc. Reader, Functional Analysis, Cambridge Univ, Fellow, St John's College, Cambridge, England CB2 1TP.

Publications Related to IAS Residence: *Ann Math (2)* 38(1937) 626-630; With R.P. Boas, Jr. *Amer J Math* 60(1938) 523-531; Bull AMS 44(1938) 835-836.

Other Publications: *Proc London Math Soc (2)* 46(1940) 409-466; *Duke Math Journal* 8(1941) 107-130; *Integral Equations*. Cambridge: 1958; Ed, *Collected Mathematical Papers of G.H. Hardy*. 1972.

Smolin, Lee 79f NS, Physics

Born 1955 New York, NY. PhD 1979 Harvard Univ. Univ of Calif, Inst for Theoretical Physics, Santa Barbara, CA 93106. *

Smoluchowski, Roman 35-36 M(NS), Physics

Born 1910 Zakopane, Austria. PhD 1935 U of Groningen. Honors: U of Liège Lect Medal 1938; Jurzykowski Award 1976; Guggenheim Fellow 1974; Fellow AAAS; Finnish Acad Scis; Brazil Acad Scis. Appointments: Space Sci Board NAS; Chmn Div Phys Sci NRC; R & D Bd DOD; Chmn Comm on Magnetism ONR; Memb Phys Survey NAS 63-66 and 69-72; Chmn Comm on Solid State Physics NRC. Memberships: Am Astr Soc; Am Phys Soc; AAAS; Sigma Xi. Prof, Departments of Astronomy and of Physics, U of Texas, Austin, TX 78712.

Publications Related to IAS Residence: With L.P. Bouckaert and E. Wigner. Theory of Brillouin Zones and Symmetry Properties of Wave Functions in Crystals. *Phys Rev* 50(1936) 58; With W. Bleakney, L. Ble-wett and R. Sherr. Mass-Spectrograph Analysis of Beryllium. *Phys Rev* 50(1936) 545.

Other Publications: Anisotropy of the Electronic Work Function in Metals. *Phys Rev*60(1941) 661; Electronic Structure and Polymorphism of Iron Alloys. *Phys Rev* 61(1942) 390; Influence of Order on the Saturation Magnetic Moment. *Phys Rev* 75(1949) 310; Theory of Grain Boundary Diffusion. *Phys Rev* 83(1951) 69; On the Theory of X-Ray Small Angle Scattering. *Phys Rev* 94(1954) 866; Radiation Effects in Solids. *Nuovo Cimento Suppl* 7(1958) 523; Superparamagnetism, Non-Randomness and Irradiation Effects in Cu-Ni Alloys. *Phys Rev* 116(1959) 1106; Electron Tunneling and Schottky Ionization. *Phys Rev* 133(1964) 1724; Radiation Sintering of Lunar Dust. *Science* 150(1965) 1025; Internal Structure and Energy Emission of Jupiter. *Nature* 215(1967) 691; Mars: Retention of Ice. *Science* 159(1968) 1348; Frequency of Pulsar Starquakes. *Phys Rev Letters* 24(1970) 293;

Electrical Conductivity of Condensed Molecular Hydrogen in the Giant Planets. *Phys Earth and Plan Int* 6(1972) 48; With W.B. Hubbard. Structure of Jupiter and Saturn. *Space Sci Rev* 14(1973) 599; Magnetism of the Moon. *The Moon* 7(1973) 127; Short Linear Random Walks. *J Phys Chem Solids* 37(1975) 89; Width of Planetary Rings. *Nature* 274(1978) 669.

Smyth, Craig Hugh 78f HS, History of Art

Born 1915 New York, NY. PhD 1956 Art and Archeology Princeton Univ. Honors: Chevalier, Legion of Honor France 1946; Senior Fulbright Research Fellow Italy 1949-50; Honorary Trustee Met Museum of Art 1968-; MA(hc) Harvard 1975; AAAS 1978; Academician Accademia Fiorentina delle Arti del Disegno 1978. Appointments: Dir of CAA of Amer, 1953-57; Secy, 1956; US National Comm for Hist of Art, 1955-; Alternate US member, Comité Internatl d'Hist de l'Art, 1970-; Trustee, Inst of Fine Arts, NYU, 1973-. Memberships: College Art Assoc. Prof, Fine Arts, Harvard Univ, Dir Italian Renaissance Studies The Harvard Univ Center, Villa I Tatti, Via di Vincigliata 26, 50135 Firenze, Italy.

Publications Related to IAS Residence: *Bronzino as Draughtsman, An Introduction*. Locust Valley, New York, 1971; ed with S. Bertelli & N. Rubinstein. Venice and the Emergence of the High Renaissance in Florence: Observations and Questions. In *Florence and Venice: Comparisons and Relations*, 1, Quattrocento. Florence: 1979.

Other Publications: *Mannerism and Maniera*. Locust Valley, 1963; With Henry A. Millon. Michelangelo and St. Peter's - I: Notes on the Plan of the Attic as Originally Built on the South Hemicycle. *Burlington Magazine* 111(1969) 484 ff; With Henry A. Millon. Michelangelo and St. Peter's: Observations on the Interior of the Apse Vault, and Related Drawings. *Römisches Jahrbuch für Kunstgeschichte* 16(1976) 137 ff.

Snow, George Abraham 52-53 M(NS), Elementary Particle Physics

Born 1926 New York, NY. PhD 1950 Princeton Univ. Honors: PBK; Citation for Outstanding Research Wash Acad of Sciences 1963; NSF Sr PostDoc Fellow 1961-62; Guggenheim Sr Res Fellow & Fulbright Fellow 1965-66. Appointments: Member HEPAP 1970-72; Chairman Dir of Particles and Fields, APS 1976; Vice Chmn 1975; Member of U.R.A. Bd Trustees 1973-78, Vice Chmn 1974-75, Chmn Sci Comm 1975-77. Memberships: Fellow Amer Phys Soc; NY Acad of Sci; Member AAAS; AAPT; Sigma Xi; Phil Soc of Wash; FAS. Prof, Physics, and Director DOE High Ener Physics Contract, Dept of Physics and Astronomy, Univ of Maryland, College Park, MD 20742.

Publications Related to IAS Residence: Charge Conjugation and the π^0 Meson. *PR* 103(1956) 1111; With W.F. Fry et al. Mass Difference between Σ^+ and

Σ^- Hyper-ons and the Mass of the K- Meson. *PR* 104(1957) 270.

Other Publications: With T.B. Day and J. Sacher. On the Suppression of P-State Capture in (K-, P) Atoms. *PRL* 3(1959) 61; With R.A. Burnstein et al. Determination of the Relative Σ -A Parity. *PRL* 10(1963) 409; With W. Willis et al. Sigma Leptonic Decays and Cabibbo's Theory of Leptonic Decay. *PRL* 13(1964) 29; With G.S. Abrams, et al. Example of the Decay $\Omega^- \rightarrow \Xi^- + \pi^0$ *PRL* 13(1964) 670; With N. Barash et al. On the Decays $\Sigma^\pm \rightarrow \Lambda^0 + e^\pm + \nu$. *PRL* 19(1967) 181; With M.M. Shapiro. Mesons and Hyperons. *Amer Inst of Phys Handbook* 1957(1963); With N. Baggett et al. New Experimental Limit on $\Delta S = -\Delta Q$ Leptonic Decays of Σ^+ Hyperons. *PRL* 19(1967) 1458; With A.P. Colleraine et al. A Measurement of the Axial Vector to Vector Current Ratio in the $\Sigma^- \rightarrow n e^- \nu$ Decays. *PRL* 23(1969) 198; If Charm Particles Exist Can They be Detected. *Nucl Phys B* 55(1973) 445; On the Search for New Particles in High Energy Physics. *LPNHE* 74/08(1974); With B.Y. Oh et al. Two Particle Correlations in the Central Region of pp and π -p Interactions at 100-300 GeV/c. *PL* 56B(1975) 400; Elimination of Charm Mesons as Source of Anomalous Lepton Events in e^+e^- Annihilations. *PRL* 36(1976) 766; With ISU-MD-MSU-ND, Collaboration. π -p Interactions at 360 GeV/c. *PR D* 14(1976) 2902; Energy and Multiplicity Dependence of Two Particle Correlations in 18.5, 100, 200 and 360 GeV/c π -p Inclusive Reactions. *Phys Rev* (1979).

Snyderman, Neal J. 77-79 NS, Quantum Field Theory

Born 1949 Philadelphia, PA. PhD 1976 Brown Univ. SLAC, P.O. Box 4349, Stanford, CA 94305. *

Socolow, Robert Harry 71s M(NS), Theoretical High Energy Physics

Born 1937 New York, NY. PhD 1964 Physics Harvard Univ. Honors: Guggenheim Fellow 1976-77; German Marshall Fund Fellow 1976-77. Appointments: Consultant-Office of Tech Assessment; Participant-several studies by NRC's Environmental Studies Board. Memberships: Am Phys Soc; Federation of Am Scientists; Am Assoc for Adv Sci. Prof, Energy Technology & Policy, and Dir Cntr for Energy & Environ Studies Princeton Univ. 37 Laurel Rd, Princeton, NJ 08540.

Publications Related to IAS Residence: With John Harte. *Patient Earth*. NY: Holt Rinehart, 1971; Ed with H.A. Feiveson and F.W. Sinden. *Boundaries of Analysis: An Inquiry into the Tocks Island Dam Controversy*. Ballinger, 1976; Ed, *Saving Energy in the Home: Princeton's Experiments at Twin Rivers*. Ballinger, 1978.

Soda, Toshio 62-63 M(NS), Many Body Problem and Statistical Mechanics

Born 1932 Tokyo, Japan. PhD 1960 Physics Univ of Penna. Honors: Matsunaga Sci Found Grant 1964.

Members

Memberships: Japan Phys Soc; Am Phys Soc. Assoc Prof, Institute of Physics, University of Tsukuba, 300-31 Ibaraki, Japan.

Publications Related to IAS Residence: With M. Mittleman. Shell Model and Deuteron Stripping. *Nucl Phys* 46(1963) 241-245; Excitation Spectrum of an Impurity in the Hard Sphere Bose Gas. *J Math Phys* 5(1964) 142-146.

Solomon, Louis 62-63 M

Born 1931 New York, NY. PhD 1958 Harvard Univ. Prof, Math Dept, Univ of Wisc, Madison, WI 53706.

Solomon, Philip 73-74 NS

Born 1939 New York, NY. PhD 1964 Univ of Wisconsin. Dept Earth & Space Science, SUNY, Stony Brook, NY 11794. *

Solovay, Robert M. 64-65 M, Logic

Born 1938 Brooklyn, NY. PhD 1964 Univ of Chicago *

Somerville, Robert E. 80s HS, History, Religion

Born 1940 PA. PhD 1968 Yale Univ. Prof, History & Religion, Columbia Univ, 615 Kent Hall, New York, NY 10027. *

Sommese, Andrew John 75-76 M

Born 1948 New York, NY. PhD 1973 Math Princeton Univ. Honors: Grad Fellow NSF 1969-1972; Guest Prof Univ Göttingen 1977; Guest Prof Univ Bonn 1978-1979; Sloan Fellow 1979-81. Memberships: AMS. Assoc Prof, Dept of Math, Univ of Notre Dame, Notre Dame, IN 46556.

Publications Related to IAS Residence: Submanifolds of Abelian varieties. *Math Ann* 233(1978) 229-256; With James Carrel I. **C***-Actions. *Math Scand* 43(1978) 49-59.

Other Publications: Quaternionic manifolds. *Math Ann* 212(1975) 191-214; Holomorphic vector fields on compact Kaehler manifolds. *Math Ann* 210(1974) 75-84; On manifolds that cannot be ample divisors. *Math Ann* 221(1976) 55-72; Concavity theorems. *Math Ann* 235(1978) 37-53; Extension theorems for reductive group actions on compact Kaehler manifolds. *Math Ann* 218(1975) 107-116; Hyperplane sections of projective surfaces I. *Duke Math J*(July 1979); Criteria for Quasi-Projectivity. *Math Ann* 217(1975) 247-256; On the Rationality of the Period Mapping. *Ann Sc Norm Sup Pisa* 4, 5(1978) 683-717; Complex subspaces of Homogeneous Complex Manifolds I: Transplanting Theorems. *Duke Math J*(Sept 1979).

Soneira, Raymond M. 78-80 NS, Astrophysics

Born 1949 New York, NY. PhD 1978 Physics Princeton Univ. Member, Institute for Advanced Study, Princeton, NJ 08540.

Publications Related to IAS Residence: A Cosmological Redshift-Distance Square-Law? *Ap J*

Lettin press; Groups of Galaxies: Are They Fair Representations of the Clustered Galaxy Distribution? *Ap J* in press.

Sonneborn, Tracy M. 57-58 M(NS)

Born 1905 Baltimore, MD. PhD 1928 Zoology Johns Hopkins Univ. Honors: AAAS; NAS; Royal Society; DSc(hc) Johns Hopkins Univ 1957; Genetics Soc of Japan; French Soc of Protozoology and Am Soc of Protozoologists; Newcomb-Cleveland Research Prize 1946; Kimber Genetics Medal and Prize NAS 1959; Mendel Centennial Medal Czechoslovak Acad of Scis 1965; DSc(hc): Univ of Geneva 1975; Northwestern Univ 1975; Indiana Univ 1978. Appointments: Council, Am Philos Soc 1977-80; Council, NAS 1962-64; Committee on Science and Public Policy NAS 1961-65. Memberships: Am Inst Biol Sciences; Am Soc Study Evolution; Am Soc Zool; Genetics Soc Am. Distinguished Prof Emer, Department of Biology, Indiana Univ, Bloomington, IN 47401.

Publications Related to IAS Residence: Kappa and Related Particles in Paramecium. In *Advances in Virus Research*, 229-356. NY: Academic Press, 1959.

Other Publications: ed, *The Control of Human Heredity and Evolution*. New York: Macmillan Company, 1965; Sex, sex inheritance and sex determination in *Paramecium aurelia*. *PNAS* 23, 7(1937) 378-385; *Paramecium aurelia*: mating types and groups; lethal interactions; determination and inheritance. *Am Nat* 73(1939) 390-413; The relation of macronuclear regeneration in *P. aurelia* to macronuclear structure, amitosis and genetic determination. *Anat Rec* 78, 4(1940) 53-54; Gene and cytoplasm I. The determination and inheritance of the killer character in variety 4 of *Paramecium aurelia*. *PNAS* 29(1943) 329-338; Experimental control of the concentration of cytoplasmic genetic factors in Paramecium. *CSHSQB* 11(1946) 236-255; The determination of hereditary antigenic differences in genetically identical Paramecium cells. *PNAS* 34(1948) 413-418; Methods in the general biology and genetics of *Paramecium aurelia*. *J Exp Zool* 113, 1(1950) 87-148; Cellular transformation. *Harvey Lect Ser* 44(1950) 145-164; The relation of autogamy to senescence and rejuvenescence in *Paramecium aurelia*. *J Protozool* 1(1954) 38-53; Patterns of nucleocytoplasmic integration in Paramecium. *Caryologia* (1954) 307-325; Heredity, development and evolution in Paramecium. *Nature* 175(1955) 1100; Breeding systems, reproductive methods, and species problems in Protozoa. In *The Species Problem*, 155-324. AAAS, 1957; The human early foetal death rate in relation to age of father. In *The Biology of Aging*, ed. by Strehler, 288. 1960; Bearing of protozoan studies on current theory of genic and cytoplasmic action. In *Proc XVI Intern Cong Zool*, 3: 197-202. 1963; Does preformed cell structure play an essential role in cell heredity?. In *The Nature of Biological Diversity*, ed. by J.M. Allen, 165-221. 1963; The differentiation of cells. *PNAS* 51, 5(1964) 915-929; Degeneracy of the genetic code: extent, nature, and

genetic implications. In *Evolving Genes and Proteins*, ed. by V. Bryson & H. Vogel, 377-397. NY: Acad Press, 1965; With J. Beisson. Cytoplasmic inheritance of the organization of the cell cortex in *Paramecium aurelia*. *PNAS* 53(1965) 275-282; Nucleotide sequence of a gene: first complete specification. *Science* 148(1965) 1410; The evolutionary integration of the genetic material into genetic systems. In *Heritage from Mendel*, ed. by R.A. Brink, 375-401. Univ Wis Press, 1967; Methods in Paramecium research. In *Methods of Cell Physiology*, ed. by D. Prescott, 4: 241-339. NY: Academic Press, 1970; Gene action in development. *Proc Royal Society London B*, 176(1970) 347-366; *Paramecium aurelia*. In *Handbook of Genetics*, ed. by R. King, 2: 469-594. Plenum Press, 1974; The *Paramecium aurelia* complex of fourteen sibling species. *Trans Amer Micros Soc* 94(1975) 155-178; Positional information and nearest neighbor interactions in relation to spatial patterns in Ciliates. *Ann Biol* 14, 11-12(1975) 565-584; The origin, evolution, nature and causes of aging. In *The Biology of Aging*, ed. by John A. Behnke, Caleb E. Finch, and Gairdner B. Moment, 361-374. Plenum Publishing Corp, 1978.

Soreth, Marion 69-70, 75-76, 78-79 HS, Greek Philosophy

Born 1926 Germany. PhD 1958 Univ of Cologne. Philosophisches Seminar, Universität Köln, Albertus Magnus Platz 5:41, Cologne, Germany. *

Spallek, Karlheinz 66-67 M

Born 1934 Bergwalde, Germany. O Prof Dr, Dept of Mathematics, Ruhr-Universität, 4630 Bochum 1, Germany.

Publications Related to IAS Residence: Differenzierbare Kurven auf Analytischen Mengen. *Math Ann* 177(1968) 54-66; Zum satz von osgood und hartogs für analytische moduln II. *Math Ann* 182(1969) 77-94.

Spanier, Edwin H. 47-48, 51f, 58-59 M, Topology

Born 1921 Washington, DC. PhD 1947 Math U of Mich. Memberships: AMS; MAA. Prof, Math Dept, Univ of Calif, Berkeley, CA 94720.

Publications Related to IAS Residence: Borsuk's Cohomotopy Groups. *Ann Math* 50(1949) 203-245; Function Spaces and Duality. *Ann Math* 70(1959) 338-378; The Mayer Homology Theory. *Bull AMS* 55(1949) 102-112.

Other Publications: *Algebraic Topology*, New York: McGraw-Hill Book Company, Inc, 1966.

Sparkes, Brian Allison 63s HS, Archaeology

Born 1933 Sheffield, England. PhD 1957 Classics London Univ. Reader, Classics, Southampton Univ, 16 Leigh Rd, Southampton S02 1EF, England.

Publications Related to IAS Residence: With Lucy Talcott. *Black and Plain Pottery of the 6th, 5th & 4th Centuries BC*. The Athenian Agora, 12. 1970.

Specker, Ernst Paul 50s M

Born 1920 Switzerland. PhD 1948 ETH. Steinbruchelstrasse 18, Zurich 7-53, Switzerland. *

Spector, Clifford 60-61 M, Foundations of Mathematics

Born 1930. PhD 1955 Univ of Wisc. Deceased.

Speer, Eugene Richard 68-70, 77f NS, High Energy Physics

Born 1943 Pittsburgh, PA. PhD 1969 Mathematics Princeton U. Assoc Prof, Dept of Mathematics, Rutgers University, New Brunswick, NJ 08903.

Publications Related to IAS Residence: With G. Ponzano, T. Regge, and M. J. Westwater. The monodromy rings of a class of self-energy graphs. *Commun Math Phys* 15(1969) 83-132; With G. Ponzano, T. Regge, and M. J. Westwater. The monodromy rings of one loop Feynman integrals. *Commun Math Phys* 18(1970) 1-64; With M. J. Westwater. Generic Feynman amplitudes. *Ann Inst H. Poincaré* 14A(1971) 1-55; With T. Regge and M. J. Westwater. The monodromy rings of the necklace graphs. *Fortschritte der Physik* 20(1972) 265-420; With J. Lowenstein. Light cone finite normal products. *J Math Phys* 19(1978) 1859.

Other Publications: *Generalized Feynman Amplitudes*. Princeton Univ Press, 1969; Dimensional and Analytic Renormalization. In *Renormalization Theory*, ed. by G. Velo and A. S. Wightman. Dordrecht: D. Reidel, 1976.

Speiser, David Rudolf 60s, 60-61 M(NS), Elementary Particles

Born 1926 Belgium. Institut de Physique Théorique, 2, chemin du Cyclotron, 1348 Louvain-La-Neuve, Belgium. *

Speisman, Gerald 55-56 M(NS)

Born 1930 New York, NY. PhD 1955 Physics Caltech. Memberships: Am Phys Soc; Sigma Xi; Sigma Pi Sigma; PBK. Assoc Prof, Dept of Physics, Florida State University, Tallahassee, FL 32306.

Publications: With R.P. Feynman. Proton Neutron Mass Difference. *Phys Rev* 94(1954) 560; Convergent Schroedinger Perturbation Theory. *Phys Rev* 107(1957) 1180; Statistical Mechanics of a Classical One-Component Coal and Gas Using Collective Coordinates. *Ann Phys NY* 102(1976) 189.

Spencer, Guilford L, II 56-57 M, Topology, Partial Differential Equations

Born 1923 Natick, MA. PhD 1953 Univ of Mich. Prof, Williams College, Williamstown, MA 01267. *

Members

Sperber, Steven Irwin 78-79 M, Number Theory

Born 1945 Brooklyn, NY. PhD 1975 Mathematics Univ of Penn. Memberships: AMS. Asst Prof, Dept of Math, U of Minnesota, Minneapolis, MN 55455.

Publications: p-Adic Hypergeometric Functions and Their Cohomology. *Duke Math J*9(1977); Congruence Properties of the Hyperkloosterman Sum. *Compositio Math* (in press).

Spitz, Lewis William 79-80 HS, European History

Born 1922 Bertrand, NE. PhD 1954 Harvard Univ. Honors: DD Concordia Theol Sem 1977; LLD Valparaiso Univ 1978. Appointments: Selection Cttee, ACLS; Selection Cttee, NEH. Memberships: AHA; Am Soc of Church Hist; Am Soc Reformation Res; Ren Soc of Amer. Wm. R. Kenan Prof, History Dept, Stanford Univ, Stanford, CA 94305.

Publications Related to IAS Residence: Ed, *Humanismus und Reformation als kulturelle Kräfte in der deutschen Geschichte*. Berlin and New York: Walter de Gruyter, 1980; The Significance of the Reformation for the Universities. In *The Universities in Transition*, ed. by James Kittelson. Ohio State U, 1980; *The Protestant Reformation 1517-1559*. New York: Harper and Row, forthcoming.

Other Publications: *The Religious Renaissance of the German Humanists*. Harvard U Press, 1963; *Conrad Celtis, the German Arch-Humanist*. Harvard U Press, 1957; *The Renaissance and Reformation Movements*. 2 vols. Chicago: Rand McNally, 1972; *Life in Two Worlds - a biography of William Sihler*. St. Louis, Mo: Concordia Pub House, 1967.

Spitzer, Alan B. 79-80 HS, History

Born 1925 Philadelphia, PA. PhD 1955 Columbia Univ. Honors: NEH Sr Fellow 1975-1976; Guggenheim Fellow 1976. Memberships: AHA; Conf on French Hist Studies. Prof, History, Univ of Iowa, Dept of Hist, Iowa City, IA 52242.

Publications: *The Revolutionary Theories of Louis-Au-guste Blanqui*. Columbia Univ Press, 1957; *Old Hatreds and Young Hopes: The French Carbonari against the Bourbon Restoration*. Harvard Univ Press, 1971.

Spivak, Michael D. 67-68 M, Algebraic Topology

Born 1940 Queens, NY. PhD 1964 Princeton Univ. Dept of Math, Brandeis Univ, Waltham, MA 02154. *

Springer, Charles Eugene 39f M

Born 1903 Storm Lake, IA. PhD 1938 Differential Geometry Univ of Chicago.; BSc (Oxon) 1940 Geome-try. Honors: Rhodes Scholar 1927. Appointments: Bd Govs MAA. Memberships: AMS. David Ross Boyd Prof Emer, Univ of Oklahoma, 1617 Jenkins, Norman, OK 73069.

Publications Related to IAS Residence: Dual Geodesics on a Surface. *Bull AMS* 48(1942) 901-906; Union Curves and Union Curvature. *Bull AMS*

51(1945) 686-91; Union Curves on a Hypersurface. *Canadian J Math* 2(1950) 457-60.

Other Publications: *Tensor and Vector Analysis with Applications to Differential Geometry*. Ronald Press Co, 1962; *Geometry and Analysis of Projective Spaces*. Freeman and Co, 1964.

Springer, Tonny Albert 61-62, 69s M, Algebra

Born 1926 Netherlands. PhD 1951 Univ of Leiden. Mathematisch Institut, U of Utrecht, Budapestlaan, Utrecht, Netherlands. *

Sprout, Harold 46-47 HS(EP), Political Science

Born 1902 Benzonia, MI. PhD 1929 Univ of Wisconsin. Center International Studies, Corwin Hall, Princeton U, Princeton, NJ 08540. *

Squires, Gordon Leslie 54-55 M(NS), Mathematical Physics

Born 1924 London, England. PhD(Cantab.) 1953 Physics. Honors: Fellow Inst of Physics. Memberships: Am Phys Soc; Inst of Phys. Lecturer, Physics, Cavendish Laboratory University of Cambridge, Trinity College, Cambridge CB2 1TQ, England.

Publications Related to IAS Residence: Relation between the Vibration Frequencies of a Crystal and the Scattering of Slow Neutrons. *Phys Rev* 103(1956) 304.

Other Publications: Multioscillator processes in the scattering of slow neutrons by Crystals. *Proc Roy Soc A*212(1952) 192; The scattering of slow neutrons by magnetic crystals. *Proc Phys Soc A*67(1954) 248; With A. T. Stewart. The scattering of slow neutrons by ortho and parahydrogen. *Proc Roy Soc A*230(1955) 19; The relation between the interatomic forces and the frequencies of symmetry phonons in cubic crystals. *Ark Fys*25(1963) 21; The frequencies of the normal modes of aluminium. *Ark Fys* 26(1964) 223; With R. Pynn. Measurements of the normal-mode frequencies of magnesium. *Proc Roy Soc A*326(1972) 437.

Srinivasan, Bhama 77s M, Algebraic Groups

Born 1935 Madras, India. PhD 1960 Mathematics Univ of Manchester. Appointments: Exec Comm, Assoc for Women in Mathematics. Memberships: AMS; London Math Soc; Indian Math Soc. Prof, Dept of Mathematics, Clark University, Worcester, MA 01610.

Publications Related to IAS Residence: Weil representations of finite classical groups. *Invent Math* 51(1979) 143-153.

Other Publications: The characters of the finite symplectic groups $Sp(4,q)$. *Trans AMS* 131(1968) 488-525.

Srivastava, Shashi Mohan 79-80 M, Descriptive Set Theory

Born 1953 Darbhanga, Bihar, India. PhD 1979 Mathematics Indian Statistical Inst. Stat Math Division, Indian Statistical Institute, 203 B T Rd, Calcutta 700 035, India.

Staffeldt, Ross E. 77-79 M, Algebraic Topology

Born 1951 Logansport, IN. PhD 1977 Mathematics UC, Berkeley. Honors: Phi Beta Kappa 1973. Memberships: MAA; AMS. Instr, Dept of Math, Pennsylvania State University, University Park, PA 16802.

Stahl, Hans-Peter 74-75 HS, Ancient Literature, History, Philosophy

Born 1932 Lübeck, Germany. DPhil 1956 Univ of Kiel, Germany. Honors: Guggenheim Fellow 1974/75. Memberships: Amer Philol Assoc; Mommsen-Gesellschaft. Andrew W Mellon Prof, Classics, Univ of Pittsburgh, 106 Wilmar Drive, Fox Chapel, Pittsburgh, PA 15238.

Publications: Ansätze zur Satzlogik bei Platon. Methode und Ontologie. *Hermes* 88(1960) 409 ff; *Thukydides. Die Stellung des Menschen im geschichtlichen Prozess.* Zetemata Monographien zur Klass. Altertumswissenschaft, 40. München: C. H. Beck, 1966; Herodots Gyges-Tragödie. *Hermes* 96(1968) 385ff; Doppeldeutigkeit bei Properz Elegie I 18. *Poetica* 2(1968) 438ff; 'Verteidigung' des ersten Buches der Aeneis. *Hermes* 97(1969) 346ff; Beginnings of Propositional Logic in Plato. In *Plato's Meno Text and Essays*, ed. by Malcolm Brown, 180ff. New York: Bobbs Merrill Co, 1971; Speeches and Course of Events in Books VI and VII of Thucydides. In *The Speeches in Thucydides. A Collection of Original Studies with a Bibliography*, ed. by Ph.A. Stadter. Chapel Hill, NC: 1973; Peinliche Erfahrung eines Kleinen Gottes. Horaz in Seinen Satiren. *Antike und Abendland* 20(1974) 25ff; Learning through Suffering? Croesus' Conversations in the History of Herodotus. *Yale Classical Studies* 24(1975); On 'extra-dramatic' communication of characters in Euripides. *Yale Classical Studies* 25(1975) 159ff.

Stallings, John Robert, Jr. 61-62, 71f M, Topology

Born 1935 Morilton, AR. PhD 1959 Princeton Univ. Dept of Math, Univ of Calif, Berkeley, CA 94720. *

Stamires, George A. 49-53 HS, Epigraphy

Born 1914 Greece. BA 1936 Univ of Athens. *
Publications Related to IAS Residence: With E. Vanderpool. Kallixenos the Alkmeonid. *Hesperia* 19(1950) 376-390; Paratereseis eis Kretikas Palaiochristianikas Epigraphas. *Kretika Chronika* 4(1950) 75-78; Notes on Inscriptions from Phlius. *Hesperia* 22(1953) 57-58.

Stanley, Gertrude Katherine 38-39 M

Born 1897 . PhD 1927 Oxford Univ. Deceased.

Stanton, Nancy K. 79-80 M

Born 1948 San Francisco, CA. PhD Mathematics MIT. Memberships: AMS; MAA; Assoc for Women in Math. Ritt Asst Prof, Dept of Math, Columbia Univ, New York, NY 10027.

Publications: Holomorphic R-Torsion for Fiber Bundles. *Am J Math* 100(1978) 547-578.

Stanton, Robert Joseph 77-78 M, Group Representations

Born 1947 Pottsville, PA. PhD 1974 Mathematics Cornell U. Memberships: AMS. Asst Prof, Dept of Mathematics, Rice Univ, Houston, TX 77001.

Publications Related to IAS Residence: Expansions for Spherical Functions on non compact symmetric spaces. *Acta Math* 140(1978) 251-276; ed, *History of Analysis.* Rice U Studies, 64, 2, 3. 1978.

Other Publications: Polyhedral summability of Fourier series on compact Lie groups. *Am J Math* 100(1978) 477-492; A note on the Kunze-Stein phenomenon. *J Funct Anal* 29(1978) 151-159.

Starbird, Michael Peter 78-79 M, Topology

Born 1948 Los Angeles, CA. PhD 1974 Mathematics Univ of Wisconsin-Madison. Memberships: AMS; MAA. Asst Prof, Mathematics Department, University of Texas at Austin, Austin, TX 78712.

Publications: Cell-like, O-dimensional decompositions of E^3 . *Trans AMS* in press.

Stark, Harold Mead 70-71 M, Analytic Number Theory

Born 1939 Los Angeles, CA. PhD 1964 Univ of Calif, Berkeley. Dept of Math, 2-235, MIT, Cambridge, MA 02139. *

Starn, Randolph 79-80 HS, History

Born 1939 Modesto, CA. PhD 1967 Harvard Univ. Prof, Dept of Hist, Univ of Calif, Berkeley, CA 94720. *

Starr, Richard F. S. 35-39, 40-41 HS(EP), Art and Archaeology

Born 1900 Eau Claire, WI. PhD 1938 Princeton Univ. Honors: Guggenheim Fellow 1940-41. Deceased.

Publications Related to IAS Residence: *Indus Valley Painted Pottery.* Princeton Oriental Texts, 8. Princeton U Press, 1941; A Rare Akkadian Head. *Fogg Mus Bul* 9(1939) 13-18; A Rare Example of Akkadian Sculpture. *Amer J Archaeol* 45(1941) 81-86; Rev of Frankfort, H., "Cylinder Seals". *Class W* 33(1940) 116-117; With H. W. Glidden. Rev of Stein, Sir M. A., "Archaeological Reconnaissances in North-Western India and South-Eastern Iran." *Amer J Archaeol* 42(1938) 311-313.

Stasheff, James Dillon 64-65 M, Algebraic Topology

Members

Born 1936 New York, NY. PhD 1961 Math Princeton Univ. Honors: Sloan Fellow 1968-70. Appointments: Managing Ed, *Trans AMS* ; NSF Math Science Advisory Panel; AMS Council; AMS Comm on Modes of Support of Research. Memberships: AMS; MAA; AAUP; London Math Soc. Prof, Dept of Math, U of NC, Chapel Hill, NC 27514.

Publications Related to IAS Residence: H-spaces from a homotopy point of view. *Springer Lecture Notes in Math* 161(1970); With Stephen Halperin. Differential algebra in its own rite. In *Proc Adv Study Inst on Algebraic Topology*. Aarhus: 1970; With Jerome Harrison. Families of H-spaces. *J of Math* 22(1971) 347-352; Families of finite H-complexes-Revisited. *Springer Lecture Notes in Math* 196: 1-4; With S. Gitler. The first exotic class of BF. *Topology* 4(1965) 257-266; Parallel transport in fibre spaces. *Bol Soc Mat Mexicana* (1968) 68-86; More characteristic classes for spherical fibre spaces. *Comment Math Helv* 43(1968) 78-87

Other Publications: With John Milnor. *Characteristic Classes*. Ann Math Studies, 76. Princeton U Press, 1974.

Staver, Tor Böhm 49f M(NS), Quantum Mechanics

Born 1922 Norway. MA 1948 Univ of Oslo. Deceased.

Stebbins, Richard Poate 40-41 HS(EP), Politics

Born 1913 Mt. Vernon, NY. PhD 1940 History Harvard Univ. Honors: Guggenheim Fellow 1945. Senior Research Fellow (Ret), Council on Foreign Relations, 1 Gracie Terrace, New York, NY 10028.

Publications Related to IAS Residence: Ed with Grayson Kirk. *War and National Policy: A Syllabus*. New York: Farrar and Rinehart, 1942.

Other Publications: *The United States in World Affairs*. annual volumes. New York: Council on Foreign Relations, 1949-54, 1956-63, 1965-67.

Stechow, Wolfgang 54f HS, Dutch Painting of the Seventeenth Century

Born 1896 Kiel, Germany. PhD 1921 Univ of Göttingen. Deceased.

Steensholt, Gunnar 37s M(NS), Physics

Born 1909 Norway. PhD 1932 Univ of Oslo. Deceased.

Steer, Brian 62-63 M, Geometry, Topology

Born 1936 London, England. DPhil(Oxon.) 1962. Memberships: London Math Soc; AMS. Lect, Mathematics, Oxford Univ, Hertford College, Oxford OX1 3BW, England.

Publications Related to IAS Residence: With J.M. Boardman. On Hopf Invariants. *Comm Math Helv* 42(1967).

Stegenga, David Allen 73-74 M, Fourier Analysis and Complex Analysis

Born 1946 Chicago, IL. PhD 1973 Mathematics Univ of Wisc. Memberships: AMS. Asst Prof, Mathematics Department, Indiana University, Bloomington, IN 47405.

Publications Related to IAS Residence: Bounded Toeplitz Operators on H^1 and Applications of the Duality Between H^1 and Functions of Bounded Mean Oscillation. *Am J Math* 98(1976) 573-589; Sums of Invariant Subspaces. *Pacific J Math* 70(1977) 567-584; A Note of Spaces of Type $H^\infty + C$. *Ann de l'Inst Fourier* 25, 1(1975) 213-217.

Other Publications: Multipliers of the Dirichlet Space. *Ill J Math* (in press).

Steidle, Wolf 73-74 HS, Ancient History

Born 1910 Stuttgart, Germany. Memberships: Wiss Gesellsch Frankfurt. Prof, Seidelbastweg 7, 8031 Gröbenzel, West Germany.

Publications Related to IAS Residence: Menander und Terenz. *Rhein Mus für Philologie* 116(1973, 1974) 303/47, 247-276.

Stein, Elias M. 62-63 M, Analysis

Born 1931 Belgium. PhD 1955 Univ of Chicago. Prof, Fine Hall, Princeton Univ, Box 708, Princeton, NJ 08540. *

Stein, Harold 64-65 HS, English and American Political Thought

Born 1902 New York, NY. PhD 1932 Yale Univ. Deceased.

Steinberg, Maria Alice 55-56 M, Analysis

Born 1919 Berlin, Germany. PhD 1949 Math Cornell Univ. Memberships: AMS; MAA. Prof Emer, Math, Cal State Northridge. 711 Muskingum Ave, Pacific Palisades, CA 90272.

Steinberg, Robert 55-56, 61-62, 69s M, Algebraic Groups, Lie Groups

Born 1922 Rumania. PhD 1948 Mathematics Univ of Toronto. Memberships: AMS; MAA. Prof, Dept of Mathematics, University of California, Los Angeles, CA 90024.

Publications Related to IAS Residence: Representation of Algebraic Groups. *Nagoya Math J* 22(1963) 33-56; Générateurs, Relations, et Revêtements de Groupes, Algébriques. *Colloque Bruxelles* (1962) 113-127.

Other Publications: Regular Elements of Semisimple Algebraic Groups. *IHES Publ Math* 25(1965) 49-80; *Endomorphisms of Semisimple Algebraic Groups*. AMS Memoir, 80. 1968.

Steinberger, Jack 48-49, 59-60 M(NS), Particle Physics

Born 1921 Bad Kissingen, Germany. PhD 1948 Physics Univ of Chicago. Honors: NAS; AAAS; Corr member Heidelberger Ak d Wiss. Physicist, CERN, Geneva 23, Switzerland.

Publications Related to IAS Residence: On the use of subtraction fields and the lifetimes of some types of meson decay. *Phys Rev* 76(1949) 1180-1186.

Steiner, George 56-57, 57f HS, Classics and Literary Studies

Born 1929 Paris, France. DPhil (Oxon.) 1955. Honors: O'Henry Short Story Prize (U.S.A.); Prix du Souvenir (Paris); Premio Cortina Ulisse (Italy); FRS Literature; Zabel Prize National Inst of Arts & Letters; DLitt (hc) Univ of East Anglia. Prof, English and Comparative Literature, Univ of Geneva, Extraordinary Fellow, Churchill College, Cambridge, England.

Publications Related to IAS Residence: *Tolstoy or Dostoevsky*. NY: Knopf, 1959; *The Death of Tragedy*. NY: Knopf, 1961.

Other Publications: *Language and Silence*. London: Faber, 1967; *After Babel*. NY: Oxford Univ Press, 1975; *On Difficulty*. NY: Oxford Univ Press, 1978.

Steinmann, Othmar Viktor 62-63 M(NS), Theoretical Physics

Born 1932 Solothurn, Switzerland. Dr sc nat 1960 Physics ETH. Prof, Fakultät für Physik, Universität Bielefeld, 4800 Bielefeld 1, Fed Rep Germany.

Publications Related to IAS Residence: Structure of the Two-Point Function. *J Math Phys* 4(1963) 583-588.

Stephens, Clarence Francis 53-54 M, Analysis

Born 1917 Gaffney, SC. PhD 1943 Mathematics Univ of Mich. Honors: DSc(hc) Johnson C. Smith University 1954; Ford Foundation Fellow 1953-54; NY Chancellor's Award for Excellence in Teaching 1977. Memberships: AMS; MAA; Sigma Xi. Prof, and Chairman Mathematics Department SUNY, Potsdam, 81 Pier-repont Ave, Potsdam, NY 13676.

Publications: Nonlinear Difference Equations Analytic in a Parameter. *Bull AMS* 50(1944) 343; Systems of Linear Difference Equations Containing a Parameter. *Bull AMS* 51(1945) 660; Solutions of Systems of Nonlinear Difference Equations in the Neighborhood of a Singular Point. *Bull AMS* 52(1946) 67; Concerning Linear and Nonlinear Difference Equations. *Bull AMS* 53, 5(1947) 492-493; Nonlinear Difference Equations Analytic in a Parameter. *Trans AMS* 64, 2(1948) 268-282; Nonlinear Difference Equations Containing a Parameter. *Bull AMS* 55, 7(1949) 697; Nonlinear Q-Difference Equations. *Bull AMS* 55, 9(1949) 874; Nonlinear Difference Equations Containing a Parameter. *Proc AMS* 1, 2(1950) 276-281.

Stephens, Rothwell 39-40 M, Topology

Born 1906 Kansas City, MO. PhD 1931 Mathematics State Univ of Iowa. Honors: Fellow Fund for Adv of Ed 1952-53; Award For Outstanding Svce in Math E, Nat'l Council Teach Math. Appointments: Chmn Visiting Lecturers Comm MAA 1958-60; Selection Comm Woo-drow Wilson Nat'l Fship Found; CUPM Committees; Chm ETS Math Committees. Memberships: AMS; MAA; Nat'l Council of Teachers of Math; Inst of Math Statistics. Disting Svce Prof Emer, Knox Coll, Box 730, Norman, OK 73070.

Publications: Continuous Transformations of Abstract Spaces. *Trans AMS* 34,2: 394-408; Continuous Transformations of Finite Spaces. *Tohoku Math J* 39: 98-106; Note on a Problem of Fréchet. *Bull AMS* (Feb 1934) 65-68; Market Areas in Spatial Duopoly. *Rivista Internazionale di Scienze Economiche e Commerciali* 20, 3(1973).

Sterman, George Franklin 78-79 NS, Elementary Particle Theory

Born 1946 Washington, DC. PhD 1974 Univ of Maryland. Department of Physics, SUNY, Stony Brook, NY 11794. *

Stern, Adolph 51-52 M(NS), Elementary Particles

Born 1928 Asbury Park, NJ. PhD 1951 Harvard Univ. Dept of Chem, Wagner College, Staten Island, NY 10301. *

Stern, Fritz 69-70 HS, Modern History

Born 1926 Germany. PhD 1953 History Columbia Univ. Honors: AAAS; PBK Senator 1973-; Bd of Eds Am Hist Rev 1974-77. Appointments: Consultant US State Dept 1966-67. Memberships: AHA; Council on For Rels. Seth Low Prof, Hist, Columbia Univ, 15 Claremont Ave, New York, NY 10027.

Publications Related to IAS Residence: *Gold and Iron: Bismarck, Bleichroeder and the Building of the German Empire*. New York: Knopf, 1978; *The Failure of Illiberalism; Essays on the Political Culture of Modern Germany*. New York: Knopf, 1972.

Other Publications: Implications of the International Student Movement. In *Educational Planning in Perspective, Forecasting & Policymaking*, ed. by Thomas Green. Guilford, Surrey, England: 1971; Reflexions sur le Mouvement Etudiant. *La Nef* (1970).

Stern, Henri 59-60, 68f HS

Born 1902 Munich, Germany. PhD 1957 Sorbonne. Honors: Dir recherches hon CNRS 1973. Memberships: Soc Natl des Antiquaires de France; Soc française d'archéologie classique; Soc des études latines; Soc des études grecques. 17, allée de Trévis, 92330 Sceaux, France.

Publications Related to IAS Residence: Les mosaïques des maisons d'Achille et de Cassiopée à Palmyre. In *Bibliothèque archéologique et historique l'Institut français d'archéologie de Beyrouth*, 101. Paris: P. Geuthner, 1977.

Members

Other Publications: Le Calendrier de 354. In *Bibliothèque archéologique et historique l'Institut français d'archéologie de Beyrouth*, 54. Paris: P. Geuthner, 1953; *Recueil général des mosaïques de la Gaule*. 5 vols. Paris: CNRS, 1957-1973.

Stern, Ronald John 73-74 M, Topology

Born 1947 Chicago, IL. PhD 1973 Mathematics UCLA. Honors: Postdoc Exchange Scientist France 1977-78; Woodrow Wilson Fellow 1968. Memberships: AMS. Asst Prof, Department of Mathematics, Univ of Utah, Salt Lake City, UT 84112.

Publications Related to IAS Residence: With David Galewski. Classification of simplicial triangulations of topological manifolds. *Bull AMS* 82(1976) 916-918; Classification theorems for parameterized families of smooth or piecewise linear manifold structures respecting a submanifold. *Ill J of Math* 21(1977) 190-219; With David Galewski. The relationship between homology and topological manifolds via homology transversality. *Inv Math* 39(1977) 277-292; On topological and piecewise linear vector fields. *Topology* 14(1975) 257-269; With Allan Edmonds. Resolutions of homology manifolds: A classification theorem. *J London Math Soc* 2, 11(1975) 474-480.

Other Publications: With David Galewski. Orientation-reversing Involutions on homology 3-spheres. *Proc Camb Phil Soc* (in press); With David Galewski. A universal 5-manifold with respect to triangulations. In *Proceedings of 1976 Georgia Topology Conference*. Academic Press: in press; With David Galewski. Classification of simplicial triangulations of topological manifolds. *Ann Math* (in press).

Sternfeld, Frederick William 54-55 HS, Musicology

Born 1914 Vienna, Austria. PhD 1943 Yale Univ. Memberships: Royal Musical Assoc, Vice Pres. Reader, History of Music, Univ of Oxford, Professorial Fellow Exeter College, Faculty of Music, 32 Holywell St, Oxford OX1 3SL, England.

Publications Related to IAS Residence: *Music in Shakespearean Tragedy*. London: 1963.

Other Publications: *Goethe and Music*. New York: 1954; *Middle Ages and Renaissance*. London: 1973.

Stevens, Philip Theodore 69f HS, Ancient Greek Literature

Born 1906 Willenhall, Staffordshire, England. PhD 1938 Greek Lit Univ of Aberdeen. Appointments: Trustee Hellenic Soc 1961. Memberships: Class Assoc of Gt Brit; Soc for Prom of Hellenic Studies. Prof Emer, Greek, London Univ, Baywell Cottage, Charlbury, Oxford, England OX7 3AD.

Publications Related to IAS Residence: ed, *Euripides "Andromache"*. Clarendon Press, 1971.

Other Publications: *Colloquial Expressions in Euripides*. Hermes Einzelschriften, 38. Wiesbaden: 1976.

Stewart, John O. 79-80 Soc, Social Anthropology

Born 1933 Trinidad, West Indies. PhD 1973 Soc Anthro UCLA. Honors: Royal Soc of Lit, London, best regional novel 1971. Appointments: Adv Panel, NEH Media Prog. Memberships: Am Anthro Assoc. Assoc Prof, Dept of Anthropology, Univ of Illinois, Urbana, IL 61801.

Publications: *Curving Road*. Univ of Illinois Press, 1975; *Last Cool Days*. London: Andre Deutsch, 1970.

Stewart, Thomas Edward 59-61 M, Transformation Groups

Born 1933 Memphis, TN. PhD 1959 Notre Dame Univ. Deceased.

Stewart, Walter W. see Past Faculty/Deceased

Stillwell, Richard 36-42 HS(H), Classical Archaeology

Born 1899 Niagara Falls, NY. MFA Architecture Princeton Univ. 93 Mercer St, Princeton, NJ 08540.

Publications: Editor in Chief, *The Princeton Encyclopedia of Classical Sites*. Princeton: 1976.

Stinespring, William Forrest 57-59 M, Harmonic Analysis

Born 1929 Charlottesville, VA. PhD 1957 Univ of Chicago. 5436 S. Hyde Park Blvd., Chicago, IL 60615. *

Stobbe, Martin Hermann 34-37 M(NS), Mathematical Physics

Born 1903 Germany. PhD 1930 Univ of Göttingen. Deceased.

Stolarsky, Kenneth B. 67-68 M, Number Theory

Born 1942 Chicago, IL. PhD 1968 Mathematics Univ of Wisc. Appointments: Natl Putnam Comm for Putnam prize Math. Memberships: AMS; MAA; Sigma Xi. Assoc Prof, Department of Mathematics, University of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: Certain semigroups of linear fractional transformations contain elements of arbitrarily large trace. *Ill J Math* 14(1970) 238-240; A lower bound for the Scholtz-Brauer problem. *Canadian J Math* 21(1969) 675-683; A vanishing finite sum associated with Jacobi's triple product identity. *J Comb Theory* 6(1969) 392-398; Generalizations of the Bellavitis partition identities. *J Number Theory* 3(1971) 240-246.

Other Publications: With J. Ralph Alexander. Extremal problems of distance geometry related to energy integrals. *Trans AMS* 193(1974) 1-31; Sums of distances between points on a sphere II. *Proc Amer Math Soc* 41(1973) 575-582; Spherical distributions of N points with maximal distance sums are well spaced. *Proc Amer Math Soc* 48(1975) 203-

206; *Algebraic Numbers and Diophantine Approximation*. New York: Marcel Dekker, 1974.

Stoll, Wilhelm Friedrich 57-59 M, Several Complex Variables

Born 1923 Freiburg, Germany. Dr rer nat Habil 1954 Univ of Tübingen. Honors: Prize Fac Sci & Math, U Tübingen 1951. Memberships: AMS; MAA; DMV. Prof, Department of Mathematics, University of Notre Dame, Notre Dame, IN 46556.

Publications Related to IAS Residence: Meromorphic modifications of complex manifolds. In *Seminar on analytic functions*, 206-220. Wash DC: Air Force Office of Scientific Research, 1957; Ueber die Fortsetzbarkeit analytischer Mengen endlichen Oberflächeninhaltes. *Arch Math* 9(1958) 167-175; Ueber meromorphe Abbildungen komplexer Räume I. *Math Ann* 136(1959) 201-239; Ueber meromorphe Abbildungen komplexer Räume II. *Math Ann* 136(1960) 312-349; With A. Andreotti. Extension of holomorphic maps. *Ann of Math* 72(1960) 312-349.

Stommel, Henry Melson 55s M, Oceanography

Born 1920 Wilmington, DE. BSc 1942 Yale. Honors: Hon degree Göteborg 1964; Hon degree Univ of Chicago 1970; Hon degree Yale Univ 1970. Appointments: Ocean Sci Bd, NAS. Memberships: Akad Naub USSR; NAS. Senior Scientist, Woods Hole Oceanographic Inst, 766 Palmer Ave., Falmouth, MA 02540.

Publications Related to IAS Residence: With George Verouis. Ocean currents under variable wind-stress. *J Mar Res* (1956).

Other Publications: *The Gulf Stream*. Univ of Calif Press, 1956.

Stone, Arthur Harold 41-42 M, General Topology

Born 1916 London, England. PhD 1941 Mathematics Princeton Univ. Memberships: AMS; MAA; London Math Soc; Sigma Xi. Prof, Department of Mathematics, University of Rochester, Rochester, NY 14627.

Publications: With Brooks, Smith, Tutte. The dissection of rectangles into squares. *Duke Math J* 7(1940) 312-340; With Tukey. Generalized "sandwich" theorems. *Duke Math J* 9(1942) 356-359; With P. Erdős. Some remarks on almost periodic transformations. *Bull AMS* 51(1945) 126-130; With P. Erdős. On the structure of linear graphs. *Bull AMS* 52(1946) 1089-1091; With Brooks, Smith, Tutte. A note on simple perfect squares. In *Proc Akad van Wet*, 50: 1300-1301. Amsterdam: 1947; On supersonic flow past a slightly yawing cone I, II. *J Math Phys* 27, 30(1948, 1952) 67-81, 200-213; Paracompactness and product spaces. *Bull AMS* 54(1948) 977-982; Incidence relations in unicoherent spaces. *TAMS* 65(1949) 427-447; Incidence relations in multicoherent spaces I. *TAMS* 66(1949) 389-406; Incidence relations in multicoherent spaces II. *Canad Math J* 2(1950) 461-480; Incidence relations in

multicoherent spaces III. *Pacific J Math* 2(1952) 99-126; On infinitely multicoherent spaces. *Quarterly J Math* 3(1952) 289-306; On coverings of 2-dimensional spaces. *Proc London Math Soc* 3(1953) 338-349; With Graham Higman. On inverse systems with trivial limits. *J London Math Soc* 29(1954) 233-236; Metrisability of decomposition spaces. *Proc AMS* 7(1956) 690-700; Metrisability of unions of spaces. *Proc AMS* 10(1958) 361-366; Cardinals of closed sets. *Mathematika* 6(1959) 99-107; Sequences of coverings. *Pacific J Math* 10(1960) 689-691; Universal spaces for some metrisable uniformities. *Quarterly J Math* 11(1960) 105-115; Hereditarily compact spaces. *Amer J Math* 82(1960) 900-916; Absolute F_σ spaces. *Proc AMS* 13(1962) 495-499; A note on paracompactness and normality of mapping spaces. *Proc AMS* 14(1963) 81-83; Kernel constructions and Borel sets. *TAMS* 107(1963) 58-70; On σ -discreteness and Borel isomorphism. *Amer J Math* 85(1963) 655-666; With K. A. Ross. Products of separable spaces. *Amer Math Monthly* 71 (1964) 398-403; With C. T. Scarborough. Products of nearly compact spaces. *TAMS* 124(1966) 131-147; Disconnectible spaces. In *Proc Topology Conf, Arizona State 1967*, 265-276. On partitioning ordered sets into cofinal subsets. *Mathematika* 15(1968) 217-222; With E. Michael. Quotients of the space of irrationals. *Pacific Math J* 28(1969) 629-633; Some combinatorial problems in general topology. In *Combinatorial Structures and their Applications, Proc Int'l Conf Calgary 1969*, ed. by R. Guy et al, 413-416. New York: Gordon & Breach, 1970; With P. Erdős. On the sum of two Borel sets. *Proc AMS* 25(1970) 304-306; Borel and analytic metric spaces. In *Proc Washington State U Conf on General Topology*, 20-33. 1970; With K. Rajappan. On Okada's method for realizing cut-set matrices. *J Combinatorial Theory* 10(1971) 113-134; With F.B. Jones. Countable locally connected Urysohn spaces. *Colloq Math* 22(1971) 239-244; Non-separable Borel sets II. *General Topology and Appl* 2(1972) 249-290; With Brooks, Smith, Tutte. Leaky electricity and triangulated triangles. *Philips Research Reports* 30(1975) 205-219; Topology and measure theory. In *Measure Theory, Proc Conf Oberwolfach 1975*, ed. by A. Bellow & D. Kölzow, Lect Notes in Math 541: 43-48. Berlin: Springer-Verlag, 1976; With D. Maharam. Realizing isomorphisms of category algebras. *Bull Austral Math Soc* 19(1978) 5-10; With D. Maharam. Borel boxes. *Pacific J Math* in press; *Non-separable Borel sets*. *Rozprawy Matematyczne*, 28. Warsaw: Państwowe Wydawnictwo Naukowe, 1962; Some Problems in Measurability. In *Proc Topology Conf, Virginia Polytech 1973*, ed. by R.F. Dickman & P. Fletcher, Lect Notes in Math 375: 242-248. Berlin: Springer-Verlag, 1974; Measure-preserving maps. In *General Topology and its Relations to Modern Analysis and Algebra IV, Proc Symp Prague 1976*, ed. by J. Novák, Lect Notes in Math 609: 205-210. Berlin: Springer-Verlag, 1977; Inverse limits of compact spaces. *Gen Topology and Appl* in press; Category algebras of complete metric spaces.

Members

Mathematika in press; Unions of locally compact spaces. In *Proc Point-Set Topology Conf, U Houston 1971*, 56-75.

Stone, David A. 76-77 M, Topology

Born 1945 Washington, DC. PhD 1970 Math Princeton Univ. Memberships: AMS. Assoc Prof, Math Dept, Brooklyn College, Brooklyn, NY 11210.

Publications Related to IAS Residence: On the path space of a simplicial complex. *Indiana U Math J* 28(1979) 1-21; Notes on "A combinatorial formula for $P_1(x)$ ". *Adv in Math* (in press); With A.V. Phillips. The Euler cycle of a foliation. *J Diff Geom* (in press).

Other Publications: Stratified Polyhedra. *Lecture Notes in Math* 252(1972); Geodesics in piecewise linear manifold. *Trans AMS* 215(1976) 1-44; A combinatorial analogue of a theorem of Myers, and Correction. *Ill J Math* 20(1976) 12-21, 551-554.

Stone, Dorothy Maharam 40-42 M

Born 1917 Parkersburg, WV. PhD 1940 Bryn Mawr Coll. Memberships: AMS; MAA. Prof, Math Dept, Univ of Rochester, Rochester, NY 14627.

Publications Related to IAS Residence: On homogeneous measure algebras. *Proc NAS* 28(1942) 108-111.

Stone, Feodora 45f HS(EP) *

Stone, John Richard Nicholas 45f HS(EP), Economics

Born 1913 London, England. ScD(Cantab.) 1957. Honors: CBE 1946; FBA 1956; AAAS; Dr(hc) Univ of Oslo 1965; Dr(hc) Univ of Brussels 1965; Dr(hc) Univ of Geneva 1971; Dr(hc) Univ of Warwick 1975; Dr(hc) Univ of Paris 1977; Dr(hc) Univ of Bristol 1978; Pres Royal Econ Soc; Hon Member Amer Econ Assoc; Hon Member Soc of Incorp'd Accountants. Memberships: Intl Stat Inst; Fellow Econometric Soc, Pres 1955. P.D. Leake Prof, Fin & Acctng, Cambridge Univ, Fellow King's College, 13 Millington Rd, Cambridge CB3 9HW, England.

Publications Related to IAS Residence: Definition and Measurement of the National Income and Related Totals. In *Measurement of National Income and Construction of Social Accounts*, Appendix. Geneva: United Nations, 1947.

Stone, Lawrence 60-61 HS, History

Born 1919 Epsom, Surrey, England. MA(Oxon.) 1946. **Honors:** Fellow AAAS; Member Amer Philos Soc. Prof, History, Princeton Univ, Dir The Shelby Collom Davis Center for Historical Studies. 266 Moore St, Princeton, NJ 08540.

Publications Related to IAS Residence: *The Crisis of the Aristocracy 1558-1641*. Oxford, 1965.

Other Publications: *The Causes of The English Revolution 1529-1642*. London: 1972; *Family and*

Fortune. Oxford: 1973; *The Family, Sex and Marriage In England 1500-1800*. London: 1978.

Stone, Marshall Harvey 36f, 50f M, Pure Mathematics

Born 1903 New York, NY. PhD 1926 Mathematics Harvard Univ. Honors: Hon Dr Univ San Marcos 1943; Univ Buenos Aires 1947; Univ Athens 1954; NAS; Am Philos Soc. Appointments: Cons to USN Dept Bur Ordnance & Office Vice Chief Naval Ops 1942-43; Cons State Dept India 1961. Ralph Waldo Emerson Prof, Mathematics, Univ of Mass, 260 Lincoln Ave, Amherst, MA 01002.

Publications: *Linear Transformations in Hilbert Space and Their Applications to Analysis*. 1932.

Stong, Robert Evert 75-76 M, Topology

Born 1936 Oklahoma City, OK. PhD 1962 Univ of Chicago. Honors: Sloan Fellow. Memberships: AMS. Prof, and Chairman, Dept of Math, Univ of Virginia, Charlottesville, VA 22903.

Publications Related to IAS Residence: With H.E. Winkelnkemper. Locally free actions and Stiefel-Whitney numbers II. *Proc AMS* 66(1977) 367-371; Orientability Mod 2. *J. London Math Soc* 14(1976) 296-302; The rank of an f-structure. *Kodai Math Sem Rep* 29(1977) 207-209.

Stora, Raymond Felix 61-62 M(NS), Theoretical Physics

Born 1930 Paris, France. PhD 1958 Theoretical Physics MIT. Appointments: Comité National CNRS 1971-1980. Directeur de Recherche, Centre de Physique Theorique, CNRS, Luminy Case 907, F 13288 Marseille, CEDEX2 France.

Publications Related to IAS Residence: With P. Moussa. Remarks on the product of irreducible representations of the Poincaré Group. In *Symposium on Lorentz Group*, Lectures in theoretical physics: 37. Boulder, Colorado: 1964; With P. Moussa. Angular Analysis of Elementary Particle Reactions. In *Ecole Internationale Physique Particules Élémentaire Herceg Novi*, ed. by M. Nikolic, Methods of Subnuclear Physics Vol II: 265. Gordon Breach, 1966; With C. Becchi, A. Rouet. Renormalization of Abelian Higgs Kibble. *CMP* 42(1975) 127; With C. Becchi, A. Rouet. Renormalization of gauge theories. *Ann Phys* 98(1976) 287.

Storchi, Edoardo 54 55 M

Born 1918 Milan, Italy. PhD 1947 Univ of Pisa. Full Prof, Univ of Genoa, Via Podgora 2, 16145 Genoa, Italy.

Publications Related to IAS Residence: Un metodo per la fattorizzazione dei numeri della forma $a^n \pm 1$. *Rendiconti dell'Istituto Lombardo di Scienze e Lettere* 88(1955).

Storer, Thomas 64-65 M, Number Theory

Born 1938 Oraibi, AZ. PhD 1965 Number Theory USC. Prof, Dept of Math, Univ of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: *Cyclotomy and Difference Sets*. Markham, 1969.

Stourzh, Gerald 67-68 HS, Modern History

Born 1929 Vienna, Austria. PhD 1951 Univ of Vienna. Honors: Awd for best book in Early Amer Hist, Inst of Early Amer Hist and Culture, Williamsburg, Va 1955; Overseas Fellow Churchill Coll, Cambridge Univ 1976. Appointments: Internatl Comm for Hist of Representative and Parliamentary Insts. Prof, Modern History, Institut für Geschichte, University of Vienna, Dr. Karl-Lueger-Ring 1, A-1010 Vienna, Austria.

Publications Related to IAS Residence: *Alexander Hamilton and the Idea of Republican Government* Stanford University Press, 1970; William Blackstone, Teacher of Revolution. In *Jahrbuch für Amerikastudien*, 15: 184-200. Heidelberg: 1970; Die österreichische Dezemberversammlung von 1867. *Österreich in Geschichte und Literatur* 12(1968) 1-16.

Other Publications: *Benjamin Franklin and American Foreign Policy*. 2nd ed. Chicago: 1969; *Kleine Geschichte des österreichischen Staatsvertrages*. Graz: 1975.

Straub, Johannes Anton 59-60, 65-66, 73-74 HS, Roman History

Born 1912 Ulm, Germany. DPhil habil 1942 Ancient History Univ of Berlin. Honors: Dr(hc) Panteios-Hochschule Athens; Markus-Orden des Patriarchen von Alexandrien; RW Ak d W; Mitglied Zentraldir Deut Archäol Inst, Berlin; Accad Naz Lincei. Memberships: Verb Hist Deut; Görres-Gesellschaft. Full Prof, Ancient History, Univ of Bonn, Auf dem Hügel 14, 5300 Bonn, Germany.

Publications Related to IAS Residence: Heidnische Geschichtsapologetik in der christlichen Spätantike. Untersuchungen über Zeit und Tendenz der Historia Augusta. *Antiquitas* 4,1(1963); Herausgeber und Vorwort, *Historia Augusta. Römische Herrschergestalten*. 1 (Hadrianus-Alexander Severus). Zürich: 1976.

Other Publications: *Vom Herrscherideal in der Spätantike*. Darmstadt: 1964; *Regeneratio imperii. Aufsätze über Roms Kaisertum und Reich im Spiegel der heidnischen und christlichen Publizistik*. Darmstadt: 1972; *Ed, Acta Conciliorum Oecumenicorum IV 1*. Concilium universale Constantinopolitanum sub Iustiniano habitum, I. Berlin: 1971.

Straus, Ernst Gabor 55-56 M, Relativity, Number Theory

Born 1922 Munich, Germany. PhD 1948 Unified Field Theory Columbia Univ. Appointments: Mg Ed, Pacific

J Math, 1952-1958. Memberships: AMS; MAA. Prof, Math Dept, UCLA, Los Angeles, CA 90024.

Publications Related to IAS Residence: With A. Einstein. The influence of the expansion of space on the gravitation fields surrounding the individual stars. *Rev Mod Phys* 17(1945) 120-124; Corrections and additional remarks. *Rev Mod Phys* 18(1946) 148-149; With A. Einstein. A generalization of the relativistic theory of gravitation II. *Ann Math* 47(1946) 731-741; Some results in Einstein's unified field theory. *Rev Mod Phys* 21(1949) 414-420; On a problem of W. Sierpiński on the congruence of Sets. *Fund Math* 44(1956) 75-81; On Sierpiński sets in groups. *Fund Math* 45(1958) 332-333; With P. Kelly. A characteristic property of the circle, ellipse and hyperbola. *Amer Math Monthly* 63(1956) 710-711; With P. Kelly. Inversive and conformal convexity. *Proc AMS* 8(1957) 572-577.

Other Publications: On entire functions with algebraic derivatives at certain algebraic points. *Ann Math* 52(1950) 188-198; With S.P. Diliberto. On the approximation of a function of several variables by the sum of functions of fewer variables. *Pac J Math* 1(1951) 195-210; With S. Chowla and H. Mann. Some applications of the Cauchy-Davenport Theorem. *Forh Norsk Vid Selsk* 32(1959) 74-80; With H. Busemann. Area and Normality. *Pacific J Math* 10(1960) 35-72; With S. Chowla and P. Erdős. On the maximal number of pairwise orthogonal Latin squares of a given order. *Can J Math* 12(1960) 204-208; With T. S. Motzkin. Maxima for graphs and a new proof of a theorem of Turán. *Can J Math* 17(1965) 533-540.

Strauss, Gerald 75-76 HS, History

Born 1922 Frankfurt am Main, Germany. PhD 1957 History Columbia Univ. Honors: Guggenheim Fships 1965-66; 1972-73. Memberships: Renaissance Soc of Amer; Am Soc for Reformation Res. Prof, Department of History, Indiana University, Bloomington, IN 47401.

Publications Related to IAS Residence: *Luther's House of Learning: The Indoctrination of the Young in the German Reformation*. Baltimore: Johns Hopkins Press, 1978.

Other Publications: *Historian in an Age of Crisis: The Life and Work of Johannes Aventinus*. Harvard Univ Press, 1963; *Nuremberg in the 16th Century*. John Wiley, 1966; *Manifestations of Discontent in Germany on the Eve of the Reformation*. Indiana Univ Press, 1971.

Strauss, Henry R. 73-74 NS, Plasma Physics

Born 1943 . PhD 1969 Univ of Texas. Memberships: APS. Research Scientist, Physics Dept, Univ of Texas, Austin, TX 78712.

Publications Related to IAS Residence: With M. N. Rosenblath, P. A. Monticello, and R. B. White. *Phys Fluids* 19(1976) 1987; *Phys Fluids* 19(1976) 1411.

Other Publications: *Phys Fluids* 19(1976) 134; *Phys Fluids* 20(1977) 1354.

Members

Strebel, Kurt O. 53-55 M, Analysis

Born 1921 Wohlen Aargau, Switzerland. PhD 1953 Univ of Zurich. Honors: Finnish Acad of Scis 1977. Prof, Math, Univ of Zurich, Am Oeschbrig 32, CH-8053 Zurich, Switzerland.

Publications Related to IAS Residence: On the maximal dilation of QC mappings. *Proc AMS* 6(1955) 903-909; With E. Reich. Extremal QC mappings with given dry values. In *Contributions to Analysis, dedicated to L. Bers*. 1974.

Other Publications: Über quadratische Differentiale mit geschlossenen Trajektorien. In *Festband zum 70. Geburtstag von Rolf Nevanlinna*, Springer. 1966.

Strittmatter, Anselm, O.S.B. 62s, 63s HS

Born 1894 Paterson, NJ. MA 1920 Univ of Chicago. Deceased.

Stroheker, Karl Friedrich 63-64 HS, Late Roman Studies

Born 1914 Ulm/Donau, Württemberg, Germany. DPhil habil 1943 Ancient History Univ of Tübingen. Memberships: Verb der Hist Deut; Mommsen-Ges. Full Professor, Ancient Hist, Univ of Tübingen, Wildermuthstr. 32, 7400 Tübingen, Germany.

Publications Related to IAS Residence: With Olof Gigon. *Germanentum und Spätantike*. Zurich, Stuttgart: Artemis Verlag, 1965; Ed with Alexander John Graham. Victor Ehrenberg's "Polis und Imperium". In *Beiträge zur alten Geschichte*. Zürich: Artemis Verlag, 1965; With Carl Andersen and others. *Lexicon der Alten Welt*. Zürich and Stuttgart: Artemis Verlag, 1965; *Der senatorische Adel im spätantiken Gallien*. Tübingen: Alma mater Verlag, 1948; *Dionysios I. Gestalt und Geschichte des Tyrannen von Syrakus*. Wiesbaden: F. Steiner, 1958.

Strunk, Oliver 44f HS(H), History of Fine Art

Born 1901 Ithaca, NY. PhD 1936 Univ of Rochester. Honors: Litt D(hc) University of Rochester 1936; D Hum Litt(hc) University of Chicago 1970; ACLS prize for distinguished scholarship in the humanities 1961; Hon Mem Am Musicolog Soc & Royal Musical Assoc. Appointments: Fulbright Adv Bd; Founding member & Pres Musicolog Soc. Memberships: Soc Ital di Musicology. Deceased.

Publications Related to IAS Residence: *Essays on Music in the Western World*. New York: W. W. Norton, 1974; *Essays on Music in the Byzantine World*. New York: W. W. Norton, 1977.

Other Publications: *Specimina notationum antiquiorum*. Monumenta musicae byzantinae, 7. Copenhagen: 1966; *Triodion Athoum*. Monumenta musicae byzantinae, 9. Copenhagen: 1975.

Struve, Otto 62f M(NS), Astrophysics

Born 1897 Kharkhov, USSR. PhD 1923 Univ of Chicago. Deceased.

Strycker, Emile L. de 72s HS, Greek Philosophy

Born 1907 Belgium. PhD 1961 Catholic Univ Louvain. Deceased.

Stürmer, Michael 77-78 HS, Modern European History

Born 1938 Kassel, Germany. DHabil 1971 Modern History. Memberships: Hist Verb; Ver für Verfassungsgesch. Full Prof, Erlangen U, Kochstr 4, 8520 Erlangen, Germany.

Publications Related to IAS Residence: *Herbst des Alten Handwerks*. Munich: 1979.

Other Publications: ed, *Das Kaiserliche Deutschland*. 1970; *Koalition und Opposition in der Weimarer Republik*. 1967; *Regierung und Reichstag im Bismarckstaat*. 1974.

Su, Jin-Chen 64-66 M, Transformation Groups

Born 1932 Anhwei, China. PhD 1962 Math Univ of Penna. Prof, Math Dept, U of Mass, Amherst, MA 01002.

Publications Related to IAS Residence: With W. Y. Hsiang. On the Classification of Transitive Effective Actions on Stiefel Manifolds. *Trans AMS* 130(1968) 322-336.

Other Publications: With C.N. Chang. Group Actions on a Product of Two Projective Spaces. *J of Amer Math* forthcoming.

Sullivan, John Brendan 79-80 M, Algebraic Groups

Born 1944 Lynn, MA. PhD 1971 Math Cornell Univ. Honors: NSF Research Grants 1974-1980. Assoc Prof, Univ of Washington, 1915 E Miller St, Seattle, WA 98112.

Sulloway, Frank Jones, II 77-78 Soc, History of Science, Psychology and Sociology of Knowledge

Born 1947 Concord, NH. PhD 1979 History of Science Harvard Univ. Memberships: AAAS; Hist of Sci Soc. Research Fellow, Miller Inst for Basic Res in Sci, Univ of Calif, Berkeley. Dept of History of Science, Harvard University, Science Center 235, Cambridge, MA 02138.

Publications Related to IAS Residence: *Freud, Biologist of the Mind: Beyond the Psychoanalytic Legend*. New York: Basic Books, 1979; Geographic Isolation in Darwin's Thinking: The Vicissitudes of a Crucial Idea. *Studies in History of Biology* 3(1979) 23-65.

Summerhill, R. Richard 70-72 M, Geometric Topology

Born 1944 Evanston, IL. PhD 1969 Math Univ of Iowa.

Memberships: MAA; AMS; Sigma Xi. Assoc Prof, Department of Mathematics, Kansas State University, Manhattan, KS 66502.

Publications Related to IAS Residence: With Ross Geoghegan. Pseudo-Boundaries and Pseudo-Interiors in Euclidean spaces and Topological Manifolds. *Trans AMS* 194(1974) 141-165; With Ross Geoghegan. Infinite-Dimensional Methods in Finite-Dimensional Geometric Topology. *Bull AMS* 78(1972) 1009-1014; With Ross Geoghegan. Concerning the shapes of Finite-Dimensional Compacta. *Trans AMS* 179(1973) 281-292; With Ross Geoghegan. Finite-Dimensional Spaces Having Many of the Topological Properties of Separable Hubert Space l_2 . *Bull Acad Polon Sci, Ser Sci Math Astronom Phys* 22(1974) 949-954; General Position for Closed Subsets of Euclidean Space. *General Top and its Appl* 3(1973) 339-345.

Summers, John David 78-79 HS, History of Art

Born 1941 Sandpoint, ID. PhD 1969 Yale Univ. Honors: Arthur Kingsley Porter Prize Coll Art Assoc 1974. Memberships: CAA. Assoc Prof, Fine Arts, Univ of Pittsburgh, 5673 Beacon St, Pittsburgh, PA 15217.

Publications Related to IAS Residence: *Michelangelo and the Literature of Art*. Princeton: 1979.

Sumner, Benedict Humphrey 47f HS(EP), Russian History

Born 1893 England. MA Oxford Univ. Deceased.

Sumners, De Witt Lee 74-75 M, Topology

Born 1941 Ferriday, LA. PhD(Cantab.) 1967 Mathematics. Honors: Marshall Scholarship 1963; Hon Woodrow Wilson Fellow 1963. Memberships: Cambridge Phil Soc; Sigma Xi; AMS; AAAS. Prof, Mathematics, Fla State Univ, 650 E Sixth Ave, Tallahassee, FL

Publications Related to IAS Residence: With J. M. Woods. The Monodromy of Reducible Plane Curves. *Inv Math* 40(1977) 107-141; With C. Gordon. Knotted Ball Pairs Whose Product with an Interval is Unknotted. *Math Ann* 217(1975) 47-52.

Other Publications: Invertible Knot Cobordisms. *Comm Math Helv* 46(1971) 240-256; Smooth Z_p -Actions on Spheres which Leave Knots Pointwise Fixed. *Trans AMS* 205(1975) 193-203.

Sutherland, Sir Carol Humphrey Vivian 62-63, 68f, 73f HS, Ancient History

Born 1908 Merton Park, Surrey, England. DLitt 1945 Oxford Univ. Honors: CBE 1970; FBA 1970; Palmes Académiques, France 1965. Appointments: President International Numismatic Commission; Member Royal Mint Advisory Committee, UK; Member Medals Subcommittee Royal Society of Arts, UK. Memberships: Pres and founder-member of Centro Internazionale di Studi Numismatici, Naples; Fellow Royal Numismatic Soc. Westfield House, Cumnor, Oxford OX2 9PE, England.

Publications Related to IAS Residence: Ed with Carson, R.A.G. *Roman Imperial Coinage*. 6. Spink & Son, 1966; *The Cistophori of Augustus*. London: Royal Numismatic Soc, 1970; *The Emperor and the Coinage*. Spink & Son, 1977.

Suura, Hiroshi 55-57 M(NS), Quantum Field Theory

Born 1925 Japan. PhD 1954 Hiroshima Univ. Phys Sci, Univ Minnesota, Minneapolis, MN 55455. *

Suwa, Tatsuo 70-71 M, Complex Analytic Geometry

Born 1942 Japan. MA 1968 Univ of Tokyo. Dept of Math, Univ of Michigan, Ann Arbor, MI 48104. *

Suzuki, Mahiko 67-68 NS, Theoretical Physics

Born 1938 Tokyo, Japan. DSc 1966 Physics Univ of Tokyo. Honors: Guggenheim Fellow 1976-1977. Prof, and Member Theoret Phys Group Lawrence Lab, Department of Physics, University of California, Berkeley, CA 94720.

Publications Related to IAS Residence: Decay widths of the K Resonances from Relativistic Quark Model. *Phys Rev* 169(1968) 1385; Enhancement of SU(3) Breakings and Regge Trajectories. *Phys Rev* 171(1968) 1791; Analytic Continuation of Divergent Integrals with Respect to a Parameter. *Phys Rev* 173(1968) 1473.

Suzuki, Michio 62-63, 68 69 M

Born 1926 Chiba, Japan. PhD 1952 Math Univ of Tokyo. Honors: Guggenheim Fellow 1962-63; Japan Acad Award 1974. Memberships: AMS. Prof, Department of Mathematics, University of Illinois at Urbana-Champaign, Urbana, IL 61801.

Publications Related to IAS Residence: On a Class of Doubly Transitive Groups II. *Ann Math* 79(1964) 514-589; Finite Groups of Even Order in Which Sylow 2-Groups are Independent. *Ann Math* 80(1964) 58-77; On the Existence of a Hall Normal Subgroup. *J Math Soc Japan* 15(1963) 387-391; Two Characteristic Properties of (ZT)-groups. *Osaka Math J* 15(1963) 143-150; Characterizations of Linear Groups. *Bull AMS* 75(1969) 1043-1091.

Other Publications: On a Class of Doubly Transitive Groups. *Ann Math* 75(1962) 105-145.

Swarzenski, Georg 38-39 HS (H) *

Publications Related to IAS Residence: The Localization of Medieval Verre Eglomisé. *Walters J* 3(1940) 55-68.

Other Publications: Rev of Cott, P. B., *Siculo-Arabic Ivories*. *Art Bul* 22(1940) 104-105.

Swarzenski, Hanns P. 36-48 HS(H)

Born 1903 Germany. PhD 1927 Bonn Univ. *

Publications Related to IAS Residence: *The Berthold Missal, the Pierpont Morgan Library Ms, 710 and the Scriptorium of Weingarten Abbey*. New York:

Members

Pierpont Morgan Library, 1943; *Monuments of Romanesque Art: The Art of the Church Treasures in North Western Europe*. Chicago: Univ of Chicago Press, 1954; Unknown Bible Pictures by W. D. Brailles and Some Notes on Early English Bible Illustration. *Walters J* 1(1938) 55-69; The Xanten Purple Leaf and the Carolingian Renaissance. *Art Bul* 22(1940) 7-24; Recent Literature, Chiefly Periodical, on Medieval Minor Arts. *Art Bul* 24(1942) 287-304; The Anhalt Morgan Gospels. *Art Bul* 31(1949) 77-83; Der Stil der Bibel Carilefs von Durham. In *Form und Inhalt, Kunstgeschichtliche Studien Otto Schmitt zum 60. Geburtstag*, 89-95. Stuttgart: 1951.

Swerdlow, Noel M. 73-74 HS, History of Science

Born 1941 Los Angeles, CA. PhD 1968 Medieval Studies Yale Univ. Assoc Prof, History of Science, Dept of Astronomy and Astrophysics, The University of Chicago, Chicago, IL 60637.

Publications Related to IAS Residence: The Planetary Theory of François Viète. *J Hist Astron* (1973); On Copernicus' Theory of Precession. In *The Copernican Achievement*, ed. by R.S. Westman. U of Calif Press, 1975; The Origin of the Gregorian Civil Calendar. *J Hist Astron* (1974).

Other Publications: The Derivation and First Draft of Copernicus' Planetary Theory; A Translation of the "Commentariolus" with Commentary. *Proc Am Phil Soc* (1973).

Swierczkowski, Stanislaw Slawomir 64-65 M, Differential Geometry

Born 1932 Torun, Poland. PhD Math Pol Acad Sci. 102 Groetstraat, Amsterdam, Holland.

Publications Related to IAS Residence: Cohomology of Local Group Extensions. *Trans AMS* 128(1967)

Other Publications: Small Local Groups. *Indag Math* 37, 4(1975) 356-363.

Swift, Jonathan Dean 54-55 M, Theory of Numbers

Born 1918 Portland, OR. PhD 1947 Cal Tech. Deceased.

Symanzik, Kurt 55f, 59-60 M(NS), Quantum Field Theory

Born 1923 Lyck, Germany. Dr rer nat 1954 Theoretical Physics Univ Göttingen. Memberships: Am Phys Soc. Prof, Elementary Particle Physics, DESY, D-2 Hamburg 52, Germany.

Publications Related to IAS Residence: On the many-particle structure of Green's functions in quantum field theory. *J Math Phys* 1(1960) 249-73.

Other Publications: Euclidean Quantum Field Theory. In *Local Quantum Field Theory*, ed. by R. Jost, 152-226. New York: Academic Press, 1969; Renormalization Problem in Nonrenormalizable Massless ϕ^4 Theory. *Comm Math Phys* 45(1975) 79-98.

Szczarba, Robert H. 64-75, 72s M, Algebraic and Differential Topology

Born 1932 Dearborn, MI. PhD 1960 Math Univ of Chicago. Appointments: Graduate NSF Selection Committee. Memberships: AMS. Prof, Department of Mathematics, Yale University, Box 2155 Yale Station, New Haven, CT 06520.

Publications Related to IAS Residence: With Kyung Whan Kwun. Product & Sum Theorems for Whitehead Torsion. *Ann Math* 82(1965) 183-190; With L. Auslander. Vector Bundles over Tori and Non-compact Solvmanifolds. *Ann Math* 97(1975) 260-281.

Other Publications: With R. Lee. The group $K_3(Z)$ is cyclic of order 48. *Ann Math* 104(1976) 31-60.

Sze, Alexander 76-77 M, Number Theory

Born 1951 Washington, DC. PhD Math Cornell Univ. Postdoc Fellow, Math, MIT, 9 Bay State Rd, Boston, MA 02215.

Szent-Györgyi, Albert 50s M(NS)

Born 1893 Budapest, Hungary. Honors: Nobel Prize for medicine 1937; Lasker Award; Cameron Prize. P.O. Box 187, Woods Hole, MA

Publications Related to IAS Residence: *Chemistry of Muscular Contraction*. Second Edition. New York: Academic Press, 1951.

Szőverffy, Joseph 78-79 HS, Cultural and Literary History

Born 1920 Clausenbourgh, Rumania. Dr phil habil Med Stud U of Fribourg. Honors: Guggenheim Fellow 1961, 1969-70; ACLS Grantee 1960, 1966-1967. Appointments: Exec Bd, Amer Folklore Soc 1959-1963; MLA Res Cttees 1966-74. Memberships: APA; MLA; Dumbarton Oaks Alumni Assoc. Res Prof, Prog Dir, Dumbarton Oaks, Member and Research Associate Harvard Ukrainian Rsch Inst, 1514 Beacon St, Brookline, MA 02146.

Publications Related to IAS Residence: *Annalen der Lateinischen Hymnendichtung I, II*. Die lyrische Dichtung des Mittelalters. Berlin: Erich Schmidt Verlag, 1964, 1965; *A Mirror of Medieval Culture: Saint Peter Hymns of the Middle Ages*. Trans Conn Acad of Arts & Sci, 42, 3. New Haven, Copenhagen: Ed. Munksgaard, 1965; *Weltliche Dichtungen des lateinischen Mittelalters I: Von den Anfängen bis zum Ende der Karolingerzeit*. Die lyrische Dichtung des Mittelalters, 3. Berlin: Erich Schmidt Verlag, 1970; *Iberian Hymnody: Survey and Problems*. Medieval Classics: Texts and Studies, 1. Worcester, Mass: Classical Folia Editions, 1971; *Peter Abelard's Hymnarius Paraclitensis I: Introduction to Peter Abelard's Hymns*. Medieval Classics: Texts and Studies, 2. Albany, NY: 1975; *Peter Abelard's Hymnarius Paraclitensis II: Text and Notes*. Medieval Classics: Texts and Studies, 3. Albany, NY: E. J. Brill, 1975; *Hymns of the Holy Cross: An Annotated Edition with Introduction*. Medieval Classics: Texts and

Studies, 7. Brookline, Mass: E.J. Brill, 1976; The Legends of St. Peter in Medieval Latin Hymns. *Traditio* 10(1954) 275-322; Zur Analyse der Christophorus-Hymnen. *Z deutsche Phil* 74(1955) 1-35; Some Features of Origo Scaccabarozzi's Hymns. *Aevum* 29(1955) 301-343; Der Investiturstreit und die Petrus-Hymnen des Mittelalters. *Deuts Archiv Mittelalters* 13(1957) 228-240; Tuba mirum spargens sonum ... Some Peculiarities of a Holy Cross Hymn. *Aevum* 32(1958) 38-50; Typology and Medieval Latin Hymns: Some Features in the Mary Magdalen, Martha, and Lazarus Hymns. *Medievalia et Humanistica* 12(1958) 41-51; Roma and Anglia: Survival of a Poetic Image. *Notes and Queries* 205, 7(1960) 248-250; Ein Kreislauf von Ideen und Bildern: Randbemerkungen zum mittelalterlichen Drama, zur Hymnendichtung und Ikonographie. *Z roman Phil* 77(1961) 289-298; Das Volksbuch: Geschichte und Problematik. *Deutschunterricht* 14, 2(1962) 5-28; Klassische Anspielungen und antike Elemente in mittelalterlichen Hymnen. *Archiv Kultur* 44(1962) 148-192; Der Irische Liber Hymnorum und die Synaxarien. *Literaturwiss Jahrbuch der Görres-Gesellschaft* 3(1962) 335-343; Ackermann aus Böhmen die Hymnentradition. *Literaturwissenschaftliches Jahrbuch der Görres-Gesellschaft* 5(1964) 327-334; Maximianus a Satirist? *Harvard Stud Class Phil* 72(1968) 351-367; Christian Spirit of Medieval Poetry. *Thought* 44(1969) 581-596; A la source de l'humanisme chrétien médiéval: Romanus et Barbarus chez Venance Fortunat. *Aevum* 45(1971) 77-86; An Echo of the Servius Commentary in a Christmas Song around 1400. *Traditio* 27(1971) 491-494; Ein Schmuckmittel der mittellateinischen Strophe: Regelmässige Zeilenentlehnung in der Hymnendichtung. *Mittellateinisches Jahrbuch* 7(1972) 7-40; Hymnologische Streifzüge. In *Literatur und Sprache im europäischen Mittelalter: Karl Langosch Festschrift*, 12-38. Darmstadt: 1973; Ostmitteleuropäische Streifzüge I.: Mittellateinische Lyrik aus Polen und Schlesien nach neuer polnischer Forschung. *Mittellateinisches Jahrbuch* 12(1977) 97-122.

Other Publications: Szent Kristóf-Der heilige Christophorus und sein Kult. *Forschungen zur deutschen Volkskunde* 10(1943) 205; *Irisches Erzähl gut im Abendland: Studien zur vergleichenden Volkskunde und Mittelalterforschung*. Berlin: Erich Schmidt Verlag, 1957; Volkskundliches in mittelalterlichen Gebetbüchern. In *Proceedings of the Royal Danish Academy*, 37, 3: 36. Copenhagen, 1958; *Germanistische Abhandlungen: Germanic Studies on Medieval Literature and Culture*. Medieval Classics: Texts and Studies, 8. Brookline and Leyden: E. J. Brill, 1977; *Select Guide to Byzantine Hymnography*. Medieval Classics: Texts and Studies, 11. Brookline and Leyden: E. J. Brill, 1978; Köln und Dublin: Hirtenstab-Legende und politischer Rechtsanspruch im 12. Jahrhundert. *Archiv für Kulturgeschichte* 42(1960) 267-279; Eine Triebkraft spätmittelalterlicher Kulturentwicklung: Das Volkstümliche. *Wirkendes Wort* 11 (1961) 140-148;

Die hutterischen Brüder und die Vergangenheit: Vorbemerkungen zur sog ältesten hutterischen Chronik. *Z deuts Phil* 82(1963) 338-362; Zauberflöte und Welttheater: Begegnung von Barock und Aufklärung. *Archiv für Kulturgeschichte* 48(1966) 262-277; Levels of Individual and Group Consciousness in Story-Telling. *Fabula* 12(1971) 8-13; A Hebrew Legend about the Death of Aaron and the Medieval Pilate Traditions. In *Mélanges E.-R. Labande: Études de civilisation médiévale*, 661-666. Poitiers: 1974; Bruch mit der Tradition: Subjektivierende Tendenzen in der Epik des 13. Jahrhunderts. *Colloquia Germanica* (1974) 209-221; Artuswelt und Gralwelt: Shame Culture and Guilt Culture in Parzival. In *Paradosis: Studies in Memory of Edwin A. Quain*, 85-96. New York City: 1976.

Szu, Harold Hwaling 75-76 NS

Born 1941 Chickiang, China. PhD 1971 Rockefeller Univ. Honors: US Govt Incentive Award 1978. Memberships: APS; AOS; Sigma Xi. Research Physicist, Naval Research Lab, 4555 Overlook Ave, Washington, DC 20375.

Publications Related to IAS Residence: A New Functional Equation In The Plasma Inverse Problem. *J Math Phys* 17(1976) 1236; Limitation in Growth Time of Stimulated Compton Scattering. *Appl Phys Lett* 29(1976) 542.

Other Publications: Laser Scattering from Droplets of Superfluid Helium. *Phys Fluids* 21(1978) 1243; Superconductor, Heavy-Ions Isochronous Cyclotron (Design award US Patent). *IEEE N5-24(1977) 1272*.

Taft, Earl Jay 73f, 78f M, Algebra

Born 1931 New York, NY. PhD 1956 Mathematics Yale Univ. Honors: PBK; Sigma Xi. Memberships: AMS; MAA. Prof, Department of Mathematics, Rutgers University, New Brunswick, NJ 08903.

Publications Related to IAS Residence: Reflexivity of algebras and coalgebras. *Amer J of Math* 94(1972) 1111-1130; The order of the antipode of a finite-dimensional Hopf algebra. *Proc of the Nat Acad Sci* 68(1971) 2631-2633; On the splitting of Hopf algebra modules. *J Algebra* 18(1971) 461-467; With B. Peterson. The Hopf algebra of linearly recursive sequences. *Aequationes Mathematicae* in press; With J. A. Green and W. Nichols. Left Hopf algebras. *J Algebra* in press; With C. Hallahan. On primary automorphism groups of finite groups. *Archive der Mathematik* 21(1970) 136-138.

Other Publications: Invariant Wedderburn factors. *Ill J Math* 1(1957) 565-573; Orthogonal conjugacies in associative and Lie algebras. *Trans AMS* 113(1964) 18-29; Cohomology of groups of algebra automorphisms. *J Algebra* 10(1968) 400-410; With Robert L. Wilson. On antipodes in pointed Hopf algebras. *J Algebra* 29(1974) 27-32; With D. Radford and R. L. Wilson. Forms of certain Hopf algebras. *Manuscripta Mathematica* 17(1975) 333-338; Reflexivity of algebras and coalgebras II. *Comm*

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Algebra 14(1977) 1549-1560; Representable Monoids. *Proc AMS* 70(1978) 1-4.

Tagg, Eric Donovan 35-37 M, Algebraic Geometry

Born 1913 Blackburn, England. PhD 1938 Algebraic Geometry Cambridge Univ. Appointments: Past Member of Council of IMA; Chm of British Computer Soc's Schools Cttee, 1967-70; Member of Joint Math Council 1976-present. Memberships: Inst of Math (IMA) Fellow; Member British Computer Soc; Cambridge Philos Soc. Senior Lecturer, Mathematics, Univ of Lancaster, 1 Newmarket Ave, Lancaster, LA1 4N9, England.

Publications Related to IAS Residence: Surfaces which contain an irrational pencil of rational curves. *J London Math Soc* 14(1939) 216.

Taha, Mahgoub O. 67-68 NS, Physics

Born 1937 Sudan. PhD 1967 Cambridge Univ. *

Tai, Yung-Sheng 76-77 M, Algebraic Geometry

Born 1944 China. PhD 1976 Harvard Univ. Dept of Math, Univ of California, Irvine, CA 92717. *

Taiani, Geraldine Anne 77-78, 79-80 M, Several Complex Variables, Partial Differential Equations

Born 1948 . PhD 1974 CUNY. Member, School of Math, Institute for Advanced Study, Princeton, NJ 08540. *

Tableson, Mitchell Herbert 66-67 M, Harmonic Analysis

Born 1929 Oak Park, IL. PhD 1962 Mathematics Univ of Chicago. Memberships: AMS; MAA. Prof, Dept of Mathematics, Washington Univ, St. Louis, MO 63130. **Publications Related to IAS Residence:** Harmonic analysis on finite dimensional vector spaces over local fields, I, II, III. *Math Ann* 176(1968) 191-207; *Math Ann* 186(1970) 1-19; *Math Ann* 187(1970) 259-271.

Other Publications: *Fourier Analysis on Local Fields*. Math Notes, 15. Princeton: Princeton Univ Press, 1975.

Tait, William Walker, III 61 -62 M, Logic and Foundations of Mathematics

Born 1929 Freeport, NY. PhD 1959 Yale Univ. Dept of Philos, U of Ill at Chicago Circle, Box 4348, Chicago, IL 60680. *

Takahashi, Moto-o 72-73 M, Logic

Born 1941 Yokohama Kanagawa-Ken, Japan. DSc 1971 Rikkyo Univ. Honors: Iyanaga Prize Math Soc of Japan 1975. Assoc Prof, Mathematics, Tsukuba Univ, 1-25-25 Teraya Tsurumi-Ku, Yokohama 230, Japan.

Publications Related to IAS Residence: A Foundation of Finite Mathematics. *Pub of RIMS*,

Kyoto Univ 12, 3(1977) 577-708; An Abstract Form of Gödel's Theorem on Consistency and Löb's. *Sci Reports of Tokyo Kyoiku Daigaku* 13(1977) 81-85. **Other Publications:** A Proof of Cut-Elimination Theorem in Simple Type Theory. *J Math Soc of Japan* 19, 4(1967) 399-410.

Takeuchi, Masaru 66-67 M, Geometry

Born 1932 Tokyo, Japan. PhD 1965 Mathematics Univ of Tokyo. Memberships: Math Soc of Japan; AMS. Prof, Department of Mathematics, Osaka University, College of General Education, Toyonaka, Osaka, 560, Japan.

Publications Related to IAS Residence: On orbits in a compact hermitian symmetric space. *Am J Math* 90(1968) 657-680; Homogeneous Siegel domains. *Pub Study Group of Geometry* 7(1973).

Other Publications: Cell decompositions and Morse inequalities on certain symmetric spaces. *Proc Fac Sci Univ Tokyo* 12(1965) 81-192; With H. Ozeki. On some types of isoparametric hypersurfaces in spheres I, II. *Tôhoku Math J* 27(1975) 515-559; 28(1976) 7-55.

Takeuchi, Mitsuhiro 79-80 M, Algebra

Born 1947 Ueda Nagano, Japan. PhD 1975 Math Univ of Tokyo. Memberships: Math Soc of Japan; AMS. Lecturer, Dept of Math, University of Tsukuba, Sakaramura, Ibaraki 305, Japan.

Publications Related to IAS Residence: Relative Hopf modules-Equivalences and freeness criteria. *J Algebra* (in press).

Other Publications: Tangent coalgebras and hyperalgebras I. *Japan J Math* 42(1974) 1-143; On coverings and hyperalgebras of affine algebraic groups. *Trans AMS* 211(1975) 249-275.

Takeuti, Gaisi 59f, 66-68, 71-72 M, Logic

Born 1926 Kizu, Ishikawa, Japan. PhD 1956 Univ of Tokyo. Memberships: AMS; Japan Math Soc; Assoc for Symbolic Logic. Prof, Department of Mathematics, University of Illinois, Urbana, IL 61801.

Publications: *Proof Theory*. Amsterdam: North Holland Pub Co, 1975; With W.M. Zaring. *Axiomatic Set Theory*. NY: Springer, 1973.

Talbert, Richard John Alexander 78-79 HS, Ancient History

Born 1947 Purley, Surrey, England. DPhil(Cantab.) 1972 Ancient History. Lect, Dept of Ancient History, Queen's University, Belfast 7, Northern Ireland.

Publications: *Timoleon and the revival of Greek Sicily, 344-317 BC*. New York: Cambridge Univ Press, 1974.

Talbott, John Edwin 75-76 HS, Modern European History

Born 1940 Grinnell, IA. PhD 1966 Stanford Univ. Appointments: Bd on Human Resources NAS/NRC

1971-73. Memberships: Soc for French Hist Studies. Assoc Prof, History, Univ of Cal, Santa Barbara, 810 Hope Ave, Santa Barbara, CA 93110.

Publications Related to IAS Residence: *The War Without a Name: France in Algeria, 1954-1962*. NY: Knopf, 1979.

Other Publications: *The Politics of Educational Reform in France 1918-1940*. Princeton: Princeton Univ Press, 1969.

Tall, David Orme 71s M, (Topology) Mathematics Education

Born 1941 Wellingborough Northants, England. DPhil (Oxon.). Memberships: London Math Soc; Assoc of Teachers in Math; Intl Group for the Psychol of Math Ed. Lect, Mathematics Institute, University of Warwick, Coventry CV4 7AL, Warwickshire, England.

Publications: With M.F. Atiyah. Group representations, λ -rings and the J-homomorphism. *Topology* 8(1969) 253-297; With G. C. Wraith. Representable Functors and Operations on Rings. *Proc London Math Soc* 3 20(1970) 619-643; A Long Term Learning Schema for Calculus & Analysis. *Math Ed for Teaching* 2, 2(1975) 3-16; Conflicts and Catastrophes in the Learning of Mathematics. *Math Ed for Teaching* 2, 4(1977) 3-18; Five Little Pieces by Frederick Delius. *Delius Soc J* 56(1977) 6-10 & 15-17; *Functions of a Complex Variable*. Boston: Routledge & Kegan Paul, 1977; With I. N. Stewart. *Foundations of Mathematics*. New York: Oxford Univ Press, 1977; With R. L. E. Schwarzenberger. Conflict in the Learning of Real Numbers and Limits. *Math Teaching* 82(1978) 44-49; The Dynamics of Understanding Mathematics. *Math Teaching* 83(1978); The Fenby Legacy. *Delius Soc J* 61(1978) 5-20; Mathematical Thinking & the Brain. *Osnabrücker Schriften Zur Mathematik* (1978) 333-343; Percy Grainger & Scotland. *Grainger Soc J* 1,2(1978) 24-32; With I. N. Stewart. *Algebraic Number Theory*. Chapman & Hall, 1979; Calculations & Canonical Elements. *Math in Schools* (in press).

Talmon, Jacob Laib 67-68 HS, Intellectual History

Born 1916 Rypin, Poland. Doctorate 1943 History London School of Economics. Honors: State of Israel Prize Soc Sci. Appointments: Directory Bd Inst for Adv Study, Jerusalem. Deceased.

Publications Related to IAS Residence: *The Myth of the Nation and the Vision of Revolution: Origins of Ideological Polarization in the 20th Century*. London: Secker & Warburg, 1979; *Israel Among the Nations*. London: Weidenfeld & Nicolson, 1970.

Other Publications: *The Origins of Totalitarian Democracy*. London: 1952; Political Messianism-The Romantic Phase. London: 1960; *Romanticism and Revolt 1815-1848*. London: 1965.

Tamagawa, Tsuneo 55-56, 56f, 58s, 70s M, Number Theory

Born 1925 Japan. Rigaku-Hakushi 1954 Tokyo U. Dept of Math, Yale Univ, Box 2155, Yale Station, New Haven, CT 06520. *

Tamari, Dov 60-61, 67-68 M, Algebra, Logic

Born 1911 Fulda, Germany. DèsSc 1951 Math U de Paris (Sorbonne). Memberships: Assoc Symb Logic; Soc Math France; MAA; AMS. Prof, Dept of Math, SUNY, Diefendorf Hall, Buffalo, NY 14214.

Publications Related to IAS Residence: The Associativity Problem for Monoids and the Word Problem for Semigroups and Groups. In *Word Problems*, 591-607. Amsterdam: North-Holland, 1973; Representation of Multiplicative Systems by Families of Binary Relations. *J London Math Soc* 37(1962) 410-423.

Other Publications: Monoïdes Préordonnés et Chaînes de Malcev. *Bull Soc Math France* 82(1954) 53-96; On the Embedding of Birkhoff-Witt Rings in Quotient Fields. *Proc Amer Math Soc* 4(1953) 197-202; Sur l'Immersion d'un Semi-Groupe Topologique dans un Groupe Topologique in *Algèbre et Théorie des Nombres*. Colloques Internat: 217-222. Paris: CNRS, 1949.

Tanaka, Shunich 67-69 M, Analysis

Born 1938 Tokushima, Japan. DSc 1967 Osaka Univ. Asst Prof, Department of Mathematics, Osaka University, Toyonaka, Osaka, Japan.

Publications Related to IAS Residence: With J.A. Shalika. On an explicit construction of a certain class of automorphic forms. *Am J Math* 111(1969) 1049-1076.

Tange, Toshio 80s NS

Born 1947 Japan. PhD 1974 Univ of Tokyo. 5-16-5-203 Rakurakuen, Itsukaichi-Cho Saeki Gun Hiroshima, Japan. *

Tanikawa, Yasutaka 56-58 M(NS), Quantum Field Theory

Born 1916 Japan. PhD 1948 Kyoto Univ. *

Tannaka, Tadao 55-57 M, Algebra, Number Theory

Matsuyama City, Japan. Dr 1941 Math Tohoku Univ. Memberships: Japan Math Soc. Prof, Mathematics, and Honorable Prof Tohoku Univ, 2-4-56, Nishiki-cho, Sendai, Japan.

Tannenbaum, Frank 47s HS(EP)

Born 1893 Austria. PhD 1927 Brookings Inst. Deceased.

Publications Related to IAS Residence: *Mexico, the Struggle for Peace and Bread*. New York: Knopf, 1950; *A Philosophy of Labor*. New York: Knopf, 1951; The Social Function of Trade Unionism. *Pol Sci O* 62(1947) 161-194.

Members

Tarán, Leonardo 66-67, 78-79 HS, Ancient Philosophy, Classics

Born 1933 Galarza-Entre Ríos, Argentina. PhD 1962 Classics Princeton Univ. Honors: Jr Fellow Inst Res in the Humanities, Univ of Wis 1962-63; Center for Hellenic Studies 1963-64; Fellow ACLS 1966-67; 1971-72; Guggenheim Fellow 1975. Appointments: Managing Comm Amer School of Class Studies Athens, 1976-. Memberships: Amer Philol Assoc; Soc for Ancient Greek Philos. Prof, Greek and Latin, Columbia University, 615 Hamilton Hall, New York, NY 10027.

Publications Related to IAS Residence: *Academica: Plato, Philip of Opus, and the Pseudo-Platonic Epinomis*. Memoirs Amer Philos Soc, 107. Philadelphia: Am Philos Soc, 1975.

Other Publications: *Parmenides. A Text with Translation, Commentary, and Critical Essays*. Princeton: Princeton Univ Press, 1965; Ed, *Asclepius of Tralles. Commentary to Nicomachus' Introduction to Arithmetic*. Trans Am Philos Soc, 59, 4. Philadelphia: 1969; *Anonymous Commentary on Aristotle's "De Interpretatione"*. Beiträge Klass Philol, 95. Meisenheim Am Glan: 1978; With co-author. *Eraclito. Testimonianze e imitazioni*. Firenze: La Nuova Italia Editrice, 1972.

Tarski, Alfred 42s M

Born 1901 Warsaw, Poland. Docent 1925 Warsaw Univ. *

Publications Related to IAS Residence: With P. Erdős. On Families of Mutually Exclusive Sets. *Ann Math* (2) 44(1943) 315-329.

Tarski, Jan 60-62 M(NS), Mathematical Physics

Born 1934 Warsaw, Poland. PhD 1960 Physics Univ of Calif, Berkeley. Honors: Humboldt Foundation Awd 1972. Memberships: Amer Phys Soc. Scientific Staff Member, Inst für Theoretische Physik, Technische Universität Clausthal, 3392 Clausthal-Zellerfeld, Fed Rep of Germany.

Publications Related to IAS Residence: With D.R. Speiser. Possible schemes for global symmetry. *J Math Phys* 4(1963) 588-612; With L.F. Cook, Jr. Some properties of the five-point function in perturbation theory. *J Math Phys* 3(1962) 1-30; With R. F. Peierls. Overlapping final-state interactions. *Phys Rev* 129(1963) 981-990; With R. Blankenbecler. Isoscalar nucleon structure. *Phys Rev* 125(1962) 782-790; With L.F. Cook, Jr. Investigation of the five-point function. *Phys Rev Lett* 5(1960) 585-588.

Tartakoff, David S. 75-77 M, Partial Differential Equations

Born 1942 Boston, MA. PhD 1969 Mathematics U Calif, Berkeley. Memberships: AMS. Assoc Prof, Dept of Mathematics, University of Illinois at Chicago Circle, P.O. Box 4348, Chicago, IL 60680.

Publications Related to IAS Residence: On the local Gevrey & Quasi-analytic hypoellipticity of \square_b . *Comm in Partial Diff Eq*, II 7(1977) 699-712; With M. Derridj. Régularité analytique globale des solutions du problème de Neumann pour l'opérateur ∂ . In *Seminaire Goulaouic-Schwartz*, 25 Nov 1975. Remarks on the intersection of certain non-quasi-analytic classes and quasi-analytic hypoellipticity of \square_b . In *Proc of conference in Park City, Utah, January, 1977*. Local analytic hypoellipticity of \square_b on nondegenerate Cauchy-Rie-mann manifolds. *Proc NAS* 75, no 7(1978) 3027-8.

Tate, John T. 59f M, Number Theory

Born 1925 Minneapolis, MN. PhD 1950 Princeton Univ. Prof, Math Dept, Harvard Univ, Cambridge, MA 02138. *

Taub, Abraham Haskel 35-36, 40-41, 47-48, 62-63 M, Applied Mathematics, Relativity & Computer Science

Born 1911 Chicago, IL. PhD Mathematical Physics Princeton Univ. Honors: Guggenheim Fellow 1947-48 & 1958; AAAS; President's Certificate of Merit 1946; Medal City of Lille, France 1969; Berkeley Citation U of Calif 1978. Appointments: Member of Advisory Panel, Nat Bureau Standards 1951-60; Past Consultant to Brookhaven, Argonne, Los Alamos and Lawrence Livermore Labs; Vice-pres Sect A AAAS 1968-69. Memberships: Am Phys Soc; AMS (past councillor & trustee); SIAM (past trustee). Prof, Mathematics Dept, University of California, Berkeley, CA 94720.

Publications Related to IAS Residence: Editor, *Collected Works of John von Neumann*. Oxford: Pergamon Press, 1961, 1962, 1963; Tensor Equations Equivalent to the Dirac Equation. *Ann of Math* 40(1939) 937-947; Spinors Equations for the Meson and Their Solution When No Field Is Present. *Phys Rev* 56(1939) 799-908; Solution of Equations for Particles of Spin Zero or One When No Field Is Present. *Phys Rev* 57(1940) 807-814; Spin Representation of Inversions. *Bull AMS* (1938) 860-865; The Acceleration of the Dirac Electron, Six Studies in Mathematics. *U of Wash Pubs in Math* 2, 3(1940) 41-44; Interaction of Progressive Refraction Waves. *Ann of Math* 47 (1946) 811-828; Refraction of Plane Shock Waves. *Phys Rev* 72(1947) 51-60; On Hamilton's Principle for Perfect Compressible Fluids. In *Nonlinear Problems in Mechanics of Continua*, *Proc Symp Brown U 1947*, ed. by E. Reissner, W. Prager, & J.J. Stoker, Proc Symp Appl Math 1: 148-157. Providence, RI: AMS, 1949; Characterization of Conformally Flat Spaces. *Bull AMS* 55(1949) 85-89; Relativistic Rankine-Hugoniot Equations. *Phys Rev* 74(1948) 328-334; With W. Bleakney. Interaction of Shock waves. *Rev Mod Phys* 21(1949) 584-605; Motion of Test Bodies in General Relativity. *J Math Phys* 5, 1(1964) 112-119; The Motion of Multipoles in General Relativity. In *Atti del Convegno Sulla Relatività Generale: Problemi dell'Energia e Onde*

Gravitazionale, Florence 1964, 100-118. Firenze: Barbéra, 1965; Equations of Motion of Test Particles. In *Proc Intl Conf on General Relativity and Gravitation, London 1965*; With C. H. Fletcher & W. Bleakney. The Mach Reflection of Shock Waves at Nearly Glancing Incidence. *Rev Mod Phys* 23(1951) 271-286; Variational Principles in General Relativity. In *Relativistic Fluid Dynamics, Centro Internazionale Matematico Estivo, Bressanone, 1970*, ed. by C. Cattaneo, 205-300. Roma: Edizioni Cremonese, 1971.

Other Publications: Approximate Stress Energy Tensor for Gravitational Fields. *J Math Phys* 2, 6(1961) 787-793; Empty Space-Times Admitting a Three Parameter Group of Motions. *Ann of Math* 53(1951) 472-490; A General Relativistic Variational Principle for Perfect Fluids. *Phys Rev* 94(1954) 1468-1470; Isentropic Hydrodynamics in Plane Symmetric Space Time. *Phys Rev* 103(1956) 454-467; Approximate Solutions of the Einstein Equations for Isentropic Motions of Plane-Symmetric Distributions of Perfect Fluids. *Phys Rev* 107, 3(1957) 884-900; Singular Hypersurfaces in General Relativity. *Ill J Math* 1, 3(1957) 370-388; Stability of General Relativistic Gaseous Masses and Variational Principles. *Comm Math Phys* 15(1969) 235-254; Spherically Symmetric Similarity Solutions of the Einstein Field Equations for a Perfect Fluid. *Comm Math Phys* 21 (1971) 1-40; General Relativistic Shock Waves in Fluids for which Pressure Equals Energy Density. *Comm Math Phys* 29(1973) 79-88; With M. A. H. MacCallum. The Averaged Lagrangian and High-Frequency Gravitational Wave. *Comm Math Phys* 30(1973) 153-169; Relativistic Fluid Mechanics. *Ann Rev of Fluid Mechanics* 10(1978); Curvature Invariants, Characteristic Classes, and the Petrov Classification of Space-times. In *Differential Geometry and Relativity*, ed. by M. Cahen & M. Flato, *Math Phys & Appl Math* 3: 277-289. Dordrecht: D. Reidel Co, 1976.

Tausky-Todd, Olga 48s M, Electronic Computer Project

Born 1906 Czechoslovakia. DPhil 1930 Univ of Vienna. Honors: Ford Prize MAA 1971; Cross of Honor, 1st Class, for Sci and Arts Austrian Govt 1978; Austrian Acad of Sci 1975; Fulbright Prof Vienna 1965. Appointments: Council London Math Soc, Comm on Tables NAS; Council AMS. Memberships: MAA; AMS, London Math Soc; AAUW; Sigma Xi. Prof, Dept of Math, Cal Tech, 253-37, Pasadena, CA 91125.

Publications Related to IAS Residence: Bounds for Characteristic Roots of Matrices. *Duke Math J* 15(1948) 1043-1044; A Recurring Theorem on Determinants. *Amer Math Monthly* 56(1948) 672-676; On a Theorem of Latimer and MacDuffee. *Canadian J Math* 1(1949) 300-302; A Remark Concerning the Characteristic Roots of the Finite Segments of the Hilbert Matrix. *Quart J Math Oxford Ser* 20(1949) 80-83.

Taylor, B. A. 74-75 M, Analysis

Born 1939 Plainville, KS. PhD Mathematics Univ of Illinois. Memberships: AMS. Prof, Department of Mathematics, University of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: With E. Bedford. The Dirichlet problem for the complex Monge-Ampère equation. *Inv Math* 37(1976) 1-44; With Albert Baernstein II. Spherical Rearrangements, subharmonic functions, and $*$ -functions in n -space. *Duke Math J* 43(1976) 245-268.

Other Publications: With E. Bedford. Variational Properties of the Complex Monge-Ampère equation I. *Duke Math J* 45(1978) 375-403; With J.J. Kelleher. Finitely generated ideals in rings of analytic functions. *Math Ann* 193(1971) 225-237.

Taylor, James Henry 40s M

Born 1893 . PhD 1924 Univ of Chicago. Deceased.

Taylor, Jean E. 74-75, 77-78 M, Geometric Measure Theory

Born 1944 San Mateo, CA. PhD 1973 Mathematics Princeton Univ. Honors: Sloan Fellow 1976-78. Appointments: NAS-NRC Cttee App Math Training; AMS Nominating Cttee. Memberships: AMS; MAA; AWM. Assoc Prof, Mathematics, Rutgers Univ. 83 Riverside Dr, Princeton, NJ 08540.

Publications Related to IAS Residence: The structure of singularities in area-related variational problems with constraints. *Bull AMS* 81 (1975) 1093-1095; The structure of singularities in soap-bubble-like and soap-film-like minimal surfaces. *Ann Math* 103(1976) 489-539; The structure of singularities in solutions to ellipsoidal variational problems with constraints in \mathbb{R}^3 . *Ann Math* 103(1976) 541-546; With F. J. Almgren, Jr. The Geometry of Soap Films and Soap Bubbles. *Scientific Amer* (July 1976) 82-93; Boundary regularity for solutions to various capillarity and free boundary problems. *Comm Part Diff Equat* 2, 4(1977) 323-357; Crystalline Variational Problems. *Bull Amer Math Soc* 84(1978) 568-588; The Structure of Surfaces Minimizing Crystalline Integrals. In *Proceedings of US-Japan Seminar on Minimal Surfaces*, in press; Descriptive Geometry in the Calculus of Variations. In *Engineering Design Graphics Journal*, ed. by F. J. Almgren, Jr., Internat Conf on Descriptive Geometry, Vancouver, June 1978. in press.

Other Publications: Regularity of the singular set of two dimensional area minimizing flat chains modulo 3 in \mathbb{R}^3 . *Invent Math* 22(1973) 119-159; Existence and structure of solutions to a class of nonelliptic variational problems. *Symp Math* 14(1974) 499-508; Unique structure of solutions to a class of nonelliptic variational problems. *Proc Symp P Math* 27 (1974) 481-489.

Taylor, John Bryan 69s, 73f NS, Plasma Physics

Members

Born 1928 Birmingham, England. PhD 1955 Mathematical Physics Univ of Birmingham. Honors: FRS 1970; Maxwell Medal Inst of Physics 1971; Max Born Prize German Phys Soc 1979. Memberships: Fellow, Inst of Physics; APS. Chief Physicist, Culham Laboratory, Abingdon, Oxon, England.

Publications Related to IAS Residence: With M.N. Rosenbluth. Plasma Diffusion and Stability in Toroidal Systems. *Phys Rev Lett* 23(1969) 367.

Other Publications: Rotating Fluid and Earth's Dynamo Problem. *Proc Roy Soc A* 274: 274; Some Stable Plasma Equilibria in Combined Mirror-Cusp Fields. *Phys Fluids* 6(1963) 1529; With R.J. Hastie. Maximum Plasma Pressure for Stability in Magnetic Fields with Finite Minima. *Phys Fluids* 8(1965) 323; With K.V. Roberts. Gravitational Resistive Instability of an Incompressible Plasma Model with Sheared Magnetic Field. *Phys Fluids* 8(1965) 315; With R.J. Hastie & F.A. Haas. Adiabatic Invariants and Equilibrium of Magnetically Trapped Particles. *Ann Phys* 41(1967) 302; With R.J. Hastie. Stability Theory of General Plasma Equilibria. *Plasma Phys* 10(1968) 479; With E.W. Laing & D.A. Dunnett. Invariants in the Motion of a Charged Particle in a Spatially Modulated Magnetic Field. *J Maths Phys* 9(1968) 1819; With R.J. Bickerton & J.W. Connor. Diffusion Driven Plasma Currents and Bootstrap Tokamak. *Nature* 229, 4(1971) 110; With B. McNamara. Plasma Diffusion in Two Dimensions. *Phys of Fluids* 14, 7(1971) 1492; With S.F. Edwards. Negative Temperature States of Two Dimensional Plasmas and Vortex Fluids. *Proc Roy Soc A* 336(1974) 257; Relaxation of Toroidal Plasma and Generation of Reverse Fields. *Phys Rev Lett* 33(1974) 1139; Does Magnetic Shear Stabilize Drift Waves? In *6th Inter Conf Plasma Physics and Controlled Nuclear Fusion*, 2: 323. 1976; With J.W. Connor & R.J. Hastie. Shear, Periodicity, and Plasma Ballooning Modes. *Phys Rev Lett* 40(1978) 396; With J.W. Connor & R.J. Hastie. High mode number stability of an axisymmetric toroidal plasma. *Proc Roy Soc Lond A* 365(1979) 1.

Taylor, John Gerald 56-58, 61-63 M(NS), Theoretical Physics

Born 1931 London, England. PhD 1956 Mathematics Cambridge Univ. Honors: Mayhew Prize Cambridge Univ 1959. Memberships: Cambridge Philos Soc; British Inst of Phys. Prof, Dept of Maths, Kings College, The Strand, London WC2R2LS, England.

Publications Related to IAS Residence: With H.J. Bremermann & R. Oehme. Proof of Dispersion Relations in Quantized Field Theories. *Phys Rev* 109(1958) 2178; On the Field Equations. *Nuovo Cimento Suppl* 1(1963) 857-1036.

Other Publications: *Black Holes: The End of the Universe?*. London: Souvenir Press, 1973; *The Shape of Minds to Come*. NY: Weybright and Talley, 1971; *The New Physics*. New York: Basic Books, 1974; *Superminds*. NY: Macmillan, 1976; Can Electromagnetism account for ESP?. *Native* 276(1978) 64.

Taylor, Lily Ross 59-60 HS, Roman Republican Politics

Born 1886 Auburn, AL. PhD 1912 Bryn Mawr Coll. Deceased.

Tedesco, Paul Maximilian 38-44 HS(H)

Born 1898 Vienna, Austria. DPhil 1920 Univ of Vienna. Memberships: Am Oriental Soc; Ling Soc of Amer. Prof Emer, Sanskrit and Comparative Philology, Yale Univ, 57 Marvel Rd, New Haven, CT 06515.

Publications Related to IAS Residence: Sanskrit *milati* "to unite". *Language* 19(1943) 1-18; The Supposed Rigvedic present *márate*. *Language* 20(1944) 212-22.

Other Publications: Dialectologie der weztiranischen Turfantexte. *Le monde oriental* 15(1924) 184-258; Ostriranische Nominalflexion. *Z für Indologie & Iranistik* 4(1925) 94-166.

Teitelboim, Claudio 77-80 NS, Theoretical Physics

Born 1947 Santiago, Chile. PhD 1973 Princeton Univ. Honors: Sloan Fellow 1977. Appointments: Adv Comm on Relativity & Gravitation, ICTD Trieste 1977. Asst Prof, Physics, Princeton Univ, Member with Long-Term Appointment, School of Natural Sciences, Inst for Adv Study, Princeton, NJ 08540.

Publications: Splitting of the Maxwell Tensor: Radiation Reaction without Advanced Field. *Phys Rev D* 1(1970) 1572; Splitting of the Maxwell Tensor, II Sources. *Phys Rev D* 3(1971) 297; Radiation Reaction as a Retarded Self-Interaction. *Phys Rev D* 4(1971) 345; With C. A. Lopez. Remarks on the Classical Electron. *Lett N Cim* 2(1971) 225; Non Measurability of the Baryon Number of a Black Hole. *Lett N Cim* 3(1972) 326; Non Measurability of the Lepton Number of a Black Hole. *Lett N Cim* 3(1972) 397; Non Measurability of the Quantum Numbers of a Black Hole. *Phys Rev D* 5(1972) 2941; With V. Moncrief. Momentum Constraints as Integrability Conditions for the Hamiltonian Constraints in General Relativity. *Phys Rev D* 6(1972) 966; How Commutators of Constraints Reflect the Spacetime Structure. *Ann Phys NY* 79(1973) 542; With S. J. Hojman and K. Kuchar. New Approach to General Relativity. *Nature Phys Sci* 245(1973) 97; Hamiltonian Gravitation: Are Constraints Redundant?. *Phys Rev D* 8(1973) 3266; With S. Hojman and K. Kuchar. Geometrodynamics Regained. *Ann Phys* 96(1976) 88; With T. Regge. Improved Hamiltonian for General Relativity. *Phys Lett* 53B(1974) 101; With T. Regge. Role of Surface Integrals in the Hamiltonian Formulation of General Relativity. *Ann Phys NY* 88(1974) 286; Many-Time Hamiltonian Gravitation Theory. *Phys Lett* 56B(1975) 4; With P. Cordero, F. Lund and J. Swierzbinski. Many-Time Hamiltonian Gravitation Theory, II. Models. *Bull Am Phys Soc* 20(1975) 543; With A. J. Hanson and T. Regge. *Constrained Hamiltonian Systems*. Rome: Accad Naz Lincei, 1976; With P. Cordero. Hamiltonian Treatment of the Spherically

Symmetric Einstein-Yang-Mills System. *Ann Phys NY*100(1976) 607; With S. Deser. Duality Transformations of Abelian and Non Abelian Gauge Fields. *Phys Rev D*13(1976) 1592; With R. Benguria and P. Cordero. Aspects of the Hamiltonian Dynamics of Interacting Gravitational Gauge and Higgs Fields with Applications to Spherical Symmetry. *Nucl Phys B*122(1977) 61; Supergravity and Square Roots of Constraints. *Phys Rev Lett* 38(1977) 1106; With J. E. Nelson. Hamiltonian for the Einstein-Dirac Field. *Phys Lett* 69B(1977) 81; Surface Integrals as Symmetry Generators in Supergravity Theory. *Phys Rev Lett* 69B(1977) 240; With R. Tabensky. The Square Root of General Relativity. *Phys Lett* 69B(1977) 453; With S. Deser. Supergravity Has Positive Energy. *Phys Rev Lett* 39(1977) 249; With J. E. Nelson. Hamiltonian Formulation of the Theory of Interacting Gravitational and Electron Fields. *Ann Phys NY* (in press); The Hamiltonian Structure of Spacetime, 1978. In *Einstein centennial commemorative volume of the Intl Comm on General Relativity and Gravitation*. New York: Plenum Press, 1979; With P. Cordero. Remarks on Supersymmetric Black Holes. *Phys Lett* 78B(1978) 80; Spin, Supersymmetry, and Square Roots of Constraints. In Proc of "Current Trends in the Theory of Fields, " Conf on the 50th anniv of the Dirac Equation, April 1978, ed. by J. E. Lannutti and P. K. Williams, AIP Conference Proceedings #48, Particles and Fields # 15: 134-139. New York: 1978; Surface Deformations, Their Square Root and the Signature of Spacetime. In Proc of 1978 Integrative Conf on Group Theory and Math Physics, Lecture Notes in Physics. Berlin: Springer; With D. Villarroel and C. G. van Weert. Classical Electrodynamics of Retarded Fields and Point Particles. *Riv del N Cim* (in press); The Semiclassical Approximation for Fermions: a Progress Report. In Proc of First Chilean Symp of Theoret Phys, Santiago, Chile, December 1978. in press; Einstein: el Legado del Genio. *Rev Hoy* 95(March 21, 1979) 50-53; Futuro de la Ciencia Básica en Chile: Algunas Cuestiones Urgentes. *Rev Análisis* (April-May 1979); Espacio-Tiempo. *Rev Mensaje*(May 1979); Respuesta a un Cuestionario de Araucaria. *Araucaria de Chile* 5(April 1979) 165-69; Prisiones Terribles, pero Fugaces. *Rev Hoy*47(April 19, 1978) 42-43; Medio Siglo de una Raíz Cuadrada. *Rev Hoy* 53(May 31, 1978) 68; Taller Seis Seis Seis. *Rev Hoy* (1978); El Ministro Había Comprendido. *Rev Hoy* 94(1979).

Temesvary, Stefan 64-65 M(NS), Astrophysics Born 1915 Germany. PhD 1941 Univ of Heidelberg. *

Temple, George Frederick James 59f M

Born 1901 London, England. DSc 1930 London Univ. Honors: CBE 1955; FRS 1943; Hon DSc Dublin 1961; Hon DSc Louvain 1966; Hon LLD W Ontario 1969. Appointments: Aeronaut Res Council. Memberships: London Math Soc; Fellow Phys Soc. 341 Woodstock Rd, Oxford, England.

Publications Related to IAS Residence: A property of simply transitive groups. *Quart J Math Oxford* 2 12(1961) 161-4.

Tennenbaum, Stanley 67s M, Logic

Born 1927 Cincinnati, OH. PhD 1946 Univ of Chicago.*

Tepper, David E. 71-73 M, Analysis

Born 1942 Philadelphia, PA. PhD 1969 Temple Univ. Memberships: AMS; MAA. Asst Prof, Dept of Mathematics, Baruch College, CUNY. 17 Lexington Ave Box 320, New York, NY 10010.

Publications Related to IAS Residence: A Theorem in conformal mapping. *Archive for Rational Mechanics and Analysis* 52, 3(1973) 193-198; Free boundary problem. *Siam J Math Anal* 5, 5(1974) 841-846; On a free boundary problem, the Starlike case. *Siam J Math Anal* 6, 3(1975) 503-505.

Other Publications: With G. Wildenberg. Some infinite free boundary problems. *Trans AMS* (in press).

Terng, Chuu-Lian 79f M, Differential Geometry

Born 1949 Taiwan. PhD 1976 Brandeis Univ. Asst Prof, Fine Hall, Princeton University, Princeton, NJ 08540. *

Terrill, Harold Morlock 36f M(NS) Born 1890 . PhD 1924 Columbia Univ. *

Teutsch, Werner Bernhard 55-56 M(NS), Theoretical Physics

Born 1928 Germany. PhD 1954 Univ of Penn. Deceased.

Thackray, Arnold 80s HS, History of Science

Born 1939 England. PhD 1966 Cambridge Univ. Prof, Univ of Penn. 2 Chestnut Lane, Wayne, PA 19087. *

Thayer, H. Standish 74-75 HS, American Philosophy

Born 1923 New York, NY. PhD 1949 Philosophy Columbia Univ. Honors: W. T. Bush Fellow in Philos Columbia Univ 1947, 1948; Guggenheim Fellowship 1970; NEH Sr Fellow 1974-75. Appointments: Adv Cttee for Edition of Works of William James, ACLS; Exec Cttee Conf on Methods in Sci & Philos; Exec Cttee Soc for Advancement of Amer Philos. Memberships: Amer Philos Assoc; Assoc for Symbolic Logic; Soc for Adv of Amer Philos. Prof, Philosophy, City Univ of NY, Oak Tree Rd, Palisades, NY 10964.

Publications Related to IAS Residence: Introduction to The Meaning of Truth. In *The Works of William James*. Cambridge, Mass: Harvard Univ Press, 1975; Reply to Criticisms. In *Perspectives on the History of Pragmatism: A Symposium on H. S. Thayer's "Meaning and Action: A Critical History of*

Members

Pragmatism", Trans of the Charles S. Peirce Soc, II: 258-287. 1975.

Other Publications: *The Logic of Pragmatism*. New York: Humanities Press, 1952; *Meaning and Action: A Critical History of Pragmatism*. New York: Bobbs-Merrill, 1968; Pragmatism. In *Encyclopaedia Britannica*. 1974.

Theilheimer, Feodor 46s M

Born 1909 Gunzenhausen, Germany. PhD 1936 Math Univ of Berlin. Memberships: AMS; MAA; SIAM; Assoc for Comp Mach. P-t Instr Math Univ of MD. 2608 Spencer Rd, Chevy Chase, MD 20015.

Thirring, Walter Eduard 53-54 M(NS), Theoretical Physics

Born 1927 Vienna, Austria. DrPhil 1949 U of Vienna. Honors: Max Planck Medal. Appointments: Austrian Member CERN RAT. Memberships: Austrian Acad of Sci; German Acad Leopoldina. Prof, Inst of Theor Physics, Univ of Vienna, A-1090 Vienna, Austria.

Publications Related to IAS Residence: *Vorlesungen über Mathematische Physik*. 1-4. Springer, 1977-81.

Thistlethwaite, Frank 54f HS, American History

Born 1915 Burnley, Lancashire, England. MA Cambridge Univ. Honors: LHD Univ of Colorado 1972; Fellow St Johns Coll 1974. Appointments: US/UK Educational Commission-1964; Awd Cttee Harkness Fellowships-1974; Board, British Council-1971; Chm Cttee of Management, US Studies Inst, Univ of London. Vice Chancellor, Univ of East Anglia, Chm Inter Univ Council for Higher Education Overseas, Univ of East Anglia, Norwich, Norfolk NR4 7TJ, England.

Publications Related to IAS Residence: *The Great Experiment: An Introduction to the History of the American People*. NY: Cambridge U Press, 1955; *The Anglo-American Connection in the Early 19th Century*. Philadelphia: U of Penn Press, 1958.

Other Publications: The Migration from Europe Overseas in the 19th & 20th Centuries. In *Rapports*, 32-60. Stockholm: Congress of Historical Sciences, 1960.

Thom, René F. 56-57, 61f M, Topology

Born 1923 France. PhD 1951 Univ of Paris. Honors: Fields Medal 1958. Prof, IHES, Bures-sur-Yvette, France. *

Thomas, Charles Benedict 74f M, Algebraic and Geometric Topology

Born 1938 Maidstone, England. PhD 1967 Math Cambridge Univ. Memberships: AMS; London Math Soc. Lecturer, Dept of Mathematics, University College, Gower St, London WC1E 6BT, England.

Publications Related to IAS Residence: With C.T.C. Wall and I. Madsen. Topological spherical space form problem II. *Topology* 15(1976) 375-382; Almost Regular Contact Structures. *J Diff Geometry* 11(1976) 524-533; Poincaré 3-complexes with binary polyhedral fundamental group. *Math Ann* 226(1977) 207-221.

Other Publications: An integral Riemann-Roch formula for flat line bundles. *Proc London Math Soc* 34(1977) 81-101.

Thomas, Charles Gomer 68-69 M, Algebra, Group Theory, Simple Groups

Born 1941 Columbia, MO. PhD 1968 Univ of Ill. Research Engineer, Flow Research, Inc, 1819 S Central Ave, Kent, WA 98031. *

Thomas, John David 72s HS, Roman History/Papyrology

Born 1931 Leicester, England. PhD 1967 Papyrology Univ of Wales. Memberships: Assoc internatle de papyrologues; Soc for Prom of Roman Studies; Egypt Exploration Soc. Reader, Papyrology, and Head of Dept of Palaeography Univ of Durham, 39 Wearside Dr, The Sands, Durham DH1 1LE, England.

Publications Related to IAS Residence: *The epistrategos in Ptolemaic and Roman Egypt*. P Colon, 6, 1. 1975; An Imperial Constitutio on papyrus. *BICS* 19(1972) 103-112; Notes on documentary papyri. *ZPE* 10(1973) 63-69.

Other Publications: *Merton Papyri*. Bull Suppl ICS, London, 3. 1967; *Oxyrhynchus Papyri*. 38, 1971, and 44, 1976. London: EES; Egypt. In *Cities of E Roman Provinces*, ed. by A. H. M. Jones, Chap 11. 1971; With A. K. Bowman. *The Vindolanda Writing Tablets*. 1974; With A. K. Bowman. The Vindolanda writing tablets and their significance: an interim report. *Historia* 24(1975) 463-478.

Thomas, Joseph Miller 36-37 M

Born 1898 Ridley Park, PA. PhD 1923 Univ of Penn. Honors: Founder *Duke Math Jour* 1935; Mg Ed 1935-44; Phi Beta Kappa; Sigma Xi. Memberships: AMS (V Pres 1945-46; Council 1937-38); Soc Math France; MAA. Deceased.

Publications Related to IAS Residence: *Differential Systems*. Colloquium Publications, 21. New York: AMS, 1937; *Theory of Equations*. 1938; *Elementary Mathematics in Artillery Fire*. 1942; *Systems of Roots*. 1962; *The Four Color Theorem*. 1971; *A Primer of Roots*. 1974.

Thomas, Paul Emery 61f, 72s M, Algebraic Topology

Born 1927 Phoenix, AZ. PhD 1955 Princeton Univ. Prof, Dept of Math, Evans Hall, U of Calif, Berkeley, CA 94720. *

Thomas, Richard Nelson 48-49 M(NS), Astrophysics

Born 1921 Omaha, NE. PhD 1948 Harvard Univ. *

Publications Related to IAS Residence: Superthermic Phenomena in Stellar Atmospheres. IV: The Wolf-Rayet Atmosphere. *Ap J* 109(1949) 500-508; Superthermic Phenomena in Stellar Atmospheres. V: On Emission Lines at High Kinetic Temperature. *Ap J* 110(1949) 12-16; The Thermodynamic Structure of the Outer Solar Atmosphere. I: The General Method of Analysis and Preliminary Results. *Ap J* 111(1950) 165-172.

Thomas, Tracy Yerkes 33-34, 44s M

Born 1899 Alton, IL. PhD 1923 Mathematics Princeton Univ. Honors: NAS 1941; Fellow Royal Astron Soc 1964; Annual Faculty Research Lect UCLA 1943; Recd first Disting Alumnus Awd Rice Univ 1976. Memberships: AMS (Vice Pres 1940-42); MAA; Soc of Eng Sci; Indiana Acad of Sci; AAAS. Distinguished Service Prof Emer, Indiana University, 249 N Glenroy Avenue, Los Angeles, CA 90049.

Publications Related to IAS Residence: *The Differential Invariants of Generalized Spaces*. New York: Cambridge University Press, 1934; Systems of total differential equations defined over simply connected domains. *Ann Math* 35(1934) 730-734; The reduction of degenerate quadratic forms. *Proc NAS* 20(1934) 215-219; With J. Levine. On a class of existence theorems in differential geometry. *Bull AMS* 40(1934) 721-728; With J. Levine. Simple tensors and the problem of the invariant characterization of an n -tuply orthogonal system of hypersurfaces in a V_n . *Ann Math* 35(1934) 725-739; Remark on a distortion tensor for elastic displacements. *Proc NA S* 30(1944) 140-143.

Other Publications: *The Elementary Theory of Tensors*. NY: McGraw-Hill, 1931; With M.S. Knebelman. *Principals of College Algebra*. Englewood Cliffs: Prentice-Hall, 1932; With C. Bell. *Essentials of Plane and Spherical Trigonometry*. Henry Holt, 1943; *Concepts from Tensor Analysis and Differential Geometry*. Mathematics in Science & Engineering, 1. NY: Academic Press, 1961; *Plastic Flow and Fracture in Solids*. Mathematics in Science and Engineering, 2. NY: Academic Press, 1961.

Thompson, Colin John 70-71 NS, Statistical Mechanics

Born 1941 Sydney, N.S.W., Australia. PhD 1964 Applied Mathematics Univ of NSW, Australia. Appointments: Member IUPAP Commission on Thermodynamics and Statistical Mechanics 1975-1981. Memberships: Inst for Math and its Applications; Australian Math Soc. Prof, Mathematics Department, University of Melbourne, Parkville, Vic 3052, Australia.

Publications Related to IAS Residence: Inequalities and partial orders on matrix spaces. *Ind Univ Math J* 21(1971) 469-480; Upper bounds for Ising model correlation functions. *Commun Math Phys* 24(1971) 61-66; With S. Sherman. Equivalences on Eigenvalues. *Ind Univ Math J* 21(1972) 807-814; With

A.J. Guttmann and G.S. Joyce. Critical Behavior on an Isotropic Spin System. *Phys Letters* 38A(1972) 297-298; With R. Terbush. General formulation of Haldane's Laws for competing ligands. *J Theor Biol* 34(1972) 441-449; One-dimensional models—short range forces. In *Phase Transitions and Critical Phenomena*, ed. by C. Domb and M.S. Green, 1. Academic Press, 1972.

Other Publications: An inequality with applications in statistical mechanics. *J Math Phys* 6(1965) 1812; Models for hemoglobin and allosteric enzymes. *Biopolymers* 6(1968) 1101.

Thompson, John G. 78f M

Born 1932 KS. PhD 1959 U of Chicago. Honors: Fields Medal. Prof, Dept of Pure Mathematics & Mathematical Statistics, University of Cambridge, Cambridge CB2 1SB, England. *

Thompson, Margaret 69f HS, Archaeology, Numismatics

Born 1911 Trenton, NJ. AB 1931 Literature Radcliffe Coll. Honors: Medallist Amer Num Soc 1961; Royal Num Soc 1967; Regents' Prof Univ Calif, Berkeley 1974; Honorary Member Royal, French, Belgian and Rumanian Num Socs and German Archaeol Inst; Member Amer Philos Soc; Phi Beta Kappa. Appointments: Bureau, Intl Num Commission; Managing Comm Amer School Classical Studies, Athens; Bd of Dirs, Amer Research Inst in Turkey; Hon Pres and Trustee, Archaeol Inst of Amer; Life Fellow, Amer Num Soc. Chief Curator Emerita, American Numismatic Soc, and Adj Prof Art History & Archaeology Columbia Univ. 140 Cabrini Blvd, New York, NY 10033.

Publications: *Coins from the Roman through the Venetian Period*. Athenian Agora, 2. Princeton: Amer Schl of Class Studies, 1954; *The Agrinion Hoard*. NY: Am Numismatic Soc, 1968; Eds with O. Mørkholm, C. M. Kraay. *An Inventory of Greek Coin Hoards*. NY: Am Numismatic Soc, 1973; *The New Style Silver Coinage of Athens*. NY: Am Numismatic Soc, 1961.

Thompson, Richard Joseph 74-75 M, Logic

Born 1941 Ft Lewis, WA. PhD Mathematics Univ of Calif, Berkeley. Memberships: Assoc for Symbolic Logic. 355 Orchard Ave, Sunnyvale, CA 94086.

Publications Related to IAS Residence: Embeddings into finitely generated simple groups which preserve the word problem. In *Proc Oxford Conf on Decision Problems in Algebra*.

Other Publications: With Ralph McKenzie. An elementary construction of unsolvable word problems in group theory. In *Word Problems*, ed. by Boone, Cannonito, Lyndon, 457-458. Amsterdam: North-Holland, 1973.

Thompson, William Bell 76s NS, Plasma Theory

Members

Born 1927 Belfast, Ireland. PhD 1950 Math U of Toronto. Honors: Hulton Awd (UK) 1958. Memberships: Am Phys Soc; Can Assn of Physicists; Royal Astron Soc. Prof, Physics Dept, Univ of Calif at San Diego, La Jolla, CA 92037.

Publications Related to IAS Residence: Cosmogonical Separation of Matter and Anti-Matter. *Astrophys & Space Sci* 55(1978) 15; On the Propagation of energetic Ion Beams. *J Plasma Phys* 19(1978) 97.

Thomson, David 50f HS, Modern France

Born 1912 England. PhD 1938 Cambridge Univ. Deceased.

Thomson, S. Harrison 56f HS, Latin Paleography of Later Middle Ages

Born 1895 Pasadena, CA. PhD 1923 Charles Univ, Prague. Deceased.

Thorpe, John A. 67-68 M

Born 1936 Lewiston, ME. PhD Mathematics Columbia Univ. Honors: SUNY Chancellor's Awd for Excellence in Teaching 1972-3. Memberships: AMS; MAA. Prof, Department of Mathematics, SUNY at Stony Brook, Long Island, NY 11794.

Publications Related to IAS Residence: With I. M. Singer. The Curvature of 4-dimensional Einstein spaces. In *Global Analysis*, ed. by D.C. Spencer and I. Iyanaga. U of Tokyo Press and Princeton U Press, 1969; Curvature and the Petrov canonical forms. *J Math Phys* 10(1969) 1-7; Some remarks on the Gauss-Bonnet integral. *J Math & Mech* 18(1969) 779-786.

Other Publications: With I.M. Singer. *Lecture Notes on Elementary Topology and Geometry*. Glenview, Ill: Scott Foresman, 1967; *Elementary Topics in Differential Geometry*. New York: Springer-Verlag, 1979.

Thrall, Robert McDowell 40-42 M, Algebra

Born 1914 Toledo, IL. PhD Mathematics U of Ill. Honors: ScD Ill Coll 1960; PBK; Sigma Xi; Henry Russell Award Univ of Michigan 1947. Memberships: Am Assoc for Adv Sci; AAUP; AMS; Am Stat Assoc; Assoc for Computing Machinery; Canad Math Congr; Econometric Soc; Inst Math Stat; MAA; London Math Soc; SIAM. Prof, Mathematical Sciences, Rice Univ, 12003 Pebble Hill Dr, Houston, TX 77024.

Publications Related to IAS Residence: Young's Semi-normal Representation of the Symmetric Group. *Duke Math J* 8(1941) 611-624; C.J. Nesbitt. On Modular Representations of the Symmetric Group. *Ann Math* 43(1942) 656-670; On the Decomposition of Modular Tensors (I). *Ann Math* 43(1942) 671-684; On Symmetrized Kronecker Powers and the Structure of the Free Lie Ring. *Amer J Math* 64(1942) 371-388; On the Decomposition of Modular Tensors (II). *Ann math* 45(1944) 639-657.

Other Publications: With Emil Artin and C.J. Nesbitt. *Rings with Minimum Condition*. Ann Arbor Mich: Univ of Mich Press, 1944; Some Generalizations of Quasi-Frobenius Algebras. *Trans AMS* 64(1948) 173-183; With T.S. Motzkin, H. Raiffa, and G.L. Thompson. The Double Description Method. In *Contributions to the Theory of Games*, 2: 51-73. 1953; With G. DeB. Robinson. The Content of a Young Diagram. *Mich Math J* 2(1953-54) 157-167; ed and part author, *Decision Processes*. New York: J. Wiley, 1954; With C.H. Coombs, H. Raiffa. Some Views on Mathematical Models and Measurement Theory. *Psychol Rev* 61: 132-144; With L. Tornheim. *Vector Spaces and Matrices*. New York: John Wiley and Sons, 1957; With H. Samelson and O. Wesler. A Partition Theorem for Euclidian n-Space. *Proc AMS* 9(1957) 805-807; n-Person Games in Partition Function Form. *Naval Research Logistics Quarterly* 10, 4(1963) 281-298; Introduction to Linear Programming. In *Mathematics of the Decision Sciences*, ed. by George B. Dantzig and Arthur F. Veinoot, Jr., 3-37. Providence RI: AMS, 1968; With A. Spivey. *Linear Optimization*. NY: Holt, Rinehart & Winston, 1970; With L. Tornheim. *Vector Spaces and Matrices*. NY: Dover Publications, 1970; With David R. Howes. A Theory of Ideal Linear Weights for Heterogeneous Combat Forces. *Naval Research Logistics Quarterly* 20, 4(1973) 645-659; With D. Cardus. Benefit-Cost and Cost-Effectiveness Analyses in Rehabilitation Research Programs. *Methods of Information in Medicine* 13, 3(1974) 147-151.

Threpsiades, Antigone 38-39 HS(H) *

Threpsiades, Ioannes 38-39 HS(H) *

Publications Related to IAS Residence: Decree in Honor of Euthydemus of Eleusis. *Hesperia* 8(1939) 22177-180.

Thurston, William P. 72-73, 76s M, Topology, Geometry

Born 1946 Washington, DC. PhD 1972 Univ of California. Honors: Veblen Prize 1976; Waterman Award 1979. Memberships: AMS; MAA. Prof, Math Dept, Princeton Univ, Fine Hall Box 37, Princeton, NJ 08544.

Publications Related to IAS Residence: The theory of foliations in codimension greater than one. *Comm Math Helv* (1974).

Tierney, Brian 61-62 HS, Medieval History

Born 1922 Scunthorpe, England. PhD 1951 Cambridge Univ. Honors: Distinguished Flying Cross and Bar (RAF) 1945; Hon DTheol Uppsala Univ 1964. Memberships: AHA; Am Cath Hist Assoc; Medieval Acad of Amer. Prof, Department of History, Cornell University, McGraw Hall, Ithaca, NY 14853.

Publications Related to IAS Residence: The Prince is not Bound by the Laws'. Accursius and the Origins

of the Modern State. *Comp Studies in Soc and Hist* 5(1963) 378-400; Bracton on Government. *Speculum* 38(1963) 295-317.

Tijdeman, Robert 70-71 M, Number Theory

Born 1943 Oostzaan, Netherlands. Dr 1969 Mathematics Univ of Amsterdam. Appointments: Netherlands Cttee for Math. Memberships: Wiskundig Genootschap; AMS; London Math Soc. Prof, Number Theory and Analysis, Univ of Leiden, Advisor Mathematical Centre at Amsterdam, Mathematisch Instituut, PO Box 9512, 2300 RA Leiden, Netherlands.

Publications Related to IAS Residence: An auxiliary result in the theory of transcendental numbers. *J Numbers Th* 5(1973) 80-94; On the maximal distance of numbers with a large prime factor. *J London Math Soc* 2, 5(1972) 313-320; On a telephone problem. *Nieuw Arch Wiskunde* 3, 19(1971) 188-192.

Other Publications: On the equation of Catalan. *Acta Arith* 29(1976) 197-209; On the integers with many small prime factors. *Compositio Math* 26(1973) 319-330.

Tilia, Ann Britt Pettersson 74-75 HS, Archaeology

Born 1926 Gothenburg, Sweden. FilLic 1962 History of Art Univ of Gothenburg. Viale Gorgia di Leontini 170, 00 124 Roma, Italy.

Publications Related to IAS Residence: Studies and Restorations at Persepolis and other sites of Fārs, II. *Ismeo Rpts & Mems* 18(1978); Recent discoveries at Persepolis. *AJA* 81(1977) 67-77.

Other Publications: Studies and Restorations at Persepolis and other sites of Fārs, I. *Ismeo Rpts & Mems* 16(1972).

Tilly, Charles 70-71, 72s Soc

Born 1929 Lombard, IL. PhD 1958 Sociology Harvard Univ. Appointments: Co-chmn, Hist Panel, Behavioral and Soc Sci Survey (SSRC/NAS); Chmn, Math Soc Sci Bd; Chmn, Cttee on Math in the Soc Sci, SSRC. Memberships: AHA; Population Assoc of Amer; Soc de Demographie Hist; Soc d'Hist Moderne; Soc for French Hist Studies; Sociol Res Assoc. Prof, Sociology & History, Univ of Michigan, Dir Cntr Res on Soc Organization Univ of Michigan, 1819 Hill St, Ann Arbor, MI 48104.

Publications Related to IAS Residence: ed with Edward Shorter. *Strikes in France, 1830-1968*. New York: Cambridge Univ Press, 1974; *Historical Studies of Changing Fertility*. Princeton: Princeton Univ Press, 1978; *An Urban World*. Boston: Little, Brown, 1974; With Louise Tilly and Richard Tilly. *The Rebellious Century*. Cambridge: Harvard Univ Press.

Other Publications: *The Vendee*. Cambridge: Harvard Univ Press, 1964; *From Mobilization to Revolution*. Reading, Mass: Addison-Wesley, 1978.

Tindall, George Brown 63-64 HS, American History

Born 1921 Greenville, NC. PhD 1951 History Univ of North Carolina, Chapel Hill. Honors: Sydnor Award Southern Hist Assoc; Jules F. Landry Award LSU Press; Lillian E. Smith Award Southern Reg Council; Mayflower Cup NC Order of Mayflower Descendants; Litt D Furman University 1971. Memberships: AHA; Org Am Historians; Southern Hist Assoc. Kenan Prof, Department of History, University of North Carolina, Chapel Hill, NC 27514.

Publications Related to IAS Residence: *The Emergence of the New South, 1913-1945*. Baton Rouge: LSU Press, 1967; *The Pursuit of Southern History: Presidential Addresses of the Southern Historical Association*. Baton Rouge: LSU Press, 1964.

Other Publications: *South Carolina Negroes, 1877-1900*. Columbia: U South Carolina Press, 1951; *The Disruption of the Solid South*. Athens: U Georgia Press, 1972; *The Persistent Tradition in New South Politics*. Baton Rouge: LSU Press, 1975; *The Ethnic Southerners*. Baton Rouge: LSU Press, 1976.

Tindell, Ralph Stanley 66-67, 69-70 M, Topology

Born 1942 Tampa, FL. PhD 1967 Mathematics Fla State Univ. Memberships: AMS; European Assoc for Theoret Computer Sci. Prof, Dept of Pure & Applied Math, Stevens Inst of Techn, Hoboken, NJ 07030.

Publications Related to IAS Residence: Knotting Tori in hyperplanes. In *Mich State Conf on the Topology of Manifolds, 1967*, ed. by J.G. Hocking, Complementary Series in Math, 13. Boston: Prindle, Weber & Schmidt, 1968; Relative Concordance. In *U of Georgia Topology of Manifolds Institute, 1969*, ed. by J.C. Cantrell & C.H. Edwards. Chicago: Markham, 1970.

Other Publications: With C. Elgot & S. Bloom. On the Algebraic Structure of Rooted Trees. *J Computer & Systems Sci* 16, 1(1978) 362-399.

Tiomno, Jayme 71s, 72s NS, General Relativity

Born 1920 Rio de Janeiro, Brazil. PhD 1950 Physics Princeton University. Honors: Second Moinho Santista Sci Awd 1957. Appointments: National Research Council of Brazil Head of Physics Division; Secy of Acad Brasileira de Ciências; Vice Pres Soc Brasileira de Fisica. Prof, Theoretical Physics, Pontificia Universidade Católica do Rio de Janeiro, Cent Brasil de Pesquisas Fisicas. Fisica, PUC RJ, R. Marquês de São Vicente 225, Rio de Janeiro, 22453, Brazil.

Publications Related to IAS Residence: With M. Davis, R. Ruffini. Pulses of Gravitational Radiation of a Particle Falling Radially into a Schwarzschild Black Hole. *Phys Rev D* 5(1972) 2932-35; Electromagnetic Field of Rotating Charged Bodies. *Phys Rev D* 7(1973) 992-1001; With J.Cohen, R. Wald. Gyromagnetic Ratio of a Massive Body. *Phys Rev D* 7(1973) 998-1001; with R.A. Breuer, R. Ruffini, C.V. Vishveshwara. Vector and Tensor Radiation from Schwarzschild Relativistic Circular Geodesics. *Phys Rev D* 7(1973) 1002-1007; Maxwell Equations in a

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Spherically Symmetric Black-Hole Background and Radiation by a Radially Moving Charge. *Lett N Cim* 5(1972) 851-55; With R.A. Breuer, C.V. Vishveshwara. Polarization of Gravitational Synchrotron Radiation. *Lett N Cim* 4(1972) 857-60; Balancing of Electromagnetic and Gravitational Forces and Torques Between Spinning Particles at Rest. *Phys Rev D* 7 (1973) 356-9; With L. Parker. Pair Producing Electric Fields and Pulsars. *ApJ* 178(1972) 809-817; With M. Davis, R. Ruffini, F. Zerilli. Can Synchrotron Gravitational Radiation Exist? *Phys Rev Lett* 28(1972) 1352-55; Pulsars and Pair Production in Electric Fields. *Nature Phys Sci* 238(57-58) 1972.

Other Publications: With Ruffini and Vishveshwara. Electromagnetic Field of Particle Moving in Spherically Symmetric Black-Hole Background. *Lett N Cim* 3(1972) 211; On Gravitation Induced Electromagnetic Fields. *Acta Phys Aust Phys* 38(1973) 206; On Gravitation Induced Electromagnetic Fields. *Acta Phys Aust* 38(1973) 206; With Breuer and Vishveshwara. Polarization of Gravitational Geodesic Synchrotron Radiation. *N Cim* 25B(1975) 851; With Ricardo Amorim. Charged Point Particles with Magnetic Moment in General Relativity. *Rev Brasil Fis* 8(1978) 350.

Tits, Jacques Léon 51-52, 63s, 69s, 71-72 M, Group Theory, Geometry, Topology

Born 1930 Uccle, Belgium. Agrégation de l'Enseignement supérieur 1955 Brussels Univ. Honors: Grand Prix Sci Phys & Math, Acad Sci Paris 1976; Deut Akad Naturforscher Leopoldina 1977; Corr mem Acad Sci de Paris 1977; Invited address ICM 1962, 1970, 1974; Dr(hc) Univ Utrecht 1970. Appointments: Member panels preparing the ICM 1970 and 1978; Member the Fields Cttee 1978. Memberships: AMS. Prof, Collège de France. 11 pl Marcelin-Berthelot, 75231 Paris Cedex O5, France.

Publications Related to IAS Residence: Reductive groups over local fields. *Proc Symp Pure Math* 33(1979) 29-69; With A. Borel. Théorèmes de structure et de conjugaison pour les groupes algébriques li-néaires. 287(1978) 55-57.

Other Publications: Sur les R-espaces. *C R Acad Sci Paris* 239(1954) 850-852; Transitivité des groupes de mouvements. *Schr Forschungsinst Math* 1(1957) 98-111; Sur certaines classes d'espaces homogènes de groupes de Lie. *Mém Acad Roy Belg* 29, 3(1955) 268; Algebraic and abstract simple groups. *Ann Math* 80(1964) 313-329; Géométries polyédriques finies. In *Rendiconti di Matematica*, 23, Colloque sur les géométries finies, Rome, octobre 1963: 156-165. 1964; With A. Borel. Groupes réductifs. *Publ Math IHES* 27 (1965) 55-151; Algèbres alternatives, algèbres de Jordan et algèbres de Lie exceptionnelles. I. Construction. *In-dag math* 28(1966) 223-237; With F. Bruhat. Groupes réductifs sur un corps local. I: Données radicielles valuées. *Publ Math IHES* 41 (1972) 2-252; With A. Borel. Homomorphismes "abstraits" de groupes algébriques simples. *Ann Math* 97(1973) 499-471.

Tobocman, William 54-56 M(NS), Theoretical Physics

Born 1926 Detroit, MI. PhD 1953 MIT. Memberships: Amer Phys Soc. Prof, Physics Dept, Case Western Reserve University, Cleveland, OH 44106.

Publications Related to IAS Residence: *Nuovo Cim* 103(1956) 1213; *Phys Rev* 98(1955) 780; *Phys Rev* 102(1956) 588; *Phys Rev* 97(1955) 243.

Other Publications: Theory of Direct Nuclear Reactions. London: Oxford Univ Press, 1961.

Toda, Hiroshi 59-61 M, Topology

Born 1928 Japan. PhD 1956 Osaka Univ. Math Inst, Kyoto Univ, Kyoto, Japan. *

Todd, John 48s M, Electronic Computer Project

Born 1911 Northern Ireland. BS 1931 Math and Math Physics Queen's Univ of Belfast. Honors: Fulbright Prof Univ of Vienna 1965. Appointments: Adv Panels Natl Bur of Standards and Argonne Natl Lab. Memberships: AMS; MAA; SIAM; Assoc Computing Mach. Prof, Dept of Math, Cal Tech, 253-37, Pasadena, CA 91125.

Publications Related to IAS Residence: *Table of Arctangents of Rational Numbers*. US National Bur of Standards. Applied Math Ser, II. Washington: US Govt Print Off, 1951; With S. Chowla. The Density of Reducible Integers. *Canadian J Math* 1(1949) 297-299; A Problem on Arc-Tangent Relations. *Amer Math Monthly* 56(1949) 517-528.

Other Publications: *Survey of Numerical Analysis*. NY: McGraw-Hill, 1962; *Constructive Theory of Functions*. Birkhauser, 1963; *Numerical Algebra*. Birkhauser, 1978; *Numerical Analysis*. Birkhauser, 1979.

Todd, John Arthur 33-34 M

Born 1908 . PhD 1932 Cambridge Univ. 30 Glebe Hyast Sanderstead, S Croydon CR2 9JE, England. *

Todorov, Ivan 68-70, 74-75 NS, Mathematical Physics

Born 1933 Sofia, Bulgaria. DSc 1963 Physics JINR, Dubna. Honors: Dimitrov prize (Bulgarian state awd) 1971. Memberships: Intl Soc of Math Phys. Prof, Elementary Particle Theory, Institute of Nuclear Research, Bulgarian Academy of Sciences, Boul. Lenin 72, Sofia 1113, Bulgaria.

Publications Related to IAS Residence: With N. N. Bogolubov, A. A. Logunov. *Introduction to Axiomatic Quantum Field Theory*. Reading, Mass: Benjamin, 1975; *Analytic Properties of Feynman Diagrams in Quantum Field Theory*. Oxford: Pergamon Press, 1971; With V. Dobrev, G. Mack, V. Petkova, S. Petrova. Harmonic Analysis. *Lecture Notes in Physics* 63(1977); With V. Bargmann. Spaces of analytic functions on a complex cone as carriers for the symmetric tensor representations of SO(n). *J Math Phys* 18(1977) 1141; With V. Dobrev, V. Petkova, S.

Petrova. Dynamical derivation of vacuum operator product expansion in Euclidean conformal quantum field theory. *Phys Rev D* 13(1976) 887; With A. I. Oksak. On the covariant structure of the two-point function. *Commun Math Phys* 14(1969) 271; With A. I. Oksak. Degeneracy of the mass spectrum for infinite-component fields. *Phys Rev D* 1(1970) 3511; Quasipotential equation corresponding to the relativistic eikonal approximation. *Phys Rev D* 3(1971) 2351.

Other Publications: With V. Rizov. *The Two-Body Problem in Quantum Theory*. Sofia: Nauka i Izkustvo, 1974; Quasipotential approach to the Coulomb bound state problem for spin-0 and spin-1/2 particles. *Nucl Phys B* 98(1975) 447; With G. Mack. Conformal invariant Green functions without ultraviolet divergences. *Phys Rev D* 8(1973) 1764; With A. Logunov, Nguyen van Hieu. Asymptotic relations between scattering amplitudes in local field theory. *Ann of Phys* 31(1965) 203; With A. I. Oksak. Invalidity of TCP-theorem for infinite-component fields. *Commun Math Phys* 11(1968) 125; Dynamics of relativistic point particles as a problem with constraints. In *Commun of the JINR*, E2-10125. Dubna: 1976; Conformal invariant Euclidean quantum field theory. *Acta Phys Austr Suppl* 11(1973) 241; With D. Stoyanov. Majorana representations of the Lorentz group and infinite-component fields. *J Math Phys* 9(1968) 2146.

Toledo, Domingo 72-74 M, Topology

Born 1945 Hato Rey, Puerto Rico. PhD 1972 Cornell Univ. Memberships: AMS. Asst Prof, Department of Mathematics, University of Utah, Salt Lake City, UT 84112.

Publications Related to IAS Residence: With Y. L. Tong. A parametrix for δ and Riemann-Roch in Čech theory. *Topology* 15(1976) 273-301; With Y. L. Tong. Duality and Intersection Theory in Complex Manifolds I. *Math Ann* 237(1978) 41-77; With Y. L. Tong. Duality and intersection theory in complex manifolds II, the holo-morphic Lefschetz formula. *Ann math* 108(1978) 519-538; With J. S. Halperin. The product formula for Stiefel-Whitney homology classes. *Proc AMS* 48(1975) 239-244.

Other Publications: With J. S. Halperin. Homology Stiefel-Whitney classes. *Ann Math* 96(1972) 511-525; On the Atiyah-Bott formula for isolated fixed points. *Jour Diff Geom* 8(1973) 401-436; Harmonic mappings of surfaces to certain Kähler manifolds. *Math Scand* 1979.

Tolimieri, Richard 72-73 M, Lie Theory

Born 1940 New York, NY. PhD 1969 City U of NY. Math Dept, U of Connecticut, Storrs, CT 06268. *

Tolnay, Charles Erich de 39-48 HS(H), History of Art

Born 1899 Budapest, Hungary. PhD 1925 History of Art Univ of Vienna. Honors: DLitt(hc) Univ of Rome 1964; PhD(hc) Univ of Budapest 1969; Dr(hc) Univ

Berne 1975; Prize of the Acad Incript et Belles Lett Paris 1937; Bollingen Fellow 1950; Guggenheim Fellow 1948, 1953; Accad Naz dei Lincei 1965; Accad di St. Luca 1965. Memberships: College Art Assoc of Amer. Dir, Casa Buonarroti, Via Ghibellina 70, Firenze 50122, Italy.

Publications Related to IAS Residence: *Michelangelo I: The Youth of Michelangelo*. Princeton Univ Press, 1943; *History and Technique of Old Master Drawings*. New York: Bittner and Co., 1943; *Michelangelo II: The Sistine Ceiling*. Princeton Univ Press, 1945; *Michelangelo III: The Medici Chapel*. Princeton Univ Press, 1948; *Le Jugement Dernier de Michel-Ange*. Essai D'interpretation. *Art Q* (Spring 1940) 125-147; *Le Menu de Michel-Ange*. *Art Q* (S) 1940 240-243; *Michelangelo Studies*. *Art Bull* 22(1940) 127-137; *Mar-cello Venusti as copyist of Michelangelo*. *Art in Amer* (1940) 169-176; *Flemish Paintings in the National Gallery of Art*. *Magazine of Art* (1941) 174-200; *Sofonisba Anguissola and her relations with Michelangelo*. *Walters J* 4(1941) 115-119; *An unpublished Record of Michelangelo*. *Art Bull* 24(December, 1942) 380-381; *The Syndics of the Draper's Guild by Rembrandt. An interpretation*. *Gazette des Beaux-Arts* 23(January 1943) 31-38; *The Fall of Icarus by P. Bruegel the Elder*. *Belgium* 4(February 1943) 36-38; *The Music of the Universe*. Notes on a painting by Bicci di Lorenzo. *Walters J* 6(1943) 83-104; *Theory of Drawing in Italy and France during the Renaissance and Baroque*. *Year Book of the Amer Phil Soc* (1943) 227-233; *Hugo van der Goes as Portrait Painter*. *Art Q* (1944) 181-190; *A Temptation of St. Anthony by H. Bosch*. *Art in Amer* 32(1944) 61-65; Notes concerning "The Youth of Michelangelo:" A Reply. *Art Bull* 27 (1945) 139-146; *An early Dutch Panel: A contribution to Panel Painting before Bosch*. In *Mélanges Leo van Puyvelde*. Bruxelles: 1948; *Le Peintre et l'Amateur de P. Bruegel l'Ancien*. *Les Arts Plastiques* (1948) 455-459.

Other Publications: *Pierre Bruegel l'Ancien*. Bruxelles: Nouvelle Société d'Édition, 1935; *Hieronymus Bosch*. Basel: Holbein Verlag, 1937; *Le Maître de Flémalle et les Frères van Eyck*. Bruxelles: Editions de la Connaissance, 1939; *Werk und Weltbild des Michelangelo*. Zürich: 1949; *Michel-Ange*. Paris: Edition P. Tisné, 1951; *The Drawings of P. Bruegel the Elder*. London, New York, Basel: Rascher, 1952; *Michelangelo IV: The Tomb of Julius II*. Princeton Univ Press, 1954; *Michelangelo V: The Final Period*. Princeton Univ Press, 1960; *The Art and Thought of Michelangelo*. New York: Pantheon Books, 1964; *Corpus del Disegni di Michelangelo*. 1. Novara, 1975; *I disegni di Michelangelo nelle collezioni italiane*. Casa Buonarroti e Galleria degli Uffizi. 23 Novembre 1975-6 Gennaio 1976. Firenze: 1975; *Michelangelo Sculptor-Painter-Architect*. Princeton Univ Press, 1975; *Corpus dei disegni di Michelangelo*. 2. Novara, 1977; *Corpus dei disegni di Michelangelo*. 3. Novara, 1978.

Tomonaga, Sin-itiro 49-50 M(NS), Theoretical Elementary Particles

Members

Born 1906 Japan. PhD 1939 Tokyo Univ. Deceased.

Publications Related to IAS Residence: Remarks on Bloch's Method of Sound Waves Applied to Many-Fermion Problems. *Progress Theoret Physics* 5(1950) 544-569.

Tomozawa, Yukio 64-66 M(NS), Physics

Born 1929 Iyo-City, Ehime, Japan. DSc 1961 Physics Univ of Tokyo. Memberships: Am Phys Soc. Prof, Randall Lab of Physics, Univ of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence:

Introduction to Axiomatic Field Theory. In *Lect in Theoret Phys*, 93: 438-488. Boulder, Colo: Univ of Colorado Press, 1964; Axial-vector Coupling Constant Renormalization and the Meson-Baryon Scattering Lengths. *Nuovo Cimento* 46(1966) 707-717; With S. H. Patil and Y. P. Yao. Reciprocity, Normality and CP Violation in K^0 - K^0 Decay. *Phys Lett* 19(1965) 601-604; With S. H. Patil and Y. P. Yao. Reciprocity, Normality of K^0 - K^0 Mass Matrix and CP Violation in Weak Interactions. *Phys Rev* 142(1966) 1041-1047; Hypernuclear Spectroscopy in the Unitary Symmetry Model. *Phys Rev Lett* 13(1964) 512-514; Hypernuclear Spectroscopy in the Unitary Symmetry Model II. *Phys Rev* 138(1965) 1558-1560; With V. deAlfaro. Decay of Decuplet Resonances and the SU(6) Symmetry. *Phys Rev* 138: 1193-B1194; On the McGlinn Theorem. *Prog Theoret Phys* 33(1965) 319-321; Internal Symmetry and the Poincaré Group. *J Math Phys* 6(1965) 656-657.

Tompkins, Charles Brown 36-38 M

Born 1912 . PhD 1936 Univ of Mich. Deceased.

Publications Related to IAS Residence:

Classification of Curves on a Two-Dimensional Manifold under a Restricted Set of Continuous Deformations. *Ann Math* 40(1939) 384-391; With Marston Morse. The Existence of Minimal Surfaces of General Critical Types. *Ann Math* 40(1939) 443-472; Fréchet Deformations and Homotopy. *Ann Math* 40(1939) 392-399; With Marston Morse. On the Existence of Minimal Surfaces of General Critical Types. *Proc NAS* 25(1939) 153-158; With Marston Morse. The Continuity of the Area of Harmonic Surfaces as a Function of the Boundary Representations. *Amer J Math* 63(1941) 825-838; With Marston Morse. Minimal Surfaces Not of Minimum Type by a New Mode of Approximation. *Ann Math* 42(1941) 62-72; With Marston Morse. Unstable Minimal Surfaces of Higher Topological Structure. *Duke Math J* 8(1941) 350-375.

Tong, Hing 47 48 M

Born 1925 . PhD 1947 Columbia Univ. Math Dept, Fordham Univ, Bronx, NY 10458. *

Publications Related to IAS Residence: On Some Problems of Čech. *Ann Math* 2 50(1949) 154-157;

Some Characterizations of Normal and Perfectly Normal Spaces. *Duke Math J* 19(1952) 289-292.

Tong, Yue-Lin Lawrence 72-74 M, Complex Analysis

Born 1944 Shanghai, China. PhD 1970 Mathematics Johns Hopkins Univ. Memberships: AMS. Asst Prof, Dept of Math, Purdue Univ, West Lafayette, IN 47907. **Publications Related to IAS Residence:** With D. Toledo. A Parametrix for $\bar{\partial}$ and Riemann-Roch in Čech Theory. *Topology* 15(1976) 273-301; Duality and Intersection Theory in Complex Manifolds. I. *Math Ann* 237(1978) 41-77; Duality and Intersection Theory in Complex Manifolds II. The Holomorphic Lefschetz Formula. *Ann Math* (1978).

Toomre, Alar 62-63 M(NS), Astrophysics

Born 1937 Rakvere, Estonia, USSR. PhD 1960 Fluid Mechanics Univ of Manchester. Honors: Guggenheim Fellow 1969-70; Fairchild Scholar Cal Tech 1975. Memberships: Amer Astron Soc; IAU. Prof, Room 2-371, Dept of Mathematics, MIT, Cambridge, MA 02139.

Publications Related to IAS Residence: With others. Gravitational Stability of a Disk of Stars. *Ap J* 139(1964) 1217.

Topping, Peter 72f HS, Medieval History

Born 1916 Milwaukee, WI. PhD 1942 Medieval History Univ of Penna. Appointments: ACLS Fship Selection Cttee; Managing Cttee, Amer School of Classical Studies at Athens. Memberships: Mediaeval Acad of Amer; AHA; Modern Greek Studies Assn. Sr Res Assoc, Dumbarton Oaks, 1703 32nd St, Washington, DC 20007.

Publications Related to IAS Residence: Premodern Peloponnesus: The Land and the People under Venetian Rule 1685-1715. *Annals of the NY Acad of Sci* 268(1976) 92-108; Venice's Last Imperial Venture. *Proc Amer Philos Soc* 20, 3(1976) 159-165; The Population of Venetian Morea. In *Pepragmena, Ier Congrès International d'Études Péloponésiennes, Sparta, 7-14 September 1975*, 1. Athens: 1976.

Other Publications: Albanian Settlement in Medieval Greece: Some Venetian Testimonies. In *Festschrift for Prof Peter Charanis*. New Brunswick: Rutgers Univ Press, 1979.

Torchinsky, Alberto 77-78 M, Analysis

Born 1944 Buenos Aires, Argentina. PhD 1971 Math U of Chicago. Memberships: AMS. Assoc Prof, Department of Math, Indiana University, Bloomington, IN 47405.

Publications Related to IAS Residence: Weighted norm inequalities for the Littlewood-Paley function g_λ . *Proc Symp in Pure Math* 35.

Other Publications: With A.P. Calderón. Parabolic Maximal Functions Associated with a Distribution. *Adv in Math* 16, 24(1975, 1977) 1-64, 101-171.

Torrance, Charles C. 38-39 M

Born 1902 . PhD 1931 Cornell Univ. Deceased.

Torrance, Esther McCormick 38-39 M Born 1909 .
PhD 1939 Brown Univ. Deceased.

Toton, Edward T. 69-70 NS, Gravitation

Born 1942 Philadelphia, PA. PhD 1969 Univ of Maryland. *

Tow, Don Mei 71-73 NS, Elementary Particle Physics

Born 1942 Toyshau, Kwangtung, China. PhD 1971 Physics Univ of Calif, Berkeley. Memberships: Amer Phys Soc. Asst Prof, Center for Particle Theory, Department of Physics, University of Texas, Austin, TX 78712.

Publications Related to IAS Residence: Multiperipheral Theory of Deep Inelastic Neutrino-Nuclear Scattering. *Phys Rev D*5(1972) 2795; Average Multiplicity, Secondary Trajectory, and Mueller Analysis. *Phys Rev D*7(1973) 3535.

Toynbee, Arnold Joseph 48s, 49s, 50f, 52s, 53s HS, History

Born 1889 London, England. BA(Oxon.) 1911 Lit Hum 1st Class. Honors: LLD Princeton Univ; LittD Oxford Univ, Birmingham Univ; Am Philos Soc; FBA. Deceased.

Publications: *Nationality and the War*. London, Toronto: J.M. Dent & Sons, 1915; *The New Europe*. London, Toronto: J.M. Dent & Sons, 1915; *The Western Question in Greece and Turkey*. Boston: Houghton Mifflin, 1922; *Greek Historical Thought*. New York: E. P. Dutton, 1924; *Greek Civilisation and Character*. New York: E. P. Dutton, 1924; *The World After the Peace Conference*. London, New York: Oxford Univ Press, 1925; *A Survey of International Affairs*. London: Oxford Univ Press, 1920-38; *A Journey to China*. London: Constable, 1931; Ed, *British Commonwealth Relations*. Proc First Conf Toronto 1933. London: Oxford Univ Press, 1934; *A Study of History*. 1-12. Oxford Univ Press, 1934, 1939, 1954, 1959, 1961; *Civilization on Trial*. New York: Oxford Univ Press, 1948; *The World and the West*. London, New York: Oxford Univ Press, 1953; *An Historian's Approach to Religion*. London, New York: Oxford Univ Press, 1956; *East to West*. London: Oxford Univ Press, 1958; *Hellenism*. London, New York: Oxford Univ Press, 1959; *Between Oxus and Jumna*. New York: Oxford Univ Press, 1961; *Between Niger and Nile*. London, New York: Oxford Univ Press, 1965; *Hannibal's Legacy*. London, New York: Oxford Univ Press, 1965; *Acquaintances*. London: Oxford Univ Press, 1967; *Between Naule and Amazon*. New York: Oxford Univ Press, 1967; *Experiences*. London, New York: Oxford Univ Press, 1969; *Some Problems of Greek History*. Oxford Univ Press, 1969; *Cities on the Move*. New York: Oxford Univ Press, 1970; *Constantine Porphyrogenitus and*

His World. London, New York: Oxford Univ Press, 1973; *Mankind and Mother Earth*. New York: Oxford Univ Press, 1976.

Trabert, Kenneth K. 70-72 NS, Theoretical Physics
Born 1940 Philadelphia, PA. MD 1967 Univ of Pa. *

Transue, William Reagle 42-43,48-49 M, Functional Analysis

Born 1914 Pen Argyl, PA. PhD 1941 Mathematics Lehigh Univ. Memberships: AMS; MAA. Prof, Mathematics, SUNY Binghamton, 2093 E Hamton Rd, Binghamton, NY 13903.

Publications Related to IAS Residence: With M. Morse. Contributions to Fourier Analysis. *Ann Math Studies* 25; With M. Morse. **C** -Bimeasures A and their Integral Extensions. *Ann Math* 64(1956) 480-504; With M. Morse. A Characterization of the Bilinear Sums associated with the Classical Second Variation. *Annali di Mat Pura Ed App IV* 28(1949).

Trauber, Philip 78s M, Topology

Born 1949 . PhD 1973 Princeton Univ. IHES, 91440 Bures-sur-Yvette, France. *

Travlos, John 52-53, 67-68 HS, Archaeology

Born 1908 Rostov, USSR. DArch Polytechnic School of Athens. Honors: Hon Prof Amer Sch of Classl Studies, Athens 1973; Hon Doc Schl of Arch Univ of Salonica 1974; Award of the Acad of Athens 1973; Award of the Group of the Twelve Authors 1961. Appointments: Member of the Committee for the Restoration of the Acropolis' Monuments. 146 B, Alexandras Ave, Athens 704, Greece.

Publications Related to IAS Residence: *The development of Athens from Prehistoric to Modern Times*. Athens: 1960; *Pictorial Dictionary of Ancient Athens*. New York: 1971; The Early Christian Church in the Theater of Dionysus. *Archaeologhiki Ephemeris B*(1953-54) 301-316.

Other Publications: *Neoclassical Architecture in Greece*. Athens: 1967.

Treger, Robert 79-80 M, Algebraic Geometry

Born 1945 Daugavpils, Latvia, USSR. PhD 1976 Math Univ of Chicago. Weizmann 12/28, Nathanya, Israel.

Tremaine, Scott Duncan 77-80 NS, Astrophysics

Born 1950 Toronto, Ontario, Canada. PhD 1975 Physics Princeton Univ. Memberships: Am Astron Soc. Member with Long-Term Appointment, School of Natural Sciences, Institute for Advanced Study, Princeton, NJ 08540.

Publications: With E. J. Groth III, and M. R. Nelson. Observation of a Lunar Occultation of δ Geminorum. *Astro J* 79(1974) 649; With J. P. Ostriker, and L. Spitzer, Jr. The Formation of the Nuclei of Galaxies. I. M31. *Ap J* 196(1975) 407; With J. P. Ostriker. Another

Members

Evolutionary Correction to the Luminosity of Giant Galaxies. *Ap J* 203(1976) 72; The Formation of the Nuclei of Galaxies. II. The Local Group. *Ap J* 203(1976) 345; The Effect of Dynamical Friction on the Orbits of the Magellanic Clouds. *Ap J* 203(1976) 72; The Stability of a Family of Elliptical Stellar Disks. *Monthly Notices of the Royal Astro Soc* 175(1976) 557; With D. O. Rich-stone. A Test of a Statistical Model for the Luminosities of Bright Cluster Galaxies. *Ap J* 212(1977) 311; With B. Paczynski. Core Helium Flash and the Origin of CH and Carbon Stars. *Ap J* 216(1977) 57; With S. Michael Fall. On Estimating Correlations in the Spatial Distribution of Galaxies. *Ap J* 216(1977) 682; With C. Hunter. Collinear Configurations of Galaxies Can be Stable. *Astro J* 82(1977) 262; With P. Goldreich. The Velocity Dispersion in Saturn's Rings. *Icarus* 34(1978) 227; With P. Goldreich. The Origin of the Cassini Division in Saturn's Rings. *Icarus* 34(1978) 240; With P. Goldreich. The Excitation and Evolution of Density Waves. *Ap J* 222(1978) 850; With G. R. Knapp & J. E. Gunn. The Global Properties of the Galaxy-I: The HI Distribution Outside the Solar Circle. *Astro J* (in press).

Trexler, Richard C. 73-74 HS, History

Born 1932 Philadelphia, PA. PhD 1963 Medieval and Modern History Goethe Univ. Honors: Fellow Villa I Tatti 1968-70; Fellow Center for Advanced Study, Univ of Ill 1976. Memberships: AHA; Mediaeval Acad of Amer; Renaissance Soc of Amer; Soc for It Hist Studies. Prof, Dept of History, SUNY, Binghamton, NY 13901.

Publications Related to IAS Residence: *The Libro Cerimoniale of the Florentine Republic*. Geneva: 1978; Honor Among Thieves. The Trust Function of the Urban Clergy in the Florentine Republic. In *Essays Presented to Myron P. Gilmore*, 1: 317-334. Florence: 1978; The Magi Enter Florence. The Ubriachi of Florence and Venice. *Studies in Medieval and Renaissance Hist* 1 (1978) 127-213.

Other Publications: *The Spiritual Power*. Leiden: 1974; *Synodal Law in Florence and Fiesole, 1306-1518*. Vatican City: 1971.

Triantafyllou, Georgia Višnjic 78-79 M, Transformation Groups

Born 1950 Platanos Lamia, Greece. PhD 1978 Bonn Univ. Honors: DAAD Exchange Scholar 1973-1977; SFB 40 Bonn Univ Grant 1976-1978. Neoforos Kefissias 150, Athens, Greece.

Publications: Aquivariante Rationale Homotopietheorie. *Bonner Math Schrift* (in press).

Trjitzinsky, Waldemar J. 40-41 M

Born 1901 . PhD 1926 Univ of Calif. Deceased. **Publications Related to IAS Residence:** Analytic Theory of Singular Elliptic Differential Equations. *Ann Math* 43(1942) 1-55; Singular Lebesgue-Stieltjes Integral Equations. *Acta Math* 74(1942) 197-310.

Tromba, Anthony J. 75s M

Born 1943 Brooklyn, NY. PhD 1968 Princeton Univ. Honors: NSF Fellow; Woodrow Wilson Fellow; PBK. Memberships: AMS. Prof, Dept Mathematics, UCSC, Santa Cruz, CA 95064.

Publications Related to IAS Residence: On the number of simply connected minimal surfaces spanning a curve. *Memoirs AMS* 194; The Euler Characteristic of Vector Fields on Banach Manifolds and a Globalization of Leray-Schauder Degree. *Adv Math* 28(1978) 148-173.

Other Publications: Differential structures and Fredholm maps on Banach manifolds. *Proc Symp pure Math AMS* 18: 86-94.

Trombi, Peter C. 71-72, 72f, 73f M, Analysis on Semisimple Lie Groups

Born 1942 Framingham, MA. PhD 1970 Univ of Ill. Dept of Math, Univ of California, Los Angeles, CA 90024. *

Trow, Martin Aaron 76-77 Soc

Born 1926 New York, NY. PhD 1957 Columbia Univ. Honors: DHumLitt Carleton Coll 1978; Fellow Cntr Adv Studies in Behav Sci 1965-66. Appointments: Nat Acad of Education 1972-present; Commission on Human Resources, NRC, 1969-71, 1973-76. Memberships: Fellow, AAAS; Amer Sociol Assoc. Prof, and Director Ctr for Studies in Higher Educ, Graduate School of Public Policy, University of California, Berkeley, CA 94720.

Publications Related to IAS Residence: With M. Gordon. Youth Problems and Policies in the United States. In *Youth Education and Unemployment Problems*. San Francisco: Jossey-Bass, 1979; Aspects of Diversity in American Higher Education. In *On the Making of Americans: Essays in Honor of David Riesman*, ed. by Herbert Gans. Philadelphia: Univ of Penn Press, 1979; Aspects of American Higher Education, 1969-75. In *Carnegie Council on Policy Studies in Higher Education*. Berkeley: 1977.

Other Publications: With S. M. Lipset and James S. Coleman. *Union Democracy*. Glencoe, Ill: Free Press, 1956; With A. H. Halsey. *The British Academics*, London: Faber & Faber, 1971; Editor, *Teachers and Students*. New York: McGraw-Hill, 1975.

Truong, Tran N. 61-63 M (NS), Physics

Born 1934 Vietnam. PhD 1961 Cornell Univ. *

Tryon, Edward Polk 77-78 NS, High Energy Physics, Cosmology

Born 1940 Terre Haute, IN. PhD 1967 Physics Univ of Calif, Berkeley. Honors: Cornell Natl Scholar 1958-62; PBK 1962; Phi Kappa Phi 1962; Hon Woodrow Wilson Fellow 1962-64; NSF Fellow 1962-64. Memberships: Am Phys Soc; NY Acad of Scis. Prof, Dept of Physics, Hunter College of CUNY, 695 Park Ave, New York, NY 10021.

Publications Related to IAS Residence: Quark Confinement by Classically Massless Strings. *Phys Rev D* 18(1978) 3885-3886; Comment on the Analysis of Bethe-Salpeter Scattering States by Hormozdiari and Huang. *Phys Rev D* 17(1978) 1182-1183.

Other Publications: Is the Universe a Vacuum Fluctuation?. *Nature* 246(1973) 396-397; Dynamical Parton Model for Hadrons. *Phys Rev Lett* 28(1972) 1605-1608.

Trypanis, Constantine Athanasius 59-60 HS

Born 1909 Chios, Greece. DLitt 1971 Oxford Univ. Honors: FBA; Koraeis Prize of Athens Acad 1935; Heinemann Awd of Royal Soc of Lit 1959; Hon DLit Assumption Coll, Mass 1977; Hon DLit MacMurray Coll, Ill 1974. Appointments: Minister Culture & Sci Greek Govt 1974-77. 3, George Nikolaou St, Kefisia, Athens, Greece.

Publications Related to IAS Residence: With P. Maas. *Sancti Romani Melodi Cantica*. 1. Oxford: 1963.

Other Publications: *Greek Poetry*. NY: Penguin Books, 1971; *Homeric Epics*. London: 1976.

Tsao, Hung-Sheng 74-76 NS, Particle Physics

Born 1944 China. PhD 1972 Physics SUNY at Stony Brook. Memberships: Amer Phys Soc. Asst Prof, Physics Dept, The Rockefeller Univ, New York, NY 10021.

Publications Related to IAS Residence: Photon pairing Instabilities: A Microscope origin for Gravitation?. *Phys Rev D* 14(1976) 359; Renormalization constants for scalar, Pseudo scalar and Tensor currents. *Phys Rev D* 11(1975) 3309; Fixed Regge singularity and small-distance behavior in Renormalizable field theories: A model in O_6^3 . *Phys Rev D* 11(1975) 2203; Isospin 1/2 Nucleon Resonance production by a V.A. weak Neutral current. *Phys Rev D* 13(1976) 1216; *Phys Rev D* 12(1975) 3501; *Phys Rev D* 12(1975) 3522; *Phys Rev D* 12(1975) 2639.

Other Publications: Non Renormalizability of Einstein-Yang-Mills interaction at one-loop level. *Phys Lett* 50R(1974) 491; Super gauge symmetry, Broken Chiral symmetry and Renormalization. *Phys Lett* 53B(1974) 381; Conformal Anomalies in a General Background Metric. *Phys Lett* 68B(1977) 79; Strong P and T Non-Invariances in a Super weak theory. *Phys Rev Lett* 41(1978) 278.

Tsao, Liang-Chi 73-75 M, Number Theory

Born 1943 Taipei, Taiwan. PhD 1972 Mathematics Univ of Chicago. Memberships: AMS; Chinese Math Assoc. Assoc Prof, Department of Mathematics, National Taiwan University, Taipei, Taiwan.

Publications Related to IAS Residence: The Rationality of the Fourier Coefficients of Certain Eisenstein Series on Tube Domains. *Comp Math* 32(1976) 225-291.

Other Publications: Exponential Sums Over Finite Simple Jordan Algebras and Finite Simple Associative Algebras. *Duke Math J* 42(1975) 333-345.

Tsuchiya, Akihiro 71-73 M, Algebraic Topology

Born 1943 Japan. MA 1968 Kyoto Univ. Dept of Math, Nagoya University, Nagoya, Japan. *

Tsujishita, Toru 78-79 M, Differential Geometry

Born 1950 Tokyo, Japan. MA 1976 Mathematics Univ of Tokyo. Memberships: Math Soc of Japan; AMS. Instr, Mathematics, Osaka Univ, 1-13-4-307 Kitashin-juku, Shinjuku-Ku Tokyo 160, Japan.

Publications: On the Continuous Cohomology of the Lie Algebra of Vector Fields. *Proc Japan Acad* 53 Ser A(1977) 134-138; Cohomology of the Lie Algebra of Vector Fields on a Complex Manifold. *Invent Math* 34(1976) 1-18; Integral Transformations associated with Double Fiberings. *Osaka J Math* 15(1978) 391-418.

Tuan, San Fu 65-67 M(NS), Theoretical Particle Physics

Born 1932 Tientsin, Hopeh, China. PhD 1958 Applied Mathematics Univ of Calif, Berkeley. Honors: Junior Mackinnon Scholar Magdalen College, Oxford Univ 1951-54; Guggenheim Fellow 1965-66. Appointments: Member, State of Hawaii Governor's Alternate Energy Sources Sub-Committee 1974. Memberships: AMS; Amer Phys Soc. Prof, Department of Physics and Astronomy, University of Hawaii at Manoa, 2505 Correa Rd, Honolulu, HI 96822.

Publications Related to IAS Residence: With T. T. Wu. Theoretical Discussions Concerning the η' (959) and δ (962) Degeneracy. *Phys Rev Lett* 18(1967) 349; Adler Sum Rule and νp - νn Behavior. *Phys Rev D* 7(1973) 2092; Some Consequences of a Model Based on the Gell-Mann Hyperweak Theory of CP Nonconservation. *Phys Rev D* 7(1973) 3503; With I.P. Gyuk. Remarks on the Baryon Mass Spectrum. *Phys Rev* 151(1966) 1253.

Other Publications: With R.H. Dalitz. Possible Resonance in Pion-Hyperon Scattering. *Phys Rev Lett* 2(1959) 425; With Y. Nambu. Considerations on the Magnetic Field Problems in Superconducting Thin Films. *Phys Rev* 133(1964) 1; With I.P. Gyuk. Possible New Baryon States of SU(6) Symmetry. *Phys Rev Lett* 14(1965) 121; With R. McElhaney. Some Consequences of a Modified Kuti-Weisskopf Quark-Parton Model. *Phys Rev D* 8(1973) 2267.

Tucker, Howard Gregory 63-64 M, Probability and Mathematical Statistics

Born 1922 Lawrence, KS. PhD 1955 Mathematics Univ Calif, Berkeley. Honors: Fellow Inst of Math Statistics 1966. Memberships: AMS; MAA; IMS. Prof, Department of Mathematics, University of California, Irvine, CA 92717.

Members

Publications Related to IAS Residence: With H.H. Strat-ton, Jr. Limit distributions of a branching stochastic process. *Ann Math Stat* 35(1964) 557-565; On a necessary and sufficient condition that an infinitely divisible distribution be absolutely continuous. *Trans AMS* 118(1965) 316-330; On quasi-convergence of series of independent random variables. *Proc AMS* 16(1965) 435-439.

Other Publications: With Robert Cogburn. A limit theorem for a function of the increments of a decomposable process. *Trans AMS* 99(1961) 278-284; An estimate of the compounding distribution of a compound Poisson distribution. *Teoriya Veroyatnostey i ee Primeneniya* 8(1963) 211-216; With William N. Hudson. Limit theorems for variational sums. *Trans AMS* 191(1974) 404-426; With William N. Hudson. Equivalence of infinitely divisible distributions. *Ann Probability* 3(1975) 70-79; With William N. Hudson. On admissible translates of infinitely divisible distributions. *Z für Wahrscheinlichkeitstheorie uvG* 32(1975) 65-72; With William N. Hudson. A bivariate strong law of large numbers. *Z für Wahrscheinlichkeitstheorie uvG* 39, 2(1977) 103-110; With P. L. Brockett and W. N. Hudson. The distribution of the likelihood ratio for additive processes. *J Multivariate Anal* 8(1978) 233-243.

Tucker, Robert C. 68-69 HS, Russian History and Politics

Born 1918 Kansas City, MO. PhD 1958 Philosophy Harvard Univ. Honors: Fellow AAAS 1975; Guggenheim Fellow 1968-69; Nomination for Nat Book Awd in Hist for *Stalin as Revolutionary*. Appointments: Chairman, ACLS Planning Group on Comp Communist Studies. Memberships: APSA; AHA. Prof, Politics, Princeton Univ, Chairman Council on Intl & Regl Studies. 44 Hartley Ave, Princeton, NJ 08540.

Publications Related to IAS Residence: ed, *Stalin As Revolutionary 1879-1929: A Study in History and Personality*. NY: W.W. Norton, 1973; *Stalinism: Essays in Historical Interpretation*. New York: W.W. Norton, 1973.

Other Publications: *Philosophy and Myth in Karl Marx*. Cambridge, Eng: Cambridge Press, 1961; *The Marxian Revolutionary Idea*. New York: W.W. Norton, 1969; ed, *The Marx-Engels Reader*. New York: W.W. Norton, 1972; ed, *The Lenin Anthology*. New York: W.W. Norton, 1975; *The Soviet Political Mind*. New York: Prae-ger, 1961.

Tung, Wu-Ki 68-70 NS, Elementary Particle Physics

Born 1939 Kunming, Yunan, China. PhD 1966 Physics Yale University. Appointments: Am Phys Soc. Prof, Physics, Illinois Inst Tech. 1456 E Park Pl, Chicago, IL 60637.

Publications Related to IAS Residence: With Adler. Bjorken Limit in Perturbation Theory. *Phys Rev D*1(1970) 2846; With Cheng. General Local Interactions in Neutrino Scattering. *Phys Rev*

D3(1971) 733; With Cheng. Fixed Poles in Virtual Compton Amplitudes. *Phys Rev Letters* 24(1970) 851. **Other Publications:** Pattern of Scaling Violations Implied by Renormalizable Field Theories. *Phys Rev D*12(1975) 3613; The Gluon Distribution Function Inside the Nucleon and Critical Tests of AFGT. *Phys Rev D*17(1978) 738.

Turán, Paul 48s M, Number Theory

Born 1910 Hungary. PhD 1935 Univ of Budapest. Deceased.

Publications Related to IAS Residence: With P. Erdős. On a Problem in the Theory of Uniform Distribution I. *Indag Math* 10(1948) 370-378; With P. Erdős. On a Problem in the Theory of Uniform Distribution, II. *Indag Math* 10(1948) 406-413; On the Strong Summability of Fourier Series. *J. Indian Math Soc* 12(1948) 8-12; On Descartes-Harriot's Rule. *Bull AMS* 55(1949) 797-800; With P. Erdős. On the Distribution of Roots of Polynomials. *Ann Math* 51 (1960) 105-119.

Turkevich, Ludmilla Buketoff 55-56 HS, Russian-Soviet Area

Born 1909 New Britain, CT. PhD 1949 Columbia Univ. Honors: OE Rep Amer Exhibition in Moscow HEW Summer 1959; USIA citation: Award for distinguished service in recognition of outstanding assistance to the USIA in advancing understanding & goodwill between peoples of US & the peoples of other countries. Memberships: AAUP; MLA (member of Delegate Assembly 1974-77); Amer Assoc of Teachers of Slavic and E Eur Languages; Natl Pres Amer Assoc for the Adv of Slavic Studies; Intl Dosto-evsky Soc; Natl Pres of Slavic Honor society Dobro Slovo. Prof, Dept Chm, Russian Literature, Language and Area Studies, Douglass Coll Rutgers Univ. 109 Rollingmead, Princeton, NJ 08540.

Publications Related to IAS Residence: The Second Congress of Soviet Writers. *Books Abroad* (Winter 1956) 31-35; Soviet Propaganda and the Rebellious Artist. *Russian Rev*(Jan 1956) 49-56; The Chukchi and Soviet Literature. *AATSEEL Jour* (June 1956) 41-51; Russian Women. *Russian Rev* (Jan 1957) 24-36; Soviet Literary Periodicals. *Books Abroad* (Fall 1958) 369-374.

Other Publications: *Cervantes in Russia*. Princeton: Princeton University Press, 1950; *Spanish Literature in Russia and the Soviet Union 1735-1964*. Metuchen, NJ: Scarecrow Press, 1967; *Masterpieces of Russian Literature from its beginnings to 1863*. NY, Van Nostrand. 1966.

Turner, Edwin Lewis 75-76, 76f NS, Astrophysics

Born 1949 Knoxville, TN. PhD 1975 Astronomy Cal Tech. Honors: Virginia Steele Scott Fellow 1974-75; NSF Grad Fellow 1971-74. Appointments: Kitt Peak Nat Observ Users Cttee. Memberships: Amer Astron Soc; IAU. Asst Prof, Astrophysical Sciences,

Princeton University Observatory, Ivy Lane, Peyton Hall, Princeton, NJ 08540.

Publications Related to IAS Residence: Binary Galaxies and Massive Halos. *Comments on Astrophys* 6(1976) 127; With J. N. Bahcall. The Hubble Diagrams of Quasars. In *Proc of IAU Symposium No 74, Radio Astronomy and Cosmology*. 1976; With J. R. Gott. Groups of Galaxies. III. Mass-to-Light Ratios and Crossing Times. *Ap J* 213(1977) 309; With W.L.W. Sargent. A Statistical Method for Determining the Cosmological Density Parameter from the Redshifts of a Complete Sample of Galaxies. *Ap J Lett* 212(1977) 3; With P. Hickson and D. Richstone. Galaxy Collisions in Dense Groups. *Ap J* 213(1977) 323; Mass-to-Light Ratios of Binary Galaxies. In *Proc of IAU Colloquium No 37 and CNRS Colloque International No 30*, 337. 1977; With J. R. Gott. Groups of Galaxies. IV. The Multiplicity Function. *Ap J* 216(1977) 357; With J. P. Ostriker. The Mass-to-Light Ratio of Late Type Binary Galaxies: Luminosity Versus Number Weighted Averages. *Ap J* 217(1977) 24.

Other Publications: Binary Galaxies. I. A Well-Defined Statistical Sample. *Ap J* 208(1976) 20; Binary Galaxies. II. Dynamics and Mass-to-Light Ratios. *Ap J* 208(1976) 304; With J. R. Gott. Groups of Galaxies. I. A Catalog. *Ap J Suppl* 32, 3(1976) 409.

Turner, Eric Gardner 61s, 64f, 68f, 78f HS, The Ancient World

Born 1911 Sheffield, England. MA(Oxon.) 1934. Honors: CBE 1975; Fellow British Academy 1956; Hon Mem Societas Scientiarum Fennica, Humanities Section 1969; For Member Accad di Archeol Soc Naz di Sci, Lett ed Arti Naples 1973; Det Kongelige Danske Videnskabernes Selskab, historisk-filosofiske klasse; Amer Philos Soc 1977; Corresp Mem Osterreichische Ak d W 1975; Sachsische Ak d W 1976; Deut Ar-chäolog Inst 1976; Assoc Acad royale des Scis, des Lettres et des Beaux-Arts de Belgique 1974; Hon Dr Phil et lettres Brussels 1956; Hon DèS Geneva 1976; Hon Litt D Liverpool 1978. Appointments: Pres Internat Assoc of Papyrologists, 1965-74; Vice-President Hellenic Soc, Pres, 1968-71; Chm Organising Cttee, Third Internat Cong of Classical Studies, London, 1959; Organising Cttee, XIVth Internat Cong of Papyrologists, Oxford, 1974; Cttee, Egypt Exploration Soc; Jt Editor, Graeco-Roman publ; Pres, Union Académique Internationale, 1974-77 (Vice-Pres, 1970-73). Memberships: Roman Soc. Prof Emer, Papyrology, c/o Greek Department, University College, Gower Street, WC1E 6BT London, England.

Publications Related to IAS Residence: *Greek Papyri, an Introduction*. Princeton Univ Press, 1968; *Greek Manuscripts of the Ancient World*. Oxford: Clarendon Press, 1971.

Other Publications: *Catalogue of Greek Papyri in University of Aberdeen*. Aberdeen U Press, 1939; With C. H. Roberts. *Catalogue of Greek Papyri in John Ry-lands Library*. 4. Manchester Univ Press,

1951; *The Hibeh Papyri, Part II*. London: Egypt Exploration Soc, 1955; *The Oxyrhynchus Papyri*. 24, 25, 27. London: Egypt Exp Fund, 1957, 1959, 1962; 31, 33, 38. 1966, 1968, 1971; 41. 1972; With H. I. Bell, V. Martin, D. van Berchem. *The Abinnaeus Papyri*. Oxford: Clarendon Press, 1962; *Menander: The Girl from Samos*. London: Athlone Press, 1972; *The Papyrologist at Work*. Duke Univ, 1973; *The Typology of the Early Codex*. U of Penn Press, 1977.

Turner, Stuart Price 70-72 M

Born 1939 Chicago, IL. PhD 1970 Math Brandeis U. Memberships: Soc Mathematica Brasileira. Assoc Prof, Dept de Matemática, PUC, R. Marques de São Vicente 209, 22453 Rio de Janeiro, Brazil.

Publications Related to IAS Residence: Zeta-Functions of Central Simple Algebras over Global Fields. *An Acad Brazil Ciênc* 48 2(1976) 171-186; The Zeta function of a class of rational varieties. *Bull AMS* 80(1974) 917-20; On Hilbert class fields in characteristic $p > 0$ and their L-functions. *Proc AMS* 64(1977) 39-42.

Turner, Victor Witter 75-76 Soc, Anthropology

Born 1920 Glasgow, Scotland. PhD Anthropology Victoria Univ of Manchester. Honors: Fellow Center for Adv Study in Behav Sci 1961-62; Rivers Mem Medal The Royal Anthro Inst 1965; Lewis Henry Morgan Lectures 1966; Am Lectures in Hist & Religion 1973-74; Fellow AAAS 1973. Memberships: Am Anthro Assoc; Royal Anthro Inst; Intl African Inst; Am Soc for Study of Religions; Am Ethnol Soc; Am Assoc Adv Sci. William R. Kenan, Jr., Prof, Anthropology, The Univ of Virginia, Member U Va Center for Advanced Studies, 107 Carrsbrook Dr, Charlottesville, VA 22901.

Publications Related to IAS Residence: *Image and Pilgrimage in Christian Culture; Anthropological Approaches*. NY: Columbia University Press, 1978; Symbol, Process, and System; A New Anthropological Synthesis. In *Daedalus*, Discoveries and Interpretations: Studies in Contemporary Scholarship, Part 1. Summer, 1977; Sacrifice as Quintessential Process: Prophylaxis or Abandonment?. *Hist of Religions* 16, 3(1977).

Other Publications: *Schism and Continuity in an African Society*. Manchester UP, 1957; *The Forest of Symbols*. Ithaca: Cornell UP, 1967; *The Drums of Affliction*. Oxford: Clarendon P, 1968; *The Ritual Process*. Chicago: Aldine, 1969; *Dramas, Fields and Metaphors*. Cornell UP, 1974.

Twitchett, Denis Crispin 73-74 Soc, Chinese Social History

Born 1925 London, England. PhD 1954 Chinese History Cambridge Univ. Honors: FBA 1967. Appointments: ACLS Cttee on Chinese Civilization 1963-1975; SCRC Liaison Cttee on Mod China 1963-70. Memberships: Royal Asiatic Soc; Econ Hist Soc.

Members

Prof, Chinese, Cambridge Univ, 24 Arbury Rd, Cambridge CB4 2JE, England.

Publications Related to IAS Residence: ed, *Cambridge History of China*. 3. forthcoming; ed, *Times Atlas of China*. forthcoming.

Uchida, Kôji 76-77 M, Algebraic Number Theory

Born 1939 Sendai, Japan. D 1971 NatSc Tôhoku Univ. Memberships: Math Soc of Japan. Asst Prof, Mathematical Institute, Tôhoku University, Sendai, Japan.

Publications Related to IAS Residence: Isomorphisms of Galois groups of algebraic function fields. *Ann Math* 106(1977).

Udgaonkar, Bhalchandra Madhav 62-63 M (NS), Elementary Particles

Born 1927 Karad, Maharashtra, India. MSc 1949 Mathematics Bombay Univ. Honors: Fellow Indian Acad of Sci 1969; Pres Indian Phys Assoc 1971-73; Member, Comm on Particles & Fields IUPAP 1969-75; VP Maharashtra Acad of Scis 1975-. Appointments: Member, Univ Grants Commission, 1973-79; Member Exec, Indian Pugwash Soc, 1975-; Special Adviser to Deputy Chmn, Planning Comm Govt of India, 1977-. Senior Prof, Theoretical Physics, Tata Institute of Fundamental Research, Homi Bhabha Rd, Bombay 400005, India.

Publications: Invariants of a tensor of rank two. *Proc Indian Acad* 34(1951) 199; Relativistic field quantization. *Proc Indian Acad* 36(1952) 482; With K.S. Singwi. Polaron self-energy and Bloch-Nordsieck method. *Phys Rev* 94(1954) 38; With M.G. Bhide et al. Neutron studies at Apsara. *Proc 2nd In Conf Atomic Energy* 13(1958) 120; With M.S. Swami. Hyperfragments and isotopic spin selection rules. *Nuovo Cimento* 14(1959) 836; High Energy Physics. *Current Science* 28(435) 1959; With V. Singh. Theory of II-N scattering in the strip approximation to Mandelstam representation. *Phys Rev* 123(1961) 1487; With V. Singh. Self-consistent model for the nonleptonic decays of Λ and Σ hyperons. *Phys Rev* 126(1962) 2248; High Energy cross-sections, Pomeranchuk theorems and Regge poles. *Phys Rev Letters* 8(1962) 142; With M. Gell-Mann. High Energy nuclear scattering and Regge poles. *Phys Rev Letters* 8(1962) 346; With V. Singh. Vector charge and magnetic moment form factors of the nucleon. *Phys Rev* 128(1962) 1820; With V. Singh. Theory of the $J = 3/2$, $I = 3/2$, IIN resonance. *Phys Rev* 130(1963) 1177; With N.N. Khuri. Nucleon as a Regge pole and the $J = 1/2$, $T = 1/2$ IIN phase shifts. *Phys Rev Letters* 10(1963) 172.

Uhlenbeck, George Eugene 48-49, 58-59 M(NS), Physics

Born 1900 Jakarta, Indonesia. PhD 1927 Theoretical Physics Univ of Leiden. Honors: NAS; Royal Acad of Sci, (Netherlands); Research Corp Award 1953; Oersted Medal 1956; Planck Medal 1964; Lorentz

Medal 1970; National Medal of Science 1977; Commander of the Order of Orange-Nassau 1977; Hon degrees: Case Institute 1960; Univ of Colorado 1968; Univ of Notre Dame 1953; Yeshiva Univ 1969; Rockefeller Univ 1976. Memberships: Acad dei Lincei (Rome); Amer Phys Soc (President 1959-60). Prof Emer, The Rockefeller University, New York, NY 10021.

Publications Related to IAS Residence: With A. Pais. On Field Theories with Non-Localized Action. *Phys Rev* 70(1950) 145-165; With A. Pais. On the Quantum Theory of the Third Virial Coefficient. *Phys Rev* 116(1959) 250-269.

Other Publications: With S.A. Goudsmit. *Naturwissenschaften* 13(1925) 953; With S.A. Goudsmit. *Nature* 107(1926) 264.

Uhlenbeck, Karen 79-80 M

Born 1942 . PhD 1968 Brandeis Univ. Prof, Dept of Math, Univ of Illinois at Chicago Circle, Chicago, IL 60690. *

Uhlenbrock, Dietrich Albert 64-66 M(NS), Mathematical Physics

Born 1937 Schweinfurt, Germany. PhD 1963 Theoretical Physics New York Univ. Memberships: NY Acad of Sci. Prof, Mathematics and Physics, Dept of Mathematics, University of Wisconsin, Madison, WI 53706.

Publications Related to IAS Residence: Fermions and associated Bosons of One-dimensional Model. *Comm Math Phys* 4(1967) 64-76; Properties of Quantum Statistical Expectation Values. *J Math Phys* 7(1966) 885-893.

Other Publications: With R. Schrader. Markov Structures on Clifford Algebras. *J Func Anal* 18(1975) 369-413; With R. Seiler. On the massive Thirring Model. *Ann Physics* 105(1977) 81-110; With H. Hess, R. Schrader. Domination of Semigroups and Generalization of Kato's Inequality. *Duke Math J* 44(1977) 893-904.

Ulam, Stanislaw M. 36s M

Born 1909 Lwow, Poland. DSc 1933. Honors: Dr(hc) U of New Mexico 1970; U of Wisconsin 1977; U of Pittsburgh 1977; NAS; AAAS; Amer Philos Soc. Appointments: Pres Kennedy's Sci Adv Committee. Research Prof, U of Fla, Gainesville, Emer Prof U of Colorado, 1122 Old Santa Fe Trail, Sante Fe, NM

Publications Related to IAS Residence: *Adventures of a Mathematician*. Scribners, 1976.

Ullom, Stephen Virgil 69-70 M, Number Theory

Born 1938 Washington, DC. PhD 1968 Mathematics Univ of Md. Honors: NSF Postdoc Fellow 1968-69; Visit Researcher with grant from Sci Res Council of G. B. King's Coll, London 1973. Memberships: AMS; MAA. Prof, Mathematics Dept, Univ of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: Integral representations afforded by ambiguous ideals in some abelian extensions. *J of Number Theory* 6(1974) 32-49.

Other Publications: Nontrivial lower bounds for class groups of integral group rings. *Ill J of Math* 20(1976) 361-371; Class groups of cyclotomic fields and group rings. *J of London Math Soc* 2, 17(1978) 231-239.

Ulrich, Roger Keith 75f NS, Astrophysics

Born 1942 Berkeley, CA. PhD 1968 Univ Calif, Berkeley. Memberships: AAS; IAU. Prof, and Chairman, Dept of Astronomy, UCLA, Los Angeles, CA 90024.

Publications Related to IAS Residence: An Infall Model for T Tauri Stars. *Ap J* 210(1976) 377; A Non-Local Mixing Length Theory. *Ap J* 207(1976) 564.

Uluçay, Cengiz 46-48 M

Born 1915 Istanbul, Turkey. PhD 1946 Math Columbia Univ. Memberships: Head Ed Bd *Jour of the Fac Sc of the Karadeniz Technical Univ (KTÜ)*. Prof, Mathematics, Ankara Univ, Invited Prof Karadeniz Technical University, Kavaklıdere Güniz Sokak No 23/17, Ankara, Turkey.

Publications Related to IAS Residence: *Conformal Mapping*. Ankara: *Fac Sci Ankara Univ*, 1955.

Other Publications: A General Formulation of an Extremalization Problem. *Fac Sci Ankara Univ* 19 A(1971) 11-22; On The Constant a . *Fac Sci Ankara Univ* 21 A(1972) 77-88; Proof of Bieberbach's Conjecture. *Fac Sci Ankara Univ* 22 A(1973) 1-20; On an Extremalization Method in The Theory of Analytic Functions. *Fac Sci Ankara Univ* 23 A(1974) 85-93; Converse of the Maximum Modulus Theorem and Rings of Continuous Complex Functions. *Fac Sci Ankara Univ* 24(1975) 1-7; Characterizations of Riemann Surfaces. *J Fac Sci KTÜ* 1, 1(1977) 1-6; Characterization of n -Dimensional Complex Manifolds. *J Fac Sci KTÜ* 2,1(1978) 1-15; Maximal Ideals in the Ring of Continuous Complex-Valued Functions of Several Complex Variables. *J Fac Sci KTÜ* 2,2(1978) 17-26; Algebraic Characterization of Separable Topological Spaces and of Separable n -Dimensional Complex Analytic Manifolds. *J Fac Sci KTÜ* 2,3(1978) 27-30.

Unguru, Sabetai 76-77 HS, History of Science

Born 1931 Rumania. PhD 1970 History of Science U of Wisconsin (Madison). Honors: First Prize Rumania 1950-54; Diploma de Merit 1954; ACLS Grant-in-Aid 1973. Appointments: MidWest Assoc of the Hist of Sci Secy-Treas, 1975-77. Memberships: Hist of Sci Soc; AAUP. Assoc Prof, Dept of the History of Science, Univ of Oklahoma, 601 Elm St., Room 621, Norman, OK 73019.

Publications Related to IAS Residence: A Thirteenth-Century 'Proof of the Parallel Postulate. *Hist Math*5(1978) 205-210; Incommensurability and

Irrationality: A New Historical Interpretation. *Hist of Sci* 15(1977) 216-227.

Utiyama, Ryoyu 54-56 M(NS), Theoretical Physics

Born 1916 Shizuoka, Shizuokaken, Japan. PhD 1951 Physics Osaka Univ. Prof, Physics, Osaka Univ, Dean Faculty of Science Osaka University, Nara-ken, Kita-Katsuragi-gun, Kawai-cho, Nakayamadai, 2-3-15, Japan.

Publications Related to IAS Residence: Invariant Theoretical Interpretation of Interaction. *PR* 101(1956) 1597; With W. Tobocman. Conservation of Parity and New Particles. *PR* 98(1955) 780; A Theory of New Particles. *PR* 100(1955) 248.

Other Publications: With B.S. DeWitt. Renormalization of a Classical Gravitational Field interacting with Quantized Matter Fields. *J Math Phys* 3(1962) 608.

Utz, W. Roy 55-56 M

Born 1919 Boonville, MO. PhD 1948 Univ of Virginia. Honors: NSF Grant 1962-63. Memberships: Sigma Xi; Phi Kappa Phi; AMS; London Math Soc; MAA. Prof, Department of Mathematics, University of Missouri, Columbia, MO 65211.

Publications Related to IAS Residence: Boundedness and periodicity of solutions of the generalized Liénard equation. *Annali di Math Pura ed Appl* 42(1956) 313-324; A note on second order nonlinear differential equations. *Proc Amer Math Soc*7(1956) 1047-1048; A third order differential equation. *Monatshefte für Math* 60(1956) 329-332; Su una nota di De Castro. *Boll della Unione Math Ital* 11 (1956) 28-31.

Other Publications: Unstable homeomorphisms. *Proc Amer Math Soc* 1(1950) 767-774; Almost periodic geodesics on manifolds of hyperbolic type. *Duke Math J* 18(1951) 147-164; A note on unrestricted regular transformations. *Pacific Math J* 1 (1951) 447-454; With V. L. Klee. Some remarks on continuous transformations. *Proc AMS* 5(1954) 182-184; With H. D. Brunk and G. M. Ewing. Some Helly theorems for monotone functions. *Proc AMS* 7(1956) 776-783; A note on second order nonlinear differential equations. *Proc AMS* 7(1956) 1047-1048; Boundedness and periodicity of solutions of the generalized Liénard equation. *Annali di Math Pura ed Appl* 42(1956) 313-324; With H. D. Brunk and G. M. Ewing. Minimizing integrals in certain classes of monotone functions. *Pacific J of Math* 7(1957) 833-847; With J. F. Jakobsen. The nonexistence of expansive homeomorphisms on a closed 2-cell. *Pacific J of Math* 10(1960) 1319-1321; With C. H. Cunkle. Equicontinuous and related flows. *Colloquium Math* 8(1961) 209-222; Properties of solutions of $u'' + g(t)u^{2n-1} = 0$. *Monatshefte für Math* 66(1962) 55-60; Properties of solutions of $u'' + g(t)u^{2n-1} = 0$, II. *Monatshefte für Math* 69(1965) 353-361; With Paul Waltman. Asymptotic almost periodicity of solutions of a system of differential equations. *Proc AMS* 18(1967) 597-601; Properties of solutions of certain nonlinear

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differential equations of the form $x'' + g(x)x'^2 + f(x) = 0$. *Annali di Mat Pura ed Appl* 81(1969) 61-68; Periodic solutions of a nonlinear second order differential equation. *SIAM Journal on Appl Math* 19(1970) 56-59; Oscillating solutions of third order differential equations. *Proc AMS* 26(1970) 273-276; The nonoscillation of a solution of a third order equation. *SIAM J Math Anal* 1(1970) 535-537; Periodic solutions of $x'' + f(x)x'^m + g(x) = 0$. *Annales Polonici Mathematici* 24(1971) 327-330; Periodic solutions of second order differential equations with nonlinear nondifferentiable damping. *SIAM J Appl Math* 31(1976) 504-510.

Vagts, Alfred 38-42 HS(EP), History

Born 1892 Basbeck, Germany. PhD 1927 History. Memberships: AHA. Sherman, CT 06784.

Publications Related to IAS Residence: *Landing Operations; Strategy, Psychology, Tactics, Politics, from Antiquity to 1945*. Harrisburg: Military Publishing Co., 1946; Hopes and Fears of an American-German War, 1870-1915, I. *Pol Sci Q* 54(1939) 514-535; Land and Sea Power in the Second German Reich. *Mil Affairs* 3(1939) 210-221; William II and the Siam Episode. *Amer Hist R* 45(1939/40) 834-840; The German Army of the Second Reich as a Cultural Institution. In *The Cultural Approach to History*, ed. by Ware, Caroline F., 182-196. New York: 1940; Hopes and Fears of an American-German War, 1870-1915, II. *Pol Sci Q* 55(1940) 53-76; War and the Colleges. *Mil Affairs* 4(1940) 67-75; Battle-Scenes and Picture-Politics. *Mil Affairs* 5(1941) 87-103; Ivory Towers into Watchtowers. *Virginia Quart Rev* 17(1941) 161-178; The United States and the Balance of Power. *J Pol* 3(1941) 401-449; Age and Field Command. *Mil Affairs* 6(1942) 13-20; Generals—Old or Young. *J Pol* 4(1942) 396-406; The Balance of Power: Growth of an Idea. *World Pol* 1(1948/49) 82-101.

Valatin, John George 60s M(NS), Theoretical Physics

Born 1918 Budapest, Hungary. DSc 1950 Univ of Paris. Queen Mary College, University of London, London E1, England. *

Valensi, Lucette 76-77 Soc

Born 1936 Tunis, Tunisia. Memberships: Soc d'hist mod et contemp; Middle East Studies Assoc of N Amer. Prof, History, Université de Paris-8, Dir d'Études École des Hautes Études en Sci Soc. 1 Villa Auguste Blanqui, 75013 Paris, France.

Publications Related to IAS Residence: *On the Eve of Colonialism: North Africa Before the French Conquest 1790-1830*. NY: Africana Publishing Company, 1978; Jean Dresch et l'histoire sociale de l'Afrique du Nord. *Hérodote* 11(1978) 35-41; In *Histoire économique et sociale du monde*, ed. by P. Leon, 3: 255-277 and 557-586. 4: 501-528. Paris: A. Colin, 1978.

Other Publications: *Le maghreb avant la prise d'Alger*. Paris: 1969; *Fellahs tunisiens: l'économie rurale et la vie des campagnes aux 18^e et 19^e siècles*. Paris: La Haye, 1977.

Vallarta, Manuel Sandoval 48f, 50f, 52f M(NS), Nuclear Physics

Born 1898 Mexico City, Mexico. PhD 1924 Theoretical Physics MIT. Honors: Dr (hc) Univ Nac Aut de Mexico 1933; Dr (hc) Univ de Michoacán 1942; French Legion of Honor 1952; Dr (hc) Univ de las Américas 1965; AAAS; Am Philos Soc. Memberships: Sigma Xi; AMS. Academic Dir, Institute of Nuclear Energy, Tabasco 204 Mexico 7, DF Mexico.

Van Dam, James Walter 79-80 NS, Plasma Physics

Born 1948 Kalamazoo, MI. PhD 1979 Physics UCLA. Memberships: Am Phys Soc. 68 Einstein Dr, Princeton, NJ 08540.

Publications: With Y.C. Lee. Kinetic Theory of Ballooning Instabilities. In *Proc Varenna Finite Beta Workshop, 1977*, 93. USDOE, 1979.

Vance, Robert Neil 74-75 M, Algebraic Topology

Born 1948 La Jolla, CA. PhD 1974 Mathematics University of Virginia. Memberships: Assoc of Soc of Actuaries. Lecturer, Insurance, Wharton School, University of Pennsylvania, 4410 Pine Street, Philadelphia, PA 19104.

Vanderpool, Eugene 55s HS, Archaeology

Born 1906 Morristown, NJ. AB 1929 Princeton Univ. *

Varadarajan, Veeravalli Seshadri 68sf M, Analysis, Semisimple Groups

Born 1937 Bangalore, India. DPhil 1960 Univ of Calcutta. Prof, Univ of California, Dept of Math, Los Angeles, CA 90024.

Publications Related to IAS Residence: With P.C. Trombi. Spherical Transforms on Semisimple Lie Groups. *Ann Math* 94, 2(1971) 246-303; With P.C. Trombi. Asymptotic Behavior of Eigen Functions on A Semisimple Lie Group: The Discrete Spectrum. *Acta Math* 129(1972) 237-280.

Other Publications: With K.R. Parthasarathy and R. Rangarao. Representations of Complex Semisimple Lie Groups and Lie Algebras. *Ann Math* 85, 3(1967) 383-429; With T.J. Enright. On an infinitesimal Characterization of the Discrete Series. *Ann Math* 102(1975) 1-15; *Geometry of Quantum Theory*. 1, 2. New York: Van Nostrand, 1968, 1970; Probability in Physics and a Theorem on Simultaneous Observability. *Commun Pure App Math* 15(1962) 189-217.

Varberg, Dale E. 64-65 M

Born 1930 Forest City, IA. PhD 1959 Math U of Minnesota. Honors: NSF Postdoc Fellow 1964-65; NSF Sci Fac Fellow 1971-72. Memberships: AMS; MAA. Prof, Math, Hamline Univ, 1363 W Roselawn, St. Paul, MN 55113.

Publications Related to IAS Residence: Linear Transformations of Gaussian Measures. *Trans AMS* 112(1966) 98-111; Convergence of Quadratic Forms in Independent Random Variables. *Ann Math Stat* 37(1966) 567-576.

Other Publications: With A. Wayne Roberts. *Convex Functions*. New York: Academic Press, 1973.

Vargas, Jorge Antonio 77-78 M, Mathematics

Born 1949 Canals, Cordoba, Argentina. PhD 1977 Math Columbia Univ. Assoc Prof, Math, Universidad Nacional de Cordoba, Argentina, IMAF, Ciudad Universitaria, (5000) Cordoba, Argentina.

Publications Related to IAS Residence: *A new proof of a theorem of Harish-Chandra*. Notas de Matemática, 1. Un Mac Cordoba, 1978.

Varley, Robert, Jr. 79-80 M, Algebraic Geometry

Born 1951 Durham, NC. PhD 1977 Univ of No. Carolina. 1430 Wilson Ave, Salt Lake City, UT 84112. *

Vasquez, Alphonse Thomas 62-64 M, Geometry

Born 1938 Boston, MA. PhD Univ of Cal, Berkeley. CUNY, Grad Div, 33 W 42nd St, New York, NY 10036.*

Vayer, Lajos 75s HS, Italian Renaissance Art

Born 1913 Hungary. PhD 1936 Budapest Univ. *

Veech, William Austin 68-69, 72s, 76-77 M, Analysis

Born 1938 Detroit, MI. PhD Math Princeton Univ. Honors: Sloan Fellow 1971-73. Memberships: AMS. Prof, Mathematics Department, Rice University, Houston, TX 77001.

Publications Related to IAS Residence: Point distal flows. *Amer J Math* 92(1970) 205-242; A zero-one law for a class of random walks and a converse to Gauss' mean value theorem. *Ann Math* 97(1973) 189-216; Interval exchange transformations. *Journal d'Analyse Mathematique* 33(1978) 222-272; Minimal set and Souslin sets. In *Recent Advances in Topological Dynamics*, 253-265. Springer-Verlag; G-almost automorphic functions. In *Problems in Analysis, A Symposium in Honor of Salomon Bochner*, ed. by Robert C. Gunning, 345-351. Princeton: Princeton Univ Press, 1970.

Other Publications: Almost automorphic functions on groups. *Amer J Math* 87(1965) 719-751; Strict ergodicity in zero dimensional dynamic systems and the Kronecker-Weyl theorem mod 2. *Trans AMS* 140(1969) 1-33; Some questions of uniform distribution. *Ann Math* 94(1971) 125-138; A converse

to the mean value theorem for harmonic functions. *Amer Jour Math* 97(1975) 1007-1027; Unique ergodicity of horospherical flows. *Amer J Math* 99(1977) 827-859; Topological Dynamics. *Bull AMS* 83(1977) 775-830.

Ven, Ton van de 59-61 M, Algebraic Geometry

Born 1931 The Netherlands. PhD 1957 Univ of Leiden. Vreewijkstraat 12, Mathematisch Instituut, Leiden, Netherlands. *

Venema, Gerard A. 77-79 M, Geometric Topology

Born 1949 Grand Rapids, MI. PhD 1975 Math U of Utah. Memberships: AMS; MAA. Asst Prof, Department of Mathematics, Calvin College, Grand Rapids, MI 49506.

Publications Related to IAS Residence: With Y. Matsumoto. Failure of the Dehn lemma on contractible 4-manifolds. *Invent Math* (in press); Neighborhoods of compacta in Euclidean space. *Fund Math* (in press); With T.B. Rushing. A weak flattening criterion for compacta in 4-space. *Proc of the 1977 Georgia Topology Conference* (in press); The Fundamental Dimension of Embedding. *Proc of 1978 Warsaw Geometric Topology conf* (in press).

Other Publications: Approximating disks in 4-space. *Mich Math J* 25(1978) 19-27; A topological disk in a 4-manifold can be approximated by piecewise linear disks. *Bull AMS* 83(1977) 386-387; Embeddings of compacta with shape dimension in the trivial range. *Proc AMS* 55(1976) 443-448; Weak flatness for shape classes of sphere like continua. *General Topology and its Applications* 7(1977) 309-319.

Veneziano, Gabriele 70f NS, Particle Physics

Born 1942 Florence, Italy. PhD 1967 Physics Weizmann Inst. Honors: Amos de Shalit Chair at Weizmann Inst 1975. Appointments: PSSC Committee, CERN 1979-. Memberships: European Phys Soc. Staff Member, Theory Division, CERN, 1211 Geneva 23, Switzerland.

Publications Related to IAS Residence: With D. Gordon. Inclusive reactions and dual models. *Phys Rev D* 3(1971) 2116; Duality and the bootstrap. *Phys Letters* 34B(1971) 59; With M. B. Green. Average properties of dual resonances. *Phys Lett* 36B(1971) 477.

Other Publications: On the approximate saturation of the algebra of moments. *Nuovo Cimento* 44(1966) 295; With M. Ademollo, H. R. Rubinstein, M. A. Virasoro. Bootstrap-like conditions from superconvergence. *Phys Rev Letters* 19(1967) 1402; With H. R. Rubinstein and M. A. Virasoro. Fixed poles and compositeness. *Phys Rev* 16(1968) 1441; Construction of a crossing-symmetric, Regge behaved amplitude for linearly-rising trajectories. *Nuovo Cimento* 57A(1968) 190; With S. Fubini. Level structure of dual resonance models. *Nuovo Cimento* 64A(1969) 811; With S. Fubini & D. Gordon. A general treatment of factorization in dual resonance

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models. *Phys Letters* 29B(1969) 679; Inclusive reactions and dual models. *Phys Rev D*3(1971) 2116; Inclusive approach to unitarity. *Phys Rev Letters* 28(1972) 578; With C. Edwards Jones, F. E. Low, S.-H. H. Tye. Some general consequences of Regge theory for Pomeranchukon-pole couplings. *Phys Rev D*6(1972) 1033; Origin and intercept of the Pomeranchuk singularity. *Phys Lett* 43B(1973) 413; Regge intercepts and unitarity in planar dual models. *Nuclear Phys B*74(1974) 365; Large N expansion in dual models. *Phys Letters* 52B(1974) 220; With M. Ciafaloni & G. Marchesini. A topological expansion for high-energy hadronic collisions: I. General properties and connection with the Reggeon calculus. *Nuclear Phys B*98(1975) 472; With M. Ciafaloni & G. Marchesini. A topological expansion for high-energy hadronic collisions: II. s-channel discontinuities and multi-particle content. *Nuclear Phys B*98(1975) 493; Some aspects of a unified approach to gauge, dual, and Gribov theories. *Nuclear Phys B*117(1976) 519; With G. C. Rossi. A possible description of baryon dynamics in dual and gauge theories. *Nuclear Phys B*123(1977) 507; With K. Konishi & A. Ukawa. A Simple Algorithm for QCD Jets. *Phys Letters* 783(1978) 243.

Ver Steeg, Clarence L 67-68 HS, Early United States History

Born 1922 Orange City, IA. PhD 1950 History Columbia Univ. Honors: Fellow SSRC 1948-49; Fellow George A. and Eliza Gardner Howard Foundation 1954-55; Res Fellow Huntington Library 1955; Sr Fellow ACLS 1958-59; Guggenheim Fellow 1964-65; Albert J. Beveridge Prize AHA 1952; Sr Fellow NEH 1973. Appointments: Chm, Fac Cttee to Recommend Master Plan Higher Ed in Ill 1962-64; Member, Council Inst Early Amer Hist and Culture, Williamsburg, Va, 1961-64, 71-, Chm, 1970-71. Memberships: AHA Chmn Nominating Cttee 1967-68; Orgn Am Historians, So Hist Assn Nominating Cttee 1970-; Southern Hist Assn. Prof, History, and Dean, Graduate School, Northwestern University, Rebecca Crown Center, Evanston, IL 60201.

Publications Related to IAS Residence: *Origins of the Southern Mosaic*. Athens, Ga: Univ of Georgia Press, 1975.

Other Publications: *Robert Morris, Revolutionary Financier*. Univ of Pennsylvania Press, 1954; *Tailfer's A True and Narrative History of Georgia*. Univ of Georgia Press, 1960; *The Formative Years, 1607-1763*. New York: Hill and Wang, 1964; *A People and a Nation*. New York: Harper and Row, 1971; *Great Issues in American History: From Settlement to Revolution, 1584-1776*. New York: Vintage, Random-House, 1969.

Verbeke, Gerard 68f HS, History of Greek Philosophy

Born 1910 Waregem, Belgium. Dr et Magister Philosophiae Univ of Louvain. Honors: Member Belgian Royal Acad Sci 1978-; Permanent Secy

Royal Acad, Brussels; Dr (hc) Univ of Milan. Appointments: Pres Internatl Acad Union 1971-1974. Memberships: VPres Intl Assoc for Medieval Philos; Member Cttee of the Hellenic Soc for Humanistic Studies. Prof, Univ of Louvain, De Croyplein 9, 3009 Winksele, Belgium.

Publications Related to IAS Residence: *Le stoïcisme, une Philosophie sans frontières*. In *Aufstieg und Niedergang der Römischen Welt, I: Von den Anfängen Roms bis zum Ausgang der Republik*, 4: 3-42. Berlin-New York: 1973; Philosophie et séméiologie chez les Stoïciens. In *Etudes philosophiques présentées au Dr. Ibrahim Madkour*, 15-38. Gebo: 1974; Der Nominalismus der stoischen Logik. In *Allgemeine Z für Philos*, 3: 36-55. Stuttgart: Fromann-Holzboog, 1977; La Philosophie du signe chez les Stoïciens. In *Les Stoïciens et leur logique*, 401-424. Paris: Vrin, 1978.

Other Publications: Het wetenschappelijk profiel van Willem van Moerbeke. In *Mededelingen der Koninklijke Nederlandse Akademie van Wetenschappen*, 38, 4. Amsterdam-Oxford: 1975; Doctrine du pneuma et entéléchisme chez Aristote. In *Aristotle on Mind and the Senses*, ed. by G.E.R. Lloyd and G.E.L. Owen, 191-214. Cambridge: 1978; Pourquoi "trois" hypostases principales chez Plotin? In *Recherches d'Islamologie*, Recueil d'articles offert à Georges C. Anawati et Louis Gardet par leurs collègues et amis: 359-379. Louvain: Peeters, 1978.

Verde, Mario 54-56 M(NS), Nuclear Physics

Born 1920 Taranto, Italy. Priv doz 1950 ETH-Zurich. Prof, Theoretical Physics, Univ of Turin, Istituto di Fisica Università, C.so M. D'Azeglio 46, 10125 Turin, Italy.

Publications Related to IAS Residence: The three-body problem in nuclear physics. *Handbuch Phys* 39(1957) 144.

Other Publications: With G. C. Wick. Some stationary distributions of neutrons in an infinite medium. *Phys Rev* 71(1947) 852; Asymptotic expansions of phase shifts at high energies. *N Cim* 2(1955) 1001; The high energy limit of the potential scattering I: Non-relativistic Kinematics. *N Cim* 6(1957) 340; II: Relativistic Kinematics. *N Cim* 8(1958) 560; The inversion problem in wave mechanics and dispersion relations. *Nucl Phys* 9(1958) 255; Phase shifts and model potentials. *Helv Phys Acta Supplementum V* Beitrage zur Entwicklung der Physik(1960); On the Green's Function of Potential Scattering. *N Cim* 28(1963) 547; With I. Ferretti. On the Wigner coefficients of the three-dimensional Lorentz-Group. *N Cim* 55(1968) 110.

Verdier, Philippe M. 64-65 HS, History of Art

Born 1912 Lambersart, Nord, France. Agré des Lett 1936 Sorbonne. Honors: Chevalier Légion d'Honneur 1966; Soc Royale du Canada 1978. Appointments: Com prog Conf des Recteurs et Principaux Québec; Rep Canada Com Internatl de l'Hist de l'Art. Memberships: Internatl Center of Medieval Art; Musée

Beaux-Arts Montréal. Prof, F.A.S. Histoire de l'Art, Université de Montréal, Montreal, Canada.

Publications Related to IAS Residence: *Le Couronnement de la Vierge. Origines et premiers développements d'un thème iconographique.* Montreal: 1979; articles In *The New Catholic Encyclopedia*, 1: 659-63; 682-7. Washington, DC: 2: 533-5. 4: 792-3. 7. 780-8: 12: 802-6. 14: 307-9, 710-1. A Mosan Plaque with the Vision of the Sign Thau in Ezechiel. *J Walters Art Gallery* 29-30(1967) 17-47.

Other Publications: *The Painted Enamels of the Renaissance.* Baltimore: 1967; With P.F. Brieger and M.F. Montpetit. *Art and the Courts, France and England, 1259-1328.* The National Gallery of Canada, 1972; *Limoges Painted Enamels.* The Frick Collection, 8. New York: 1977.

Verheyen, Egon 62-63 HS, History of Art

Born 1936 Germany. PhD 1961 Univ of Wurzburg. *

Verma, Daya-Nand 67-68, 77-78 M, Representation Theory

Born 1933 Banaras, Uttar Pradesh, India. PhD 1966 Mathematics Yale Univ. Memberships: Life Member: Indian Math Soc; AMS; MAA. Visiting Prof, Mathematics, Clark Univ. School of Mathematics, TIFR, Homi Bhabha Rd, Bombay 400 005, India.

Publications Related to IAS Residence: The role of affine Weyl groups in the representation theory of algebraic Chevalley groups and their Lie algebras. In *Lie groups and their representations, Proceedings of the 1971 Summer School at Budapest*, ed. by I.M. Gelfand, 653-706. Budapest: Akadémiai Kiadó, 1975.

Other Publications: Structure of certain induced representations of complex semisimple Lie algebras. *Bull AMS* 74(1968) 160-166.

Verney, Douglas Vernon 77-78 Soc, Political Science

Born 1924 Liverpool, England. PhD 1954 Political Science Liverpool Univ. Honors: Queen Elizabeth II Silver Jubilee Medal 1978. Appointments: Dir SSRC Canada, 1972-74. Memberships: Canad Pol Sci Assoc (Pres 1969-70). Prof, Dept of Pol Sci, York Univ, Downsview, Ont M3J 1P3, Canada.

Publications Related to IAS Residence: Has There Been a Distinctive Canadian Political Tradition?. *J of Commonwealth & Comp Politics* 16, 3(1978) 231-255.

Other Publications: *Parliamentary Reform in Sweden 1866-1921.* Oxford: Clarendon Press, 1957; *The Analysis of Political Systems.* London: Routledge, 1959; A Canadian Political Community? The Case for Tripartite Confederation. *J of Commonwealth & Comp Politics* 12, 1(1974) 1-19.

Vesentini, Edoardo 58-60 M, Differential Geometry

Born 1928 Rome, Italy. Libera docenza 1956 Univ of Rome. Appointments: Ital Natl Res Council 1968-1972; IMU Exec Comm 1966-1974. Memberships:

AMS; Unione Math Ital. Prof, Geometry, and Gold medal for Math Sci 1976 Accad dei XL, Scuola Normale Superiore, Piazza Cavalieri 7, I-56100 Pisa, Italy.

Vickers, Michael 76s HS, Archaeology, Art History

Born 1943 Manchester, England. MA(Oxon.). Honors: Corr Member German Archaeol Inst 1978. Asst Keeper, Classical Greek Archaeology, and Member of the Sub-Faculty Ancient History, Ashmolean Museum, Oxford, England.

Publications Related to IAS Residence: A Greek source for Pollaiuolo's "Battle of the Nudes" and "Hercules and the Twelve Giants". *Art Bull* 59(1977) 182-187; The sources of Invidia in Mantegna's "Battle of the Sea Gods". *Apollo* (1977) 270-273; *The Roman World.* Oxford: Elsevier/Phaidon, 1977.

Villamayor, Orlando Eugenio 57s, 57-58 M, Algebra

Born 1923 Buenos Aires, Argentina. BA Aero Engin U of Cordoba, Spain. Appointments: Pres Natl Research Council, Argentina, 1973; Inter Amer Sci Cttee, OAS 1974/78. Prof, Univ of Buenos Aires, Arcos 2297, 1428 Buenos Aires, Argentina.

Villars, Felix M. H. 49-50 M(NS), Theoretical Physics

Born 1921 Switzerland. PhD 1946 ETH. *

Publications Related to IAS Residence: On the Energy-Momentum Tensor of the Electron. *Phys Rev* (2) 79(1950) 122-128.

Vinciarelli, Patrizio 77s NS, Particles, Field Theory

Born 1946 Rome, Italy. PhD Physics Rome U. Instr, Physics Dept, Princeton Univ, Princeton, NJ 08540.

Publications Related to IAS Residence: *Phys Rev Lett* 38(1977) 1179.

Virasoro, Miguel A. 75-76, 76f NS, Theoretical Physics

Born 1940 Argentina. PhD 1967 Univ of Buenos Aires. Laboratoire de Physique Theorique, Ecole Normale Superieure, 24, Rue Llomond, Paris 75231, France. *

Vitale, Bruno 63f M(NS), Physics

Born 1929 Italy. Libera Docenza 1958 Univ of Naples.*

Vivarelli, Roberto 69-70 HS, European History

Born 1929 Siena, Italy. LibDoc 1967 Contemp Hist. Memberships: AHA. Prof, Modern History, Univ of Florence, Via Dante da Castiglione 1, 50125 Florence, Italy.

Publications Related to IAS Residence: Italia liberale e fascismo: Considerazioni su di una recente storia d'Italia. *Rivista Storica Italiana* 82(1970) 669-

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703; editor, G. Salvemini "The Origins of Fascism in Italy". Harper & Row, 1973.

Vlastos, Gregory 54-55 HS, Classical Philosophy

Born 1907 Constantinople, Turkey. PhD 1941 Harvard Univ. Honors: SSRC Can Res Grant 1944; Guggenheim Fellow 1950; AAAS. Memberships: Am Philos Assn; Am Philol Assn; ACLS; Soc for Prom of Hellenic Studies. Stuart Prof Emer, Philosophy, Princeton Univ, 1439 Le Roy Ave, Berkeley, CA 94708.

Publications Related to IAS Residence: The Third Man Argument in the *Parmenides*. *Philos Rev* 63(1954) 319-49; Addenda to the Third Man Argument. *Philos Rev* 64(1955) 438-48; Postscript to the Third Man. *Philos Rev* 65(1956) 83-94.

Other Publications: On Heraclitus. *Amer J Philol* 76(1955) 337-63; Review of F. M. Cornford, *Principium Sapientiae*. *Gnomon* 27(1955) 65-76; Review of G. S. Kirk, *Heraclitus, The Cosmic Fragments*. *Amer J Philol* 76(1955) 312-13.

Vogan, David Alexander, Jr. 77-79 M, Representation Theory

Born 1954 Mercer, PA. PhD 1976 Mathematics MIT. Memberships: AMS. Asst Prof, Department of Mathematics, MIT, Cambridge, MA 02139.

Publications Related to IAS Residence: Irreducible characters of semisimple Lie groups I. *Duke Math J* 46(1979); Gelfand-Kirillov dimension for HarishChandra modules. *Inv Math* 48(1978) 75-98; A generalized [?]-invariant for the primitive spectrum of a semisimple Lie algebra. *Math Ann* (in press); Ordering of the primitive spectrum of a semisimple Lie algebra. *Math Zeit* (in press).

Other Publications: The algebraic structure of the representations of semisimple Lie groups. *Ann Math* 109(1979).

Vogel, Pierre 77f M, Topology

Born 1945 Toul, France. Dès Sc 1972 Math University d'Orsay. Memberships: SMF; AMS. Maître de Conférences, Université de Nantes, 2 Chemin de la Houssinière, 44072 Nantes (Cedex), France.

Publications: Cobordisme d'Immersion. *Ann Sci de l'ENS* (1975); A-Spheres. *Ann Sci de l'ENS* (1975); Un Theoreme d'Hurewicz Homologique. *Comm Math Helv* 52(1977) 393-414; The Plus Construction and Lifting Maps from Manifolds. *Proc Symp Pure Math*. Providence: AMS, 1978; Reduction of structures on manifolds by semi-s-cobordism. In *Topology and Algebra, Proc Conf in Honor of B. Eckmann*, ed. by M.-A. Knus, G. Mislin, and U. Stambach, Monograph 26: 117-124. Geneva: L'Enseignement Mathématique, 1978.

Vovelle, Michel 76 77 Soc

Born 1933 Gallardon-Eure et Loir, France. Dès L d'État 1971 Hist. Honors: Agrégé d'Histoire 1956;

Élève du l'École Norm Sup de St Cloud 1953-1956; Chevalier des Palmes Académiques 1973. Appointments: Comm d'Hist Econ et Soc de la Revolution Française; Vice Pres (Lettres) Concours d'Entrée à l'École Norm Sup de St Cloud. Memberships: Soc d'Études Robe-spierristes. Prof, Hist Moderne, Université de Provence, Dir Cen Meridional d'Hist Sociale, des Mentalités et des Cult Aix en Provence, 3 Ave Villemus, 13100 Aix en Provence, France.

Vrabec, Jože 73-74 M, Topology

Born 1940 Ljubljana, Slovenia, Yugoslavia. PhD 1971 Math Univ of Wisconsin. Memberships: Soc of Mathematicians, Physicists, and Astronomers of Slovenia; AMS. Assoc Prof, Department of Mathematics, University of Ljubljana, P.O. Box 543, 61001 Ljubljana, Yugoslavia.

Publications Related to IAS Residence: Knotting a k-connected closed PL m-manifold in E^{2m-k} . *Trans AMS* 233(1977) 137-165; Isotopies of PL manifolds keeping a subpolyhedron fixed. *Glasnik Mat* 11 31(1976) 141-154.

Other Publications: Adjoining a unit to a biregular ring. *Math Ann* 188(1970) 219-226; Submanifolds of Acyclic 3-manifolds. *Pacific J Math* 49(1973) 243-263; Inclusion maps of 3-manifolds which induce monomorphisms of fundamental groups. *Trans AMS* 214 (1975) 75-93.

Vuillemin, Jules M. E. 67f HS, Greek Philosophy

Born 1920 Pierrefontaine les Varens, France. Prof, Collège de France. Les granges Barard, Les Fourqs, 25300 Pontarlier, France.

Publications Related to IAS Residence: *De la Logique à la théologie Cinq études sur Aristote*. Paris: Flammarion, 1967.

Other Publications: *La Philosophie de L'algèbre I*. Paris: PUF, 1962; *La logique et le monde sensible*. Paris: Flammarion, 1971.

Wace, Alan John B. 48f, 51s, 52-54 HS, Archaeology

Born 1979 Cambridge, England. PhD 1932 Univ of Amsterdam. Deceased.

Publications Related to IAS Residence: *Mycenae, an Archaeological History and Guide*. Princeton: Princeton Univ Press, 1949; Excavations at Mycenae 1939. *Brit School at Athens Annual* 45(950) 203-228; The Cloaks of Zeuxis and Demetrius. *Oest Archäol Inst Jahreshfte* 39(1952) 111-118; The Discovery of Inscribed Clay Tablets at Mycenae. *Antiquity* 27(1953) 84-86; Excavations at Mycenae 1952. *Proc Amer Philos Soc* 97 (1953) 248-253; The Façade of the Treasury of Atreus. *Hetaireia Makedonikon Spoudon. Epistemonikai Pragmateiai. Seira Philologike kai Theologike* 9(1953) 310-314; The History of Greece in the Third and Second Millenniums B.C. *Historia* 2(1953) 74-94; Mycenae 1939-1952. *Brit School at Athens Annual* 48(1953) 3-

18, 69-83; Mycenae 1952. *J Hellen Stud* 72(1953) 131-132; New Light on Homer—Excavations at Mycenae, 1952. *Archaeology* 6(1953) 75-81; The Coming of the Greeks. *Class W* 47(1954) 152-155; The Golden Ring. *Archaeology* 7(1954) 42-47; Ivory Carvings from Mycenae. *Archaeology* 7(1954) 149-155; Preliminary Historical Study: A Late Roman Tapestry from Egypt. *Textile Museum, Washington, DC, Paper* 9(May 1954) 1-4.

Waddell, Bruce V. 74-76 NS

Born 1946 Pennington Gap, VA. PhD 1974 MIT. Deceased.

Wade, Luther Irwin, Jr. 42-43 M

Born 1916 . PhD 1941 Duke Univ. Math Dept, LSU, Baton Rouge, LA 70803. *

Publications Related to IAS Residence: Certain Quantities Transcendental over GF (p^0 , x), II. *Duke Math J* 10(1943) 587-594; Remarks on the Carlitz ψ -Functions. *Duke Math J* 13(1946) 71-78; Transcendence Properties of the Carlitz ψ -Functions. *Duke Math J* 13(1946) 79-85.

Wade-Gery, Henry T. 37-38, 47-48, 57-59, 60s, 60-61 HS, Classical Philology

Born 1888 England. MA(Oxon.) 1919. Deceased.

Publications Related to IAS Residence: With B. D. Meritt. The Decrees of Kallias. *Hesperia* 14(1947) 279-286; With Benjamin Dean Meritt & Malcolm Francis McGregor. *The Athenian Tribute Lists*. 2. Cambridge: Harvard Univ Press, 1949.

Waelbroeck, Lucien 57-58 M, Functional Analysis

Born 1929 Geneva, Switzerland. Aggregation Math Analysis Univ of Brussels. Appointments: Math Comm, FNRS. Memberships: AMS; Soc Math Belgique; Soc Math France. Prof, Univ of Brussels, 36 Av des Hannetons, 1170 Brussels, Belgium.

Publications Related to IAS Residence: Étude Spectrale des Algèbres Completes. In *Acad Royale Belgique Cl Sc Mem*, Series 2, 31, 7. Brussels: Palais des Academies, 1960.

Other Publications: Topological Vector Spaces and Algebras. *Lecture Notes in Mathematics* 230(1971); Le Calcul Symbolique dans les Algèbres Commutatives. *J Math Pures et App* 33(1954) 147-186.

Wagoner, John B. 66s M, Topology

Born 1942 Phoenixville, PA. PhD 1966 Mathematics Princeton Univ. Honors: Sloan Fellow 1976-78. Memberships: AMS. Prof, Dept of Mathematics, Univ of Calif, Berkeley, CA 94720.

Publications Related to IAS Residence: Smooth and Piecewise Linear Surgery. *Bull AMS* 73, 1(1967) 72-77; Producing PL Homeomorphisms by Surgery. *Bull AMS* 73, 1(1967) 78-83.

Other Publications: With A. Hatcher. *Pseudo-Isotopies of Compact Manifolds*. Astérisque, 6. Paris: Soc Math de France, 1973.

Wagreich, Philip Donald 68-70 M, Algebraic Geometry

Born 1941 New York, NY. PhD 1966 Mathematics Columbia Univ. Honors: Res Grants NSF 1967-. Memberships: AMS; Nat Council of Teachers of Math. Assoc Prof, Department of Mathematics, University of Illinois at Chicago Circle, Box 4348, Chicago, IL 60680.

Publications Related to IAS Residence: Elliptic singularities of surfaces. *Amer J Math* 92(1970) 419-454; With Peter Orlik. Isolated singularities of algebraic surfaces with C^* -action. *Ann Math* 93(1971) 205-228; Singularities of complex surfaces with solvable local fundamental group. *Topology* 2(1972) 51-72.

Other Publications: With Peter Orlik. Seifert n -manifolds. *Invent Math* 28(1975) 137-159; With Peter Orlik. Singularities of algebraic surfaces with C^* -action. *Math Ann* 193(1971) 121-135; With Peter Orlik. Algebraic Surfaces with k^* -action. *Acta Math* 138(1977) 43-81; Automorphic forms and singularities of complex surfaces. *Bull AMS* in press.

Wahl, Jonathan Michael 72-73, 79s M, Algebraic Geometry

Born 1945 Washington, DC. PhD 1971 Mathematics Harvard Univ. Memberships: AMS. Assoc Prof, Dept of Mathematics, University of North Carolina, Chapel Hill, NC 27514.

Publications Related to IAS Residence: With D. Burns. Local Contributions to Global Deformations. *Invent Math* 26(1974) 67-88; Equisingular Deformations of Moving Surface Singularities, I. *Ann Math* 104(1976) 325-356.

Other Publications: Equations defining rational singularities. *Ann Sci ÉNS* 10(1977) 231-264; Simultaneous resolution and discriminantal loci. *Duke J Math* in press(1979).

Wainger, Stephen 75-76 M, Harmonic Analysis

Born 1936 . PhD 1961 U of Chicago. Prof, Department of Mathematics, University of Wisconsin, Madison, WI 53706. *

Waismann, Friedrich 53s M, Philosophy of Mathematics

Born 1896 England. MA 1940 Oxford Univ. *

Walbank, Frank William 70-71 HS, Greek and Roman History

Born 1909 Bingley, Yorkshire, England. MA (Cantab.) 1935 Classics. Honors: Thirlwall Prize Cambridge U 1933; Hare Prize Cambridge U 1939; FBA 1953. Memberships: Roman Soc (Pres 1961-4); Class

Members

Assoc (Pres 1969-70). Emer Prof, Univ of Liverpool, 64, Grantchester Meadows, Cambridge CB3 9JL, England.

Publications Related to IAS Residence: *A Historical Commentary on Polybius*. 3. Oxford: Clarendon Press, 1979.

Other Publications: *A Historical Commentary on Polybius*. 1, 2. Oxford: Clarendon Press, 1957, 1967; *Aratos of Sicyon*. Cambridge Univ Press, 1933; *Philip V of Macedon*. Cambridge Univ Press, 1940; Editor, *Cambridge Ancient History*. 7-8. Cambridge Univ Press; *The Awful Revolution: The Decline of the Roman Empire in the West*. Liverpool U P, 1969; *Polybius*. Sather Classical Lectures, 42. Berkeley, Los Angeles, London: Univ of Cal Press, 1972.

Wald, George 54s M(NS), Biology

Born 1906 New York, NY. PhD 1932 Zoology Columbia. Honors: Nobel Prize 1967; Eli Lilly Awd Am Chem Soc 1939; Lasker Awd 1953; Rumford Medal AAAS 1959; NAS 1950; Am Philos Soc 1958; AAAS; Guggenheim Fellow 1963-64; Hon Mem Cambridge Philos Soc 1969; MD(hc) Univ of Bern 1957; DSc(hc): Yale Univ 1958; Wesleyan Univ 1962; NYU 1965; Clark Univ 1968; Amherst Coll 1968; Univ of Rennes 1969; Univ of Utah 1971; Gustavus Adolphus Coll 1972. Memberships: Am Soc of Biol Chemists; Optical Soc of Amer; Assoc Res in Ophthalmology; Sigma Xi; Am Chem Soc. Higgins Prof Emer, Biology, Harvard U, 21 Lakeview Ave, Cambridge, MA 02138.

Publications Related to IAS Residence: Origin of Life. *Sci Amer* (Aug 1954); On the mechanism of the visual threshold and visual adaptation. *Science* 119(1954) 887-892.

Waldhausen, Friedhelm 66-67 M

Born 1938 Germany. PhD 1966 Univ of Bonn. Fakultät Für Mathematik, Univ Bielefeld, 48 Bielefeld, West Germany. *

Walker, Carol Lee 63-64 M, Algebra

Born 1935 Martinez, CA. PhD 1963 Mathematics New Mexico State Univ. Memberships: AMS. Prof, Department of Mathematical Sciences, New Mexico State University, Las Cruces, NM 88003.

Publications Related to IAS Residence: Relative homological algebra and Abelian groups. *Ill J Math* 10(1966) 186-209; With E. A. Walker. Quotient categories of modules. In *Proc of the Conf on Categorical Algebra La Jolla 1964*, 404-420. Berlin: Springer-Verlag, 1966; With E. A. Walker. Quotient categories and rings of quotients. *Rocky Mountain J Math* 2(1972) 513-555.

Other Publications: With R. B. Warfield, Jr. Unique decomposition and isomorphic refinement theorems in additive categories. *J Pure Appl Algebra* 7(1976) 347-359; Local quasi-isomorphisms of torsion free Abelian groups. *Ill J Math* 18(1974) 537-551.

Walker, Elbert A. 63-64 M

Born 1930 Huntsville, TX. PhD Math Univ of Kan. Honors: NSF Sr Postdoc Fellow 1963-64. Appointments: Bd of Govs, MAA. Memberships: AMS; MAA; Amer Stat Assoc. Prof, Math, New Mexico State Univ, 1801 Imperial Ridge, Las Cruces, NM 88001.

Walker, Mack 77f HS, Modern European History

Born 1929 Springfield, MA. PhD 1959 Harvard Univ. Prof, Dept of History, Johns Hopkins Univ, Baltimore, MD 21218.

Publications: *Germany and the Emigration, 1816-1885*. Cambridge: 1964; *German Home Towns*. Ithaca NY: 1971.

Wall, Charles T.C. 60-61 M, Topology

Born 1936 Bristol, England. PhD(Cantab.) 1960 Math. Honors: London Math Soc; Junior Berwick Prize; Whitehead Prize 1976. Appointments: Sci Res Council Math Cttee (current); British Nat Cttee for Math (1972-78); Ed, Proceedings of Liverpool Singularities Symposium. Memberships: London Math Soc (currently President); AMS; Camb Phil Soc; Royal Society. Prof, Dept of Pure Math, University of Liverpool, Liverpool, L693BX, England.

Publications: *Surgery on Compact Manifolds*. New York: Academic Press, 1970; *Geometric Introduction to Topology*. Reading, Mass: Addison-Wesley, 1970; ed, *Proc Singularities Symp, U Liverpool 1969-1970*. Lect Notes in Math, 192 & 209. Berlin: Springer-Verlag, 1971.

Wall, Hubert Stanley 37-38 M

Born 1902 . PhD 1927 Univ of Wisc. Deceased.

Wallace, Andrew Hugh 64-65, 67-68 M, Geometry

Born 1926 Glasgow, Scotland. PhD 1949 Univ of St Andrews. Prof, Math Dept, Univ of Pennsylvania, Philadelphia, PA 19104.

Publications Related to IAS Residence: Singularities of Real Analytic Spaces. *J Math & Mech* 16(1966) 219-256; *Differential Topology-1st Steps*. New York: Benjamin, 1966.

Wallace, William Augustine 76-77 HS, History of Science, Renaissance

Born 1918 New York, NY. PhD 1959 Philosophy Univ of Fribourg, Switzerland. Honors: Dominican Order STM Rome 1967; DSc Providence Coll 1973; DLitt Molloy Coll NY 1974; LHD Manhattan Coll 1975; Research Grants NSF 1965-67, 72-74, 75-77; Legion of Merit US Navy 1946. Appointments: Adv Panel, Prog in Hist and Philos of Sci; Nat Sci Foundation, 1975-77; Consultant, NSF 1967-present; NEH, 1976-present. Memberships: Hist of Sci Soc; Philos of Sci Assoc; Amer Cath Philos Assoc (Past President); Ren Soc of Amer. Prof, Philosophy and History, Catholic Univ, Dir Gen Leonine Commission (ed. Omnia opera

of St. Thomas Aquinas), 487 Michigan Ave NE, Washington, DC 20017.

Publications Related to IAS Residence: A Translation from the Latin, with Historical and Paleogeographical Commentary. *Galileo's Early Notebooks: The Physical Questions*. Notre Dame: Notre Dame Univ Press, 1977; Galileo and Reasoning "Ex Suppositione": The Methodology of the "Two New Sciences". In *Proc 1974 Meeting of PSA*, ed. by R. S. Cohen, 79-104. Dordrecht-Boston: D. Reidel, 1976; Galileo Galilei and the "Doctores Parisienses". In *New Perspectives on Galileo*, ed. by R. E. Butts & J. C. Pitt, 87-138. Dordrecht: D. Reidel, 1978; Causes and Forces in Sixteenth-Century Physics. *Isis* 69(1978) 400-412; The Philosophical Setting of Medieval Science. In *Science in the Middle Ages*, ed. by D. C. Lindberg, 91-119. Chicago: Univ of Chicago Press, 1978; Medieval and Renaissance Sources of Modern Science: A Revision of Duhem's Continuity Thesis, Based on Galileo's Early Notebooks. In *Proc of the Second Mid-Atlantic States Conf on Patristic, Medieval, And Renaissance Studies, Villanova Univ, Sept 30, 1977*. forthcoming; Some Sixteenth-Century Views of Nature and Its Causality. In *Nature in the Middle Ages, proc Tenth Annual Conf, Center for Medieval and Early Renaissance Studies, SUNY Binghamton, NY, October 24, 1976*. forthcoming; Galileo's Knowledge of the Scotistic Tradition. In *Proc of the Fourth Intl Scotist Congress, Padua, Sept 24-29, 1976*. forthcoming; Galileo's Citations of Albert the Great. *The Southwestern J Philos* (in press).

Other Publications: *Causality and Scientific Explanation*, 2 vols. Ann Arbor: Michigan Univ Press, 1972-1974; *Cosmogony*. (Vol. 10 of English translation of Thomas Aquinas, *Summa Theologiae*). New York: McGraw-Hill, 1967; *The Scientific Methodology of Theodoric of Freiberg*. Studia Friburgensia, N 26. Fribourg: University Press, 1959.

Wallace, William Pitkin 46s HS(H), Classics

Born 1907 Oak Park, IL. PhD 1936 Johns Hopkins Univ. Deceased.

Publications Related to IAS Residence: The Demes of Eretria. *Hesperia* 16(1947) 115-146.

Wallach, Hans 54-55 M(NS), Psychology

Born 1904 Berlin, Germany. PhD 1935 Univ of Berlin. Memberships: Am Psych Assoc; Sigma Xi. Research Psychologist, Swarthmore Coll, 510 Bryn Mawr Ave, Swarthmore, PA 19081.

Publications: *On Perception*. New York: Quadrangle/The New York Times Book Co., 1976.

Wallin, Hans 64-65 M, Classical Analysis

Born 1936 Luleå, Sweden. PhD 1963 Mathematics Univ Uppsala. Appointments: Swedish Delegate of ICMI 1971-76; Member Bd Swedish Math Soc 1974-76; Nat Curriculum Cttee Mathematics 1971-73. Memberships: Swedish Math Society; AMS. Prof,

Dept of Math, Univ of Umeå, S-90187 Umeå, Sweden.

Publications Related to IAS Residence: Regularity properties of the equilibrium distribution. *Ann Inst Fourier* 15(1965); On the existence of boundary values of a class of Beppo-Levi functions. *Trans AMS* 120(1965) 510-525; Existence and properties of Riesz potentials satisfying Lipschitz conditions. *Math Scand* 19(1966) 151-160.

Walsh, Joseph Leonard 34-35 M

Born 1895 . PhD 1920 Harvard Univ. Deceased.

Publications Related to IAS Residence: *Interpolation and Approximation by Rational Functions in the Complex Domain*. Colloquium Publications, 20. New York: AMS, 1935; Lemniscates and Equipotential Curves of Green's Function. *Amer Math Monthly* 42(1935) 1-16.

Walter, John H. 57-58 M, Algebra

Born 1927 Los Angeles, CA. PhD 1954 Univ of Mich. Memberships: AMS. Prof, Department of Math, Univ of Illinois, Urbana, IL 61801.

Publications Related to IAS Residence: On Galois Theory of Division Rings. *Proc AMS* 10(1959) 898-907; Structure of Cleft Rings. *Ill J Math* 3, 4(1959, 1960) 445-467, 376-396.

Other Publications: The characterization of finite groups with abelian S_2 -subgroups. *Ann Math* 89(1969) 405-514.

Walters, Gary Max 67-68 NS, Plasma Physics

Born 1941 Bristol, VA. PhD 1967 Physics Univ of Tennessee. Honors: NSF participant at the NATO sponsored conf on nonlinear effects in plasmas Univ of Paris, Orsay, France; Postdoc Fellow Lawrence Livermore Lab 1968-70. Appointments: Council on Pre-Coll Physics Ed. Memberships: Am Phys Soc; Am Assoc of Physics Teachers. Asst Prof, Physics, East Tennessee State Univ, Asst Director, Kingsport University Center, University Blvd, Kingsport, TN

Publications: Quantum Mechanical Theory of Nonlinear Plasma Phenomena In a Strong Magnetic Field. *Phys Fluids* 11(1968) 112; Interaction of Negative Mass and Loss Cone Modes. *Phys Fluids* 13(1970) 2141.

Walzer, Richard R. 53-54 HS, Arabic and Greek Philosophy

Born 1900 England. PhD 1929 Berlin Univ. Deceased.

Wang, Hsien-Chung 51-52, 54-55, 61-62, 65f M, Topology, Differential Geometry

Born 1918 Peking, China. PhD 1948 Manchester Univ. Deceased.

Publications Related to IAS Residence: One-Dimensional Cohomology Group of Locally Compact

Members

Homogeneous Spaces. *Duke Math J* 19(1952) 303-310; A Remark of Transformation Groups Leaving Fixed an End-Point. *Proc AMS* 3(1952) 548-549.

Wang, John S. P. 67-68, 80s M, Discrete Subgroups of Lie Groups

Born 1939 Kwangsi, China. PhD 1966 Algebraic Topology Cornell Univ. Memberships: AMS. Prof, Math, Purdue Univ, Dept of Math, Lafayette, IN 47907.

Publications Related to IAS Residence: The dual space of semi-simple Lie groups. *Am J of Math* 91(1969) 921-937; On a conjecture of Chabauty. *Proc AMS* 92(1969) 569-572.

Other Publications: On S-subgroups of solvable Lie groups. *Am J Math* 92(1970) 389-397; On density properties of S-subgroups of locally compact groups. *Ann Math* 94(1971) 325-329; On homogeneous space with finite invariant volume. *Amer J of Math* 98(1976) 311-324; On isolated point of the dual space of locally compact groups. *Math Ann* 218(1975) 19-34; On L-subgroups of solvable groups. *Adv in Math* 28(1978) 89-100; On integrable representations. *Math Z* 147(1976) 201-203; On density properties of certain subgroups of locally compact groups. *Duke Math J* 43(1976) 561-578.

Wang, Kai 72-73 M, Topology

Born 1945 Chendou, China. PhD 1972 Topology Univ of Chicago. Asst Prof, Topology, SUNY, Buffalo, 233 Sundown Trail, Williamsville, NY 14221.

Publications Related to IAS Residence: Differentiate circle group actions on homotopy complex projective spaces. *Math Ann* 214(1973) 73-80; Surgery in a fiber bundle. *Ill J of Math* 20(1976) 543-550.

Other Publications: Differentiable S^1 actions on homotopy spheres. *Invent Math* 24(1974) 51-63.

Wang, Ling-Lie 67-69 NS, High Energy Particle Physics

Born 1939 Hunan, China. PhD 1967 Particle Physics Univ of Calif, Berkeley. Physicist, Physics Department, Brookhaven National Laboratory, Upton, NY 11973.

Publications Related to IAS Residence: With J. M. Wang. *Phys Rev D*1(1970) 663; *Phys Letters* 30B(1969) 198; *Phys Rev* 178(1969) 2462.

Other Publications: *Phys Rev* 142(1966) 1187; *Phys Rev* 153(1966) 1664; With Mandelstam. *Phys Rev* 160(1967) 1490; *Phys Rev Letters* 26(1971) 1585; *Phys Rev* 10(1974) 3749; *Phys Rev* 16(1977) 1397; *Phys Rev Letters* 39(1977) 1388; *Phys Rev D*17(1978) 2687.

Ward, Augustus John 54s M, Topology

Born 1911 Redhill, Surrey, England. PhD 1935 Mathematics Cambridge Univ. Memberships: London Math Soc; Cambridge Philos Soc. Meadows, Kirby

Rd, Great Holland, Frinton-on-Sea, England CO 13 6 HS.

Ward, John Clive 51-52, 54-55, 60-61 M(NS), Field Theory

Born 1924 London, England. PhD 1949 Oxford Univ.*

Ward, Morgan 34-35 M

Born 1901. PhD 1928 Calif Tech. Deceased.

Publications Related to IAS Residence: Conditions for Factorization in a Set Closed under Single Operation. *Ann Math* (2) 36(1935) 36-39; A Determination of All Possible Systems of Strict Implication. *Amer J Math* 57(1935) 261-266; An Enumerative Problem in the Arithmetic of Linear Recurring Series. *TAMS* 37(1935) 435-440.

Ward-Perkins, John B. 66s, 75s HS, Roman Archaeology and Architecture

Born 1912 England. MA 1939 Oxford Univ. *

Warman, Arturo 74-75 Soc, Anthropology

Born 1937 Mexico D.F., Mexico. PhD 1975 Anthropology Univ Iberoamerica. Honors: Premio Nacional de Ciencias Soc Acad nacional de la Invest Cientifica (Mexico) 1977. Appointments: Consejo Nacional de Ciencia y Tecnologia; Misión Cientifica a la Republica Popular China 1978. Memberships: Colegio de Etnólogos y Antropólogos Sociales (Mexico) A, A, A, S. Prof, Centro de Investigaciones Superiores de Inah, Gral Victoria 167 B, Tlalpan 22, D.F., Mexico.

Publications Related to IAS Residence: *y Venimos a Contradecir; el Campesino de Morelos y el Estado Nacional*. Ediciones de la Casa Chata. Mexico, 1976.

Other Publications: *Eos Compesinos; Hijos Predilectos del Regimen*. Mexico: Editorial Nuestro Tiempo, 1972; *La Danzo de Moros v Cristianos; Un Estudio de Culturación*. Mexico: Sep-Setentas, 1972.

Warner, Garth William, Jr. 69-70 M, Representation Theory

Born 1940 Cadillac, MI. PhD 1966 Univ of Mich. Dept of Math, Univ of Washington, Seattle, WA 98105. *

Warner, Seth L. 59-60 M, Functional Analysis

Born 1927 Muskegon, MI. PhD Math Harvard Univ. Honors: Fulbright Fship 1951-52; NSF Postdoc Fellow 1959-60. Memberships: AMS; MAA. Prof, and Chairman, Mathematics Dept, Duke Univ, Durham, NC 27706.

Publications Related to IAS Residence: Compact noetherian rings. *Math Ann* 141(1960) 161-170; Compact rings and Stone-Čech compactifications. *Archly der Mathematik* 11(1960) 327-332; Compact rings. *Math Ann* 145(1962) 52-63.

Other Publications: Locally compact rings having a topologically nilpotent unit. *Trans AMS* 139(1969)

145-154; With M. E. Shanks. Topologies on the rational field. *Bull AMS* 79(1973) 1281-1282; With James B. Lucke. Structure theorems for certain topological rings. *Trans AMS* 186(1973) 65-90.

Washnitzer, Gerard 60-61, 67-68 M, Algebraic Geometry

Born 1926 New York, NY. PhD 1950 Princeton Univ. Fine Hall, Dept of Math, Princeton Univ, Princeton, NJ 08540. *

Wasserman, Arthur G. 71-72 M, Topology

Born 1938 Bayonne, NJ. PhD 1965 Math Brandeis Univ. Memberships: AMS. Assoc Prof, Dept of Math, U of Mich, Ann Arbor, MI 48104.

Publications Related to IAS Residence: With C.N. Lee. Equivariant Characteristic Numbers. In *Proc of Second Conf on Trans Groups* 71, 299. Springer Verlag; With C.N. Lee. *On the Groups $JO(G)$* . Mem AMS, 159. Providence, RI: 1976.

Other Publications: Equivariant Differential Topology. *Top* 8(1969); With C. Lazarov. Cobordism of Regular $O(n)$ -manifolds. *Ann Math* 93 2(1971); With C. Lazarov. *Complex Actions of Lie Groups*. Mem AMS, 137. Providence, RI.

Wasserstein, Abraham 75-76 HS, Classics

Born 1921 Frankfurt am Main, Germany. PhD 1951 Classics London Univ. Memberships: Soc for the Prom of Hellenic Studies; Soc for the Prom of Roman Studies; Classical Assoc. Prof, Greek, Department of Classics, Hebrew University, Jerusalem, Israel.

Watanabe, Takesi 64-65 M, Analysis Probability

Born 1931 Nagoya, Japan. DSc 1960 Math Tokyo Univ. Memberships: Math Soc Japan; AMS. Prof, Math, Osaka Univ, 23-2, 1-chôme, Kuzuhaga-oka, Hirakata City, Osaka Pref, Japan.

Publications Related to IAS Residence: With H. Kunita. Makor processes and Martin boundaries, Part I. *III J Math* 9(1965) 485-526; Some theorems concerning resolvents over locally compact spaces. In *Proc 5th Berkeley Symp Math Stat and Prob*, 2, 2: 131-164. 1966.

Other Publications: On the Martin decomposition of excessive measures. In *Actes, Congres Inter Math*, 2: 545-549. 1970.

Watkiss, Christopher 76 77 M

Born 1950 Singapore. PhD 1975 Univ of Toronto. Dept of Math, Univ of British Columbia, Vancouver BC V6T 1W5, Canada. *

Watson, Howard Lee 64-66 M(NS), Physics

Born 1938 Tuscaloosa, AL. PhD 1964 Univ of Cal, San Diego. *

Watson, Kenneth Marshall 48-49 M(NS), Theoretical Physics

Born 1921 Des Moines, IA. PhD 1948 Physics Univ of Iowa. Honors: DSc(hc) Indiana Univ 1976; NAS 1974. Appointments: Advisor Nat Sec Council; Pres Sci Adv Comm. Memberships: Am Geophys Union; Am Phys Soc. Prof, Dept of Physics, Univ of Cal, Berkeley, CA 94720.

Watson, Sir Francis 74f HS, History of Art

Born 1907 Dudley, Worcestershire, England. BA(Cantab.) 1929. Honors: KCVO; FBA 1969; Gold Medallist NYU 1963; Hon MA Oxford U 1969. Advisor Queen's Works of Art, 33 Whittingstall Rd, London, SW 6, England.

Publications Related to IAS Residence: American and French Eighteenth Century Furniture in the Age of Jefferson. In *Jefferson and the Arts: an Extended View*, ed. by W.H. Adams. Washington: National Gallery, 1976.

Other Publications: *Wallace Collection Catalogues: Furniture. Text with Historical Notes and Illustrations*. London: 1956; ed, *The Wrightsman Collection. Catalogues*, 1-5. NY: Metropolitan Museum of Art, 1966-72; *Louis XVI Furniture*. 1960: Alec Tiranti, London; *Canaletto*. London & New York: Elek, 1949.

Watts, Charles E. 60-61 M

Born 1928 West Plains, MO. PhD 1957 Math U of California, Berkeley. Memberships: AMS; MAA. Prof, Dept of Math, U of Rochester, Rochester, NY 14627.

Weaver, David William 64-65 M, Topology

Born 1937 Alfred, NY. PhD 1964 Univ of Va. Deceased.

Weber, Claude Alain 67-68 M, Topology

Born 1937 Geneva, Switzerland. PhD 1965 Math Univ of Geneva. Memberships: AMS; Swiss Math Soc. Prof, Department of Math, Univ of Geneva, 2-4 rue du Lièvre, 1206 Geneva 4, Switzerland.

Publications Related to IAS Residence: Deux remarques sur les plongements d'un AR dans un espace euclidien. *Bull Acad Polonaise des Scis* 16,11(1968) 851; Taming complexes in the metastable range. In *Essays on Topology and Related Topics: memoires dédiés à Georges de Rham*, 167-172. Berlin: Springer Verlag, 1970; ϵ -applications dans une variété. *Comm Math Helv* 49, 1(1974) 125-135.

Weber, Joseph 55f, 62-63, 69-70 M(NS), Physics

Born 1919 Paterson, NJ. PhD 1951 Catholic Univ of America. Honors: Boris Pregel Awd 1972; Sigma Xi Awd 1970; First Babson Gravity Awd 1970; Guggenheim Fellow 1955-56, 1962-63; NRC Fellow 1955-56; Washington Acad of Sci Awd for Research on Quantum Mechanical Amplifiers 1958; Gravity Res

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Found, First Prize 1959; Fellow Awd Inst of Radio Eng's 1958. Appointments: Fulbright Commission. Memberships: Am Phys Soc; Inst Radio Eng's; Am Astron Soc. Prof, Department of Physics and Astronomy, University of Maryland, College Park, MD 20742.

Publications: *General Relativity and Gravitational Waves*. New York, London: Interscience Publishers, 1961.

Webster, Dallas Eugene 70-71 M, Linear and Differentiable Topology

Born 1944 Wichita, KS. PhD 1970 Univ of Wisc. Dept of Math, SUNY, Buffalo, Amherst, NY 14226. *

Webster, J. Carson 38f HS(H), History of Art

Born 1905 Bloomfield, OH. PhD 1939 History of Art Princeton Univ. Appointments: Nat Cttee Hist of Art, 1953-56; Ed-in-Chief, *The Art Bulletin*, 1953-56. Memberships: Coll Art Assn; Soc of Arch'l Historians; Amer Soc for Aesthetics. Prof Emer, History of Art, Art Dept, Northwestern U, Evanston, IL 60201.

Publications: *Labors of the Months in Antique & Early Mediaeval Art*. Princeton: Princeton U Press, 1938; *The Technique of Impressionism: A Reappraisal*. CAJ 4(1944) 3ff; Junius R Sloan: Self-Taught Artist. *Art in America* 40, 3(1952); *The Skyscraper: Historical & Logical Considerations*. JSAH 18(1959) 126 ff; *Architecture in Chicago & Vicinity*. Media, Pa: Soc Arch'l Historians, 1965; Check-list of the Works of Erastus D. Palmer. *Art Bull* 49(1967) 143 ff; E. D. Palmer: Problems & Possibilities. *Amer Art Jour* 4, 2(Nov 1972) 34 ff.

Webster, Sir Charles 52f HS

Born 1886 England. PhD King's Coll, Cambridge. Deceased.

Webster, Thomas B. L. 59s HS, Greek

Born 1905 London, England. MA(Oxon.) 1930. Deceased.

Publications Related to IAS Residence: *From Mycenae to Homer*. NY: 1959; *Monuments Illustrating Old & Middle Comedy*. Univ of London Inst. of Classical Studies, Bull Supp 9. London: 1960; *Monuments Illustrating New Comedy*. London: 1961.

Other Publications: *Monuments Illustrating Tragedy and Satyr Play*. London: 1962.

Wedgwood, Dame Veronica, O.M. 52-66 HS, Early Modern and European History

Born 1910 Stocksfield, Northumberland, England. BA 1931 History Oxford Univ. Honors: LLD(hc) Glasgow U 1956; LittD(hc) Sheffield U 1958; DLitt(hc) Smith College 1962; Harvard U 1964; Oxford U 1965; Keele 1968; Sussex 1973; Liverpool 1975; Honorary Fellow University College, London; Honorary Fellow Lady Margaret Hall, Oxford; Goethe Medal Frankfurt 1959;

Order of Orange Nassau Netherlands 1946; DBE (Great Britain) 1968; Order of Merit 1969. Appointments: The Arts Council (UK) 1958-61; Council of the Victoria & Albert Museum, 1960-1969; Trustee of National Gallery, London, 1962-68, 1969-76; Royal Commission for Hist Manuscripts 1953-1978. Memberships: AHA; Scottish Hist Soc; Royal Hist Soc; Soc of Authors (British), Pres 1972-78; Intl PEN Club since 1941 (Pres, English Centre, 1950-57); Hon Member Amer Soc of Arts & Letters 1966; Hon Member AAAS 1973-; FBA 1976-. 22 St. Anns Terrace, London NW8 6PJ, England.

Publications Related to IAS Residence: *The King's Peace*. Macmillan, USA, and Collins, England, 1955; *The King's War*. Macmillan, USA, and Collins, England, 1959; *The Trial of Charles I*. Macmillan, USA, and Collins, England, 1964; *The World of Reubens*. Alexandria, Va: Time-Life Inc, 1967.

Other Publications: *The Thirty Years War*. 1938; *Oliver Cromwell*. 1939; *William the Silent 1644; Richelieu and the French Monarchy*. 1949; *Seventeenth Century Literature*. 1950; *Thomas Wentworth, Earl of Stratton, A Reevaluation*. 1961.

Wehrli, Fritz 71-72 HS, Greek Philosophy

Born 1902 Zurich, Switzerland. Appointments: Redactor Museum Helveticum. Prof Hon, Univ of Zurich. Kel-tenstrasse 24, CH 8044 Zurich, Switzerland.

Publications Related to IAS Residence: *Hermippos, Texte & Kommentar*. Basel: 1974.

Other Publications: *Die Schule des Aristoteles, Texte & Kommentar*. 1.1-12. Basel: 1944-1978.

Weibel, Charles A. 77-78 M

Born 1950 Terre Haute, IN. PhD 1977 Math Univ Chicago. Memberships: AMS. Asst Prof, Math Dept, Univ of Pennsylvania, Philadelphia, PA 19104.

Publications Related to IAS Residence: K theory of Hyperplanes. *Trans AMS* (1979); Ideals with Trivial co-normal bundles. *Canad J Math* (1979); K_2 , K_3 and Nilpotent Ideals. *JPAA* (1979); Homotopy Exact Sequence in Algebraic K theory. *Comm in Alg* 6, 16(1978) 1635-1646.

Weil, André see Past Faculty/Professors Emeriti

Weiller, Jean Sylvain 41-43 HS(EP), Economics

Born 1905 Saint-Dié-des-Vosges, France. DèsSc 1929 Economics Univ of Paris. Honors: Chevalier de la Légion d'honneur; Officier de L'Ordre du Mérite. Appointments: Expert à la Conférence mondiale du Commerce et de l'Emploi, 1947; Genève, préparation du GATT et de la Charte de la Havane; Conseiller économique du Ministère des Affaires économiques, notamment pour l'O.E.C.E., 1948-53. Memberships: Centre d'Etudes de Politique Etrangère; Inst Français des Rels Internat; Soc Statistique de Paris. Prof hon, Economics, Univ Paris-1, Dir recherches Ecole

Hautes Etudes Sci Soc et Inst Scis Math et Econ Appl. 37 rue Gazan, 75014 Paris, France.

Publications Related to IAS Residence: Natalité Comparée et Renaissance Française. *Renaissance* 1(1943) 631-640; Different Approaches to the Problem of Economic Planning. *J Legal and Pol Sociology* 2, 3/4(1944) 55-66; Essai sur la Chronologie Économique de la Troisième République. In *L'Oeuvre de la Troisième République*, ed. by Jean Benoit-Lévy, 99-143. Montreal: 1945; L'Europe de 1919; Pénurie Générale et Disette du Charbon. *Revue d'Histoire Économique et Sociale* 26(1947) 47-66; La Modernisation de l'Agriculture Française et l'Économie Internationale. *Le Monde Français* 6, 19(1947) 56-66; Rev of Aftalion, A., Monnaie, "Prix et Change". *Amer Econ R* 32(1942) 133-137.

Other Publications: With J. Coussy, B. Ducros, A. Bienaymé. *Economie Internationale, Faits, théorie et politiques*. Textes de Sci Soc, 2. Paris: La Haye: Mouton, 1975-78; With G.D. Desroussilles. *Les Cadres Sociaux de la Pensée Économique*. Presses Univ de France, 1974.

Weinberg, Albert K. 39-41 HS(EP), History of American Militarism

Born 1899 Baltimore, MD. PhD 1931 Johns Hopkins Univ. Deceased.

Publications Related to IAS Residence: The Historical Meaning of the American Doctrine of Isolation. *Amer Pol Sci R* 34(1940) 539-547; Traditional Doctrines in Contemporary American Foreign Policy. In *War as a Social Institution*, 287-298. New York: American Historical Association, 1941; Washington's "Great Rule" in Its Historical Evolution. In *Historiography and Urbanization; Essays in Honor of W. Stull Holt*, 109-138. Baltimore: 1941.

Weinberg, Bernard 56-57 HS, Literary Criticism

Born 1903 Chicago, IL. PhD 1936 Univ of Chicago. Deceased.

Weinberg, Erick J. 73-75 NS, Elementary Particle Physics

Born 1947 Ossining, NY. PhD 1973 Physics Harvard Univ. Honors: Sloan Fellow 1978-80. Memberships: Am Phys Soc. Asst Prof, Dept of Physics, Columbia University, New York, NY 10027.

Publications Related to IAS Residence: With D. Freedman, I. Muzinich. On the Energy-Momentum Tensor in Gauge Field Theories. *Ann Phys* 87(1974) 95; With D. Freedman. The Energy-Momentum Tensor in Scalar and Gauge Field Theories. *Ann Phys* 87(1974) 354; With R. Rajaraman. Internal Symmetry and the Semiclassical Method in Quantum Field Theory. *Phys Rev D* 11(1975) 2950.

Weinberg, Saul S. 41-43 HS(H), Archaeology

Born 1911 Chicago, IL. PhD 1936 Classical Archaeology Johns Hopkins. Honors: PBK; AAAS;

Norton Lecturer Archaeol Inst of Amer 1977; Distinguished Faculty Awd Univ of Mo Alumni Assoc 1977. Memberships: Archaeol Inst of Amer; Hon Corr Member German Archaeol Inst; Hon Mem Soc for Cypriote Studies. Prof Emer, Classical Archaeology, and Director Emeritus Museum of Art and Archaeology Univ of Missouri-Columbia, 1300 Rosemary Lane, Columbia, MO 65201.

Publications Related to IAS Residence: Aegean Chronology: Neolithic Period and Early Bronze Age. *Amer J Archaeol* 51(1947) 165-182; Neolithic Figurines and Aegean Interrelations. *AJA* 55(1951) 121-133; The Relative Chronology of the Aegean in the Neolithic Period and the Early Bronze Age. In *Relative Chronologies in Old World Archaeology*, ed. by R. W. Enrich, 86-107. Chicago: 1954.

Other Publications: Remains from Prehistoric Corinth. *Hesperia* 6(1937) 490-524; A Cross-Section of Corinthian Antiquities. *Hesperia* 17(1948) 197-241; Excavations at Prehistoric Elateia, 1959. *Hesperia* 31(1962) 158-209; The Stone Age in the Aegean. In *Cambridge Ancient Hist, 3rd Ed, 1, 1*: 557-618, 664-672. New York: Cambridge U Press, 1970.

Weinstein, Alan David 72f M, Differential Geometry

Born 1943 New York, NY. PhD 1967 Math UC Berkeley. Honors: Sloan Fellow 1972-73. Appointments: Ed Bd *Trans AMS*. Memberships: AMS; MAA. Prof, Department of Mathematics, University of California, Berkeley, CA 94720.

Publications Related to IAS Residence: Normal modes for nonlinear hamiltonian systems. *Invent Math* 20(1973) 47-57; On the volume of manifolds all of whose geodesics are closed. *J Diff Geom* 9(1974) 513-517; Quasi-classical mechanics on spheres. *Symposia Mathematica* 14(1974) 25-32.

Other Publications: Symplectic manifolds and their la-grangian submanifolds. *Adv in Math* 6(1971) 329-346; With J. Marsden. Reduction of symplectic manifolds with symmetry. *Reports on Math Phys* 56(1979) 121-130; Application des Opérateurs intégraux de fourier aux spectres des variétés riemanniennes. *CRAS Paris* 279(1974) 229-230; The order and symbol of a distribution. *Trans AMS* 241(1978) 1-54; Periodic orbits for convex hamiltonian systems. *Ann Math* (in press).

Weinstein, Donald 69-70 HS, Renaissance History

Born 1926 Rochester, NY. PhD 1957 History Univ of Iowa. Memberships: AHA; Renaissance Soc of Amer. Prof, and Head, Department of History, University of Arizona, Tucson, AZ 85721.

Publications Related to IAS Residence: *Savonarola and Florence*. Princeton: Princeton U P, 1971; The Apocalypse in 1500. In *Renaissance Studies in Honor of Hans Baron*, 313-331. 1971.

Other Publications: *Ambassador from Venice*. Minneapolis: U of Minn Press, 1960; Renaissance. In *Encyc Britannica*, 15: 660-671. 1974.

Members

Weinstein, Fred 70-71 Soc, Social Theory

Born 1931 Brooklyn, NY. PhD History Univ of Calif Berkeley. Honors: Ford Fellow 1960-61; ACLS Grant 1974; Lewis Rabinowitz Found & Mem Found for Jewish Culture 1978-1979. Memberships: Chm, Group for Uses of Psychol in Hist; Bd of Adv, *Psychoanalytic Rev.* Prof, Dept of History, State Univ of NY, Stony Brook, NY 11794.

Publications Related to IAS Residence: With Gerald M. Platt. *Psychoanalytic Sociology.* Baltimore, MD: Johns Hopkins Univ Press, 1973.

Other Publications: With Gerald M. Platt. *The Wish to be Free.* Berkeley: UC Press, 1969.

Weinstein, Marvin 67-69 NS, Physics

Born 1942 Bronx, NY. PhD 1967 Columbia Univ. Stanford Linear Accelerator Center, Box 4349, Stanford, CA 94305. *

Weisberg, Gabriel P. 79f HS, History of Art

Born 1942 New York, NY. PhD 1967 Art History Johns Hopkins Univ. Honors: Fulbright Fellow 1973; NEA Fellow 1977. Appointments: Consultant NEA; Bd Dirs Coll Art Assoc 1980-84. Memberships: Coll Art Assoc; AAUP; Decorative Arts Soc; Amer Assoc of Museums. Prof, Art History, Case Western Reserve U, Curator Art Hist & Educ Cleveland Museum of Art, Dept of Art Hist, Cleveland Museum of Art, 11150 East Blvd, Cleveland, OH 44106.

Publications Related to IAS Residence: *The Realist Tradition: French Painting and Drawing 1830-1900.* The Cleveland Museum of Art, 1980; *François Bonvin, Sa Vie et l'Oeuvre.* Paris: Editions Geoffroy Dechaume, 1979.

Other Publications: *Japonisme: Japanese Influence on French Art, 1854-1910.* The Cleveland Museum of Art, 1975; Fantin-Latour and Still Life Symbolism in 'Un Atelier aux Batignolles'. *Gazette des Beaux-Arts* (December, 1977) 205-215; Baron Vitta and the Bracquemond/Rodin Hand Mirror. *Bull of The Cleveland Museum of Art* 66, 8(November, 1979) 298-310; François Bonvin and an Interest in Several Painters of the Seventeenth and Eighteenth Centuries. *Gazette des Beaux-Arts* (December, 1970) 359-366; *Chardin and the Still-Life Tradition in France.* Cleveland Museum of Art, 1979.

Weisfeiler, Boris 75-76 M, Algebraic Groups

Born 1941 Moscow, USSR. Cand Phys & Math Leningrad Br Steklov Math Inst. Memberships: AMS. Assoc Prof, Dept Math, Penn State Univ, McAllister Bldg, University Park, PA 16802.

Publications Related to IAS Residence: Abstract homomorphisms of anisotropic algebraic groups over real-closed fields. *J of Algebra* in press; Abstract isomorphisms of algebraic groups split over quadratic extensions, A case of extensions of group schemes. *Trans AMS* in press.

Weisinger, Herbert 48-49 HS, Renaissance Studies

Born 1913 Brooklyn, NY. PhD 1941 Renaissance Studies Univ of Mich. Honors: Sr Res Fellow Warburg Inst 1950-52; Howard Fnd Fellow 1955-56. Appointments: GRE Bd 1971-75; Doctoral Council NY Bd of Regents 1977-78; Secy-Treas NASS 1975-78. Memberships: MLA; Shakespeare Assn; ACLA; Renaissance Soc; MHRA. Prof, Renaissance Studies, SUNY, Stony Brook, 24 Crane Neck Rd, Setauket, NY 11733.

Publications Related to IAS Residence: *Tragedy and the Paradox of the Fortunate Fall.* London: Routledge, Kegan Paul, 1943; *The Agony and the Triumph.* MSU Press, 1964.

Weispfenning, Volker B. 73-74 M, Logic, Algebra

Born 1944 Frankfurt, Germany. Dr Habil 1979 Mathematics Univ of Heidelberg. Memberships: DVMLG; AMS; ASL. Privatdozent, Mathematisches Institut, Univ of Heidelberg, D-6900 Heidelberg, Germany.

Publications Related to IAS Residence: Model-completeness & Elimination of Quantifiers. *J Algebra* 36(1975) 252-277; Negative-existentially complete structures. *J Symb Logic* 41(1976) 95-108; Elementary Theory of Hensel fields. *Ann Math Logic* 10(1976) 59-93.

Weiss, Edwin 54-55 M, Topological Rings Class Field Theory

Born 1927 Brooklyn, NY. PhD 1953 MIT. 16 Warwick Rd, Brookline, MA 02146. *

Weiss, Max L. 63-64 M

Born 1933 Salt Lake City, UT. PhD 1962 Mathematics Univ of Wash. Memberships: AMS. Prof, Department of Mathematics, University of California, Santa Barbara, CA 93106.

Publications Related to IAS Residence: Cluster sets of bounded analytic functions from a Banach algebraic viewpoint. *Ann Acad Scient Fennicae Series A*, 367(1965) 1-14.

Other Publications: With H. Bear. An intrinsic metric for parts. *Proc AMS* 18(1967) 812-817; With M. Rosenfeld. A function algebra approach to a theorem of Lin-delöf. *J London Math Soc* 2(1970) 209-215; Some H^∞ -interpolating sequences and the behavior of certain of their Blaschke products. *Trans AMS* 209(1975) 211-223.

Weiss, Paul 50-51 M(NS), Mathematical Physics

Born 1911 Sagan (Silesia), Germany. PhD(Cantab.) 1936. Memberships: AMS; Amer Phys Soc; IEEE; London Math Soc. Assoc Prof, Mathematics, Wayne State Univ. 8296 Huntington, Huntington Wds, MI 48070.

Publications: On the Quantization of a Theory arising from a Variational Principle for Multiple Integrals with Application to Born's Electrodynamics.

Proc Royal Soc of London A 156(1936) 192; On the Hamilton-Jacobi Theory and Quantization of a Dynamical Continuum. *Proc Royal Soc of London A* 169(1938) 102; On the Hamilton-Jacobi Theory and Quantization of Generalized Electrodynamics. *Proc Royal Soc of London A* 169(1938) 119; On Born's Electrodynamics in Complex Form. *Proc Cambridge Philos Soc* 33(1937) 79; With W.H.J. Fuchs. Uniqueness Theorems and the Maximum-Minimum Principle for a Type of Non-Linear Partial Differential Equations. *Proc Cambridge Philos Soc* 34(1938) 527; On Some Applications of Quaternions to Restricted Relativity and Classical Radiation Theory. *Proc Royal Irish Acad A*, 46(1941) 129; On Hydrodynamical Images. (Arbitrary irrotational flow disturbed by a sphere). *Proc Cambridge Philos Soc* 40(1944) 259; An Extension of Cauchy's Integral Formula by Means of Maxwell's stress tensor. *J London Math Soc* 21 (1946) 210; Applications of Kelvin's Transformation in Electricity, Magnetism and Hydrodynamics. *Philosoph Mag, series 7* 38(1947) 200; With Richard A. Mock and Tag Young Moon. A Hamiltonian Formulation of Colloid Electrostatic Theory. In *Polymer Colloids*, ed. by Robert M. Fitch, 117-126. NY: Plenum Press, 1971.

Welker, Marian Hoppe 40-43 HS(H), Publication of Tarsus Finds

Born 1905 New York, NY. PhD 1938 Oriental Studies Univ of Penna. Honors: AAUW Fellow 1942; Hon Fellow Univ of Penna Museum 1978. Memberships: Amer School of Classical Studies; Amer Oriental Soc. 819 Montgomery Ave, Bryn Mawr, PA 19010.

Publications Related to IAS Residence: The Painted Pottery of the Near East in the 2nd Millennium B.C. & its Chronological Background. *Trans Amer Philos Soc* NS 38-2(1948).

Other Publications: Arqueologia: Una Cultura Prehistorica De Mexico y su Prototipo Oriental?. *Hoy* 174(1940) 61.

Wellner, Marcel N. 59-60 M(NS), Quantum Fields

Born 1930 Antwerp, Belgium. PhD 1958 Physics Princeton Univ. Honors: Postdoc NSF Fellow 1959-60; 1963-64. Memberships: Amer Phys Soc. Prof, Physics Dept, Syracuse Univ, Syracuse, NY 13210.

Publications Related to IAS Residence: Energy renormalization in ordinary wave mechanics. *PR* 118(1960) 875.

Other Publications: With Curtis. Role of Asympt Cond. *J Math Phys* 2(1961) 651; Levinson's Theorem. *Am J Phys* 32(1964) 787; With Alexanian. Field-Theoretic approach to the ρ meson. *PR* 137(1965) 155; Strong couplings. *PR* 184(1969) 1782; Electromagnetic mass differences in compensation theory. *PR D9*(1974) 2471.

Wells, James H. 66f M

Born 1932 Howe, TX. PhD 1958 Univ of Texas. Dept of Math, Univ of Kentucky, Lexington, KY 40506. *

Wells, Raymond O'Neil, Jr. 70-71, 79 80 M

Born 1940 Dallas, TX. PhD 1965 New York Univ. Honors: Guggenheim Fellow 1974-75; US Sr Scientist Awd Alexander von Humboldt Found 1974-75. Appointments: AMS: Nominating Cttee, Cttee to Select Hour Speakers, Steele Prize Cttee, Council, Ed of Summer Inst; Ed *Trans AMS*; Conference Bd of Math Scis: Regional Conf Panel. Memberships: AMS; MAA; Assoc of Women in Math. Prof, and Chairman, Dept of Mathematics, Rice University, Houston, TX 77001.

Publications Related to IAS Residence: *Differential Analysis on Complex Manifolds*. Englewood Cliffs: Prentice-Hall, 1973; With H.L. Resnikoff. *Mathematics in Civilization*. New York: Holt-Rinehart-Winston, 1973; With R. Harvey. Holomorphic approximation and hyperfunction theory on a C^1 totally real submanifold of a complex manifold. *Math Ann* 197(1972) 287-318.

Other Publications: With D. Burns and S. Shnider. Deformations of strictly pseudoconvex domains. *Invent Math* 46(1978) 237-253; With J. Wolf. Poincaré Series and automorphic cohomology on flag domains. *Ann Math* 105(1977) 397-448.

Wermer, John 56-57, 67-68 M, Analysis

Born 1927 Vienna, Austria. PhD 1951 Mathematics Harvard Univ. Honors: Sloan Fellow 1963-64; Fellow AAAS 1962; Foreign Member Kungliga Vetenskaps-Societeten, Uppsala 1973. Memberships: AMS. Prof, Department of Mathematics, Brown University, Providence, RI 02912.

Publications Related to IAS Residence: Function Rings and Riemann Surfaces. *Ann Math* 67, 1(1958) 44-71; The hull of a curve in C^n . *Ann Math* 68, 3(1958) 550-561; With L. Hörmander. Uniform approximation on compact sets in C^n . *Math Scand* 23(1968).

Other Publications: Dirichlet Algebras: *Duke Math J* 27, 3(1960) 373-382; *Banach Algebras and Several Complex Variables, 2nd edition*. Graduate Texts in Mathematics, 35. New York: Springer-Verlag, 1976.

West, James Edward 67-68, 77f M, Topology

Born 1944 Grinnell, IA. PhD Math Louisiana State U. Honors: Invited Spkr Intl Cong of Math, Helsinki 1978. Memberships: AMS; NY Acad Sci. Prof, Math Dept, Cornell Univ, Ithaca, NY 14853.

Publications Related to IAS Residence: With R.Y.-T. Wong. Based-free actions of finite groups on Hilbert cubes with absolute retract orbit spaces are conjugate. In *Proc of 1977 Georgia Geometric Topology Conf.* in press; With H. Toruńczyk. The fine structure of S^1/IS^1 ; Q -manifold hyperspace localization of the integers. In *Proceedings of 1978 Warsaw Geometric Topology Conference*; The diffeomorphic excision of closed local compacta from infinite-dimensional Hilbert manifolds. *Compositio Math* 21(1969) 271-291; With R.D. Anderson and D.W. Henderson. Negligible subsets of infinite-

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dimensional manifolds. *Compositio Math* 21(1969) 143-150; Extending certain transformation group actions in separable, infinite-dimensional Fréchet spaces and the Hilbert cube. *Bull AMS* 74(1968) 1015-1019.

Other Publications: Mapping Hilbert cube manifolds to ANR's: a solution of a conjecture of Borsuk. *Ann Math* 106(1977) 1-18; Infinite products which are Hilbert cubes. *Trans AMS* 150(1970) 1-25; With R.M. Schori. The hyperspace of the closed unit interval is a Hilbert cube. *Trans AMS* 213(1975) 217-235.

Westwater, Michael John 68-70, 74-75 NS, Mathematical Physics

Born 1942 Aylesbury Bucks, England. PhD 1967 Theoretical Physics Cambridge Univ. Memberships: AMS. Assoc Prof, Dept of Mathematics, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: With G. Ponzaro, T. Regge, E. Speer. On the Monodromy Rings of a Class of Self-energy Graphs. *Commun Math Phys* 15(1969) 83-132; With G. Ponzaro, T. Regge, E. Speer. On the Monodromy Rings of Single Loop Graphs. *Commun Math Phys* 18(1970) 1-64; With E. Speer. Generic Feynman Amplitudes. *Ann Inst H Poincaré* 14(1971) 1-55; With T. Regge and E. Speer. On the Monodromy Rings of Necklace Graphs. *Fortschritte der Physik* 20(1972) 287-342.

Other Publications: On the renormalization of Feynman integrals. *Fortschritte der Physik* 17(1969) 1-70.

Wheeden, Richard L. 66-67 M, Analysis

Born 1940 Baltimore, MD. PhD 1965 Math U of Chicago. Prof, Dept of Math, Rutgers Univ, New Brunswick, NJ 08903.

Publications Related to IAS Residence: On hypersingular integrals and Lebesgue spaces of differentiable functions, I. *TAMS* 134(1968) 421-435; 139(1969) 37-53; Lebesgue and Lipschitz spaces and integrals of the Marcinkiewicz type. *Studia Math* 32(1969) 73-93.

Other Publications: Positive harmonic functions on Lipschitz domains. *TAMS* 147(1970) 507-527; Weighted norm inequalities for the conjugate function and Hilbert transform. *TAMS* 176(1973) 227-251; *Measure and Integral*. New York: Marcel Dekker, Inc., 1977.

Wheeler, John Archibald 37s M(NS), Physics

Born 1911 Jacksonville, FL. PhD 1933 Physics Johns Hopkins Univ. Honors: ScD(hc) Western Reserve Univ 1958; Univ of N Carolina 1959; Univ of Pennsylvania 1968; Middlebury College 1969; Rutgers Univ 1969; Yeshiva Univ 1973; Yale Univ 1974; Univ of Maryland 1977; PhD(hc) Univ of Uppsala 1975; LLD(hc) Johns Hopkins Univ 1977; A. Cressy Morrison prize NY Acad of Sci 1947; Einstein prize of the Strauss Foundation 1965; Enrico Fermi award US AEC 1968; Franklin Medal Franklin Inst

1969; National Medal of Science 1971; AAAS; NAS; Am Philos Soc. Appointments: US Reactor Safeguard Committee 1946-1953; Sci Adv of US Senate Delegation to 3rd Annual Conf of NATO parliamentarians, Paris 1957; Adv Committee of Oak Ridge Natl Lab 1957-65; Sci Adv Committee to Pres of Univ of California on Los Alamos Sci Lab and Lawrence Livermore Lab 1972-1977; Visit Comm, Princeton Univ Physics Dept 1977-; Chmn, Joint Comm of Am Phys Soc and Am Philos Soc on Hist of Theoret Physics in the 20th Century 1960-1972; Chmn, US Dept of Defense Advanced Research Projects Agency "Project 137", 1958; Member, US General Adv Comm on Arms. Memberships: Vice pres Internat Union of Physics 1951-1954; Fellow, Am Ass'n for the Adv of Sci; Fellow, Am Physical Soc (pres 1966); AMS; NY Acad Sci (honorary). Prof, Physics, Univ of Texas, Joseph Henry Prof Emer Physic Princeton University. Physics Department, Univ of Texas, Austin, TX 78712.

Publications Related to IAS Residence: Molecular viewpoints in nuclear structure. *Phys Rev* 52(1937) 1083-1106; Mathematical description of light nuclei by the method of resonating group structure. *Phys Rev* 52(1937) 1107-22; Wave functions for large arguments by the amplitude-phase method. *Phys Rev* 52(1937) 1123-27; With E. Teller. Rotation of the atomic nucleus. *Phys Rev* 53(1938) 778-89.

Other Publications: *Geometrodynamics*. 1962; *Gravitation Theory and Gravitational Collapse*. 1965; *Space time Physics*. 1966; *Einstein's Vision*. 1968; *Gravitation*. 1973; *Black Holes, Gravitational Waves and Cosmology*. 1974; *Frontiers of Time*. 1979.

White, Lynn, Jr. 65s HS, Mediaeval Studies

Born 1907 San Francisco, CA. PhD 1934 History Harvard Univ. Honors: LLD MacMurray Coll 1946; Officier d'Académie 1948; Commonwealth Club of Calif Lit Award 1950; LLD Lake Erie Coll 1957; LLD Mills Coll 1958; Pres Western Coll Assn 1947-48; Guggenheim Fellow 1958-1959; Pfizer Awd 1963; Leonardo da Vinci Medal 1964; Mercer Awd 1970; Dexter Prize 1970; Commendatore nell'Ordine al Merito della Rep Italiana 1971; AAAS; Fellow Am Philos Soc. Memberships: Acad Internat d'Hist des Scis; Am Assoc for Adv Sci; AHA; Pres 1973; Calif Hist Soc; Hist of Sci Soc; Pres, 1971-72; Mediaev Acad of Amer: Pres, 1972-73; Mediev Assn of the Pacific; PBK; Renaissance Soc of Amer; FRSA; Soc for Hist of Discoveries; Soc for Hist of Technol: Pres 1960-62; Soc for Mediev Archaeol. Univ Prof Emer, Dept of History, UCLA, Los Angeles, CA 90024.

Publications Related to IAS Residence: *Medieval Religion and Technology: Collected Essays*. U of Calif Press, 1978; Indic Elements in the Iconography of Petrarch's "Trionfo della Morte". *Speculum* 49(1974) 201-221.

White, Mary E. 48-49,60-61 HS, Greek Archaeology

Born 1908 Canada. MA 1930 Oxford Univ. Deceased.

Publications Related to IAS Residence: The Greek and Roman Contribution. In *The Heritage of Western Culture*, ed. by Chalmers, R.C., 1-25. Toronto: 1952.

White, Morton G. see Present Faculty

White, Roscoe Beryl 72-74 NS, Plasma Physics

Born 1937 Freeport, IL. PhD 1963 Physics Princeton Univ. Memberships: Am Phys Soc. Research Physicist, Plasma Physics Lab, Princeton University, Princeton, NJ 08540.

Publications Related to IAS Residence: With C. S. Liu, and M. N. Rosenbluth. Parametric Decay of Obliquely Incident Radiation. *Phys Rev Lett* 31(1973) 520; With C. S. Liu, and M. N. Rosenbluth. Parametric Scattering Instabilities in Inhomogeneous Plasmas. *Phys Rev Lett* 31(1973) 697; With C. S. Liu, and M. N. Rosenbluth. Temporal Evolution of a Three-Wave Parametric Instability. *Phys Rev Lett* 31(1973) 1190; With P. K. Kaw, et al. Absolute Parametric Instabilities in Inhomogeneous Plasmas. *Nucl Fusion* 14(1974) 45; With C. S. Liu, and M. N. Rosenbluth. Raman and Brillouin Scatterings of Electromagnetic Waves in Inhomogeneous Plasmas. *Phys Fluids* 17(1974) 1211; With C. S. Liu, M. N. Rosenbluth. Parametric Instabilities in Inhomogeneous, Spherical Plasmas. In *Plasma Physics and Controlled Nuclear Fusion Research 2*, 515. Vienna: IAEA, 1975; With M. N. Rosenbluth, D. A. Monticello, H. Strauss. Numerical Studies of Nonlinear Evolution of Kink Modes in Tokamaks. *Phys Fluids* 19(1976) 1987; With D. A. Monticello, H. Strauss, M. N. Rosenbluth. Nonlinear Helical Perturbations of a Tokamak. *Phys Fluids* 20(1977) 390; With B. V. Waddell, M. N. Rosenbluth, D. A. Monticello. Nonlinear Growth of the $m = 1$ Tearing Mode. *Nucl Fusion Lett* 16(1976) 528.

Whitehead, John Henry Constantine 46f, 60s M, Theory of Manifolds

Born 1904 Madras, India. PhD Princeton Univ. Deceased.

Whiteman, Albert Leon 52-54, 59-60, 67-68 M

Born 1915 Philadelphia, PA. PhD 1940 Mathematics Univ of Penn. Honors: PBK; Sigma Xi; Pi Mu Epsilon. Memberships: AMS; MAA; AAUP. Prof, Department of Mathematics, University of Southern California, Los Angeles, CA 90007.

Publications Related to IAS Residence: A family of difference sets. *Illinois J Math* 6(1962) 107-121; With Joseph Muskat. The cyclotomic numbers of order twenty. *Acta Arith* 17(1970) 185-216; A sum connected with the series for the partition function. *Pacific J Math* 6(1956) 159-176.

Other Publications: An infinite family of Hadamard matrices of Williamson type. *JCT* 14(1973) 334-340; An infinite family of skew-Hadamard matrices. *Pacific J Math J Math* 38(1971) 817-822; The cyclotomic numbers of order ten. In *Combinatorial Analysis*, ed.

by R. Bellman and M. Hall, Proc Sym Appl Math 10:95-111. Providence: AMS, 1960.

Wichmann, Eyvind Hugo 55-57 M(NS), Theoretical Physics

Born 1928 Stockholm, Sweden. PhD 1956 Columbia Univ. Memberships: Am Phys Soc; Sigma Xi. Prof, Department of Physics, University of California, Berkeley, CA 94720.

Wick, Gian Carlo 53s, 53f M(NS), Theoretical Physics

Born 1909 Italy. PhD 1930 Univ of Turin. Phys Dept, Columbia Univ, New York, NY 10027. *

Widom, Harold 59-60, 78s M, Analysis

Born 1932 Newark, NJ. PhD 1955 Mathematics Univ of Chicago. Honors: Sloan Fellow 1961-62; Guggenheim Fellow 1967-68, 1972-73. Memberships: AMS. Prof, Math, Division of Natural Sciences, Univ of California, Santa Cruz, CA 95060.

Publications Related to IAS Residence: A complete symbolic calculus for pseudodifferential operators. *Bull des Sci Math* (in press); Singular integral equations in L_p . *Trans AMS* 97(1960); Spectral asymptotics of hypersurfaces. *J of Integral Eqs & Operator Theory* 1(1978); Two extremal problems. *Pacific J Math* 10(1960).

Other Publications: H_p sections of vector bundles over Riemann surfaces. *Ann Math* 94(1971); Toeplitz operators on H_p . *Pac J Math* 19(1966); Asymptotic behavior of block Toeplitz matrices & determinants II. *Adv in Math* 21(1976).

Wiebe, Robert H. 69-70 Soc, History

Born 1930 Amarillo, TX. PhD 1957 History Univ of Rochester. Prof, Dept of History, Northwestern Univ, Evanston, IL 60201.

Publications Related to IAS Residence: *The Segmented Society*. New York: Oxford Press, 1975.

Wightman, Arthur Strong 49-50, 61-62, 73f M(NS), Theoretical Physics

Born 1922 Rochester, NY. PhD 1949 Physics Princeton Univ. Honors: DSc ETH, Zurich 1969; AAAS. Memberships: AMS; Amer Phys Soc; Amer Asso Adv Sci. Prof, Mathematical Physics, Physics Dept, Princeton Univ, Box 708, Princeton, NJ 08540.

Publications: With R.F. Streater. *PCT, Spin and Statistics and All That*. New York: W.A. Benjamin & Co., 1964.

Wilber, Donald Newton 36-39 HS(H), Archaeology

Born 1907 Madison, WI. PhD Architecture Princeton Univ. Honors: Order of Homayun, Iran; Order of Sepas, Iran; SSRC Grants. Memberships: Near East Inst; Middle East Studies Assn; Amer Inst of Archaeol. 50 Wilson Rd, Princeton, NJ 08540.

Members

Publications Related to IAS Residence: The Institute's Survey of Persian Architecture; Preliminary Report of the Eighth Season. *Am Inst Iran Art Bul* 5(1937) 109-136; The Institute's Survey of Persian Architecture; Preliminary Report on Takht-i-Sulayman. *Am Inst Iran Art Bul* 5(1937) 92-105; Iranian Motifs in Syrian Art. *Am Inst Iran Art Bul* 5(1937) 22-26; Two Structures at Sanjan. *Am Inst Iran Art Bul* 5(1937) 33-37; With M. Minovi. Notes on the Rab-i-Rashidi. *Am Inst Iran Art Bul* 5(1938) 246-254; The Parthian Structures at Takht-i-Sulayman. *Antiquity* 12(1938) 389-410; The Plateau of Daphne. In *Antioch-on-the-Orontes II*, 49-56. Princeton: 1938; The Theatre at Daphne. In *Antioch-on-the-Orontes II*, 57-94. Princeton: 1938; The Development of Mosaic Faïence in Islamic Architecture in Iran. *Ars Islam* 6(1939) 16-47; The Coptic Frescoes of Saint Menas at Medinet Habu. *Art Bul* 22(1940) 86-103.

Other Publications: *The Architecture of Islamic Iran: The 11 Khanid Period*. 1955; *Persian Gardens and Garden Pavilions*. 1962; *Contemporary Iran*. 1963; editor, *Afghanistan: Its People, Its Society, Its Culture*. 1962; *Pakistan Yesterday and Today*. 1964; editor, *Pakistan: Its People, Its Society, Its Culture*. 1964; editor, *The Nations of Asia*. 1966; *Iran Past and Present*. 8th ed. 1976; *Annotated Bibliography of Afghanistan*. 3rd ed. 1968; *Persepolis. The Archaeology of Parsa, Seat of the Persian Kings*. 1969; editor, *UAR Egypt: Its People, Its Society, Its Culture*. 1969; *The Land and People of Ceylon*. 2nd ed. 1972; *Four Hundred Forty-Six Kings of Iran*. 1972; With Maurice Dimand. *L'Arte dell'Islam*. 1972; *Riza Shah Pahlavi: The Resurrection and Reconstruction of Iran*. 1975; *The Bronze Makers*. 1974.

Wilcox, L. R. 35-36 M, Lattice Theory

Born 1912 Chicago, IL. PhD 1935 Mathematics Univ of Chicago. Appointments: Chmn Cttee on Arrangements for Nat ann meeting of combined math org, Chicago 1960, Pub Dir, 1966. Memberships: AMS; MAA; AAUP. Prof Emer, Mathematics, Ill Inst of Technology, 1404 Forest Ave, Wilmette, IL 60091.

Publications Related to IAS Residence: J. V. Neumann, "Continuous Geometry". Princeton Univ Press, 1960; Modularity in the theory of lattices. *Ann Math* 40, 2(1939) 490-505; With M. F. Smiley. Metric lattices. *Ann Math* 40, 2(1939) 309-327.

Other Publications: With R. B. Kershner. *The Anatomy of Mathematics*. Ronald Press, 1950; A topology for semi-modular lattices. *Duke Math J* 8, 2(1941) 273-285.

Wilczek, Frank Anthony 77-78 NS, High Energy Physics

Born 1951 Mineola, NY. PhD 1974 Princeton Univ. Department of Physics-Jadwin Hall, Princeton University, Princeton, NJ 08540. *

Wilder, Raymond Louis 33-34 M, Topology

Born 1896 Palmer, MA. PhD 1923 Math Univ of Texas. Honors: Guggenheim Fellow 1940-41; Colloq Lect AMS 1942; Invited Lect Int'l Cong of Math 1950; Russel Lecturer Univ of Mich 1959; J. W. Gibbs Lecturer AMS 1969; Lester R. Ford Prize MAA; NAS 1963; ScD(hon) Bucknell Univ 1953; ScD(hon) Brown Univ 1958; Conf in Topology, Hon 70th Birthday, Univ of Mich(Proceedings Publ in 2 & 3 of Mich Math J Vol 14 1967); Symp on Alg Geom Topology, Hon 80th Birthday U Calif, Santa Barbara,(Proc Publ 664 Lect Notes Math Springer/Verlag 1978). Appointments: Fulbright and NSF Selection Cttees; Air Force Adv Cttee (Office of Scientific Research); Mem Cttee on Sci and Public Policy; NAS; Pres AMS 1955-56; Pres MAA 1965-66. Memberships: AMS; MAA; NAS; Ass'n for Symb Logic; Hist of Sci Soc; Amer Anthrop Ass'n; AAAS. Research Assoc, Math, University of California, Prof Emer Univ of Michigan. 2427 Calle Montilla, Santa Barbara, CA 93109.

Publications Related to IAS Residence: On the properties of domains and their boundaries in E_n . *Math Ann* 109(1933) 272-306; Generalized closed Manifolds in n-space. *Ann Math* 35(1934) 876-903; On locally connected spaces. *Duke Math J* 1(1935) 543-555.

Other Publications: The sphere in topology. In *Semicentennial Addresses of the AMS*, 136-184. New York: AMS, 1939; *Topology of Manifolds*. AMS Colloquium Publ, 32. Providence, RI: AMS, 1949; The cultural basis of mathematics. In *Proc Int'l Cong Math, Cambridge, Mass 1950*, ed. by L.M. Graves et al, 258-271. Providence, RI: AMS, 1952; *Intro to the Foundations of Math*. New York: Wiley & Sons, 1952; The Origin and growth of Mathematical concepts. *Bull AMS* 59(1953) 423-448; *Evolution of Mathematical Concepts*. New York: Wiley & Sons, 1968; History in the Math Curriculum: Its Status, Quality & Function. *Am Math Monthly* 79(1972) 479-495.

Wildt, Rupert 36-37 M(NS), Astrophysics

Born 1905 . PhD 1927 Univ of Berlin. Deceased. **Publications Related to IAS Residence:** Note on Stellar Ionization and Electric Fields. *Monthly Notices of the Royal Astron Soc* 97(1937) 225-231; Photochemistry of Planetary Atmospheres. *Ap J* 86(1937) 321-336; On the State of Matter in the Interior of the Planets. *Ap J* 87(1938) 508-516.

Wilets, Lawrence 57-58 M(NS), Theoretical Physics

Born 1927 Oconomowoc, WI. PhD 1952 Physics Princeton Univ. Honors: NSF Postdoc Fellow 1953-55; NSF Sr Postdoc Fellow 1961-62; Guggenheim Fellow 1976-77. Appointments: NSF Phys Rev Panel; Council, Div Nuclear Physics, Am Phys Soc. Memberships: Am Phys Soc; AAUP; AAAS; FAS. Prof, Department of Physics, FM-15, University of Washington, Seattle, WA 98195.

Publications Related to IAS Residence: Theories of the Nuclear Surface. *Rev of Mod Phys* 30(1958) 361; Surface Coupling Mechanism for Approaching Statistical Equilibrium in Compound Nucleus

Formation, with Application to Fission. *Phys Rev* 115(1959) 372.

Other Publications: *Theories of Nuclear Fission*. Oxford: 1964; With Hill and Ford. Isotope Shift Anomalies and Nuclear Structure. *Phys Rev* 91(1953) 1488; Excitation of Nuclear Rotational States in Mu-Meson Atoms. *Dan Mat-fys Medd* 29, 3(1954); Neutron and Proton Densities in Nuclei. *Phys Rev* 101 (1956) 1802; With Chase and Edmonds. Rotational Optical Model for Nuclear Scattering. *Phys Rev* 110(1958) 1080; With Henyey, Böhm, LeLevier and Levee. A Method for Automatic Computation of Stellar Evolution. *Astrophys Journal* 129(1959) 628; With Guth. Proposal for an experiment on Adiabatically Induced Coulomb Fission. *Phys Rev Left* 147(1966) 13; With Wu. Muonic Atoms and Nuclear Structure. *Ann Rev of Nuclear Sci* 19(1969) 527; With Brown and Puff. Meson Dynamics and the Nuclear Many Body Problem I. *Phys Rev C* 2(1970) 331; With Alberg and Henley. Theory of Kaonic Atoms. *Ann Phys NY* 96(1976) 43; Vacuum Polarization in Strong, Realistic Electric Fields. *Phys Rev A* 12(1975) 748; With Henley, Kraft and MacKellar. Classical Many-body Model for Heavy Ion Collisions Incorporating the Pauli Principle. *Nuc Phys A* 282(1977) 341.

Wilkerson, Clarence W., Jr. 80s, 80f M, Algebraic Topology

Born 1944 Laredo, TX. PhD 1970 Rice Univ. Assoc Prof, Dept of Math, Wayne State Univ, Detroit, MI 48075. *

Wilkins, J. Ernest, Jr. 42f M

Born 1923 Chicago, IL. PhD 1942 Mathematics Univ of Chicago. Honors: Nat Acad of Engin; Amer Nuclear Soc 1964; Amer Assoc for the Adv of Sci 1956. Appointments: Member of the US Atomic Energy Commission Adv Cttee for Standard Ref Materials and Methods of Measurement 1964-67; Member of the US Atomic Energy Commission Adv Cttee on Nuclear Materials Safeguards 1967-72; Member of the Coll Entrance Exam Bd Adv Cttee on Math Achievement Tests 1972-74; Member of Nat Sci Foundation Adv Cttee for Planning and Institutional Affairs 1973-74; Member of Assembly of Engin of the NRC 1977-; Chm, Army Sci Bd for Dept of the Army 1978-. Memberships: AMS 1941-; Amer Assoc for the Adv of Sci 1943-; MAA 1946-; Inst of Math Statistics 1946-; Optical Soc of Amer 1948-; SIAM 1954-; Amer Nuclear Soc 1955-; Assoc for Computing Mach 1957-; Amer Soc of Mech Eng 1960-; Inst of Nuclear Materials Management 1968-; Nat Inst of Sci 1972-; Nat Assoc of Mathematicians 1977-; Amer Soc for Eng Ed 1977-. Associate General Manager Science and Engineering EG&G Idaho, Inc., PO Box 1625, Idaho Falls, ID 83401.

Publications Related to IAS Residence: A Special Class of Surfaces in Projective Differential Geometry. *Duke Math J* 10(1943) 667-675; Definitely Self-Conjugate Adjoint Integral Equations. *Duke Math J*

11(1944) 155-166; The Contact of a Cubic Surface with a Ruled Surface. *Amer J Math* 67(1945) 71-82.

Other Publications: Multiple Integral Problems in Parametric Form in the Calculus of Variations. *Ann Math* 45(1944) 312-334; Neumann Series of Bessel Functions. *Trans AMS* 64(1948) 359-385; The Resolving Power of a Coated Objective, II. *J Optical Soc of Amer* 40(1950) 222-224; Minimum Mass Thin Fins for Space Radiators. In *Proceedings of the 1960 Heat Transfer and Fluid Mechanics Institute, Stanford University*, 229-243. 1960; Luneberg Apodization Problems. *J of the Optical Soc Amer* 53(1963) 420-424; The Bold Strategy in Presence of House Limit. *Proc AMS* 32(1972) 567-570; Apodization for Maximum Strehl Criterion and Specified Rayleigh Limit of Resolution. *J Optical Soc of Amer* 67 (1977) 1027-1030.

Wilkinson, Bertie 63-64 HS

Born 1898 Bingley, Yorkshire, England. PhD History Univ of Manchester. Honors: LLD Toronto 1970. Prof Emer, University of Toronto, c/o Professor J.P. Wilkinson, 14 Whittaker Cresc, Willowdale, Ont, Canada.

Willcox, William Bradford 46f HS, History

Born 1907 Ithaca, NY. PhD 1936 Yale Univ. Honors: Porter Prize Yale Univ 1936; Russel Awd Univ of Mich 1945; Bancroft Prize Columbia Univ 1965; PBK Visit Schlir 1975-76, 1977-78. Appointments: Council, Inst Early Am Hist & Culture, 1955-58; Council, AHA, 1966-70. Prof Emer, History, and Ed *Papers of Benjamin Franklin*, 1603A Yale Station, New Haven, CT 06520.

Publications: *Star of Empire: a Study of Britain as a World Power, 1485-1945*. 1950; *Portrait of a General: Sir Henry Clinton in the War of Independence*. 1964.

Williams, Christine, see Ayoub, Christine Williams

Williams, David Noel 66-67 NS, Theoretical Physics

Born 1934 Lewisberg, TN. PhD 1964 Univ of Cal, Berkeley. *

Williams, Edward A. 74-76, 76f NS, Theoretical Plasma Physics

Born 1947 England. PhD 1973 Princeton Univ. Institute for Laser Energetics, U of Rochester, Rochester, NY 14627. *

Williams, Robert Fones 59-61, 79f M, Topology

Born 1928 Bessemer, AL. PhD 1954 Math University of Virginia. Honors: Invited Address ICM, Nice 1970. Prof, Northwestern Univ, Dept of Math, Evanston, IL 60201.

Publications Related to IAS Residence: With Breden & Raymond, p-adic groups of transformations. *TAMS* 99(1961) 488-498; With F. Raymond.

Members

Examples of p-adic transformation groups. *Ann Math* 78(1963) 92-106.

Other Publications: One dimensional non-wandering sets. *Topology* 6(1967) 473-87; Expanding attractors. *Publ IHES* 43(1974) 169-203; The structure of Lorenz attractors. *Publ IHES* in press.

Williamson, John Hunter 55-56 M, Analysis

Born 1926 Blairgowrie, Scotland. PhD 1952 Mathematics Cambridge Univ. Appointments: British Nat Cttee for Math; Sci Res Council Math Cttee; Univ Grants Cttee Math Sci Sub-Cttee. Memberships: London Math Soc; Edinburgh Math Soc; AMS. Prof, Dept of Mathematics, University of York, York, YO1 5DD, England.

Publications Related to IAS Residence: With Edwin Hewitt. Note on absolutely convergent Dirichlet series. *Proc AMS* 8(1957) 363-368; A theorem on algebras of measures on topological groups. *Proc Edinburgh Math Soc* 11(1959) 195-206.

Other Publications: With W. Moran. Harmonic analyses on semigroups. *J London Math Soc* 42(1967) 1-41; Isotone measures on groups. *Math Proc Cambridge Philos Soc* 84(1978) 89-107.

Williamson, Robert E. 63-65 M, Differential Topology

Born 1937 Ashland, KS. Honors: NAS-NRC Fellow 1963-1964. Appointments: NRC Panel for evaluating Grad Fship applicants, 1975-1977. Memberships: AMS. Assoc Prof, Math, Claremont Grad School, 407 Cedar Crest Ave, Claremont, CA 91711.

Publications Related to IAS Residence: Cobordism of combinatorial manifolds. *Ann Math* 83(1966) 1-33.

Other Publications: Surgery in $M \times N$ with $\pi_* M \neq 7$. *Bull AMS* 75(1969) 582-585.

Willoughby, William R. 54 56 HS

Born 1910 Bowen, KY. PhD 1943 Political Science Univ of Wisc, Madison. Honors: Canada Council grants; Awards from Am Philos Society, Can SSRC, Can Institute of Internat'l Affairs, SSRC. Memberships: Can Pol Sci Ass'n; Can Inst of Internat'l Affairs; Can Ass'n of Univ Professors. Ret Prof, Pol Sci, Univ of New Brunswick, 85 Harewood Crescent, Fredericton, New Brunswick, Canada E3B 2F4.

Publications Related to IAS Residence: *The St Lawrence Waterway: A Study in Politics & Diplomacy*. Madison: Univ of Wisc Press, 1960; The St Lawrence Waterway Understandings. *Internat'l J*(Autumn, 1955) 242-252; The Inception & Financing of the First Welland Canal. *Inland Seas* (Fall, 1956) 155-166; Early Am Interest in Waterway Connections between the East & the West. *Indiana Mag of Hist* (Dec, 1956) 319-342.

Other Publications: *Canadian-American Intergovernmental Machinery & Relations*. Toronto: Univ of Toronto Press, 1979.

Wilmerding, Lucius 44-48 HS(EP)

Born 1906 . MA 1929 Oxford Univ. 27 Rosedale Rd, Princeton, NJ 08540. *

Publications Related to IAS Residence: A Plan for Improving the Machinery of Congressional Control over Expenditures. In *US Congress, Joint Committee on the Organization of Congress, Hearings, Pursuant to H. Con. Res. 18, Part 4*, 973-991. 1945; The Concern of the Men Who Designed the Constitution for Filling the Presidential Office. *Congressional Digest* 26(1947) 26-27; The Presidential Succession. *Atlantic Monthly* 179(May 1947) 91-97.

Wilson, David C. 69-70 M, Topology

Born 1942 Clifton Springs, NY. PhD 1969 Mathematics Rutgers Univ. Assoc Prof, Mathematics Dept, University of Florida, Gainesville, FL 32611.

Publications Related to IAS Residence: Completely regular mappings and dimension. *Bull AMS* 76(1970) 1057-1061; Monotone mappings of manifolds onto cells. In *Proc Conf on Monotone Mappings and Open Mappings, Binghamton, 1970*, ed. by L.F. McAuley; Open Mappings of the Universal Curve onto Continuous Curves. *Trans AMS* 168(1972) 497-515; Open Mappings on Manifolds and a Counterexample to the Whyburn Conjecture. *Duke Math J* 40(1973) 705-716; On Constructing Monotone and UV¹ mappings of arbitrary degree. *Duke Math J* 41 (1974) 103-109; With J.E. Keesling. The group of PL-homeomorphisms of a Compact PL-manifold is an L₂-manifold. *Trans AMS* 193(1974) 249-256.

Wilson, Kenneth Geddes 72s NS, Particle Physics

Born 1936 Waltham, MA. PhD 1961 Cal-Tech. Newman Laboratory, Cornell University, Ithaca, NY 14850. *

Wilson, W. Stephen 74-75, 77-78 M, Algebraic Topology

Born 1946 Iowa City, IA. PhD 1972 Mathematics MIT. Honors: Sloan Fellow 1977-79. Memberships: AMS. Assoc Prof, Mathematics Department, Johns Hopkins University, Baltimore, MD 21218.

Publications Related to IAS Residence: With H.R. Miller and D.C. Ravenel. Periodic phenomena in the Novikov spectral sequence. *Ann Math* 106(1977) 469-516; With H.R. Miller. On Novikov's Ext¹ modulo an invariant prime ideal. *Topology* 15(1976) 131-141; With D.C. Johnson. BP operations and Morava's extraordinary K-theories. *Math Zeit* 144(1975) 55-75; With D.M. Latch and R.W. Thomason. Simplicial sets from categories. *Math Zeit* (in press).

Other Publications: With D.C. Ravenel. The Hopf ring for complex cobordism. *J Pure & App Alg* 9(1977) 241-280.

Wilton-Ely, John 80s HS, Fine Arts

Born 1937 London, England. MA 1966 Cambridge Univ. Prof, Fine Art, and Chmn, Dept of Hist of Art, Univ of Hull, Hull HU6 7RX, England. *

Winch, Donald Norman 74-75 Soc, Economics, History of Social Sciences

Born 1935 London, England. PhD 1960 Economics Princeton Univ. Appointments: Pub Secy/Rev Ed *Economic Journal*-Royal Econ Soc. Memberships: Royal Econ Soc. Prof, History of Economics, School of Social Sciences, University of Sussex, Arts Bldg, Falmer, Brighton, BN1 9QN England.

Publications Related to IAS Residence: With S.K. Howson. *The Economic Advisory Council, 1930-1939; A Study in Economic Advice During Depression and Recovery*. New York: Cambridge Univ Press, 1976; *Adam Smith's Politics; An Essay in Historiographic Revision*. New York: Cambridge UP, 1978.

Other Publications: *Classical Political Economy and Colonies*. Cambridge, Mass: Harvard UP, 1965; *James Mill: Selected Economic Writings*. Chicago UP, 1977; *Economics and Policy: A Historical Study*. Hodder and Stoughton, 1969.

Winkelkemper, Horst Elmar 71-73 M

Born 1940 Cologne, Germany. PhD 1970 Math Princeton Univ. Memberships: AMS. Assoc Prof, Math Dept, U of Maryland, College Park, MD.

Publications Related to IAS Residence: Manifolds as Open Books. *Bull AMS* 79(1973) 45-51.

Winnington-Ingram, Reginald Pepys 64f, 72s HS, Ancient Greek Literature

Born 1904 Sherborne, Dorset, England. MA(Cantab.) 1928. Honors: Fellow Trinity Coll Cambridge U 1928-32; Fellow King's Coll London; Fellow British Acad 1958-; Hon DLitt Glasgow 1969. Memberships: Soc for Prom of Hellenic Studies: Pres 1959-62; Currently Vice-Pres & Hon Secy. Prof Emer, Greek Language and Lit, Univ of London, 7 Ladywell Court, 22 East Heath Rd, London NW3 1AH, England.

Publications Related to IAS Residence: *Sophocles: an interpretation*. New York: Cambridge Univ Press, 1979; *Septem contra Thebas*. *Yale Class Studies* 25(1977) 1-45.

Other Publications: *Mode in ancient Greek music*. Cambridge: 1936; *Euripides and Dionysus*. Cambridge: 1948; ed, *Aristides Quintilianus de musica*. Leipzig: 1963.

Winston, Gordon Chester 78-79 Soc, Economics

Born 1929 San Francisco, CA. PhD 1964 Economics Stanford Univ. Memberships: Am Econ Assoc; Royal Econ Soc; Western Econ Assoc. Prof, Economics, Williams Coll, 4 Greylock Village Condominiums, Williamstown, MA 01267.

Publications Related to IAS Residence: The Appeal of Inappropriate Technologies: Self-inflicted Wages, Ethnic Pride and Corruption. *World Development* (in press).

Other Publications: An International Comparison of Income and Hours of Work. *Rev of Econ and*

Statistics (1966); Capital Utilization in Economic Development. *Economic Journal* (1971); The Theory of Capital Utilization and Idleness. *J of Econ Lit* (1974); Capacity: An Integrated Micro and Macro Analysis. *Amer Econ Rev* (1977); With G. Farooq. Shift Working, Employment and Economic Development: A Study of Industrial Workers in Pakistan. *Econ Development and Cultural Change* (1978).

Wintner, Aurel Frederick 37-38 M

Born 1903 . PhD 1928 Univ of Leipzig. Deceased.

Winzinger, Franz 79f HS, Art History

Born 1910 Germany. DPhil 1956 Univ of Erlangen. Ord Prof (Emer), Univ of Regensburg, Turfweg 2, D-8400 Regensburg, West Germany. *

Wirsing, Eduard A.J.M. 70-71 M, Number Theory

Born 1931 Berlin, Germany. Dr rer nat 1956 Univ of Berlin. Memberships: DMV. Head, Dept of Math II, Univ of Ulm, Oberer Eselsberg, D-7900 Ulm, Germany.

Publications Related to IAS Residence: With A. Baker, B.J. Birch. On a problem of Chowla. *J Number Theory* 5(1973) 224-236; On the theorem of Gauss-Kus-min-Lévy and a Frobenius type theorem for function spaces. *Acta Arith* 24(1974) 507-528.

Other Publications: Elementare Beweise des Primzahlsatzes mit Restglied I. *J Reine Angew Math* 211(1962) 205-214; Das asymptotische Verhalten von Summen über multiplikative Funktionen II. *Acta Math Acad Sci Hung* 18(1967) 411-467; A characterisation of $\log n$ as an additive arithmetic function. In *Sym Math*, 4: 45-57. London, New York: Academic Press, 1970; Characterisation of the logarithm as an additive function. In *Proc 1969 Summer Inst on Number Theory*, 375-381. Amer Math Soc, 1971; On approximations of algebraic numbers by algebraic numbers of bounded degree. In *Proc 1969 Summer Inst on Number Theory*, 213-247. Amer Math Soc, 1971.

Wisner, Robert Joel 59-60 M, Number Theory, Homological Algebra

Born 1925 Hannibal, MO. PhD 1953 Univ of Wash. Math Dept, New Mexico State Univ, Las Cruces, NM 88001. *

Witmer, Enos Eby 40-41 M(NS), Theoretical Physics

Born 1898 Lancaster, PA. PhD 1923 Physics Univ of Penna. Honors: Hon ScD Franklin & Marshall Coll 1951. Memberships: Amer Phys Soc; Am Assoc Adv Sci. Assoc Prof Emer, Physics Dept, University of Pennsylvania, Philadelphia, PA 19104.

Publications Related to IAS Residence: Interpretation of Quantum Mechanics and the Future of Physics. *Am J Phys* 35(1967) 40-52.

Members

Other Publications: The Electron Rest Mass as A Universal Mass Constant for Nuclei and Elementary Particles. *Scientia* 104(1969) 435-52; With Relativistic Space-Time, Elementary Particles and Nuclei. In *8th International Conference on General Relativity and Gravitation*, 350. Waterloo, Ontario, Canada: University of Waterloo, 1977; Space-Time, Quark Theory, Nuclei and Elementary Particles. *Bull Am Phys Soc* 23(1978) 580.

Witt, Ernst 60-61 M, Algebra, Number Theory

Born 1914 . Marrsenweg 8, Hamburg 52, West Germany. *

Wittkower, Rudolf J. 71-72 HS, History of Art

Born 1901 Berlin, Germany. PhD 1923 Berlin. Deceased.

Wlosok, Antonie Elisabeth 72-73 HS, Roman History, History of Greek Philosophy

Born 1930 Rokietnica near Poznan, Poland. DHabil 1964 Classics. Memberships: Mommsen-Gesellschaft. Prof Ordinarius, Classics, Univ of Mainz, Elsa Brandströmstr 19, D-6500 Mainz, Germany.

Publications Related to IAS Residence: *Römischer Kaiserkult*. Darmstadt: 1978; Amor and Cupid. *Harv Studies in Class Philol* 79(1975) 165-179; Cumaeum Carmen (Verg, Ecl 4,4). In *Forma Futuri, Studi in Onore del Cardinale M. Pellegrino*, 693-711. Torino: 1975.

Other Publications: *Laktanz und die Philosophische Gnosis*. Heidelberg: 1961; *Die Göttin Venus in Vergil's Aeneis*. Heidelberg: 1967; Vater und Vatervorstellungen in der Römischen Kultur. In *Das Vaterbild im Abendland*, ed. by H. Tellenbach, 18-54 and 192-200. Stuttgart: 1978.

Wolf, Joseph A. 60-62, 65-66 M, Geometry, Lie Groups

Born 1936 Chicago, IL. PhD 1959 Mathematics Univ of Chicago. Honors: Sloan Fship 1965-67; Medal of the Univ of Liège 1977. Appointments: Managing Ed, Proc AMS 1978-79. Memberships: AMS; Swiss Math Soc. Prof, Department of Mathematics, Univ of California, Berkeley, CA 94720.

Publications Related to IAS Residence: Locally symmetric homogeneous spaces. *CMH* 37(1962) 65-101; Self adjoint function spaces . . . *TAMS* 113(1964) 299-315; *Spaces of Constant Curvature*. New York: McGraw-Hill, 1967.

Other Publications: Representations on Partially Holomorphic Cohomology Spaces. *Mem AMS* 138(1974).

Wolf, Richard Alan 69f, 74-75 NS, Astrophysics

Born 1939 Pittsburgh, PA. PhD 1966 Physics Cal Tech. Appointments: Cttee on Space Physics, NAS/NRC; Panel on the Intl Magnetospheric Study,

NAS/NRC; Upper Atmosphere Panel of the Geophysics Study Cttee, NAS/NRC. Memberships: Amer Geophys Un; Amer Phys Soc; Amer Astron Soc; Amer Assoc for Adv of Sci. Prof, Department of Space Physics and Astronomy, Rice University, Houston, TX 77001.

Publications Related to IAS Residence: *Ap J* 209(1976) 214; *Ap J* 216(1977) 883; *Ap J* 176(1972) 559.

Wolfe, Don Marion 57-58 HS

Born 1902 Parsons, WV. PhD 1930 Univ of Pittsburgh. Deceased.

Wolff, Hans Julius 74-75 HS, Ancient History

Born 1902 Berlin, Germany. Dr iur utr 1932 Univ of Berlin. Honors: Dr iur(hc) U of Athens 1972; member Heidelberg Acad of Sci 1967; corr member Acad of Sci of Munich 1963; corr member Acad of Sci of Göttingen 1967; corr member Acad of Sci of Athens 1976. Memberships: Amer Philol Assoc; Amer Soc of Papyrologists; Ver Hist Deut. Prof Emer, Law, U of Freiburg. Schulhausstrasse 35, D-7815 Kirchzarten, Germany.

Publications Related to IAS Residence: Organisation und Kontrolle des privaten Rechtsverkehrs. In *Handbuch der Altertumswissenschaft*, Das Recht der griechischen Papyri Ägyptens, vol 2. Munich: Beck, 1978; Greek Legal History—Its Functions and Potentialities. *Wash U Law Quart* (1975) 395-408.

Other Publications: *Roman Law, An Historical Introduction*. Norman: U of Okla Press, 1951; Written and Unwritten Marriages in Hellenistic and Postclassical Roman Law. *Am Philol Assn Monographs* 9(1939); Die attische Paragraphe. In *Graezistische Abhandlungen* 2. Weimar: Böhlau, 1966; Das Justizwesen der Ptolemäer. In *Munich Beiträge zur Papyr-Forschung und Antiken Rechtsgeschichte*, 44. Munich: Beck, 1962.

Wolfson, Kenneth G. 54-55 M

Born 1924 New York, NY. PhD 1952 Mathematics Univ of Illinois. Memberships: AMS. Prof, Mathematics, and Dean Grad Schl Rutgers Univ, 446 Cedar Ave, Highland Park, NJ 08904.

Publications Related to IAS Residence: A Class of Primitive Rings. *Duke Math J* 22(1955) 157-164; Annihilator Rings. *J London Math Soc* 31(1956) 94-104; Anti-Isomorphisms of the Ring and Lattice of a Normed Linear Space. *Portugal Math* 7(1956) 852-855.

Other Publications: Baer Rings of Endomorphisms. *Math Ann* 143(1961) 19-28; Isomorphisms of the Endomorphism Ring of a Free Module over a Principal Left Ideal Domain. *Michigan Math J* 9(1962) 69-75; An Ideal Theoretic Characterization of the ring of all Linear Transformations. *Am J Math* 75(1953) 358-385.

Woloch, Isser 73-74 HS, Modern European History

Born 1937 New York, NY. PhD 1965 History Princeton Univ. Appointments: Selection panel for NEH. Memberships: AHA; Soc for French Historical Studies. Prof, History Department, Columbia University, New York, NY 10027.

Publications Related to IAS Residence: *The French Veteran from the Revolution to the Restoration*. Chapel Hill: U of North Carolina Press, 1979.

Other Publications: *Jacobin Legacy: The Democratic Movement Under the Directory*. Princeton: Princeton Univ Press, 1970.

Woltjer, Lodewyk 59s, 61s M(NS), Astrophysics

Born 1930 Noordwyk, Netherlands. PhD 1957 Astronomy Leiden U. Honors: Gould Medal NAS 1975. Memberships: Royal Dutch Acad of Sci; AAAS; Am Astron Assoc; IAU; Europ Phys Soc. Dir General, European Southern Observatory, CERN, Geneva, Switzerland.

Publications Related to IAS Residence: Editor with F. D. Kahn. *Interstellar Matter in Galaxies*. Benjamin, 1962; Intergalactic Matter and the Galaxy. *Ap J* 130(1959) 705-717.

Other Publications: Hydromagnetic Equilibrium III Axisymmetric Incompressible Media. *Ap J* 130(1959) 400-404; Hydromagnetic Equilibrium IV Axisymmetric Compressible Media. *Ap J* 130(1959) 405-413; A Magnetostatic Model for a Compressible Star. *Ap J* 131(1960) 227-230; On the Equilibrium and Oscillations of Magnetic Fluid Spheres. *Ap J* 135(1962) 235-237.

Wong, David Y. 73f NS, Theoretical Physics

Born 1934 Swatow, China. PhD 1958 Physics U of Md. Prof, and Chairman, Physics Dept, U of Cal San Diego, La Jolla, CA 92093.

Wong, Yue Kei 36f, 48-50 M, Functional Analysis

Born 1904 Canton, China. PhD 1931 Mathematics Univ of Chicago. Honors: PBK 1926; Sigma Xi 1931. Memberships: AMS. PO Box 403, Drayton, SC 29333.

Publications Related to IAS Residence: Some inequalities of determinants of Minkowski type. *Duke Math J* 19(1952) 231-241; An inequality for Minkowski matrices. *Proc Amer Math Soc* 4(1953) 137-141; Quasi-in-verses associated with Minkowski-Leontief matrices. *Econometrica* 22(1954) 350-359.

Wong, Yung-Chow 58f M, Differential Geometry

Born 1913 Canton, China. DSc 1947 Math Univ of London. Honors: OBE 1963; DSc Hon University of Hong Kong 1968. Memberships: AMS; SE Asian Math Soc (Founding Pres). Emer Prof, Department of Mathematics, University of Hong Kong, Hong Kong.

Publications Related to IAS Residence: Isoclinic n -planes in Euclidean $2n$ -space, Clifford parallels in

elliptic $(2n-1)$ -space, and the Hurwitz matrix equations. *Mem AMS* 41(1961).

Other Publications: Quasi-orthogonal ennupe of congruences in a Riemannian space. *Ann Math* 46(1945) 158-173; Recurrent tensors on a linearly connected differentiate manifold. *Trans AMS* 99(1961) 325-341; With Hon-Fei Lai. A critical examination of the theory of curves in three dimensional differential geometry. *Tohoku Math J (2)* 19(1967) 1-31; Differential geometry of Grassmann manifolds. *Proc NAS* 57(1967) 589-594; Euclidean n -planes in pseudo-Euclidean spaces and differential geometry of Cartan domains. *Bull AMS* 75(1969) 409-414; Structure of symmetric tensors of type $(0,2)$ and tensors of type $(1,1)$ on the tangent bundle. *Trans AMS* 234(1977) 253-278; *Linear geometry in Euclidean 4-space*. SE Asian Math Soc Monographs, 1. 1977.

Woo, Ching-Hung 63-65 M(NS), Physics

Born 1936 Shanghai, China. PhD 1962 Univ of Calif, Berkeley. Prof, Physics Dept, Univ of Md, College Park, MD

Publications Related to IAS Residence: Quantum Effects on the Accuracy of Momentum Measurements. *Phys Rev* 139 B(1965) 1103; Large Symmetry Breaking and Mass Relations. *Phys Rev* 135 B(1964) 1352; Test for the Born-Approximation Model of the Peierls Mechanism. *Phys Rev Lett* 13(1964) 696; High-Energy Elastic Scattering at Large Angles and the Statistical Model. *Phys Rev* 137 B(1965) 449; Nucleon Axial-Vector Form Factor. *Phys Rev Lett* 11(1963) 385; Scalar di-pion Resonance and the Nucleon Axial Form Factor. *Phys Rev Lett* 12(1964) 308; With Bég & Cornwall. 3-pion Decay of the Intermediate Vector Boson. *Phys Rev Lett* 12(1964) 305.

Wood, John William 69-70, 71f M, Topology

Born 1941 Tacoma Park, MD. PhD 1968 Math U of California, Berkeley. Memberships: AMS. Assoc Prof, Dept of Math, U of Illinois, Chicago Circle, IL 60680.

Publications Related to IAS Residence: Bundles with totally disconnected structure group. *Comment Math Helv* 46(1971) 257-273; With E. Thomas. On manifolds representing homology classes in codimension 2. *Invent Math* 25(1974) 63-89; Foliations of codimension one. *Bull AMS* 76(1970) 1107-1111; With B. Reinhart. A metric formula for the Godbillon-Vey invariant for foliations. *Proc AMS* 38(1973) 427-430.

Other Publications: Foliations on 3-manifolds. *Ann Math* 89(1969) 336-358; Removing handles from non-singular algebraic hypersurfaces in CP_{n+1} . *Invent Math* 31 (1975) 1-6.

Woodbury, Max Atkin 49-50 M, Measure Theory
Born 1917 St George, UT. PhD 1948 U of Mich. Honors: PBK. Appointments: DSRD Meteorology Adv Comm on Weather Control; NIH Computer Study Section; NIGMS Program Proj Comm; SSS Math & Math Stat; FDA Comm on Radiation Safety; NCI

Members

Diagnostic Radiology Adv Comm. Memberships: Am Assoc for Adv Sci; AMS; AAUP; Inst Math Stat; Am Stat Assoc. Prof, Computer Science, Duke Univ, Prof Biomath Duke Univ Med Cntr, 4008 Bristol Rd, Durham, NC 27707.

Publications Related to IAS Residence: Inverting Modified Matrices. *Princeton University Stat Res Group Memo Report # 42*; The Stochastic Model of Mental Testing Theory and an Application. *Psychometrika* 28, 4(1963) 391-394; On the Standard Length of a Test. *Psychometrika* 16(1951) 103-106.

Other Publications: With M. M. Gertler, L. G. Gottsch, P. D. White, and H. A. Rusk. The Candidate for Coronary Heart Disease. *Journal of the AMA* 170, 2(1959) 149-152; With R.C. Clelland and R.J. Hickey. Applications of a Factor-Analytic Model in the Prediction of Biological Data. *Behavioral Sci* 8, 4(1963) 347-354; With D.A. Bradley and G.W. Brier. Lunar Synodical Period and Widespread Precipitation. *Science* 137, 3532; With M. R. Novick. Maximizing the Validity of a Test Battery as a Function of Relative Test Lengths for a Fixed Total Testing Time. *J Math Psychol* 5, 2(1968) 242-259; Clinical Data Representation in Multidimensional Space. *Computers and Biomedical Research* 3, 1 (1970) 58-73; With T. Orchard. A Missing Information Principle: Theory and Applications. In *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability 1970*. Berkeley: Univ of Calif Press, 1971; With Buckley C. E. et al. HL-A Linked Human Immune-Response Genes. *Proc NAS* 70, 7(1973); A Random Walk Model of Human Mortality and Aging. *Theoret Population Biology* 11 (1977) 37-48; With Dana S. Nau, George Markowsky, and D. B. Amos. A Mathematical Analysis of Human Leukocyte Antigen Serology. *Math Biosci* 40(3/4) 1978.

Woodhead, Arthur Geoffrey 47-48, 56-57, 61-62, 68-72 HS, Greek Epigraphy

Born 1922 Nottingham, England. MA(Cantab) 1949 Classics. Honors: Corr Member Ger Archaeolog Inst 1972. Appointments: Member Class Journals Bd, 1954-74; (Chmn 1967-74). Memberships: Hellenic Soc; Am Philolog Soc; Am Schl of Class Studies at Athens; Brit Schl of Archaeol at Athens. Univ Lect, Classics, Cambridge Univ, Fellow, Corpus Christi College, Cambridge CB2 1RH, England.

Publications Related to IAS Residence: *The Study of Greek Inscriptions*. 1959; *The Greeks in the West*. 1962; Greek Inscriptions. *Hesperia* 17(1948) 54, 60; IG I² 95 and the Ostracism of Hyperbolus. *Hesperia* 18(1949) 78, 83; Greek Inscriptions. *Hesperia* 28(1959) 273, 88; Chabrias, Timotheus and the Aegean Allies. *Phoenix* 16(1962) 258, 66.

Other Publications: With M. McCrum. *Documents of the Flavian Emperors*. 1961; *Thucydides on the Nature of Power*. 1970; Greek Inscriptions. *Hesperia* 29(1960) 78, 86.

Woodruff, William 65-66 HS, Economic History

Born 1916 Blackburn, Lancashire, England. D Phil Economic History. Honors: Houbton-Norman Fellow Bank of England 1952; Fulbright Scholar Harvard & Illinois 1953; MComm Melbourne University 1957; Rockefeller Research Grant 1964; Visiting Prof Free Univ of Berlin 1974; Visiting Prof Waseda Univ Tokyo 1975; Research Grant Japan Soc for the Adv of Sci 1975; Scholar-Teacher Award Univ of Florida 1977; Visiting Assoc Fellow St Antony's Coll, Oxford 1978. Memberships: Econ Hist Assns UK & USA; Am Econ Assn. Graduate Research Prof, Economic History, University of Florida, 1710 NW 66th Terrace, Gainesville, FL 32605.

Publications Related to IAS Residence: *Impact of Western Man*. Macmillan, 1966; *America's Impact on The World*. Macmillan, 1975; Economic Growth: Myth or Reality: The Interrelatedness of Continents and Diffusion of Technology, 1860-1960. In *Modernization and Industrialization*, ed. by Masuda, Nakagawa, Shimazaki, Shoda, Toba, Tsunoyama, and Yonekawa. Tokyo: Ichijo Shoten, 1968; *The Rise of the British Rubber Industry*. Liverpool University Press, 1958; *The Emergence of an International Economy*. Collins, 1971; *Vessel of Sadness*. 3rd edition. Univ of S Ill Press, 1978.

Other Publications: *The Impact of Technology upon Western Culture*. Science Museum of Australia, 1977; Australia's Changing World Encounter. *J Japan Soc Oceanic Econ Studies* 53(1978); World Power & The United States: The Shifting Economic Realities. In *Proceedings of an International Conference on The Impact of Inflation on Accounting: A Global View*. Urbana-Champaign: U of Ill Press, 1978.

Woodward, Sir (Ernest) Llewellyn see Past Faculty/Deceased

Wormald, Francis 55f HS, Paleography

Born 1904 England. PhD 1958 Cambridge Univ. Deceased.

Wormell, Donald Ernest Wilson 67-68 HS, Ancient History

Born 1908 Bristol, England. PhD 1933 Classics Yale Univ. Honors: Fellow St. John's College, Cambridge Univ 1933-1936; MRIA. Appointments: Nat Cttee of Royal Irish Acad on Classical Studies. Prof Emer, Latin, Trinity College, Gatineau Sandyford Rd, Dundrum Dublin 14, Ireland.

Publications Related to IAS Residence: With E. Courtney. A Catalogue of the MSS of Ovid's Fasti. *BICS* 24(1977); *Ovidius Fasti*. Teubner, 1978.

Woronowicz, Stanistaw Lech 70-71 NS, Mathematical Physics

Born 1941 Wilkomierz, Lithuania, USSR. Memberships: Polish Math Soc. Assoc Prof, Physics, Univ Warsaw, Sonaty 6/623, 02-744 Warszawa, Poland.

Publications Related to IAS Residence: Purification of factor states. *Commun Math Phys* 28(1972); Purification map. *Commun Math Phys* 30(1973).

Other Publications: Nonextendible positive map. *Commun Math Physics* 51(1976); Passive states and KMS states for general quantum system. *Commun Math Physics* 58(1978).

Wouthuysen, Siegfried A. 47-48 M(NS), Theoretical Physics

Born 1916 Amsterdam, Netherlands. PhD 1939 Theoretical Physics Univ of Leiden. Honors: Hon Doct Univ of Ghent 1967. Full Prof, Institute for Theoretical Physics, Univ of Amsterdam, Valckenierstraat 65, 1018XE Amsterdam, Netherlands.

Publications Related to IAS Residence: With H. W. Lewis, J.R. Oppenheimer. The multiple production of mesons. *Phys Rev* 73(1948) 127.

Other Publications: With L.L. Foldy. On the Dirac theory of Spin 1/2 particles and its nonrelativistic limit. *Phys Rev* 78(1950) 29; On the excitation mechanism of the 21 cm interstellar hydrogen emission line. *Astrophys J* 57(1952); With E. Mendels. Dirac's equation and a new group of external symmetry. *Phys Lett* 43B(1973) 333.

Wright, David H. 60-61 HS, History of Art

Born 1929 Boston, MA. PhD 1957 Harvard Univ. *

Wright, Gordon 50f HS, Modern European History

Born 1912 Lynden, WA. PhD 1939 History Stanford Univ. Honors: LLD(hc) Whitman College 1957; AAAS 1965; Am Philos Soc 1978; Ordre des Arts et des Lettres France (Grade of Commandeur) 1962; Corr Acad Sci Morales et Politiques, France 1976. Appointments: US Cultural Attaché, France, 1967-69; Rockefeller Humanities Fellowships Selection Board, 1976-79. Memberships: AHA (president 1975); Soc for French Hist Studies (pres 1972-73). Bonsell Prof Emer, History, Stanford Univ. 813 San Francisco Terrace, Stanford, CA 94305.

Publications Related to IAS Residence: With Taylor Cole & others. *Rural Revolution in France*. Stanford Univ Press, 1964; *European Political Systems*. NY, Knopf. 1952, 1959.

Other Publications: *The Ordeal of Total War 1939-1945*. NY: Harper & Row, 1968; *France in Modern Times*. Chicago: Rand McNally, 1960, 1974; *The Reshaping of French Democracy*. NY: Reynal, 1948.

Wrigley, Edward Anthony 70-71 Soc

Born 1931 Manchester, England. PhD 1956 Cambridge Univ. Dir, SSRC Cambridge Group for the History of Population & Social Structure, Peterhouse, Cambridge CB2 1RD, England.

Publications Related to IAS Residence: ed, *Identifying people in the past*. London: 1973; The process of modernization and the industrial revolution in England. *J of Interdis Hist* (1972) 225-59.

Other Publications: ed, *Population and History*. London: 1969; *An introduction to English Historical Demography*. London: 1966.

Wu, Chi-Tai 60-62 M(NS), Theoretical Physics

Born 1933 Chekiang, China. PhD 1960 Physics Univ of Maryland. Honors: Guggenheim Fellow 1968-69. Memberships: Am Phys Soc. Prof, Department of Physics, University of Michigan, Ann Arbor, MI 48109.

Publications Related to IAS Residence: Perturbation Analyticity & Axiomatic Analyticity. I & II. *Phys Rev* 135(1964) 222, B230; With C. P. Yang. Theoretical Cross Section of Intermediate-Boson Production from Neutrinos. *Phys Rev Lett* 12(1964) 57; *Phys Rev D*1(1970) 3180.

Other Publications: Universal Singular Functions in Local Field Theory. *J of Math Phys* 18(1977) 2360; Structure of the Wigner $9j$ Coefficients in the Bargmann Approach. *J of Math Phys* 13(1972) 84.

Wu, Hung-Hsi 64-65, 71s M, Geometry

Born 1940 Hong Kong. PhD 1963 Math MIT. Honors: Sloan Fellow 1971-73. Appointments: Member, Math Delegation to People's Republic of China, 1976. Memberships: AMS; MAA. Prof, Dept of Math, Univ of Calif, Berkeley, CA 94720.

Publications Related to IAS Residence: With R.E. Greene. Curvature and complex analysis. *Bull AMS* 77(1971) 1045-1049; Holonomy groups of indefinite metrics. *Pac J Math* 20(1967) 351-392; A structure theorem for complete noncompact hypersurfaces of nonnegative curvature. *Bull AMS* 77(1971) 1070-1071; Two remarks on Sprays. *J Math Mech* 14(1965) 873-880.

Other Publications: An elementary method in the study of nonnegative curvature. *Acta Math* 144(1979); With R.E. Greene. Function theory on manifolds which possess a pole. *Springer-Verlag Lecture Notes* 699(1979).

Wu, Ta-You 58-59 M(NS), Theoretical Physics

Born 1907 China. PhD 1936 Univ of Michigan. *

Wu, Tai Tsun 58-59, 60-61, 62-63 M(NS), Theoretical Physics

Born 1933 Shanghai, China. PhD 1956 Applied Physics Harvard Univ. Honors: Guggenheim Fellow 1970-71; NSF Sr Postdoc Fellow 1966-67; Sloan Fellow 1960-64; Member of Sigma Xi, Eta Kappa Nu, Tau Beta Pi. Appointments: NAS Cttee on Biosphere Effects of ELF Radiation. Memberships: AMS; Amer Phys Soc; Amer Inst of Phys; IEEE. Gordon McKay Prof, Applied Physics, Gordon McKay Laboratory, Harvard University, Cambridge, MA 02138.

Publications Related to IAS Residence: Ground State of a Bose System of Hard Spheres. *Phys Rev* 115(1959) 1390; Domains of Definition for Feynman Integrals over Real Feynman Parameters. *Phys Rev* 123(1961) 678; Properties of Normal Thresholds in

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Perturbation Theory. *Phys Rev* 123(1961) 689; Perturbation Theory of Pion-Pion Interaction I: Renormalization. *Phys Rev* 125(1962) 1436; With J. D. Bjorken. Perturbation Theory of Scattering Amplitudes at High Energies. *Phys Rev* 130(1963) 2566; With A.C.T. Wu and Kurt Fuchel. Intermediate Bosons: Pair Production Cross Section by Photons. *Phys Rev Lett* 11(1963) 390; Effect of Higher Order Weak Interactions on the Production Cross Section of Intermediate Bosons by Neutrinos. *Phys Rev Lett* 11(1963) 395; With Y. Pwu. Uncrossed Ladder Graphs in the Feinberg-Pais Theory of Leptonic Weak Interactions. *Phys Rev* 133(1964) 778; With Y. Pwu. Higher-Order Leptonic Weak Interactions. *Phys Rev* 133(1964) 1299.

Other Publications: With H. Cheng. High-Energy Elastic Scattering in Quantum Electrodynamics. *Phys Rev Lett* 22(1969) 666; With H. Cheng. High-Energy Collision Processes in Quantum Electrodynamics, I-IV. *Phys Rev* 182(1969) 1852; With H. Cheng. Limit of Cross Sections at Infinite Energy. *Phys Rev Lett* 24(1970) 1456; With H. Cheng and J. K. Walker. Impact Picture of pp, pp, $\pi\pm p$, and $K\pm p$ Elastic Scattering from 20 to 5000 GeV. *Phys Lett* 44B(1973) 97; With B. M. McCoy. Theory of Fermion Exchange in Massive Quantum Electrodynamics at High Energy, I-VI. *Phys Rev D* 13(1976) 369; Some Non-Equilibrium Properties of a Bose System of Hard Spheres at Extremely Low Temperatures. *J Math Phys* 2(1961) 105; With B. M. McCoy. *The Two-Dimensional Ising Model*. Cambridge, Mass: Harvard Univ Press, 1973; With R.W.P. King. *The Scattering and Diffraction of Waves*. Cambridge, Mass: Harvard, 1959; With C.-L. Chen. Introduction to Linear Antennas and Theory of the Long Dipole Antenna. In *Antenna Theory Part I*, ed. by Collin and Zucker. New York: McGraw-Hill, 1969; With C. Bender. The Anharmonic Oscillator. *Phys Rev* 184(1969) 1231; With C. M. Bender. Anharmonic Oscillator. II. A Study of Perturbation Theory in Large Order. *Phys Rev D* 7(1973) 1620; With C. N. Yang. Concept of Nonintegrable Phase Factors and Global Formulation of Gauge Fields. *Phys Rev D* 12(1975) 3845; With B. M. McCoy and C. A. Tracy. Two-Dimensional Ising Model as an Exactly Solvable Relativistic Quantum Field Theory: Explicit Formulas for n-Point Functions. *Phys Rev Lett* 38(1977) 793; With B. M. McCoy. Speculations on Quark Observation. *Phys Lett* 72B(1977) 219.

Wu, Wen-chün 79s M, Topology

Born 1919 Shanghai, China. Doctorate 1952 Univ of Strasbourg. Prof, Academia Sinica, Inst of Math, Peking, People's Republic of China.

Wycherley, Richard Ernest 51-52, 57 58, 66-67 HS, Greek Archaeology

Born 1909 Hadley, Shropshire, England. MA 1938 Classics Cambridge Univ. Appointments: Council Soc for Prom of Hellenic Studies. Memberships: Soc for Promotion of Hellenic Studies; Class Assoc (London).

Emer Prof, Greek, University College of North Wales, 19 Meadows Rd, Heald Green, Cheadle, Cheshire, Gt. Britain SK8 3RF.

Publications Related to IAS Residence: Literary and Epigraphical Testimonia. In *The Athenian Agora*, 3. Princeton: American School of Classical Studies, 1957; With H.A. Thompson. *The Agora of Athens*. Princeton: American School of Classical Studies, 1972; *The Stones of Athens*. Princeton: Princeton Univ Press, 1978.

Other Publications: *Pausanias, Description of Greece*. Companion Volume. Harvard U Press, 1935; *How the Greeks Built Cities*. London: Macmillan, 1949.

Wyler, Armand 71-72 NS, Representations of Groups

Born 1939 Nice, France. DSc 1966 Math ETH. Memberships: Swiss Math Soc. Head Assistant, Math Institute, Freiestr 36, CH 8032 Zurich, Switzerland.

Publications: Singularité's d'applications de variétés topologiques. *Comm Math Helv* 42(1967) 28-48.

Wylie, Shaun 35-36 M, Topology

Born 1913 Oxford, England. PhD 1937 Mathematics Princeton University. Appointments: Math Cttee Schools Council (UK). Part-time Teacher Hills Rd Sixth Form College, 29 Almoners Ave, Cambridge CB1 4NZ, England.

Publications Related to IAS Residence: P-Regularity and a Duality Theorem of Čech. *Časopis pro Pěstování+ 1 Matematiky Fysiky*66(1936-37) 20-25; Irregularity in Complexes. *Ann Math* (2) 39(1938) 247-255.

Other Publications: With P. J. Hilton. *Homology Theory, An Introduction to Algebraic Topology*. Cambridge U Press, 1960.

Yagi, Fumio 43s M, Analysis

Born 1917 Seattle, WA. PhD 1943 Math Mass Inst of Tech. 2914 Sahalee Dr, East Redmond, WA 98052.

Yahil, Amos 71-74 NS, Astrophysics

Born 1943 Tel Aviv, Israel. PhD 1970 Cal Tech. Memberships: AAS; IAU. Assoc Prof, Astrophysics, Astronomy Program, State University of New York, ESS Building, Stony Brook, NY 11794.

Publications Related to IAS Residence: With J. P. Ostriker and P. J. E. Peebles. The Size and Mass of Galaxies and the Mass of the Universe. *Ap J Letters* 193(1974) 1; With J. P. Ostriker. Winds and X-Rays from Clusters of Galaxies. *Ap J* 185(1973) 787; The Density Profiles of Rich Clusters of Galaxies. *Ap J* 191(1974) 623; With J. Schwarz and J. P. Ostriker. Explosive Events in the Early Universe. *Ap J* 202(1975) 1; Observed Anisotropy in the Distribution of Radio Sources. *Ap J* 178(1972) 45; With F. C. Michel. Galactic Magnetic Fields: Cellular or Filamentary Structure?. *Ap J* 179(1973) 771; With J.

N. Bahcall. On the Luminosity Function of Giant Stars in Globular Clusters. *Ap J* 177(1972) 647; With J. N. Bahcall and N. Cabibbo. Are Neutrinos Stable Particles?. *Phys Rev Lett* 28(1971) 316; With J. N. Bahcall. On Identifying New Kinds of Astronomical Objects. *Nature Phys Sci* 238(1972) 92.

Yalouris, Nicholas 68-69 HS

Born 1916 Smyrna, Turkey. PhD 1949 Univ of Basel. Honors: Silver medal of Bravery 1940; Medal of Eminent Action 1940. Appointments: Greek Govt Rep at Colloquium of Asiatic Archaeol, New Delhi (1961) and at Colloquium of Architects and Restorators, Venice (1964); Member Greek Cttee Colloquium of UNESCO, Nairobi-Kenya (1976). Inspector General, Antiquities, and Dir National Archaeological Museum, Michael Nomikou 9, Athens, Greece.

Publications Related to IAS Residence: *Athena als her-rin der pferde; archäologische untersuchungen zu Pindars dreizehnter olympie*. Basel: Schwabe, 1951; *Classical Greece; the sculpture of the Parthenon*. London: Oldbourne Press, 1960; With Bernard Ashmole. *Olympia; the sculptures of the temple of Zeus*. London: Phaidon, 1967; *Pegasus: the art of the legend*. New Rochelle, N.Y.: Caratzas Bros., 1977; *Olympia: Altis und museum*. Munich: Schnell and Steiner, 1972.

Yamabe, Hidehiko 52-54 M, Topological Groups

Born 1923 Japan. MA 1947 Tokyo Univ. Deceased.

Yamaguchi, Hiroyuki 75-76 M

Born 1947 Japan. PhD 1974 U of Calif, Berkeley. Department of Mathematics, Johns Hopkins University, Baltimore, MD 21218. *

Yamamoto, Kazuhiro 79-80 M, Partial Differential Equations

Born 1948 Ibara, Okayama, Japan. PhD 1977 Hokkaido Univ. Asst, Dept of Math, Hokkaido Univ, Sapporo, Japan. *

Yamamoto, Yoshihiko 73-75 M, Number Theory

Born 1941 Osaka, Japan. PhD 1969 Math Osaka Univ. Memberships: Math Soc Japan. Asst Prof, Math, Osaka Univ, 13-410, 3-2 Kamotani, Sakai, Osaka, Japan.

Publications Related to IAS Residence: Dirichlet series with periodic coefficients, Algebraic Number Theory. In *International Symposium Kyoto 1976*, ed. by S. Iyanaga.

Other Publications: On unramified Galois extensions of quadratic number fields. *Osaka J Math* 7(1970) 57-76; Real quadratic number field with large fundamental units. *Osaka J Math* 8(1971) 261-270.

Yamamuro, Sadayuki 56-58 M

Born 1925 Kanazawa, Japan. PhD 1954 Hokkaido Univ. Memberships: Math Societies of America, Australia & Japan. Sr Fellow, Dept of Mathematics, Australian National Univ, Institute of Advanced Studies, Canberra, A.C.T. 2600, Australia.

Publications: A Theory of Differentiation in Locally Convex Spaces. *Mem AMS* 17(1979) 212.

Yamazaki, Tadashi 74-76 M, Number Theory

Born 1947 Kochi, Japan. PhD 1978 Number Theory Univ of Tokyo. Memberships: Math Soc of Japan. Lecturer, Department of Mathematics, Kyushu University, Faculty of Science, Fukuoka, Japan 812.

Publications Related to IAS Residence: Zeta-functions of strongly non-degenerate forms. *J Fac Sci Univ Tokyo* 1A 24(1977); On a generalization of the Fourier transformation. *J Fac Sci Univ Tokyo* 1A 25(1978).

Other Publications: On Siegel modular forms of degree two. *Amer J Math* 98(1976).

Yanase, Michael Mutsuo 62-64, 67-68 NS, Mathematical Physics

Born 1922 Japan. MA 1948 Sophia Univ. *

Yang, Chen Ning see Past Faculty/Resigned

Yang, Chung-Tao 54-56, 61-62, 66-67 M, Algebraic Topology, Transformation Groups

Born 1923 Chekiang, China. PhD 1952 Tulane Univ. 311 Hidden River Dr, Narberth, PA 19072. *

Yang, Paul C. P. 76-77 M, Differential Geometry

Born 1947 Chang-Hua, Taiwan. PhD 1978 Mathematics Univ of Calif, Berkeley. Memberships: AMS. Asst Prof, Dept of Math, Univ of Maryland, College Park, MD 20742.

Publications Related to IAS Residence: On Kähler manifolds with negative holomorphic bisectional curvature. *Duke Math Jour* 43, 4(1976) 871-874.

Yao, York-Peng Edward 64-66 M(NS), Particle Theory

Born 1937 Canton, China. PhD 1964 Physics Harvard Univ. Memberships: APS. Prof, Physics, Univ of Michigan, 605 Sunset Rd, Ann Arbor, MI 48103.

Publications Related to IAS Residence: General Gauge Invariance of Massive Electrodynamics and the Existence of a Massless Scalar Particle. *Phys Rev* 138(1965) 698-702; Reciprocity, Normality and CP Violation in K^0 - \bar{K}^0 Decays. *Phys Lett* 19(1965) 601-604; With S. Patil and Y. Tomozawa. Reciprocity, Normality of K^0 - \bar{K}^0 Mass Matrix, and CP Violation in Weak Interactions. *Phys Rev* 142(1965) 1041-1047; With S. H. Patil and Y. Tomozawa. The Concept of Antiparticles in Particle Mixing. *N Cim* 49A(1967) 467-478; With S. H. Patil. Universality Principles with 1- and 2+ Dominance. *Phys Rev* 153(1967) 1455-1458.

Members

Other Publications: Quantization of Electrodynamics in the Axial Gauge. *J of Math Phys* 5(1964) 1319-1321; Spin and Statistics with an Electromagnetic Field. *J of Math Phys* 5(1964) 1322-1326; Radiative Correction to Eikonal Functions in Electrodynamics. *Phys Rev D* 1(1970) 2316-2327; Quantization and Gauge Freedom in a Theory with Spontaneously Broken Symmetry. *Phys Rev D* 7, 6(1973) 1647-1660; With R. Carroll. α^3 Contribution to the Anomalous Magnetic Moment of an Electron in the Mass Operator Formalism. *Phys Lett* 48B(1974) 125-127; Infrared Problem in Non-Abelian Gauge Theory. *Phys Rev Lett* 36(1976) 653-656; With S. J. Chang. Non-Perturbative Approach to Infrared Behavior for $(\phi^3)_6$ and a Mechanism of Confinement. *Phys Rev* 16D(1977) 2948-2966; With Y. Kazama. Unified Approach to Jet Processes in Quantum Chromodynamics. *Phys Rev Lett* 41, 9(1978) 611-614.

Yasuhara, Mitsuru 70-71 M, Mathematical Logic

Born 1932 Tokyo, Japan. PhD 1964 Mathematics Univ of California, Berkeley. Memberships: Assoc for Symb Logic; AMS. 66 Pine St, Princeton, NJ 08540.

Publications Related to IAS Residence: Completeness of cut-free type theories. *Arch f math Logik u Grnd-Forsch* 16(1974) 137-141; The generic structures as a variety. *Bull Acad Polon Sci* 20(1972) 609-614.

Yates, Michael Charles 64-65 M, Mathematical Logic

Born 1939 Manchester, England. PhD Mathematics Logic Manchester Univ. Honors: Invited Speaker Intl Cong of Mathematicians, Vancouver 1974. Memberships: London Math Soc; AMS; Assoc for Symbolic Logic. Prof, Dept of Mathematics, Manchester University, Manchester, England.

Publications Related to IAS Residence: On the degrees of index sets I, II. *Trans AMS* 121, 135(1966, 1969) 309-328, 249-266; A minimal pair of recursively enumerable degrees. *J Symb Logic* 31 (1966) 159-168.

Other Publications: A general framework for simple Δ^0_2 and Σ^0_1 priority arguments. In *Proc Intl Cong of Mathematicians, Vancouver 1974*. 1975; Initial segments of the degrees of unsolvability, part I. In *Mathematical Logic and the Foundations of Set Theory*. Amsterdam: North-Holland, 1969; Initial segments of the degrees of unsolvability, part II: minimal degrees. *J Symb Logic* 35(1970) 243-266; Three theorems on the degrees of recursively enumerable sets. *Duke Math J* 32(1965) 461-468.

Yau, Shing-Tung 71-72, 79-80 M

Born 1969 Swatow, China. PhD 1971 Univ of Calif, Berkeley. Prof, Dept of Math, Stanford Univ, Stanford, CA 94305.

Yau, Stephen Shing-Toung 76-78 M

Born 1952 Hong Kong. PhD 1976 Math SUNY, Stony Brook. Benjamin Pierce Asst Prof, Dept of Mathematics, Harvard University, Cambridge, MA 02138.

Publications Related to IAS Residence: The Signature of Milnor Fibres and Duality Theorem for Strongly Pseudoconvex Manifolds. *Invent Math* 46(1978) 81-97; Gorenstein singularities with geometric genus equal to two. *Amer J Math* (in press); Hypersurface weighted dual graphs of normal singularities of surfaces. *Amer J Math* (in press); Normal two dimensional elliptic singularities. *TAMS* (in press).

Other Publications: On maximally elliptic singularities. *Trans AMS* (in press); Two Theorems on Higher Dimensional Singularities. *Math Ann* 231(1977) 55-59.

Yeaton, Marie Johnson 37-38 M

Born 1898 . MS 1921 Univ of Iowa. Deceased.

Publications Related to IAS Residence: An Extension of a Covariant Differentiation Process. *Bull AMS* 46(1940) 269-271.

Yellin, Joel 69-70 N S

Born 1940 Los Angeles, CA. PhD 1965 Physics Univ Chicago. Memberships: AAAS. Assoc Prof, Social Science, MIT, Visiting Scholar Harvard Law School 1979-80, MIT, Cambridge, MA 02139.

Publications Related to IAS Residence: With C.M. Andersen. Bootstrap Models and a Special Property of the Unitary Lie Algebras. *Phys Rev D* 3, D4(1971) 846-858, 2476-2482; With D. Sivers. Review of Recent Work on Narrow Resonance Models. *Rev Mod Phys* 43(1971) 125-188.

Other Publications: A Model of Population Distribution, Traffic Congestion and Neighborhood Crowding in a Circular City. *J Urban Econ* 5(1978) 305-328; Judicial Review and Nuclear Power: Assessing the Risks of Environmental Catastrophe. *G W Law Rev* 45(1977) 969-993; With P.A. Samuelson. A Dynamic Model of Human Population. *Proc NAS USA* 7(1974) 2813-2817.

Yellott, John Ingle, Jr. 70-71 Soc, Models of Perception and Decision-making

Born 1938 New York, NY. PhD 1966 Stanford Univ. Schl of Social Science, Univ of Calif at Irvine, Irvine, CA 92664. *

Yengoyan, Aram A. 79-80 Soc, Anthropology

Born 1935 Fresno, CA. PhD 1964 Anthropology Univ of Chicago. Honors: Disting Svce Awd for Teaching Univ of Michigan 1968. Appointments: Exec Bd, Rack-ham Schl of Grad Studies, Univ of Michigan, 1976-1979. Memberships: Amer Anthro Assoc; Royal Anthro Inst. Prof, Anthropology, Univ of Mich, 370 Rock Creek Dr, Ann Arbor, MI 48104.

Yennie, Donald Robert 51-52 M(NS), Theoretical Physics

Born 1924 Paterson, NJ. PhD 1951 Physics Columbia Univ. Honors: Guggenheim Fellow 1978-79; NSF Sr Fellow 1960-61. Memberships: Am Phys Soc; Am Assoc of Physics Teachers. Prof, Physics, Newman Lab, Cornell Univ, Ithaca, NY 14853.

Publications Related to IAS Residence: Quantum Corrections to Classical Nonlinear Meson Theory. *Phys Rev* 88(1952) 527-536.

Other Publications: With D. G. Ravenhall. Phase Shift Calculation of High-Energy Electron Scattering. *Phys Rev* 95(1954) 500-512; With M. M. Lévy & D. G. Ravenhall. Electromagnetic Structure of Nucleons. *Rev Mod Phys* 29(1957) 144-157; With R. H. Dalitz. Pion Production in Electron-Proton Collisions. *Phys Rev* 105(1957) 1598-1615; With S. C. Frautschi & H. Suura. The Infrared Divergence Phenomena and High-Energy Processes. *Ann Phys NY* 13(1961) 379-452; With N. Meister. Radiative Corrections to High-Energy Scattering Processes. *Phys Rev* 130(1963) 1210-2229; With G. W. Erickson. Radiative Level Shifts I & II. *Ann Phys NY* 35(1965) 271-313, 447-510; With H. Grotch. Nuclear Motion Corrections to the Binding Energy in Hydrogen. *Z Physik* 202(1967) 425-435; With K. Gottfried. Vector Mesons & Nuclear Optics. *Phys Rev* 182(1969) 1595-1601; With P. K. Kuo. Renormalization Theory. *Ann Phys NY* 51(1969) 496-560; With W. A. Suri. The Space-Time Phenomenology of Photon Absorption and Inelastic Electron Scattering. *Ann Phys NY* 72(1972) 243-292; With G. Grammer, Jr. An Improved Treatment for the Infrared Divergence Problem in Quantum Electrodynamics. *Phys Rev D* 8(1973) 4332-4344; The Hadronic Structure of the Photon with Emphasis on its Two-Pion Constituent. *Rev Mod Phys* 47(1975) 311-330; With T. Bauer, R. D. Spital & F. M. Pipkin. The Hadronic Properties of the Photon in High Energy Interactions. *Rev Mod Phys* 50(1978) 261-436.

Yilmaz, Hüseyin 58-59 M(NS), Gravitation, Field Theory

Born 1926 Acipayam, Turkey. PhD 1954 Physics MIT. Honors: Sr Fellow Center Adv Studies, Wesleyan Univ 1968; Guest Inst for Perception Research, Eindhoven, Netherlands 1964; Gravity Res Found Awd 1959. Memberships: APS. President Perception Technology Corp, 105 Church St, Winchester, MA 01890.

Publications Related to IAS Residence: Two Maser Experiments to Test General Relativity. *Phys Rev Letts* 3(1959) 320.

Yood, Bertram 61-62 M

Born 1917 Bayonne, NJ. PhD 1947 Mathematics Yale Univ. Appointments: AMS: Council 1969-73, Math Surveys Cttee 1969-1973. Memberships: AMS; Sigma Xi; PBK. Prof, Dept of Mathematics, Pennsylvania State University, University Park, PA 16802.

Publications Related to IAS Residence: Ideals in Topological Rings. *Canadian J Math* 16(1964) 28-45; Non-Commutative Banach Algebras and almost periodic functions. *III J Math* 7(1963) 305-321; Faithful representations of normed algebras, II. *Pac J Math* 14(1964) 1475-1487.

Other Publications: With S.R. Caradus and W. Pfaffenberger. *Calkin algebras and algebras of operators on Banach spaces*. New York: Marcel Dekker Inc, 1974.

Yoshida, Tomoyuki 78-79 M, Finite Group Theory

Born 1948 Japan. PhD 1976 Hokkaido Univ. Dept of Mathematics, Hokkaido University, Sapporo 060, Japan. *

Yosida, Kôzaku 54f M, Functional Analysis

Born 1909 Hiroshima, Japan. Rigaku-Hakushi 1939 Mathematics Osaka Univ. Honors: Fujiwara Prize 1964; Emperor's Prize Japan Academy 1967; Foreign Member Royal Soc of Liège 1976; AAAS 1977; Honorary Medal University of Liège 1970; Officier Palmes Académiques 1978. Memberships: Math Soc of Japan; AMS; Soc Math France. Prof Emer, Univ of Tokyo and Univ of Kyoto, Member Japan Academy, 1157-28 Kajiwara, Kamakura, MN Japan.

Publications Related to IAS Residence: On the generating parametrix of the stochastic processes. *Proc NAS* 41(1955) 240-244.

Other Publications: A generalization of a Malmquist's theorem. *Jap J of Math* 9(1932) 253-256; Mean ergodic theorem in Banach spaces. *Proc Imp Acad Tokyo* 11(1938) 292-294; *Functional Analysis*. 5th ed. Springer-Verlag, 1978.

Yosida, Natuhiko 76-77 HS

Born 1928 Japan. 810 Itigao Puraza Biru, 1154-2 Itagao, Midori-Ku, Yokohama, 227, Japan. *

Yuan, Shuen 64-66 M

Born 1936 China. PhD 1964 Northwestern Univ. Dept of Math, SUNY at Buffalo, 4246 Ridge Lea Rd, Amherst, NY 14226. *

Yukawa, Hideki 48-49 M(NS), Elementary Particle Theory

Born 1907 Japan. PhD 1938 Osaka Univ. Honors: Nobel Prize in Physics 1949. *

Zabrodsky, Alexander 73-74 M, Algebraic Topology

Born 1936 Tel Aviv, Israel. PhD 1967 Mathematics Princeton Univ. Memberships: Israel Math Un; AMS. Assoc Prof, Inst of Mathematics, Hebrew University, Jerusalem, Israel.

Publications: *Hopf Spaces*. Math Studies, 22. Amsterdam: North Holland, 1976.

Zacour, Norman 77-78 HS, Medieval History

Members

Born 1921 Winnepeg, Manitoba, Canada. PhD 1955 Medieval History Univ of Penna. Memberships: Med Acad of Amer; Can Hist Assoc. Prof, History, and Director, Centre for Medieval Studies, University of Toronto, Toronto, Canada M5S 1A1.

Publications Related to IAS Residence: Petrus de Braco and his "Repudium Ambitionis". *Mediaeval Studies* 41(1979).

Zadeh, Lotfi A. 56f M, Mathematical Probability in System Analysis

Born 1921 Baku, USSR. PhD 1949 Columbia Univ. Elec Eng-Computer Sci Dept, Univ of Calif, Berkeley, CA 94720. *

Zafran, Misha 72-73, 79-80 M, Analysis

Born 1949 Berlin, Germany. PhD 1972 Harmonic Analysis Univ of Calif at Riverside. Honors: Sloan Fellow 1977. Memberships: AMS. Asst Prof, Department of Mathematics, Stanford University, Stanford, CA

Publications Related to IAS Residence: Multiplier transformations of weak type. *Ann Math* 101(1975) 34-44; Multipliers, spectral theory, and the interpolation of closed operators. *Mich Math J* 20(1973) 361-372.

Other Publications: The spectra of multiplier transformations on the L_p spaces. *Ann Math* 103(1976) 355-374; The functions operating on multiplier algebras. *J Funct Anal* 26(1977) 289-314; The dichotomy problem for homogeneous Banach algebras. *Ann Math* 108(1978) 97-105.

Zagorin, Perez 72-73 HS

Born 1920 Chicago, IL. PhD 1952 History Harvard Univ. Honors: AAAS; FRHS. Memberships: Amer Hist Assoc; Conference of British Studies. Prof, History, Univ of Rochester, 4927 River Rd, Scottsville, NY 14546.

Publications Related to IAS Residence: Theories of revolution in contemporary historiography. *Pol Sci Q* March(1973); Prolegomena to the comparative history of revolution in early modern Europe. *Comparative studies in Soc and Hist* (April, 1976).

Other Publications: *A History of Political Thought in the English Revolution*. London: 1952; *The Court and the Country*. London: 1969; *Culture and Politics from Puritanism to the Enlightenment*. Berkeley: U of California press, forthcoming.

Zariski, Oscar 34-35, 60f M, Algebraic Geometry, Algebra

Born 1899 Kobrin, USSR. Dr 1924 Mathematics Univ of Rome. Honors: MA(hc) Harvard Univ 1947; Dr Sc(hc) Coll of Holy Cross 1959; Dr Sc(hc) Brandeis Univ 1965; Dr Sc(hc) Purdue Univ 1973; Nat Medal of Sci 1965; Cole Prize in Algebra Am Math Soc 1944; NAS; AAAS; Am Philos Soc. Appointments: Chairman Math Section, NAS, 48-51; Adv Cttee, Off of Naval

Research, 46-48. Memberships: AMS; Accad Naz Dei Lincei Rome. Prof Emer, Mathematics, Harvard Univ, 122 Sewall Ave, Brookline, MA 02146.

Publications Related to IAS Residence: *Algebraic Surfaces*. Ergebnisse der Math, 3. Berlin: Springer Verlag, 1935; Algebraic varieties over ground fields of characteristic zero. *Am J Math* 62(1940) 187-221; Local Uniformization on Algebraic Varieties. *Ann Math* 41(1940) 852-896; With Pierre Samuel. *Commutative Algebra, II*. Princeton, NJ: Van Nostrand, 1960.

Other Publications: Studies in Equisingularity I, II and III. *Am J Math* 87, 87, 90(1965, 1965, 1968) 507-536, 972-1006, 961-1023.

Zarnecki, George 66-67 HS, History of Art

Born 1915 Stara Osota, Poland. PhD 1950 Univ of London. Honors: CBE 1970; Dr(hc) Warwick Univ 1979. Appointments: Univ Grants Cttee; Royal Commission on Hist Monuments (England); Council for Nat Acad Awds. Memberships: Soc of Antiquaries of London; Brit Archaeol Assoc; Royal Archaeol Inst. Prof, Medieval Art, Courtauld Institute of Art, University of London, 20 Portman Square, London WIH OBE, England.

Publications Related to IAS Residence: A Romanesque casket from *Canterbury in Florence*. *Canterbury Cathedral Chronicles* 64(1969); English 12th century Craftsmanship. In *Churchill's History of the English-speaking Peoples*, ed. by A.J.P. Taylor. 1969; Romanik. In *Romanesque Art*. New York: Universe Books, 1971; With others. *Westminster Abbey*. Weidenfeld & Nicolson, 1972; *The Monastic Achievement*. Thames & Hudson, 1972; A 12th century Column-figure of the Standing Virgin from Minster-in-Sheppey, Kent. *Kunsthistorische Forschungen, Otto Pacht zu seinen 70 Geburtstag*(1972); Norman Art in Britain. In *I Normani in Inghilterra*. Rome: Accad Nazionale Lincei, 1974; Late Romanesque Fountain from Campania. *Minneapolis Inst of Arts Bull* (1971 -73); *Art of the Medieval World*. New York: Prentice-Hall, 1976; The West Doorway of the Temple Church in London. In *Festschrift für Hans Wentzel*. Berlin: 1975; Deux reliefs de la fin du XII^e Siècle à la cathédrale d'York. *Revue de l'Art*30(1975); The Romanesque Capitals in the South Transept of Worcester Cathedral. In *Medieval Art and Architecture at Worcester Cathedral*, Conference Transactions for the Year 1975. British Archaeological Association, 1978; Romanesque Sculpture in Normandy and England in the Eleventh Century. In *Proc Battle Conference*. The Boydell Press, 1978.

Other Publications: *European Sculpture 800-1200*. Pelican History of Art Series, forthcoming.

Zassenhaus, Hans J. 55-56 M, Group Theory

Born 1912 Koblenz, Germany. D Habil Mathematics Hamburg Univ. Honors: MSc(hc) Glasgow 1949; DSc(hc) U Ottawa 1966; DSc(hc) McGill Univ 1974; Fellow Royal Canad Soc 1956. Memberships: Can Math Congress; MAA; AMS; DMV. Research Prof,

Department of Mathematics, Ohio State University, 942 Spring Grove Lane, Worthington, OH 43085.

Publications Related to IAS Residence: *The Theory of Groups*. 2nd Edition. New York: Chelsea Pub Co., 1958.

Zawodny, J. K. 71-72 HS, International Relations

Born 1921 Warsaw, Poland. PhD 1955 Political Science (International Relations) Stanford Univ. Honors: Senior Assoc member St Antony's Coll, Oxford Univ 1968-69; Research Assoc Harvard Univ Center for Int'l Affairs 1968; Fellow Center for Advanced Study in the Behavioral Sciences, Stanford 1961-62. Appointments: Member, Council on Constitution and Bylaws, Western Poli Sci Assoc, 1976-78; NEH Referee; Consultant to staff, Natl Security Council 1979. Memberships: APSA. Avery Prof, Intl Rels, Claremont Graduate School and Pomona Coll, Fellow Inst of Soc and Behav Path Univ of Chicago, 1977-, Claremont Graduate School, Claremont, CA 91711.

Publications Related to IAS Residence: *Nothing but Honor: The Uprising of Warsaw, 1944*. London, Stanford: Macmillan and the Hoover Institution, 1978.

Other Publications: Editor, *Man and International Relations: Contributions of the Social Sciences to the Study of Conflict and Integration*. 2 vol. San Francisco: Chandler Pub Co, 1967; *Guide to the Study of International Relations*. San Francisco: Chandler Pub Co, 1967; *Death in the Forest: The Story of the Katyn Forest Massacre*. The Hist Book Club Selection, Notre Dame, Indiana: 1972; Editor Unconventional Warfare. In *Annals of Amer Acad of Poli and Soc Sci*, 341. Philadelphia: 1962; Contribution In *Problems of National Strategy*, ed. by Kissinger, Henry A. New York: Frederick A. Praeger, 1965; Contribution In *Social Conflict*, ed. by Brickman, P. Lexington: D.C. Heath, 1974; Contribution In *Conflict Resolution: Contributions of the Behavioral Sciences*, ed. by Smith, G. Notre Dame: Univ of Notre Dame Press, 1971; Contribution. In *International Encyclopaediae of Social Sciences*. 1969.

Zee, Anthony 70-72, 77-78 NS, Particle Theory

Born 1945 Kunming, China. PhD 1970 Physics Harvard U. Honors: Sloan Fellow 1973-78; Honorary MS Univ of Pennsylvania 1978. Assoc Prof, Dept of Physics, Univ of Pennsylvania, Philadelphia, PA 19174.

Publications Related to IAS Residence: With R. Carlitz and M. B. Green. A Model for Pomeranchukon Couplings. *Phys Rev Letters*-26(1971) 1515; With R. Carlitz and M.B. Green. Multiperipheral Model for Pomeranchukon Couplings. *Phys Rev D*4(1971) 3501; With R. Carlitz and M. B. Green. Dynamically Based Coupling Scheme for the Pomerachukon. *Phys Rev D*4(1971) 3439; With S. Adler, B. W. Lee and S. B. Treiman. Low Energy Theorem for $\gamma + \gamma \rightarrow \pi + \pi + \pi$. *Phys Rev D*4(1971) 3497; With R. Aviv. Low Energy Theorem for $\gamma \rightarrow 3\pi$. *Phys Rev D*5(1972)

2372; The Proton-Neutron Mass Difference Problem and Related Topics. *Phys Letters* 3C(1972) 127; Are There Fixed Singularities in T_1 ? *Phys Rev D*5(1972) 2829; With T. P. Cheng. Coincidence Electroproduction and Scaling in the Regge Region. *Phys Rev D*6(1972) 885; Coherent Production Low Energy Theorems and Anomalous Ward Identities. *Phys Rev D*6(1972) 900; Reciprocal Bootstrap on the Light Cone. *Phys Rev D*6(1972) 3011; With T. P. Cheng. Scaling Behavior of Helicity Structure Functions. *Phys Rev D*6(1972) 3182; Axial Vector Anomalies and the Scaling Property of Field Theory. *Phys Rev Letters* 29(1972) 1193; With S. S. Chei. Scaling and Chiral Identities and the Axial Current Anomaly. *Phys Rev D*8(1973) 597; Axial Current Anomalies. *Proceedings of the XVI International Conference on High Energy Physics* 2(1973) 132; With F. Wilczek. Instantons and Spin Forces between Massive Quarks. *Phys Rev Lett* 40(1978) 83; Progress in Weak Interaction Theory. In *Proceedings of the October 1977 APS Meeting*, 49; With S. Barr. Calculation of the Electron Mass in Terms of Measured Quantities. *Phys Rev D*17(1978) 1854; With J. Collins and F. Wilczek. Low Energy Manifestations of Heavy Particles: Application to the Neutral Current. *Phys Rev D*18(1978) 242; With S. Barr. Calculation of Electron Mass in Terms of Measured Quantities in Left-Right Symmetric Models. *Phys Rev D*18(1978) 4213.

Other Publications: A Crude Estimate of the Number of Quark Flavors. *Phys Rev D*18(1978) 2600; With C. Caltan, R. Dashen, F. Wilczek, and D. Gross. The Effect of Instantons on Heavy Quark Potential. *Phys Rev D*18(1978) 4684.

Zeeman, Erik Christopher 61f M, Topology, Dynamical Systems

Born 1925 Yokohama, Japan. PhD 1951 Math Cambridge Univ. Honors: Dr(hc) Strasbourg 1974; FRS 1975. Appointments: Math Comm, Science Research Council, UK; Comité Scientifique IHES. Prof, and Dir Math Res Centre and Sr Fellow, Sci Res Council, Math Institute, University of Warwick, Coventry, England.

Publications Related to IAS Residence: Unknotting Combinatorial balls. *Ann Math* 78(1963) 501-526; The Poincaré conjecture for $n \geq 5$. In *Topology of 3-manifolds*, ed. by K. Fort, 57-64. Prentice Hall, 1962.

Other Publications: *Catastrophe theory, Selected Papers 1972-7*. Addison Wesley, 1977.

Zehnder, Eduard 72-74, 79-80 NS

Born 1940 Leuggern, Switzerland. Dr Theor Physics ETH. Memberships: AMS; DMV. Prof, Analysis, Ruhr Universität, D-4630 Bochum, FRG.

Publications Related to IAS Residence: Generalized Implicit Function Theorems with Application to some small Divisor Problems I, II. *Comm on Pure and Appl Math* 28, 29(1975, 1976) 91-140, 49-74; Homoclinic Points Near Elliptic Fixed

Members

Points. *Comm on Pure and Appl Math* 26(1973) 131-182.

Zeilberger, Doron 77-78 M

Born 1950 Haifa, Israel. PhD 1976 Math Weizmann Inst. Memberships: AMS.509 EWhite #16, Champaign, IL 61820.

Publications Related to IAS Residence: Pompeiu's Problem on Discrete Space. *PNAS* (Aug 1978).

Other Publications: Sums of Products of Fibonacci Sequences. *Fib Quart* 15(1977) 155.

el-Zein, Abdul-Hamid M. 77-78 Soc, Anthropology

Born 1934 Alexandria, Egypt. PhD 1972 Anthropology Univ of Chicago. Honors: Ford Foundation Fellow 1966-1969; W Wilson Fellow 1967-1970. Appointments: The World Food Program (FAO) Consultant; Ministry of Health, Egypt Consultant; UNICEF Consultant. Memberships: Middle East Studies Assoc; Royal Anthro Inst. Deceased.

Publications: *The Sacred Meadows: a Structural Analysis of Religious Symbols in an East African Town*. Evanston Ill: Northwestern U Press, 1974; *Beyond Ideology and Theology: the Search for the Anthropology of Islam*. *Ann Rev Anthro* (1977).

Zelinsky, Daniel 47-49, 56-57 M, Algebra

Born 1922 Chicago, IL. PhD 1945 Univ of Chicago. Honors: Guggenheim Fellow; NRC Fship; Fulbright Fship; Indo-American Fship. Appointments: AMS ctees; CBMS panel; NSF Fellowship panel; NRC Math Section Exec Comm. Memberships: AAAS; AMS; MAA. Prof, Dept of Math, Northwestern Univ, Evanston, IL 60201.

Publications Related to IAS Residence: Non-associative valuations. *Bull AMS* 54(1948) 175-183; On ordered loops. *Am J Math* 70(1948) 681-697; Integral sets in quaternions algebras. *Duke Math J* 15(1948) 595-621; Topological characterization of fields with valuations. *Bull AMS* 54(1948) 1145-1150; Rings with ideal nuclei. *Duke Math J* 18(1951) 431-442.

Zener, Clarence 34-35 M(NS), Mathematical Physics

Born 1905 . PhD 1929 Harvard Univ. *

Zerner, Catherine Wilkinson 77-78 HS, History of Art

Born 1941 Eugene, OR. PhD 1969 Art History Yale Univ. Honors: A. Kingsley Porter Prize Coll Art Assoc 1975. Memberships: CAA; AAHAHS. Assoc Prof, Department of Art, Brown University, Providence, RI 02912.

Publications: The Invention of the Imperial Staircase. *Art Bull* (1973); The New Professionalism in the Renaissance. In *The Architect: Chapters in the History of the Profession*, ed. by S. Kostoy. New York: Oxford U Press, 1977.

Ziller, Wolfgang 76-77 M, Differential Geometry

Born 1952 Troisdorf, Germany. PhD 1975 Mathematics Univ of Bonn. Memberships: AMS; DMV. Asst, Math Inst, Universität Bonn, Beringstr 1, 53 Bonn, West Germany.

Publications Related to IAS Residence: With J. D'Atri. Naturally reductive metrics and Einstein metrics on compact Liegroups. *Mem AMS*; The Jacobi equation on naturally reductive Riemannian homogenous spaces. *Comm Math Helv* 52(1977) 573-590.

Other Publications: Closed geodesics on homogeneous spaces. *Math Z* 152(1976) 67-88; The free loop space of globally symmetric spaces. *Inv Math* 41(1977) 1-22.

Zimmermann, Wolfhart 57-58, 60-61 M(NS), Theoretical Physics

Born 1928 Germany. Dr rer nat 1950 Univ of Freiburg.*

Zimmert, Rainer 73-74 M, Arithmetic Groups

Born 1947 Germany. MA 1971 Univ of Bielefeld, c/o Rudolph Zimmert, Prinzregenstr. 89, Berlin 31, Germany. *

Zippin, Leo 45f, 50-51 M

Born 1905 . PhD 1929 Univ of Penn. 340 Riverside Dr, New York, NY 10025. *

Publications Related to IAS Residence: With Deane Montgomery. Existence of Subgroups Isomorphic to the Real Numbers. *Ann Math* (2) 53(1951) 298-326; With Deane Montgomery. Two-Dimensional Subgroups. *Proc AMS* 2(1951) 822-838.

Other Publications: Countable Torsion Groups. *Ann Math* (2) 36(1935) 86-99; With J. W. Alexander. Discrete Abelian Groups and Their Character Groups. *Ann Math* (2) 36(1935) 71-85; On Semicompact Spaces. *Amer J Math* 57(1935) 327-341; On a Problem of Čech. *Časopis pro Pěstování Matematiky a Fysiky* 65(1936) 49-52; On Monotonic Complete Covering Systems. *Fund Math* 27(1936) 116-122; With Deane Montgomery. Periodic One-Parameter Groups in Three-Space. *TAMS* 40(1936) 24-36; With Deane Montgomery. Compact Abelian Transformation Groups. *Duke Math J* 4(1938) 363-373.

Zolberg, Aristide Rodolphe 72-73 Soc, Political Science

Born 1931 Brussels, Belgium. PhD 1961 Pol Science Univ Chicago. Appointments: Chmn, Joint Ctee on African Studies, SSRC/ACLS, 1973-77. Memberships: APSA; IPSA; AFSP. Prof, Pol Sci, Univ of Chicago, Elie Halevy Chair Fond Nationale des Sci Poli, Paris 1979-80. 5726 S Kenwood Ave, Chicago, IL 60637.

Publications Related to IAS Residence: The Making of Flemings and Walloons. *J of Interdisciplinary Hist* (1974); chapter on Belgium. In

Crises of Political Development in Europe and North America, ed. by R. Grew. 1978.

Other Publications: International Migration Policies in a Changing World System. In *Human Migration*, ed. by W. McNeill and R. Adams. 1978; Splitting the Difference. In *Ethnic Conflict in the Western World*, ed. by M. Esman. 1977; *Creating Political Order*. 1966; *One Party Government in the Ivory Coast*. 1964.

Zuckerman, Gregg Jay 74-75, 78s M, Representation Theory

Born 1949 Los Angeles, CA. PhD 1975 Princeton Univ. Honors: NSF Grad Fellow 1970-73; Yale U Jr Fac Fellow 1977-78; Sloan Fellow 1979-81. Memberships: AMS. Assoc Prof, Dept of Math, Yale Univ, New Haven, CT 06520.

Publications Related to IAS Residence: Tensor products of finite and infinite dimensional representations of semisimple Lie groups. *Ann Math* 106(1977) 295-308.

Other Publications: With A. W. Knap. Classification of irreducible tempered representations of semisimple Lie groups. *PNAS USA* 73(1976) 2178-2180; Continuous cohomology and unitary representations of real reductive groups. *Ann Math* 107(1978) 495-516.

Zumino, Bruno 59-60 M(NS)

Born 1923 Rome, Italy. Laurea 1945 Scienze Matematiche Univ of Rome. Senior Physicist, Cern, 1211 Geneva 23, Switzerland.

Zuntz, Günther 63-64 HS, Archaeology, Classics

Born 1902 Berlin, Germany. DPhil 1928 Univ Marburg. Honors: FBA; Corr Fellow Austrian Acad; MA(hc) Manchester Univ. Memberships: Classical Assoc; Hellenic Soc. Prof Emer, Manchester Univ, 1 Humberstone Rd, Cambridge, England.

Publications Related to IAS Residence: *Persephone*. Oxford: 1971.

Zupko, Ronald Edward 75s HS, History of Science and Technology

Born 1938 Youngstown, OH. PhD 1966 Medieval Economic History Univ of Wisc. Honors: NSF Res Grant 1972; Am Philos Soc Res Grant 1972-1973; Marquette Univ Teaching Excellence Award 1977. Appointments: Consultant to US office of Ed Metric Ed Program 1977 & 1978. Memberships: Midwest Mediaeval Assoc; Am Econ Assoc; Am Metric Assoc;

Mediaeval Acad of Amer; Internat Soc Hist of Sci (Metrology). Prof, Dept of History, Marquette University, Charles L. Coughlin Hall, Milwaukee, WI 53233.

Publications Related to IAS Residence: *British Weights & Measures: A History from Antiquity to the Seventeenth Century*. Madison: U of Wis Press, 1977; *French Weights and Measures Before the Revolution: A Dictionary of Provincial and Local Units*. Bloomington: Ind Univ Press, 1978; *Italian Weights and Measures: A Guidebook to the Principal Units Before Metrication*. Bloomington: Ind Univ Press, 1979; The Long Ordeal: Conversion to the Metric System in the United States. *Intellect* (October-November 1976) 114-17; The Role of Measurement Standards in Human Civilization. *Technology and Culture* 18, 3(1977) 498-502; The Weights and Measures of Scotland Before the Union. *The Scottish Historical Review* 56, 2, 162(1977) 119-145; English Weights and Measures: The Historical Evolution from Roman to Metric Standards. In *Technikatörténeti Szemle: Proceedings of the Hungarian Academy of Sciences*, 10: 211-221. 1978.

Other Publications: *A Dictionary of English Weights and Measures from Anglo-Saxon Times to the Nineteenth Century*. Madison: U of Wis Press, 1968; Notes on Medieval English Weights and Measures in Francesco Balducci Pegolotti's 'La Pratica Della Mercatura'. In *Economy, Society, and Government in Medieval Italy*, ed. by 153-60. 1969; The Metric Conversion Transition from the Pre-Imperial to the Metric System in the United States. *Marquette Business Rev* 17, 2(1973) 49-58; Medieval English Weights and Measures: Variation and Standardization. *Studies in Medieval Culture* 4, 2(1974) 238-43; A Short History of the Metric System in the United States: 1790 to 1974. *Metric System Guide Bull* 12(1974) 3-9; The Origin and Development of the Metric System in France: An Historical Outline. *Metric System Guide Bull* 11, 1(1974) 25-31; Worldwide Dissemination of the Metric System During the Nineteenth and Twentieth Centuries. *Metric System Guide Bull* 9, 2(1974) 14-25.

Zweibel, Ellen Gould 77s, 77-78 NS, Astrophysics

Born 1952 New York, NY. PhD 1977 Astrophysical Sciences Princeton Univ. Memberships: AAS. Staff Member, High Altitude Observatory, NCAR, P.O. Box 3000, Boulder, CO

Publications Related to IAS Residence: The Equilibrium of Cool Stellar Disks. *Ap J* 222(1978) 103; Radial Modes of Oscillation of Cool Stellar Disks. *Ap J* 222(1978) 110.

Appendix A

Institution of Origin of Members

Explanatory Notes

This appendix lists the institutions with which members were affiliated at the time of their application for membership in the Institute. Faculty members, permanent members and directors are included under the name of the institution with which they were affiliated at the time of permanent appointment to the faculty or staff and are designated by (F), (PM), or (D) following the name. The list contains government and private industry affiliations as well as academic institutions.

Institutions in the United States are listed first, in alphabetical order by state, followed by foreign countries and institutions. Names of foreign institutions have for the most part been anglicized, but well known initials have been retained in parentheses. For example, the Eidgenössische Technische Hochschule in Zurich is listed as the "Federal Institute of Technology (ETH)." If an institution's name has changed, it is listed under the current name. Of the large university systems, only California and New York have listings for the separate branches. Space limitations made it impractical to do the same for all the various systems.

Appendix A

Institution of Origin of Members

United States

Alabama

Alabama Polytechnic Institute
Hill, Paul Daniel

Arizona

University of Arizona
Babcock, Barbara A.
Basso, Keith Hamilton
Cohn, Harvey

California

California Institute of Technology

Alcock, Charles Roger
Aschbacher, Michael George
Bahcall, John Norris (F)
Carlitz, Robert D.
Christy, Robert Frederick
Clifford, Alfred H.
Cohen, Michael
Cornwall, John Michael
Dashen, Roger Frederick (F)
Dye, Henry Abel
Follin, James Wightman, Jr.
Greenstein, Jesse Leonard
Halpern, James Daniel
Hartle, James B.
Hu, Ning
Jewett, Robert Israel
Kwan, John Y.
Mandula, Jeffrey Ellis
Matsuda, Satoshi
Oppenheimer, J. Robert (D)
Peterson, Thurman Stewart
Ridenour, Louis N., Jr.
Schechter, Paul
Speisman, Gerald
Turner, Edwin Lewis
Ward, Morgan

California State University, Dominguez Hills

Larmore, Lawrence L.

California State University, Hayward

Fernandez-Santamaria, Jose A.

General Atomic Laboratory

Rosenbluth, Marshall Nicholas (F)

Harvey Mudd College

James, Robert Clarke

Hoover Institution on War, Revolution & Peace

Draper, Theodore

Hughes Aircraft Corporation

Steinberg, Maria Alice

Lockheed Company

Resnikoff, Howard L.

Occidental College

Barnes, Mabel Schmeiser

Scripps College

Merlan, Philip

Stanford Linear Accelerator Center

Colglazier, Elmer William, Jr.
Cvitanović, Predrag

Stanford University

Bailey, Thomas A.
Davis, Joseph S.
deLeeuw, Karel
Feferman, Solomon
Field, Alexander James
Frankel, Theodore T.
Friedland, Shmuel
Gilman, Frederick Joseph
Inkeles, Alex
Jaffe, Arthur M.
Jeffrey, Richard C.
Karlner, Inga
Kogut, John Benjamin
Lubkin, Saul
MacKichan, Barry B.
Oakes, Robert J.
Oliver, Robert Alan
Pearson, Lionel
Rosaldo, Michelle Zimbalist
Rosaldo, Renato Ignacio

Institution of Origin

Royden, Halsey Lawrence
Shiffman, Max
Spitz, Lewis William
Tait, William Walker, III

The RAND Corporation

Mitchell, Edward J.
Reich, Edgar

Roberts, Fred Stephen

University of California, Berkeley

Adams, William Wells
 Akbulut, Selman
 Alpers, Svetlana Leontief
 Ames, Susan
 Arnowitt, Richard Lewis
 Balázs, Louis Attila Peter
 Bellah, Robert N.
 Bendix, Reinhard
 Bishop, Errett A.
 Bisson, Thomas Noel
 Bludman, Sidney Arnold
 Bowen, Rufus
 Brucker, Gene A.
 Buchanan, Norman S.
 Carlson, John Franklin
 Cavell, Stanley Louis
 Channell, Paul Jackson
 Charap, John Michael
 Cherniss, Harold Fredrik (F)
 Christian, Richard Stuart
 Ciriacy-Wantrup, Siegfried von
 Cooter, Robert D.
 Crutchfield, Richard Stanley
 Dankner, Alan
 Feder, Samuel S.
 Fischer-Colbrie, Doris Helga
 Foldy, Leslie Lawrence
 Frazer, William R.
 Freedman, Daniel Z.
 Giles, William B.
 Godement, Roger
 Gruen, Erich Stephen
 Halpern, Martin Brent
 Helson, Henry
 Henkin, Leon Albert
 Hermassi, Elbaki
 Hermassi, Karen C.
 Hwa, Rudolph C.
 Kallianpur, Gopinath
 Kamber, Franz W.
 Kantorowicz, Ernst H. (F)
 Kelley, Allen F., Jr.
 King, Henry Churchill
 Kosinski, Antoni A.
 Krolik, Julian Henry
 Kusaka, Shuichi
 Lanford, Oscar Erasmus, III
 Lawson, H. Blaine, Jr.
 Lee, Tsung Dao (F)
 Lees, Milton
 Lewis, Harold W.
 Lewy, Hans
 Li, Peter W.-K.
 Linforth, Ivan M.
 Maenchen, Otto J.
 McIntosh, Alan G. R.
 McKenzie, Ralph
 Milne, Alan John
 Moore, Calvin C.
 Morrey, Charles Bradfield, Jr.

Neuman, Maurice
 Ogg, Andrew P.
 Partridge, Loren Wayne
 Peng, Chia-Kuei
 Postman, Leo J.
 Rabinowitz, Wilson Gerson
 Radin, Max
 Ran, Ziv
 Raphael, Robert B.
 Rhodes, John L.
 Scharlemann, Martin George
 Schmid, Wilfried
 Schneider, Chester R.
 Schorske, Carl E.
 Shale, David
 Silk, Joseph Ivor
 Silver, Larry Arnold
 Silverman, Edward
 Sion, Maurice
 Soda, Toshio
 Staffeldt, Ross E.
 Starn, Randolph
 Tarski, Jan
 Thomas, Paul Emery
 Thompson, Richard Joseph
 Thurston, William P.
 Tow, Don Mei
 Trow, Martin Aaron
 Vasquez, Alphonse Thomas
 Veech, William Austin
 Wahl, Jonathan Michael
 Wang, Ling-Lie
 Weinstein, Alan David
 Williamson, Robert E.
 Wouthuysen, Siegfried A.
 Yamaguchi, Hiroyuki
 Yau, Shing-Tung
 Yellin, Joel

University of California, Davis

Davis, Martin D.
 Goldberg, Victor Paul
 Morel, Anne C.
 Paret, Peter

University of California, Irvine

Bauer, George C.

University of California, Los Angeles

Anh, Nguyen Huu
 Babbitt, Donald G.
 Beckenbach, Edwin Ford
 Benson, Robert Louis
 Blattner, Robert James
 Brenner, Robert P.
 Byers, Nina
 Chang, Chen Chung
 Chang, Sun-Yung
 Clement, Paul A.
 De Sapio, Rodolfo Vittorio
 Edwards, Robert Duncan
 Enright, Thomas J.
 Fried, Herbert M.

Institution of Origin

Green, John W.
Greene, Robert Everist
Horn, Alfred
Johnson, Dennis Lee
Kendig, Keith Milo
Kirby, Robion Cromwell
Lacher, Robert Christopher
Lee, Yee-Chun
Milliken, Keith R.
Paige, Lowell J.
Puckett, William Thomas, Jr.
Pursey, Derek L.
Steinberg, Robert
Swift, Jonathan Dean
Tarán, Leonardo
Trombi, Peter C.
Ulrich, Roger Keith
Van Dam, James Walter
Varadarajan, Veeravalli Seshadri
White, Lynn, Jr.
White, Roscoe Beryl

University of California, Riverside

Tucker, Howard Gregory
Zafran, Misha

University of California, San Diego

Bernstein, Herbert J.
Collins, Randall
Fillmore, Jay Paul
Freedman, Michael H
Horton, Wendell, Jr.
Ma, Shang-Keng
Patil, Sharashchandra H.
Rumelhart, David Everett
Thompson, William Bell
Watson, Howard Lee
Wong, David Y.

University of California, Santa Barbara

Drake, Harold Allen
Kelly, Paul Joseph
Talbot, John Edwin

University of California, Santa Cruz

Flannery, Brian Paul
Giesecker, David
Tromba, Anthony J.

University of San Francisco

Burns, Robert I., S.J.

University of Southern California

Dales, Richard Clark
Day, Richard H.
Rajaraman, Ramamurti
Silverstein, Martin Louis
Storer, Thomas
Whiteman, Albert Leon

Colorado

Colorado College

Breasted, James Henry, Jr.

University of Colorado

Ehrmann, Henry Walter
Hawkins, David
Norton, Karl Kenneth
Rader, Cary Baker
Reinhardt, William Nelson
Ross, Randy Richard
Schmidt, Wolfgang M.
Thomson, S. Harrison
Wallace, William Pitkin
Williams, Edward A.

Connecticut

Connecticut College

Cranz, F. Edward
Schafer, Alice Turner

Trinity College

Theilheimer, Feodor

University of Connecticut

Hancock, Roger Nelson

Wesleyan University

Albrecht, Felix Robert
Arnold, Herbert Eli
Lebergott, Stanley
Long, Clarence D., Jr.
Reddy, William Lawrence

Yale University

Apter, David E.
Auslander, Louis
Bars, Itzhak
Bateman, Paul Trevier
Bellinger, Alfred Raymond
Bennett, Emmett L., Jr.
Berger, Melvyn S.
Bernstein, Ira Borah
Bitar, Khalil Michel
Catto, Peter James
Conklin, Harold C.
Corwin, Lawrence Jay
Crater, Horace William
Dunford, Nelson
Durand, Loyal III
Dwyer, William G.
Eisler, Colin T.
Garland, Howard
Giuliani, John Lawrence, Jr.
Green, Frederic L.
Gross, Leonard
Hall, Marshall, Jr.
Hexter, Jack H.
Hsiang, Wu-chung
Hyman, Murray Harvey
Klein, Martin Jesse
Langlands, Robert Phelan (F)
Lepowsky, James Ivan
Levy, David M.
Linz, Juan J.
Long, Herbert Straine

Macintyre, Angus John
 Margenau, Henry
 Mars, Johannes G. M.
 May, J. Peter
 Mintz, Sidney Wilfred
 Montgomery, Deane (F)
 Randels, William C.
 Randol, Burton
 Rickert, Neil William
 Rickert, Yao-Chun Yen
 Robinson, Abraham
 Roethlisberger, Marcel G.
 Seligman, George Benham
 Sgro, Joseph Anthony
 Shelstad, Diana
 Socolow, Robert Harry
 Stahl, Hans-Peter
 Szczarba, Robert H.
 Weispenning, Volker B.

Delaware

University of Delaware

Kirchner, Walther

District of Columbia

American University

Adler, Ronald J.

Atomic Energy Commission

Palfrey, John Gorham

Carnegie Institution

Lowe, Elias Avery (F)

Catholic University of America

Boone, William Werner

Wallace, William Augustine

Dumbarton Oaks Center for Byzantine Studies

Kitzinger, Ernst

Folger Shakespeare Library

Hughes, Merritt Yerkes

George Washington University

Taylor, James Henry

Georgetown University

Shahid, Irfan A.

National Aeronautics and Space Administration

Huang, Su-Shu

National Bureau of Standards

Taussky-Todd, Olga

Todd, John

National Gallery of Art

Oberhuber, Konrad Johannes

National Science Foundation

Hirsch, Morris William

National War College

Shimkin, Demetri Boris

Navy Department

Ahner, John Franklin

Danskin, John Moffatt, Jr.

Hazeltine, Richard Deimel

Licht, Arthur Lewis

Szu, Harold Hwaling

Peace Corps

Converse, George A.

Smithsonian Institution

Price, Derek de Solla

St. Anselm's Priory

Strittmatter, Anselm, O.S.B.

Walter Reed Army Institute of Research

Rioch, David M.

Weather Bureau

Kaplan, Lewis David

Florida

Florida State University

Andrews, James Joseph

Bryant, John L.

Hempel, John Paul

Kwun, Kyung Whan

McMillan, Daniel Russell, Jr.

Sumners, De Witt Lee

Tindell, Ralph Stanley

University of Miami

Jacoby, Alexander Robb

Lin, Charles S. C.

Georgia

Emory University

Evans, Trevor

Major, James Russell

Neuberger, John W.

Georgia State University

Baylen, Joseph O.

University of Georgia

Brahana, Thomas R.

Cantrell, James C.

Edwards, Charles H., Jr

Galewski, David E.

Hollingsworth, John G.

McCord, Michael Campbell

Pao, Peter Sie

Sher, Richard B.

Hawaii

University of Hawaii

Hanf, William Porter

Lampe, William Austyn

Littman, Robert J.

Pakvasa, Sandip

Tuan, San Fu

Institution of Origin

Illinois

Argonne National Laboratory

Finkelstein, Robert Jay

Fermi Laboratory

Carazzone, James Joseph

Pearson, Robert Bernard, III

Illinois Institute of Technology

Devinatz, Allen

Wilcox, L. R.

Knox College

Stephens, Rothwell

Newberry Library

Baron, Hans

Northern Illinois University

Cohen, Frederick Ronald

Northwestern University

Breckenridge, James D.

Breen, Timothy Hall

Brown, Laurie Mark

Curtis, Morton Landers

Dekker, Jacob C. E.

Harris, Bruno

Lee, Rensselaer Wright

Leopold, Richard William

Matlis, Eben

Matsusaka, Teruhisa

Mittal, Yashaswini Deval

Roebuck, Carl A.

Rosenberg, Alex

Sheehan, James J.

Siegert, Arnold John Frederick

Thompson, Colin John

Ver Steeg, Clarence L.

Vesentini, Edoardo

Wall, Hubert Stanley

Webster, J. Carson

Weinberg, Bernard

Wiebe, Robert H.

Yuan, Shuen

Zelinsky, Daniel

Southern Illinois University

Livingston, Marilyn L.

Nathanson, Melvyn Bernard

Niederreiter, Harald G.

Shult, Ernest E.

University of Chicago

Akutowicz, Edwin James

Albert, Abraham Adrian

Alperin, Jonathan L.

Armstrong, Mark Anthony

Asmuth, Charles A.

Baily, Walter Lewis, Jr.

Baker, Keith Michael

Bald, Robert Cecil

Brodie, Bernard

Carnap, Rudolf

Chandrasekhar, Subrahmanyan

Debevoise, Neilson C.

Debus, Allen George

Dembowski, Peter Florian

Dias, Candido L. da Silva

Eckart, Carl Henry

Feldman, Jacob

Freund, Peter George Oliver

Geertz, Clifford (F)

Glauberger, George Isaac

Graves, Lawrence M.

Henriques, Anna Stafford

Hertzog, David

Inden, Ronald B.

Kaplansky, Irving

Karel, Martin Lewis

Kelley, John L.

Kessler, Herbert Leon

Kirshner, Julius

Kostant, Bertram

Krieger, Leonard

Lashof, Richard K.

Lee, Edward Prentiss

Leipnik, Roy Bergh

Liao, San Dao

Little, Lester K.

Liulevicius, Arunas L.

Luban, Marshall

Marshall, Leona Woods

McNeill, David

Michael, Ernest A.

Moore, Charles Napoleon

Morgenthau, Hans J.

Morrison, Karl

Murnaghan, Francis D.

Nelson, Edward

Nerode, Anil

Oehme, Reinhard

Ornstein, Donald S.

Palais, Richard Sheldon

Pingree, David Edwin

Pletsch, Carl Erich

Putnam, Alfred L.

Reddy, William M.

Reid, William Thomas

Ross, Braxton

Rubin, Herman

Sagen, Oswald Karl

Sakurai, Jun John

Sally, Paul Joseph, Jr.

Schoenberg, Isaac Jacob

Sewell, William H., Jr.

Silverstein, Theodore

Smale, Stephen

Smiley, Dorothy Manning

Smiley, Malcolm Finlay

Stein, Elias M.

Steinberger, Jack

Stinespring, William Forrest

Swerdlow, Noel M.

Turner, Victor Witter

Wang, Kai

Watts, Charles E.
 Weibel, Charles A.
 Weil, André (F)
 Weinberg, Saul S.
 Wheeden, Richard L.
 Wilkins, J. Ernest, Jr.
 Wolf, Joseph A.
 Zolberg, Aristide Rodolphe

University of Illinois

Alexander, John Ralph
 Ambrose, Warren
 Baer, Reinhold
 Bartlett, James Holly
 Berndt, Bruce Carl
 Bourgin, David Gordon
 Cagle, Fredric William, Jr.
 Campbell, David Kelly
 Chew, Geoffrey Foucar
 Cohn, Leslie
 Cronbach, Lee Joseph
 Curtis, Richard Bertram
 Dancoff, Sidney Michael
 Doob, Joseph Leo
 Erlwanger, Stanley Herbert
 Gugenheim, Victor K. A. M.
 Hahn, Frank John
 Haken, Wolfgang
 Hale, Mark Pendleton, Jr.
 Hamstrom, Mary-Elizabeth
 Hasslacher, Brosi
 Hensley, Douglas Austin
 Howard, William A.
 Ichimaru, Setsuo
 Ketchum, Pierce W.
 Knight, Frank Bardsley
 Knopp, Marvin Isadore
 Levy, Harry
 Lloyd, Stuart P.
 Long, Robert L.
 Madow, William Gregory
 Mann, Avinoam
 Maria, Alfred Joseph
 Martin, William Ted
 Masley, John M.
 Miller, Charles Frederick, III
 Mitchell, Josephine Margaret
 Moreno, Carlos Julio
 Queller, Donald Edward
 Rabinowitch, Eugene I.
 Rao, R. Ranga
 Schoenfeld, Lowell
 Schroer, Bert
 Stewart, John O.
 Suzuki, Michio
 Thomas, Charles Gomer
 Trexler, Richard C.
 Trjitzinsky, Waldemar J.
 Uhlenbeck, Karen
 Yang, Chung-Tao

Indiana

Indiana University

Allen, Reginald E.
 Brothers, John Edwin
 Buehrig, Edward H.
 Chadam, John Martin
 Grant, Edward
 Gustin, William Sharp
 Hlavatý, Václav
 Mielke, Marvin V.
 Mullins, Nicholas C.
 Rabinowitch, Alexander
 Scheuneman, John
 Scobie, James R.
 Sonneborn, Tracy M.
 Stegenga, David Allen
 Strauss, Gerald
 Temesvary, Stefan
 Torchinsky, Alberto
 Wallace, Andrew Hugh

Purdue University

Akeley, Edward S.
 Gillman, Leonard
 Goffman, Casper
 Hanges, Nicholas William
 Henriksen, Melvin
 Jerison, Meyer
 Leibler, Richard Arthur
 Lipshitz, Leonard Michael
 Moh, Tzuong-Tsieng
 Neugebauer, Christoph J.
 Price, Justin Jesse
 Rovnyak, James L.
 Schultz, Reinhard Edward
 Shanks, Merrill Edward
 Tong, Yue-Lin Lawrence
 Williams, Robert Fones

University of Notre Dame

Fan, Ky
 Ford, George Willard
 Gabriel, Astrik L.
 Glicksberg, Irving L.
 Huebsch, William Martin
 Kritzeck, James
 Ladner, Gerhart Burian
 Lewis, Robert R.
 Nadel, Mark Edward
 O'Sullivan, John Joseph
 Riehm, Carl Richard
 Stasheff, James Dillon
 Stewart, Thomas Edward

Iowa

Iowa State University

Good, Roland H., Jr.
 Sertorio, Luigi

University of Iowa

Armentrout, Steve

Institution of Origin

Burke, William Lozier Munro
Chittenden, Edward Wilson
Coester, Fritz
Kingdon, Robert McCune
Klink, William H.
Kutzko, Philip C.
Martin, Joseph Morison
Spitzer, Alan B.

Kansas

University of Kansas

Maxwell, Kenneth Robert
Moyer, Robert D.
O'Neill, Michael Jerome
Roitman, Judith
Scott, William Raymond

Kentucky

University of Kentucky

Chapman, Thomas A.
Eastwood, Bruce Stansfield
Ferry, Steven Charles
Goodman, Adolph Winkler
Perreiah, Alan R.
Royster, Wimberly Calvin
Wells, James H.

University of Louisville

Bier, Justus

Louisiana

Louisiana State University

Cohen, Haskell
Schenkman, Eugene Victor
Smith, H. Lyle
Wang, Hsien-Chung
West, James Edward

Tulane University

Hofmann, Karl Heinrich
Hu, Sze-Tsen
Ku, Hsu-Tung
Mostert, Paul Stallings
Sikorski, Roman

Maine

Bowdoin College

Lubin, Jonathan
Silberger, Allan J.

Maryland

Goucher College

Crocker, Lester G.

Johns Hopkins University

Aritürk, Haluk
Barber, Sherburne F.

Becker, Marvin B.
Berlin, Theodore H.
Bleick, Willard Evan
Boas, George
Bourne, Samuel G.
Cohen, Irvin Sol
Dwork, Bernard M.
Dyer, S. Eldon, Jr.
Edelstein, Ludwig
Ehrenpreis, Leon
Forster, Robert
Gatzke, Hans Wilhelm
Goldthwaite, Richard A.
Gottmann, Jean Iona
Greene, Jack P.
Haris, Stephen Joseph
Higham, John
Igusa, Jun-ichi
Jaffee, Harris Alexander
Jenkins, James Allister
Kagan, Richard Lauren
Kampen, Egbertos R. van
Kulkarni, Ravi S.
Lewis, Daniel Clark, Jr.
Markle, Minor M., III
Menikoff, Arthur
Meritt, Benjamin Dean (F)
Miyake, Toshitsune
Muhly, Harry Townsend
Putnam, Calvin Richard
Ranum, Orest Allen
Richter, Curt Paul
Sampson, Joseph Harold
Schanuel, Stephen Hoel
Shahidi, Freydoon
Shalika, Joseph Andrew
Shiffman, Bernard
Shyr, Jih-Min
Verdier, Philippe M.
Wade, Luther Irwin, Jr.
Walker, Mack
Washnitzer, Gerard
Weinberg, Albert K.
Wintner, Aurel Frederick
Woolf, Harry (D)
Zariski, Oscar

Morgan State College

Stephens, Clarence Francis

St. John's College

Brann, Eva T. H.

University of Maryland

de la Torre, Pilar
Dragt, Alexander James
Greenberg, Oscar Wallace
Greenberg, Ralph
Levitine, George
Li, Ming Chiang
Niebur, Douglas P.
Pati, Jogesh C.
Shapere, A. Dudley

Spencer, Guilford L., II
 Tompkins, Charles Brown
 Toton, Edward T.
 Ullom, Stephen Virgil
 Weber, Joseph
 Wu, Chi-Tai

Walters Art Gallery
 Ettinghausen, Richard
 Miner, Dorothy E.

Massachusetts

Amherst College

Birnbaum, Norman
 Lee, Robert

Boston University

Edgerton, Samuel Youngs, Jr.

Brandeis University

Berger, Robert William
 Berkowitz, David Sandler
 Bierstone, Edward
 Brown, Edgar Henry, Jr.
 Buchsbaum, David A.
 Goldman, Oscar
 Grossmann, Alexander
 Held, Richard
 Hironaka, Heisuke
 Ireland, Kenneth Frederick
 Kunze, Ray A.
 MacMullen, Ramsay
 Schwarz, Gerald Walter
 Smith, A. Mark
 Spivak, Michael D.
 Tsao, Hung-Sheng
 Turner, Stuart Price
 Wellner, Marcel N.

Center for Astrophysics

Draine, Bruce T.

Clark University

Cline, Edward Thomas, Jr.
 Lucas, Paul
 Srinivasan, Bhama

Harvard University

Adler, Stephen L. (F)
 Ahlfors, Lars Valerian
 Appelquist, Thomas W.
 Arens, Richard F.
 Ash, Avner Dolnick
 Bagby, S. Thomas, Jr.
 Baluni, Varouzhan
 Bender, Carl Martin
 Benesch, Otto
 Bernstein, Jeremy
 Birkhoff, Garrett
 Bloch, Herbert C.
 Bloomfield, Morton Wilfred
 Bredon, Glen E.
 Bruner, Jerome S.

Calkin, John Williams
 Callan, Curtis G.
 Case, Kenneth Myron
 Chang, Shau-Jin
 Chernin, David Paul
 De Luccia, Frank Joseph
 Deser, Stanley
 DeWitt, Bryce Seligman
 Eells, James
 Fay, John David
 Feer, Daniel B.
 Feldman, David
 Ford, Franklin Lewis
 Fulton, Thomas
 Gerschenkron, Alexander
 Gerstenhaber, Murray
 Glauber, Roy Jay
 Gleason, Andrew M.
 Gluck, Herman R.
 Gruenberg, Karl Walter
 Hanfmann, George Maxim Anossov
 Heimert, Alan E.
 Heins, Maurice Haskell
 Hirschman, Albert O. (F)
 Holmes, Stephen Taylor
 Holton, Gerald
 Hughes, H. Stuart
 Hutchins, Francis Gilman
 Karplus, Robert
 Kaysen, Carl (D)
 Kottwitz, Robert E.
 Lang, William Edward
 Leibenstein, Harvey
 Lepore, Joseph Vernon
 Li, Wen-Ching Winnie
 Lowry, Bates
 Mackey, George Whitelaw
 Mayr, Ernst
 Meiss, Millard (F)
 Merzbacher, Eugen
 Miller, George Armitage
 Miller, Perry
 Mitrany, David (F)
 Morse, Marston (F)
 Mumford, David Bryant
 Myers, Sumner Byron
 Nadel, George H.
 Nagy, Gregory
 Nathan, David S.
 Newton, Roger Gerhard
 Ng, Yee Jack
 Olum, Paul
 Patterson, Orlando Horace
 Pitcher, Everett
 Poenaru, Valentin-Alexandre
 Quine, Willard Van Orman
 Riesman, David
 Robbins, Herbert Ellis
 Rohrlich, David Ephraim
 Rohrlich, Fritz
 Sario, Leo Reino
 Schlesinger, Arthur M., Jr.

Institution of Origin

Schweitzer, Paul Alexander, S. J.
Shapiro, Paul R.
Siegel, Warren David
Sloan, Millard Lee
Smolin, Lee
Smyth, Craig Hugh
Starr, Richard F. S.
Stone, Marshall Harvey
Sulloway, Frank Jones, II
Szöverffy, Joseph
Tarski, Alfred
Tate, John T.
Thomas, Richard Nelson
Vagts, Alfred
Wald, George
Walsh, Joseph Leonard
Weinberg, Erick J.
White, Morton G. (F)
Whitney, Hassler (F)
Wright, David H.
Wu, Tai Tsun
Yao, York-Peng Edward
Zee, Anthony

Massachusetts Institute of Technology

Adler, Allan Russell
Baan, Willem Adrianus
Barbasch, Dan Mihai
Bouckaert, Louis P.
Callen, James D.
Chomsky, A. Noam
Cohen, Paul J.
Davis, Michael
Diamond, Patrick Henry
Douglas, Jesse
Dowker, Yael Naim
Duncan, H. E. Anthony
Frank, Nathaniel Herman
Franklin, Philip
Gell-Mann, Murray
Glimm, James
Goodman, Roe William
Guillemin, Victor
Hanson, Andrew Jorgen
Hecht, Henryk
Helgason, Sigurdur
Hoffstein, Jeffrey Ezra
Hu, Men-Chang
Huang, Kerson
Hurewicz, Witold
Kemp, Robert R.D.
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King, James Richard
Kreezer, George Lawrence
Lieberman, David Ira
Lin, Chia-Chiao
Low, Francis E.
Mandelbrot, Benoit B.
Mazlish, Bruce
Melrose, Richard B.
Millon, Henry Armand
Milnor, John Willard (F)

Nash, John Forbes, Jr.
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Quillen, Daniel G.
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Wu, Hung-His
Yagi, Fumio

Mediaeval Academy of America

Meyvaert, Paul Jeffrey

Mount Holyoke College

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Museum of Fine Arts, Boston

Swarzenski, Georg
Swarzenski, Hanns P.

Northeastern University

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Smith College

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Southeastern Massachusetts University

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Sylvania Electric Company

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 Day, Florence Ely
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 Edmonds, Allan Lee
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Sternfeld, Frederick William

University of New Hampshire

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Princeton Theological Seminary

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Princeton University

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 Turkevich, Ludmilla Buketoff
 Veblen, Oswald (F)
 Viner, Jacob (PM)
 von Neumann, John (F)
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 Wood, John William
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 Sheingorn, Mark Elliot

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Charlap, Leonard S.
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Cole, Kenneth Stewart
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Davis, Chandler
Donald, David Herbert
Earle, Edward Mead (F)
Edwards, David Alan
Feinberg, Gerald
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Friedberg, Richard Michael
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Gallagher, Patrick Ximenes
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Gilliam, James Frank (F)
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Harish-Chandra, (F)
Harris, William Vernon
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Mills, Robert L.
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Neumann, Sigmund
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Cornell University

Ayoub, Christine Williams
Black, Max
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Curjel, Caspar Robert
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Eichten, Estia Joseph
Feit, Walter
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Gelbart, Stephen Samuel
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Gibson, James Jerome
Goldstein, Jack S.
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Herz, Carl S.
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John, James Joseph
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Joss, Paul Christopher
Kabir, Prabahan Kemal
Kac, Mark
Kähler, Erich G. von
Kahn, Peter J.

Katz, Jonathan Isaac
 Knapp, Anthony William
 Kochen, Simon Bernard
 Konvitz, Milton R.
 Kubert, Daniel S.
 Liang, Chao-Chu
 Lichtenbaum, Stephen
 Livesay, George Roger
 Meister, James Elliot
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 Namioka, Isaac
 Nauenberg, Michael
 Newman, William Isaac
 Pollard, Harry
 Randolph, John F.
 Reiner, Irving
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 Schumacher, Clifford Rodney
 Shapiro, Arnold Samuel
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 Simon, Walter M.
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 Sze, Alexander
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 Tobocman, William
 Toledo, Domingo
 Torrance, Charles C.
 Truong, Tran N.
 Vlastos, Gregory
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 Widom, Harold
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Fieldston School

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Fordham University

Curran, Peter M.
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Hobart and William Smith Colleges

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Hunter College, CUNY

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International Business Machines

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Lehman College, CUNY

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Metropolitan Museum of Art

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New School for Social Research

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New York University

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 Chen, Yu Why
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 Dell'Antonio, Gianfausto
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 Goldwater, Robert
 Jacobowitz, Howard
 Janson, Horst W.
 Keen, Linda
 Koch, Adrienne
 Koppel, Moshe
 Krautheimer, Richard
 Lavin, Irving (F)
 Lax, Peter David
 Loeffel, Jean-Jacques
 Lowenstein, John Hood
 Manuel, Frank E.
 Martin, Richard Milton
 Maskit, Bernard
 McCredie, James R.
 Moser, Jürgen K.
 Nirenberg, Louis
 Peck, Leslie Gilbert
 Posner, Donald
 Quinn, Frank S.
 Ragab, Fouad Mohamed
 Roffman, Eric H.
 Schechter, Martin
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 Sennett, Richard
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Pierpont Morgan Library

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Polytechnic Institute of New York

Sibner, Lesley M.

Queens College, CUNY

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Institution of Origin

Golubitsky, Martin
Gutiérrez, Mauricio Alvarez
Henderson, Janice A.
Leites, Edmund
Lowinsky, Edward E.
Philip, Lotte Brand

Rensselaer Polytechnic Institute

Greenberg, J. Mayo
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Rockefeller University

Cheng, Ta-Pei
Gidas, Basil Constantine
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Shei, Sun-Sheng

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Social Science Research Council

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St. Lawrence University

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State University of New York, Albany

Haboush, William J.
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State University of New York, Binghamton

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State University of New York, Buffalo

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State University of New York, Stony Brook

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Taiani, Geraldine Anne
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Balachandran, Aiyalam Parameswaran
Bers, Lipman
Campbell, Alan D.
Church, Philip Throop
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Finn, Robert S.
Gelbart, Abe
Girardeau, Marvin D.
Halmos, Paul R.
O'Raifeartaigh, Lochlainn
Protter, Murray H.
Selberg, Atle (F)

Union College

Farrell, Orin James

Union Theological Seminary

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United Nations

Tai, Yung-Sheng

University of Rochester

Albritton, James R.
Bagemihl, Frederick
Batho, Edward H.
Bernstein, Dorothy Lewis
Bose, Samir Kumar
Goebel, Charles James
Kimball, Spofford Harris
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Monticello, Donald Andrew
Simon, Albert
Tamari, Dov
Tennenbaum, Stanley
Zagorin, Perez

Vassar College

Askew, Pamela
Katzenellenbogen, Adolf

Yeshiva University

Fishman, Joshua A.
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North Carolina

Duke University

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Boon, James Alexander
Carlitz, Leonard
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Thomas, Joseph Miller
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North Carolina Central University
Manasse, Ernst Moritz

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Fuchs, Werner Rudolf
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Jones, Floyd Burton
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Pratt, Robert Armstrong
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Ohio

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Cincinnati Art Museum
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University of Oklahoma
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Springer, Charles Eugene
Unguru, Sabetai

Oregon

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Pennsylvania

American Institute of Indian Studies
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Dresden, Arnold
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el-Zein, Abdul-Hamid M.

University of Pennsylvania
Amado, Ralph David
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Goitein, Shelomo Dov
Goto, Midori S.
Grosswald, Emil
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Holland, Leicester Bodine
Jameson, Michael H.
Jehle, Herbert
Joshi, Aravind K.
Kaufman, Bruria
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Mahanthappa, Kalyana T.

Minott, Charles Ilsley
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Rosenberg, Jonathan M.
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Tennessee

Oak Ridge National Laboratory
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University of Tennessee
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University of Houston

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University of Texas

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 Su, Jin-Chen
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 Weaver, David William

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 Brownell, Frank H.
 Butow, Robert J. C.
 Durfee, Alan H.
 Folland, Gerald Budge
 Gangolli, Ramesh
 Herb, Rebecca Ann
 Hewitt, Edwin
 Hostetter, Ingomar M.
 Jacobsohn, Boris A.
 Kobayashi, Shoshichi
 Kozlowski, George A., Jr.
 MacKay, Pierre Antony
 McDiarmid, John Brodie
 McMullen, John Roderick
 Morris, Morris David
 Phelps, Robert Ralph
 Richardson, Roger W., Jr.
 Ryff, John Vincent
 Segal, Jack
 Sullivan, John Brendan
 Walter, John H.
 Warner, Garth William, Jr.
 Weiss, Max L.

Wisconsin**Marquette University**

Heider, Lester Joseph, S.J.
 Zupko, Ronald Edward

University of Wisconsin

Barker, John Walton
 Bing, R. H.
 Breit, Gregory
 Brown, Joseph E.
 Cannon, James W.
 Clagett, Marshall (F)
 Clover, Frank M.

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Craggs, Robert F.
Curtis, Charles W.
Durand, Bernice Black
Edson, Charles Farwell, Jr
Fadell, Edward Richard
Farmer, Paul
Feenberg, Eugene
Gillman, David Saul
Henderson, David Wilson
Hiebert, Erwin Nick
Jones, Stephen Lester
Kelly, John Beckwith
Kleene, Stephen Cole
Lindberg, David C.
MacAlpine, Gordon Madeira
MacDuffee, Cyrus C.
MacKendrick, Paul Lachlan
Markoe, Andrew Guy
McMillan, John Emerson
El-Nadi, Adel Mohamed
Orlik, Peter P.
Orsini, Gian N.
Osterbrock, Donald E.
Post, Gaines
Rolfson, Dale Preston Odin
Ryser, Herbert John
Sachse, William Lewis
Sawyer, Raymond Francis
Sella, Domenico
Setton, Kenneth M. (F)
Smith, Peter Hopkinson
Stolarsky, Kenneth B.
Wainger, Stephen
Webster, Dallas Eugenio

Yerkes Observatory

Prendergast, Kevin H.
Strömgren, Bengt G. D. (F)

Foreign Countries

Afghanistan

French Archaeological Delegation
Bernard, Paul

Argentina

Economic Research Center
O'Donnell, Guillermo Alberto

National Council of Scientific and Technical Research

Virasoro, Miguel A.

National University of the Litoral

Santaló, Luis Antonio

University of Buenos Aires

Fronzizi, Risieri
Sanchez-Albornoz, Claudio

University of La Plata

Coleff, Nicolás R.
Herrera, Miguel Emilio
Ricabarra, Rodolfo Alfredo
Villamayor, Orlando Eugenio

Australia

Australian National University

Kalnajs, Agris Janis

Council for Scientific and Industrial Research

Patterson, Gordon Neil

James Cook University

Rose, Paul Lawrence

University of Melbourne

Clarke, Graeme Wilber
Ivanov, George
Simon, Leon M.
Woodruff, William

University of Sydney

Butler, Stuart Thomas
Derrick, Graham H.
May, Robert McCredie
McKellar, Bruce Harold John
Room, Thomas Gerald
Schafroth, Max Robert
Sinclair, Robert Keith

University of Tasmania

Buchdahl, Hans Adolph

University of Western Australia

Bosworth, Albert Brian
Melville Jones, John Richard

Austria

University of Vienna

Hlawka, Edmund
Mayer, Walther(PM)
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Schmidt, Gerhard
Sextl, Roman U.

Belgium

Fondation Universitaire

Flexner, Abraham (D)

Free University of Brussels

Debever, Robert
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Mannheim, Philip David
Papy, George Léopold Anatole

National Foundation of Scientific Research (FNRS)

Borgers, Alfons M.F.

Tits, Jacques Léon
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Royal Library
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St. Ignatius University College
Strycker, Emile L. de

University of Liège
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University of Louvain
Denef, Jan
Lemaître, Georges
Verbeke, Gerard

Brazil

Center for Analysis of Economic Affairs
Cardoso, Fernando Henrique

Center for Physics Research
MacDowell, Samuel W.

Federal University of Pernambuco
Cardoso, Fernando

Institute of Pure and Applied Mathematics
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Technical Institute of Aeronautics
Chen, Kuo-Tsai

University of Brasília
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Leite Lopes, José

University of Campinas
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Schwarz, Roberto

University of São Paulo
de Lyra, Carlos
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Tiomno, Jayme

Bulgaria

Joint Institute for Nuclear Research, Dubna
Todorov, Ivan

University of Sofia
Mihailov, Georgi Ivanov

Canada

Carleton University
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McGill University
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McMaster University
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National Research Council
Ma, Shih-Tsun

Queen's University
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Ellis, Hubert W.
Geramita, Anthony Vito
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Orzech, Morris
Rossmann, Wulf T.

University of Alberta
Kane, Richard M.

University of British Columbia
Casselmann, William Allen

University of Manitoba
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University of Montreal
Mong, Shaw
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University of Saskatchewan
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University of Toronto
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Brauer, Richard
Brieger, Peter Henry
Callahan, Thomas H.
Derow, Peter Sidney
Deshman, Robert
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Goffart, Walter André
Greiner, Peter Charles
Grube, G.M.A.
Jones, Christopher Prestige
Nesbitt, Cecil James
O'Donnell, James Reginald
Shorter, Edward
Thompson, Homer Armstrong (F)
White, Mary E.
Wilkinson, Bertie

Institution of Origin

Zacour, Norman

University of Windsor

Klemola, Tapio

York University

Katz, Michael Barry
Samuel, Deborah Hobson
Verney, Douglas Vernon

Chile

Catholic University of Chile

Chuaqui, Rolando Basim
Lagos, Miguel

State Technical University

Saavedra, Neantro R.

China, People's Republic of

Academia Sinica

Chen, Chiang-jun
Chen, Kien-Kwong
Chiang, Li-Fu
Ho, Yu Ping
Wu, Wen-chün

Peking University

Chiang, Po-Chu
Kiang, Tsai-han

China, Republic of

Academia Sinica

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National Tsing Hua University

Chern, Shiing-Shen
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Hua, Loo-Keng

Taiwan University

Wu, Ta-You

Colombia

National University of Colombia

Restrepo, Guillermo S.

University of the Andes

Leal-Buitrago, Francisco

Cyprus

Cyprus Museum

Dikaïos, Porphyrios

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Charles University

Frel, Jiří
Janáček, Karel

Masaryk University

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Denmark

Aarhus University

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National Museum

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Niels Bohr Institute

Bohr, Niels H. D.
Green, Anthony Maurice
Pais, Abraham (F)
Prange, Richard E.

Royal Technical College

Følner, Erling

Royal Veterinary and Agricultural College

Jessen, Børge Christian

Technical University of Denmark

Fenchel, Werner

University of Copenhagen

Bohr, Aage Niels
Bohr, Harald
Reiz, S. Anders
Schmidt, Olaf Henrik

Egypt

Alexandria University

Doss, Raouf
Wace, Alan John B.

Finland

Swedish University of Åbo

Bruun, Patrick Magnus
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University of Helsinki

Cronström, Christofer Eige
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Rickman, Seppo U.
Simons, Jakob Lennart

University of Oulu

Jussila, Olli K.

France

Bibliothèque Nationale

Avril, François
d'Alverny, Marie-Thérèse

LeRider, Georges Charles

Collège de France

Adler, Felix T.
Dumézil, Georges
Leray, Jean
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Department of Mines

Messiah, Albert M. L.

Ecole des Hautes Etudes en Sciences Sociales

Bourdieu, Pierre
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Ecole Polytechnique

Bussac, Marie-Noelle
Laval, Guy

Ecole Pratique des Hautes Etudes

Dumont, Louis Charles Jean

Ecole Sciences Politiques de Paris

Chevallier, Jean-Jacques

Institute for Scientific Higher Education (IHES)

Beguín, Sylvie M.
Deligne, Pierre
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Rafael, Eduardo de
Trauber, Philip

Institute of France

Demargne, Pierre

Louvre

Rosenberg, Pierre Max

National Center for Scientific Research (CNRS)

Beldiceanu, Nicoară
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Jacquet, Hervé Michel
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Kastler, Daniel
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Loday, Jean-Louis
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Pressouyre, Léon
Puig, Lluís
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Shih, Weishu
Stern, Henri

Paris Observatory

Cayrel, Roger

Saclay Nuclear Research Center (CENS)

Bros, Jacques M. E.
Dominicis, Cyrano Tullio de
Itzykson, Claude
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University of Aix-Marseilles

Bacry, Henri
Granger, Gilles Gaston
Vovelle, Michel

University of Bordeaux

Cassou-Noguès, Philippe
Cassou-Noguès, Pierrette

University of Caen

Nicolet, Claude

University of Grenoble

Fontaine, Jean-Marc
Lancel, Serge Henri
Reeb, Georges

University of Lille

Bollack, Jean
Deyon, Pierre
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Watkiss, Christopher

University of Lyons

Le Glay, Marcel
Mantoux, Étienne Gabriel
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University of Nancy

Delsarte, Jean
Dentzer, Jean-Marie
Ginouès, René
Hervé, Michel André

University of Nantes

Vogel, Pierre

University of Nice

Institution of Origin

Goldschmidt, Hubert

University of Paris

Bruhat, François
Cartan, Henri Paul
Cerf, Jean
Choquet, Gustave
Connes, Alain
Cwikel, Michael
Daux, Georges Louis
Duval, Noël
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Gérardin, Paul
Guenée, Bernard Marie
Heurgon, Jacques
Kahane, Jean-Pierre
Koyré, Alexandre
Lacombe, Daniel
Lannes, Jean E.
Lassus, Jean
Lazard, Michel Paul
Lelong, Pierre
Lurçat, François
Malgrange, Bernard
Marichal, Robert Pierre
Neveu, André
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Piaget, Jean
Robert, Gilles
Siebenmann, Laurence C.
Sjöstrand, Johannes
Valensi, Lucette

University of Poitiers

Néron, André
Sergeraert, Francis Georges

University of Rennes

Charpentier, Marie
Chastagnol, André
Chevalley, Claude
Glaeser, Georges

University of Strasbourg

Amandry, Pierre
Dellacherie, Claude
Deny, Jacques
Karoubi, Max
Koszul, Jean-Louis
Schwartz, Jacques
Thom, René F.

Germany

Central Institute for Art History, Munich

Heydenreich, Ludwig Heinrich
Mütherich, Florentine

Free University of Berlin

Dress, Andreas W. M.
Fischer, Wolfram
Fritz, Kurt von

Gaetgens, Thomas Wolfgang
Jehne, Wolfram
Kauffmann, Johannes
Knauer, Georg Nicolaus
Laue, Max von
Lepenies, Wolf D.
Nipperdey, Thomas H.
Stourzh, Gerald

German Archaeological Institute

Bittel, Kurt

Hannover Institute of Technology

Osten, Gert von der

Max Planck Society for the Advancement of Science

Biermann, Ludwig Franz Benedikt
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Symanzik, Kurt

Munich, Glyptothek and Antikensammlungen

Ohly, Dieter

National Museum of Nuremberg

Verheyen, Egon

Neuberg Abbey, Heidelberg

Eizenhöfer, Leo Alfons, O.S.B.

Technical University of Brunswick

Mennicke, Jens L.

University of Bielefeld

Enss, Volker
Fischer, Bernd
Kocka, Jürgen
Offe, Claus
Scharlau, Winfried Wilhelm
Zimmert, Rainer

University of Bonn

Bracher, Karl Dietrich
Curtius, Ernst Robert
Derbolav, Josef Lothar
Einem, Herbert von
Erle, Dieter Heinz
Frommel, Christoph Luitpold
Hasenjaeger, Gisbert
Hausserr, Reiner
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Jänich, Klaus Werner
Jantzen, Jens Carsten
Müller, Claus
Neumann, Walter David
Olivier, Reinhard Martin
Ossa, Erich
Poor, Walter Andrew
Schmid, Wolfgang

Straub, Johannes Anton
Triantafillou, Georgia Višnjić
Waldhausen, Friedhelm
Ziller, Wolfgang

University of Cologne

Scheuch, Erwin K.
Schieder, Theodor W.
Soreth, Marion

University of Düsseldorf

Mommsen, Wolfgang J.

University of Erlangen

Hirzebruch, Friedrich Ernst Peter
Leopoldt, Heinrich-Wolfgang
Stürmer, Michael

University of Frankfurt

Herde, Peter
Holzinger, Ernst Heinrich
Kraft, Konrad
Ludwig, Walther
Magnus, Wilhelm
Siegel, Carl Ludwig (F)
Steidle, Wolf

University of Freiburg

Klingen, Helmut P.
Nesselhauf, Herbert
Sauerländer, Willibald
Schuchhardt, Walter
Wolff, Hans Julius

University of Giessen

Buchholz, Hans-Günther

University of Göttingen

Braun, Hel
Christian, Ulrich Hans Richard Otto
Classen, Carl Joachim
Cohen, David Mordechai
Deuring, Max Friedrich
Joris, Henri E.
Klingenberg, Wilhelm P.
Kneser, Martin L.
Latte, Kurt
Riemenschneider, Oswald W.
Weyl, Hermann (F)

University of Hamburg

Borchers, Hans-Jürgen
Deining, Jürgen
Fischer, Fritz
Harder, Günter
Hecke, Erich
Herrmann, Peter
Jahn, Helmut Otto
Lehmann, Harry Paul
Oehler, Klaus Herbert
Pohlmeier, Klaus

Witt, Ernst

University of Heidelberg

Classen, Peter
Dold, Albrecht E.
Gerhardt, Claus
Görlner, Woldemar Ernst Heinrich
Habicht, Christian Herbert (F)
Hampe, Roland
Iakovidis, Spyros Eustace
Jensen, J. Hans D.
Lippgens, Walter
Puppe, Dieter
Roelcke, Walter O. P.
Seifert, Herbert
Simon, Erika

University of Karlsruhe

Jin, Yong-Son

University of Kiel

Lehmann, Hartmut R. W.
Lorenzen, Paul Peter Wilhelm
Mayer, Hans Eberhard
Wlosok, Antonie Elisabeth

University of Mainz

Brommer, Frank
Marg, Walter

University of Mannheim

Lepsius, Mario Rainer

University of Marburg

Errington, Robert Malcolm
Reidemeister, Kurt Werner Friedrich
Schilling, Otto Franz Georg
Wirsing, Eduard A.J.M.

University of Munich

Aumann, Georg
Bischoff, Bernhard
Forster, Otto F.
Roquette, Peter Jaques

University of Münster

Bremermann, Hans Joachim
Dorfmeister, Josef
Dörner, Friederich K.
Gerritzen, Lothar Georg
Grauert, Hans
Kauffmann, Georg
Sicherl, Martin
Spallek, Karlheinz

University of Regensburg

Knebusch, Manfred
Winzinger, Franz

University of the Ruhr

Alföldy, Géza

Institution of Origin

Meier, Christian
Mommsen, Hans

University of Tübingen

Hausmann, Ulrich
Stoll, Wilhelm Friedrich
Stroheker, Karl Friedrich

Greece

Acropolis Museum, Athens

Charitonides, Seraphim J.

American School of Classical Studies

Broneer, Oscar Theodore
Frantz, M. Alison
Grandjouan, Clairève
Palmer, Hazel
Philippaki, Barbara
Stamires, George A.
Travlos, John
Vanderpool, Eugene

Austrian Archaeological Institute

Raubitschek, Antony Erich

Byzantine Museum

Chatzidakis, Emmanuel

Epigraphical Museum

Mitsòs, Márkellos Th.

French School of Archaeology

Kahil, Lilly Louise

National Archaeological Museum

Papadimitriou, John
Yalouris, Nicholas

University of Athens

Marinatos, Spyridon

University of Ioannina

Petsas, Photios Michael

University of Thessaloniki

Bakalakis, Georgios Michael
Moutsopoulos, Evanghélou A.

Hong Kong

University of Hong Kong

Chan, Hong-Mo
Wong, Yung-Chow

Hungary

Academy of Science

Halász, Gábor

University of Budapest

Turán, Paul

India

Andhra University

Chandrasekharan, Komaravolu
Minakshisundaram, Subbaramiah

Calcutta University

Chakravarty, Amiya

Government College, Ludhiana

Chowla, Sarvadaman

Indian Statistical Institute

Srivastava, Shashi Mohan

Panjab University

Bambah, Ram Prakash

Tata Institute of Fundamental Research

Dani, Shrikrishna Gopal
Deodhar, Vinay Vithal
Gupta, Virendra
Mehta, Madan Lal
Narasimhan, Mudumbai S.
Narasimhan, Raghavan
Nori, Madhav Vithal
Parthasarathy, Rajagopalan
Prasad, Gopal
Raghavan, Srinivasacharya
Raghunathan, Madabusi Santanam
Ramachandra, Kankanahalli
Ramanan, Sundavaraman
Ramanathan, Annamalai
Ramanathan, K. Gopalaiyer
Rangachari, Sundaravaradan Srinivasa
Seshadri, Conjeeveram Srirangachari
Shorey, Tarlok Nath
Singh, Virendra
Udgaonkar, Bhalchandra Madhav

University of Delhi

Auluck, Faqir Chand
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University of Madras

Balachandran, Vadekke Kurupath
Radha, Thayyoor K.
Ramakrishnan, Alladi

Iran

Arya-Mehr University

Minbashian, Farshid

Teheran University

Ghaffari, Abolghassem
Hachtroudi, Mohsen

Ireland

Dublin Institute for Advanced Studies

Mautner, Friederich Ignaz

National University of Ireland

Canny, Nicholas P.

O'Meara, John Joseph

University of Dublin

Moody, Theodore William

Parke, Herbert William

Power, Sheila Christine

Wormell, Donald Ernest Wilson

Israel**American School of Oriental Research**

Glueck, Nelson

Department of Antiquities and Museums

Kahane, Penuel P.

Hebrew University

Amirà, Binyamin A.

Amitsur, Shimshon A.

Ayalon, David

Barag, Dan Pinhas

Barasch, Moshe

Ben-David, Joseph

Bregel, Yuri

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Grünbaum, Branko

Heyd, Michael

Jacoby, David

Kannai, Yakar Israel

Narkiss, Bezalel

Pinchuk, Bernard

Pines, Shlomo

Racah, Giulio

Shadmi, Yehuda

Talmon, Jacob Laib

Wasserstein, Abraham

Zabrodsky, Alexander

Technion-Israel Institute of Technology

Dothan, Moshe

Tel Aviv University

Banks, Thomas I.

Dothan, Yossef

Elitzer, Shmuel

Goldfeld, Dorian

Horn, David

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Libgober, Anatoly S.

Ne'eman, Yuval

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Treger, Robert

Yahil, Amos

Weizmann Institute

Avni, Yoram

Frishman, Yitzhak

Mandelbaum, Richard

Pekeris, Chaim Leib

Zeilberger, Doron

Italy**Astronomical Observatory, Merate Brera**

Hack, Margherita

Bibliotheca Hertziana, Rome

Lotz, Wolfgang

British School at Rome

Ward-Perkins, John B.

Galleria e Opere d'Arte, Bologna

Gnudi, Cesare

Galleria Nazionale d'Arte Moderne, Rome

Faldi, Italo

Italian Institute for the Middle and Far East

Tilia, Ann Britt Pettersson

National Institute of Nuclear Physics

Corinaldesi, Ernesto

Polytechnic Institute of Milan

Storchi, Edoardo

Turin Institute of Technology

Rasetti, Mario G.

University of Bologna

Cesari, Lamberto

Ginzburg, Carlo

Poni, Carlo

Segre, Beniamino

University of Calabria

Boskovits, Miklós

University of Florence

Banti, Luisa

Becatti, Giovanni

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Gregori, Mina G.

Salvini, Roberto

University of Genoa

Gherardelli, Francesco

Silva, Alessandro

University of Milan

Lucchini, Maria

Pizzorno, Alessandro De Giovanni

Ricci, Giovanni

Institution of Origin

University of Padua

Fedalto, Giorgio
Levi-Civita, Tullio
Puppi, Lionello

University of Pavia

Bertotti, Bruno

University of Perugia

Bertelli, Sergio
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University of Pisa

Baiada, Emilio
Bombieri, Enrico (F)
Gabba, Emilio G.
Giusti, Enrico
Laffi, Umberto
Radicati di Brozolo, Luigi A.
Tomozawa, Yukio

University of Rome

Andreotti, Aldo
Cabibbo, Nicola
Calogero, Guido
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University of Salerno

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University of Siena

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University of Trieste

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University of Turin

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Bassi, Achille
Bosco, Bernardino
Cracco, Lellia Ruggini
Fubini, Guido
Fubini, Sergio Piero
Jakšić, Borivoj
Regge, Tullio Eugene (F)
Verde, Mario

University of Venice

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Vatican Museum

Daltrop, Georg

Japan

Hiroshima University

Eguchi, Masaaki
Hotta, Ryoshi
Matumoto, Takao
Morinaga, Kakutaro
Suura, Hiroshi

Hitotsubashi University

Hosoya, Chichiro

Hokkaido University

Hida, Haruzo
Yamamoto, Kazuhiro
Yamamuro, Sadayuki
Yoshida, Tomoyuki

Japan Women's University

Minemura, Katsuhiko

Kanazawa University

Oneda, Sadao

Keio University

Indow, Tarow

Kobe University

Tanikawa, Yasutaka
Toda, Hiroshi

Kyoto University

Doi, Koji
Fujisawa, Norio
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Kawai, Takahiro
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Naganuma, Hidehisa
Nakanishi, Noboru
Nakano, Shigeo
Ohta, Masami

Kyushu University

Araki, Shōrō
Muto, Toshinosuke
Watanabe, Takesi

Nagoya University

Harada, Koichiro
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Ochanomizu University

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Nishi, Mieo

Osaka City University

Kawauchi, Akio
 Nagata, Jun-Iti
 Nakano, Tadao
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 Nambu, Yoichiro
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 Ono, Takashi

Osaka University

Akagawa, Yasumasa
 Anzai, Hirotada
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 Matsuda, Michihiko
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 Yamamoto, Yoshihiko
 Yosida, Kôzaku

Rikkyo University

Takahashi, Moto-o

Seikei University

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Sophia University

Yanase, Michael Mutsuo

Tohoku University

Sasaki, Shigeo
 Tannaka, Tadao
 Uchida, Kôji

Tokyo Institute of Technology

Yosida, Natuhiko

Tokyo Metropolitan University

Kato, Mitsuyoshi
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 Omori, Hideki

Tokyo University of Education

Hara, Yasuo
 Igi, Keiji
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 Sawada, Katuro

University of Tokyo

Asano, Taro
 Fukuda, Hiroshi
 Goto, Morikuni

Hijikata, Hiroaki
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 Itaka, Shigeru
 Ise, Mikio
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 Kawada, Yukiyosi
 Kawarabayashi, Ken
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 Kodaira, Kunihiko
 Kondo, Takeshi
 Kuga, Michio
 Kuroda, Wataru
 Maruyama, Masao
 Matsumoto, Yukio
 Miyazawa, Hironari
 Morita, Shigeyuki
 Morita, Yasuo
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 Oshima, Toshio
 Saito, Makoto
 Sasakura, Nobuo
 Satake, Ichiro
 Sato, Mikio
 Shimizu, Hideo
 Shimura, Goro
 Shintani, Takuro
 Suwa, Tatsuo
 Takeuchi, Masaru
 Takeuti, Gaisi
 Tamagawa, Tsuneo
 Tomonaga, Sin-itiro
 Yamazaki, Tadashi
 Yukawa, Hideki

University of Tsukuba

Iwasaki, Yoichi
 Takeuchi, Mitsuhiro

Yokohama City University

Homma, Tatsuo

Lebanon**American University of Beirut**

Kennedy, Edward Stewart
 Khuri, Nicola N.

Institut Français d'Archéologie

Schlumberger, Daniel
 Seyrig, Henri

Malta**University of Malta**

Luttrell, Anthony Thornton

Mexico**Centro de Investigación del IPN**

Institution of Origin

Gitler, Samuel
Ramírez de Arellano, Enrique
Rivaud, Juan-José

University of IberoAmerica

Warman, Arturo

University of Mexico

Mello, Pier Achille

Netherlands

Boymans Museum

Begemann, Egbert Haverkamp

Mathematical Centre, Amsterdam

Nijenhuis, Albert

Nijmegen University

Levelt, Willem T. M.

Organization for the Advancement of Pure Research

Lehning, Arthur

University of Amsterdam

Albada, Gale Bruno van
de Boer, Jan
Haspels, Caroline Henrietta Emilie
Kuiper, Nicolaas H.
Tijdeman, Robert

University of Groningen

Brascamp, Herrn Jan
Drijvers, Hendrik J. W.
Nijboer, Bernard R. A.
Os, Hendrick Willem van
Smoluchowski, Roman

University of Leiden

Beukers, Frits
Jaffe, Walter Joseph
Jastrow, Robert
Kampen, Nicolaas G. van
Kramers, Hendrik Anthony
Laan, Harry van der
Peters, Christiaan A. M.
Ven, Ton van de
Woltjer, Lodewyk

University of Utrecht

Dijk, Gerrit van
Gelder, Jan Gerrit van
Geyl, Pieter
Hugenholtz, Nicolaas Marinus
Ruijgrok, Theodorus W.
Springer, Tonny Albert

Nigeria

University of Ibadan

Babalola, Victor A.
Leslie, Joshua A.

Norway

Norwegian Research Council (NAVF)

Skjelbred, Tor

University of Oslo

Aubert, Karl Egil
Barricelli, Nils Aall
Hylleraas, Egil A.
Seeberg, Axel
Selberg, Henrik Ludvig
Selmer, Ernst Sejersted
Staver, Tor Böhm

University of Trondheim

Hofmeister, Gerd Rolf Ernst

Peru

University of San Marcos

Rosenblatt, Alfred

Poland

Academy of Sciences

Gęba, Kazimierz
Granás, Andrzej
Kuksewicz, Zdzislaw
Plezia, Marian
Słowikowski, Wojciech

Adam Mickiewicz University

Parnicki-Pudełko, Stefan

Jagellonian University

Bernhard, Marie Louise
Kalinowski, Lech
Łojasiewicz, Stanisław

University of Warsaw

Białostocki, Jan
Biezuńska-Małowist, Izabela
Borsuk, Karol
Dabrowski, Janusz
Günther, Marian W.J.
Jaworowski, Jan
Królikowski, Wojciech
Kuratowski, Kazimierz
Lijn, Gaston van der
Małowist, Marian
Mostowski, Andrzej
Plebanski, Jerzy
Woronowicz, Stanisław Lech

University of Wrocław

Łopuszanski, Jan Thaddeus

Rumania

Rumanian Academy

Burghelea, Dan
Moscovici, Henri

University of Bucharest

Pippidi, Dionis Michael

University of Timișoara

Lusztig, George

Saudi Arabia**University of Riyad**

Abdellatif, Refat Ahmed

South Africa**University of Cape Town**

Househam, Keith Ortlepp

University of Natal

Moodie, Thomas Dunbar

Spain**Council for Scientific Research (CSIC)**

Arce, J. Javier
Corominas, Ernesto

University of Barcelona

Nadal, Jordi

University of Madrid

Anes Alvarez, Gonzalo
Bachiller, Tomas Rodriques
Montesinos, José María
Ruiz-Martín, Felipe

Sweden**Göteborg University**

Åkerström, Åke Bertil
Düring, Ingemar
Holmberg, Erik John

Lund University

Gårding, Lars
Gjerstad, Einar
Hanner, Olof
Källén, Anders Olof Gunnar
Odhnoff, Jan Edvard
Östenberg, Carl Eric
Pleijel, Åke Vilhelm Carl

National Museum of Arts

Nordenfalk, Carl A. J.

Royal Institute of Technology

Asplund, O. Edgar

University of Stockholm

Björck, Göran

Bruno, Björn Arvid William
Hilding, Sven Herbert
Hörmander, Lars Valter (F)
Kiselman, Christer Oscar
Klein, Oskar Benjamin
Lech, Christer
Rådström, Hans Vilhem
Säflund, Lars G.
Schwabacher, Wilhelm H.

University of Uppsala

Beurling, Arne K. A. (F)
Carleson, Lennart A. E.
Nordström, Folke
Wallin, Hans

Switzerland**Classical College, Basel**

Fellmann, Rudolf

European Council for Nuclear Research (CERN)

Bjorken, James Daniel
Martin, André J.
Nuyts, Jean
Vinciarelli, Patrizio

Federal Institute of Technology (ETH)

Bernays, Paul
Borel, Armand (F)
Diamond, Harold G.
Enz, Charles Paul
Frölicher, Alfred Victor
Good, J. Anton
Habicht, Walter
Hepp, Klaus
Jost, Res W.
Luttinger, Joaquin Mazdak
Maumary, Serge
Pauli, Wolfgang
Poncet, Jean
Ruelle, David Pierre
Samelson, Hans
Specker, Ernst Paul
Speiser, David Rudolf
Steinmann, Othmar Viktor
Villars, Felix M. H.
Westwater, Michael John
Williams, David Noel

Humanistisches Gymnasium, Basel

Batschelet, Eduard

League of Nations

Fleming, John Marcus
Lindberg, John
Loveday, Alexander
Nurske, Ragnar
Weiller, Jean Sylvain

Institution of Origin

Schaffhausen State Archives

Lieb, Hans Wolfgang

University of Basel

Alföldi, Andrew E. Z. (F)
Eichler, Martin Maximilian Emil
Fierz, Markus
Guggisberg, Hans Rudolf
Huber, Heinz
Schäublin, Christoph
Schefold, Karl
Segall, Berta

University of Bern

Gelzer, Thomas Carl
Graeser, Andreas
Hahnloser, Hans Robert
Jucker, Hans
Mack, Gerhard
Thirring, Walter Eduard

University of Geneva

Berchem, Denis van
Dörig, José
Giovannini, Adalberto
Haefliger, André
Hausmann, Jean-Claude
Lavine, Richard B.
Maire, Henri-Michel
Olechowska, Elzbieta
Paschoud, François
Ronga, Felice L. L.
Ruegg, Henri E.
Weber, Claude Alain

University of Lausanne

Béranger, Jean
Ducrey, Pierre B.
Eckmann, Beno
Jeanquartier, Pierre
Rham, Georges de

University of Neuchâtel

Knoepfler, Denis

University of Zurich

Rufener, Ernst
Strebel, Kurt O.
Wehrli, Fritz
Wyler, Armand

Vindonissa-Museum Brugg

Moosbrugger-Leu, Rudolf

Turkey

British Institute of Archaeology

Gough, Michael Richard Edward

Middle East Technical University

Erder, Cevat

Ikeda, Masatoshi G.

Robert College

Arf, Cahit

University of Ankara

Alisbah, Orhan H.
Özgüç, Nimet
Özgüç, Tahsin

University of Istanbul

Bean, George Ewart
Gürsey, Feza
Inan, Jale

United Kingdom

Bank of England

Mynors, Sir Humphrey Charles Baskerville

British Museum

Corbett, Peter E.
Kent, John Philip Cozens

Cambridge University

Adams, John Frank
Atiyah, Michael Francis (F)
Baker, Alan
Besicovitch, Abram S.
Blandford, Roger D.
Brink, Charles Oscar
Burkill, John Charles
Butterfield, Sir Herbert
Camps, William Anthony
Candlin, David John
Chang, Tsung Sui
Crawley, Charles William
Dodwell, Charles R.
Duncan-Jones, Richard Phare
DuVal, Patrick
Eden, Richard John
Edwards, Samuel Frederick
Eliezer, Christie Jayaratnam
Flicker, Yuval Zvi
Fox, Geoffrey Charles
Goddard, Peter
Gordon, Cameron McAllan
Green, Michael Boris
Hammond, Nicholas Geoffrey Lempriere
Hardy, Godfrey H.
Hawthorn, Geoffrey
Ingham, Albert Edward
Lapedes, Alan S.
Laslett, Thomas Peter Ruffell
Leigh, Ralph Alexander
Longair, Malcolm Sim
Matthews, Paul Taunton
McDonald, A. H.
Mestel, Leon
Montgomery, Hugh L.
Morris, Geoffrey Christopher
Newman, Maxwell Herman A.

Pars, Leopold Alexander
 Peck, Arthur
 Pedoe, Daniel
 Perry, Malcolm John
 Polkinghorne, John Charlton
 Postan, Sir Michael
 Rattansi, Pyarally M.
 Rees, Martin John
 Renner, Bruno Karl
 Roberts, Keith Varden
 Robinson, Ronald E.
 Rourke, Colin Patrick
 Salam, Abdus
 Sciama, Dennis William
 Skinner, Quentin Robert Duthie
 Smithies, Frank
 Squires, Gordon Leslie
 Stone, Arthur Harold
 Stone, John Richard Nicholas
 Tagg, Eric Donovan
 Taha, Mahgoub O.
 Taylor, John Gerald
 Thistlethwaite, Frank
 Thompson, John G.
 Thomson, David
 Tremaine, Scott Duncan
 Twitchett, Denis Crispin
 Wall, Charles T.C.
 Ward, Augustus John
 Woodhead, Arthur Geoffrey
 Wrigley, Edward Anthony
 Zeeman, Erik Christopher

Culham Laboratory

Taylor, John Bryan

London University

Allen, Harry Cranbrook
 Audley, Robert John
 Balme, David Mowbray
 Barron, John Penrose
 Bluck, Richard Stanley Harold
 Booth, Andrew Donald
 Brown, Thomas Julian
 Buchthal, Hugo H.
 Burgess, Alan
 Cameron, Averil Millicent
 Crow, John W.
 Dore, Ronald
 Elliott, John Huxtable (F)
 Ettliger, L. D.
 Furley, David John
 Gilsenan, Michael Cole
 Goodwin, Geoffrey Lawrence
 Graham, Gerald Sandford
 Handley, Eric Walter
 Harvey, William James
 Henning, Walter B.
 Hillgarth, Jocelyn N.
 Hirst, David Michael
 Hopkins, Keith Morris
 Hunt, John Dixon

Johnson, Francis Edward Anthony
 Johnson-Laird, Philip Nicholas
 Joll, James B.
 Lewis, Bernard
 Long, Anthony Arthur
 Newman, John Arthur
 Pagden, Anthony Robin Dermer
 Pugh, Ralph Bernard
 Robbins, Lionel (Lord Robbins)
 Rogers, Claude Ambrose
 Rubinstein, Nicolai
 Shearman, John K. G.
 Skutsch, Otto
 Stanley, Gertrude Katherine
 Stevens, Philip Theodore
 Thomas, Charles Benedict
 Turner, Eric Gardner
 Webster, Sir Charles
 Webster, Thomas B. L.
 Weiss, Paul
 Wilton-Ely, John
 Winnington-Ingram, Reginald Pepys
 Wormald, Francis
 Zarnecki, George

Middlesex Polytechnic Institute

Grattan-Guinness, Ivor

National Gallery

Davies, Martin

National Institute of Economic & Social Research

Hall, Sir Noel
 Stone, Feodora

Oxford University

Ackrill, John Lloyd
 Andrewes, Antony
 Barker, S. Ross
 Barnes, Jonathan
 Barton, Gabriel
 Beloff, Max
 Bond, Godfrey William
 Briggs, Asa (Lord Briggs)
 Clark, Peter Alan
 Clay, Sir Henry
 Collins, Michael John
 Davies, Edward Brian
 Deakin, Sir William
 Donovan, Peter Windeyer
 Fowler, Alastair David Shaw
 Gilbert, Margaret Patricia
 Hancock, Sir William Keith
 Harrison, Francis Llewellyn
 Higman, Graham
 Hitchin, Nigel James
 Hodgkin, Luke Howard
 Hoey, Allan Spencer
 Holmes, George Arthur
 Jacob, Ernest Fraser
 James, Ioan Mackenzie

Institution of Origin

Jeffery, Lilian Hamilton
Lepper, Francis Alfred
Lewis, David Malcolm
Lewis, John Trevor
Macdonald, Ian Grant
Mack Smith, Denis
Mackesy, Piers Gerald
Millar, Fergus Graham B.
Min, Szu-Hoa
Minio-Paluello, Lorenzo
Morava, Jack Johnson
Myres, John Nowell Linton
Nicholas, Herbert George
Pächt, Otto
Rees, David Arthur
Reynolds, Leighton Durham
Roberts, Colin Henderson
Roberts, John Morris
Robertson, C. Martin
Robinson, Richard
Sacerdote, George S.
Segal, Graeme
Seton-Watson, Christopher Ivan William
Steer, Brian
Stone, Lawrence
Sumner, Benedict Humphrey
Sutherland, Sir Carol Humphrey Vivian
Temple, George Frederick James
Trypanis, Constantine Athanasius
Vickers, Michael
Wade-Gery, Henry T.
Waismann, Friedrich
Walzer, Richard R.
Ward, John Clive
Whitehead, John Henry Constantine
Woodward, Sir (Ernest) Llewellyn (F)

Queen's University of Belfast

Astin, Alan Edgar
Bossy, John Antony
Smallwood, E. Mary
Talbert, Richard John Alexander
Williamson, John Hunter

Royal Institute of International Affairs

Toynbee, Arnold Joseph

Southampton University

Riley, Robert Freed
Sparkes, Brian Allison

University College of North Wales

Wycherley, Richard Ernest

University of Aberdeen

Baxendale, Peter Herbert

University of Birmingham

Campbell, Alexander Elmslie
Court, William Henry B.
Dalitz, Richard Henry

Feldman, Gordon
Hopkins, Antony Gerald
Lewin, Moshe
Peierls, Ronald F.
Peierls, Sir Rudolf Ernst
Valatin, John George

University of Bristol

Griffiths, Hubert Brian
Shepherdson, John Cedric

University of Cardiff

Hooley, Christopher

University of Durham

James, Mervyn Evans
Skemp, Joseph Bright
Thomas, John David

University of East Anglia

Kennedy, Paul Michael

University of Edinburgh

Barnes, Stanley Barry
Green, Herbert Sydney
Hudson, Liam
Isard, Stephen David
Robertson, Giles H.
Ruse, Harold Stanley

University of Exeter

Medlicott, William Norton

University of Glasgow

Burn, Andrew Robert
Checkland, Sydney George
Moran, Siegfried

University of Hull

Rees, Elmer G.
Roll, Eric

University of Lancaster

Fox, Robert
Osborne, Michael John

University of Leeds

Arnott, William Geoffrey
Chapman, Guy Patterson
Clark, Timothy James
de Russett, Alan W.
Ravetz, Jerome R.

University of Liverpool

Rhodes, Frank
Schwarzenberger, Rolph Ludwig Edward
Walbank, Frank William

University of Manchester

Bowman, Alan Keir

Erdős, Paul
 Green, James Alexander
 Kahn, Franz Daniel
 Mahler, Kurt
 Todd, John Arthur
 Zuntz, Günther

University of Newcastle-upon-Tyne

Reiter, Hans
 Saunders, Trevor John

University of Nottingham

Jones, Antony J.
 Smart, P. Alastair M.

University of Reading

Kreisel, Georg
 Lyttelton, N.A.O.

University of Sheffield

Sharp, Rodney Yorke

University of St. Andrews

Black, Matthew
 Kidd, Ian Gray
 Mitford, Terence B.

University of Sussex

Burke, Peter
 Swierczkowski, Stanislaw Slawomir
 Winch, Donald Norman

University of Warwick

Carter, Roger William
 Guckenheimer, John
 Harrison, Jenny
 McCrory, Clinton Graydon
 O'Brian, Nigel Robert
 Rees, S. Mary
 Sanderson, Brian Joseph
 Seymour, Robert M.
 Tall, David Orme

University of York

Aylmer, Gerald Edward
 McDuff, Dusa Waddington

Wallace Collection

Watson, Sir Francis

Winchester College

Partner, Peter David

USSR

Lenin Pedagogical Institute

Novodvorsky, Mark Eugenievich

Leningrad University

Andrianov, Anatolii N.

Ukranian Physical-Technical Institute

Podolsky, Boris

University of Lwow

Infeld, Leopold

Venezuela

Central University of Venezuela

Sadosky, Cora S.

Yugoslavia

University of Ljubljana

Šašel, Jaroslav
 Vrabc, Jože

University of Zagreb

Kurepa, Djuro R.
 Mardešić, Sibe
 Miličić, Dragan
 Petrović, Gajo
 Rendić-Miočević, Duje

Appendix B

Current Geographical Location of Members

Explanatory Notes

This appendix lists members according to their current location, with the first section naming the institution of current affiliation and the second part, beginning on page 477, showing city of location for those not affiliated with a specific institution. The list includes organizations such as the Los Alamos Scientific Laboratory and the Council on Foreign Relations as well as academic institutions. A former director, former faculty and permanent members no longer at the Institute are named and designated by (D), (F) and (PM) following the name. Current faculty are excluded from the Institute listing; only members with long term appointments are named. Members with the rank of professor emeritus are as a rule listed at their academic institution rather than at their current mailing address, which may be geographically removed from the institution. An asterisk following a name means the person did not respond to the questionnaire and the information may not be accurate.

In the first section, institutions in the United States are listed first in alphabetical order by state, followed by foreign countries and institutions. Names of foreign institutions have, wherever possible, been anglicized but well known initials have been retained in parentheses. For example the Eidgenössische Technische Hochschule in Zurich is listed as the "Federal Institute of Technology (ETH)." Of the large university systems, only California and New York have listings for the separate branches. Space limitations made it impractical to do the same for all the various systems.

Unaffiliated members are listed by city of residence or business, with the United States first, followed by foreign countries.

Appendix B

Current Geographical Location of Members

Institution of Affiliation

United States

Alabama

Auburn University

Kozlowski, George A., Jr.

University of Alabama

Bartlett, James Holly

Goodall, Marcus Campbell

Halpern, James Daniel

Arizona

Arizona State University

Golubitsky, Martin

Kelly, John Beckwith*

University of Arizona

Babcock, Barbara A.

Basso, Keith Hamilton

Patrascioiu, Adrian N.

Schechter, Paul*

Weinstein, Donald

California

California Institute of Technology

Aschbacher, Michael George

Blandford, Roger D.

Christy, Robert Frederick

Conn, Jack Frederick

Farrar, Glennys Reynolds

Fox, Geoffrey Charles

Gell-Mann, Murray*

Goldberger, Marvin L.

Greenstein, Jesse Leonard

Hall, Marshall, Jr.

Hasslacher, Brosl

Ryser, Herbert John

Taussky-Todd, Olga

Todd, John*

California Polytechnic State University

Milliken, Keith R.

California State University, Dominguez Hills

Larmore, Lawrence L.

California State University, Hayward

Fernandez-Santamaria, Jose A.

California State University, Northridge

Steinberg, Maria Alice

Claremont Graduate School

James, Robert Clarke

Williamson, Robert E.

Zawodny, J. K.

Lawrence Berkeley Laboratory

Curtis, Richard Bertram

Lepore, Joseph Vernon

Lawrence Livermore Laboratory

Lee, Edward Prentiss

Loma Linda University

Austin, George Allen*

Naval Postgraduate School

Bleick, Willard Evan

Occidental College

Barnes, Mabel Schmeiser

Stanford Linear Accelerator Center

Snyderman, Neal J.*

Weinstein, Marvin*

Stanford University

Bailey, Thomas A.

Bar-Gadda, Uzi Y.

Cohen, Paul J.

Craig, Gordon Alexander

Cronbach, Lee Joseph

Ferferman, Solomon

Field, Alexander James

Gerhardt, Claus

Gilman, Frederick Joseph

Herring, Conyers

Inkeles, Alex

Knorr, Wilbur Richard

Kreisel, Georg*

Li, Peter W.-K.*

Mittal, Yashaswini Deval

Ornstein, Donald S.

Paret, Peter

Pearson, Lionel

Phillips, Ralph S.

Raubitschek, Antony Erich

Rosaldo, Michelle Zimbalist

Rosaldo, Renato Ignacio

Royden, Halsey Lawrence

Samelson, Hans

Spitz, Lewis William

Wright, Gordon

Yau, Shing-Tung

Zafran, Misha

University of California, Berkeley

Addison, John West, Jr.*

Alpers, Svetlana Leontief

Arons, Jonathan

Bardakci, Korkut*

Bellah, Robert N.*

Bendix, Reinhard
 Bisson, Thomas Noel
 Blackwell, David
 Bourne, Samuel G.
 Bremermann, Hans Joachim
 Brucker, Gene A.
 Chern, Shiing-Shen*
 Chew, Geoffrey Foucar
 Chiang, Po-Chu
 Ciriacy-Wantrup, Siegfried von
 Cooter, Robert D.
 Ettliger, L. D.*
 Gruen, Erich Stephen
 Halpern, Martin Brent
 Harrison, Jenny
 Helson, Henry
 Henkin, Leon Albert
 Henning, Walter B.*
 Hermassi, Elbaki*
 Hermassi, Karen C.*
 Hirsch, Morris William
 Joglekar, Satish D.*
 Karplus, Robert
 Kelley, John L.*
 Kerckhoff, Steven Paul*
 Kirby, Robion Cromwell
 Kobayashi, Shoshichi
 Lanford, Oscar Erasmus, III
 Lawson, H. Blaine, Jr.
 Lehmer, Derrick Henry
 McKenzie, Ralph
 Moerbeke, Pierre van*
 Moore, Calvin C.
 Morrey, Charles Bradfield, Jr.
 Mueller, Alfred H.*
 Ogg, Andrew P.
 Papanicolaou, Nicolas
 Partridge, Loren Wayne
 Postman, Leo J.*
 Pritchett, W. Kendrick
 Protter, Murray H.
 Rhodes, John L.*
 Sarason, Donald Erik
 Satake, Ichiro
 Silk, Joseph Ivor
 Singer, Isadore M.*
 Smale, Stephen
 Spanier, Edwin H.
 Stallings, John Robert, Jr.*
 Starn, Randolph*
 Sulloway, Frank Jones, II
 Suzuki, Mahiko
 Taub, Abraham Haskel
 Thomas, Paul Emery*
 Trow, Martin Aaron
 Wagoner, John B.
 Watson, Kenneth Marshall
 Weinstein, Alan David
 Wichmann, Eyvind Hugo
 Wolf, Joseph A.
 Wu, Hung-His
 Zadeh, Lotfi A.*

University of California, Davis

Goldberg, Victor Paul
University of California, Irvine
 Bauer, George C.*
 Fried, Michael D.
 Kalisch, Gerhard K.
 Kunze, Ray A.
 Resnikoff, Howard L.
 Tai, Yung-Sheng*
 Tucker, Howard Gregory
 Yellott, John Ingle, Jr.*

University of California, Los Angeles

Arens, Richard F.
 Babbitt, Donald G.
 Beckenbach, Edwin Ford
 Benson, Robert Louis*
 Brenner, Robert P.
 Burns, Robert I., S.J.
 Byers, Nina
 Chang, Chen Chung
 Church, Alonzo
 Clement, Paul A.*
 Cornwall, John Michael
 De Sapio, Rodolfo Vittorio
 Dye, Henry Abel
 Edwards, Robert Duncan
 Giesecker, David
 Green, John W.
 Greene, Robert Everist
 Grossman, Nathaniel
 Haboush, William J.*
 Hatcher, Allen Edward
 Horn, Alfred
 Hu, Sze-Tsen
 Katz, Jonathan Isaac
 Kuriyan, Jacob George*
 Ladner, Gerhart Burian
 Sakurai, Jun John
 Sario, Leo Reino
 Steinberg, Robert
 Straus, Ernst Gabor
 Trombi, Peter C.*
 Ulrich, Roger Keith
 Varadarajan, Veeravalli Seshadri
 White, Lynn, Jr.

University of California, Riverside

Jones, Floyd Burton
 Rao, Malempati M.
 Shapiro, Victor L.

University of California, San Diego

Bishop, Errett A.*
 Brueckner, Keith Allan
 Enright, Thomas J.
 Fillmore, Jay Paul
 Frankel, Theodore T.
 Frazer, William R.
 Freedman, Michael H.
 Gonsalves, Richard John
 Hughes, H. Stuart
 Kroll, Norman Myles*
 Ma, Shang-Keng
 Rumelhart, David Everett*

Current Geographical Location

Scobie, James R.
Thompson, William Bell
Wong, David Y.
University of California, Santa Barbara

Drake, Harold Allen
Ernest, John Arthur
Fan, Ky
Halmos, Paul R.*
Hartle, James B.
Kelly, Paul Joseph
Leipnik, Roy Bergh*
Lewis, Harold W.
Pearson, Robert Bernard, III
Sawyer, Raymond Francis*
Scharlemann, Martin George
Smolin, Lee*
Talbot, John Edwin
Weiss, Max L.
Wilder, Raymond Louis

University of California, Santa Cruz

Errington, Shelly Elizabeth*
Guckenheimer, John
Nauenberg, Michael
Osterbrock, Donald E.
Tromba, Anthony J.
Widom, Harold

University of Southern California

Busemann, Herbert
Dales, Richard Clark
Day, Richard H.
Frel, Jifí
Whiteman, Albert Leon

Colorado

High Altitude Observatory

Zweibel, Ellen Gould

Plasma Research Institute

Catto, Peter James

University of Colorado

Hawkins, David
Jones, Burton W.
Mahanthappa, Kalyana T.
Reinhardt, William Nelson
Ross, Randy Richard
Schmidt, Wolfgang M.

Connecticut

Connecticut College

Cranz, F. Edward

University of Connecticut

Markoe, Andrew Guy*
Ryff, John Vincent
Tolimieri, Richard*

Wesleyan University

Arthur, Marilyn Bentley
Lebergott, Stanley
Reddy, William Lawrence

Yale University

Appelquist, Thomas W.
Apter, David E.
Bars, Itzhak
Bernstein, Ira Borah
Conklin, Harold C.

Dwyer, William G.*
Feit, Walter
Garland, Howard
Gatzke, Hans Wilhelm
Gürsey, Feza
Healy, James Bruce
Hedlund, Gustav Arnold
Howe, Roger Evans
Jacobson, Nathan
Kakutani, Shizuo*
Lang, Serge
Lee, Ronnie
Linz, Juan J.
MacDowell, Samuel W.
Macintyre, Angus John
MacMullen, Ramsay
Margenau, Henry
Mostow, George Daniel
Price, Derek de Solla
Seligman, George Benham
Szczarba, Robert H.
Tamagawa, Tsuneo*
Tedesco, Paul Maximilian
Zuckerman, Gregg Jay

Delaware

University of Delaware

Kirchner, Walther

District of Columbia

Catholic University of America

Wallace, William Augustine

Defense Department

Leibler, Richard Arthur

Dumbarton Oaks

Szöverffy, Joseph

Georgetown University

Shahid, Irfan A.

Navy Department

Lepson, Benjamin

Florida

Florida State University

Andrews, James Joseph*

Bryant, John L.

Bucher, François

Harrold, Orville G., Jr.

Kinoshita, Shin'ichi

Lacher, Robert Christopher

Speisman, Gerald

Sumners, De Witt Lee

University of Florida

Hale, Mark Pendleton, Jr.

Long, Robert L.

Ulam, Stanislaw M.

Wilson, David C.

Woodruff, William

University of Miami

Connell, Edwin H.

Hertzog, David

Mielke, Marvin V.

Myerson, Robert James*

University of South Florida

Goodman, Adolph Winkler

Georgia

Emory University

Major, James Russell

Georgia State University

Baylen, Joseph O.

Oglethorpe University

Raphael, Robert B.

University of Georgia

Brahana, Thomas R.

Cantrell, James C.

Edwards, Charles H., Jr.

Galewski, David E.*

Hollingsworth, John G.*

Pittie, Harsh V.*

Shyr, Jih-Min*

Hawaii

University of Hawaii

Bitterman, Morton E.

Hanf, William Porter

Lampe, William Austyn

Littman, Robert J

Pakvasa, Sandip

Tuan, San Fu

Illinois

Fermi Laboratory

Abarbanel, Henry Don Isaac

Bardeen, William A.

Elitzer, Shmuel*

Illinois Institute of Technology

Tung, Wu-Ki

Wilcox, L. R.

Knox College

Stephens, Rothwell

Monmouth College

Converse, George A.

Newberry Library

Baron, Hans

Northwestern University

Allen, Reginald E.

Breckenridge, James D.

Breen, Timothy Hall

Brown, Laurie Mark

Devinatz, Allen

Givens, James Wallace, Jr.

Grau, Albert A.

Leopold, Richard William

Leslie, Joshua A.

Martin, Richard Milton

Matlis, Eben

Oakes, Robert J.

Roebuck, Carl A.

Sheehan, James J.

Siegert, Arnold John Frederick

Silver, Larry Arnold

Ver Steeg, Clarence L.

Webster, J. Carson

Wiebe, Robert H.

Williams, Robert Fones

Zelinsky, Daniel

Southern Illinois University

Fronzizi, Risieri

Livingston, Marilyn L.*

Nathanson, Melynn Bernard

University of Chicago

Alperin, Jonathan L.

Baily, Walter Lewis, Jr.

Baker, Keith Michael

Browder, Felix

Calderón, Alberto Pedro

Chandrasekhar, Subrahmanyam

Debevoise, Neilson C.*

Debus, Allen George

Dembowski, Peter Florian

Freund, Peter George Oliver

Glauber, George Isaac

Inden, Ronald B.

Kaegi, Walter E., Jr.*

Kaplan, Lewis David

Kaplansky, Irving

Kirshner, Julius

Krieger, Leonard

Lashof, Richard K.

Liulevicius, Arunas L.

Lowinsky, Edward E.

May, J. Peter

McNeill, David

Morrison, Karl*

Nambu, Yoichiro

Oehme, Reinhard

Phillips, Melba N.

Putnam, Alfred L.

Ross, Braxton

Sally, Paul Joseph, Jr.*

Silverstein, Theodore

Stinespring, William Forrest*

Swerdlow, Noel M.

Zolberg, Aristide Rodolphe

University of Illinois

Albrecht, Felix Robert

Bateman, Felice Davidson

Bateman, Paul Trevier

Berndt, Bruce Carl

Boone, William Werner

Cairns, Stewart Scott

Chang, Shau-Jin

Chen, Kuo-Tsai

Craggs, Robert F.

Day, Mahlon Marsh

Diamond, Harold G.

Doob, Joseph Leo

Gray, John Walker

Gugenheim, Victor K. A. M.*

Haken, Wolfgang

Howard, William A.*

Janusz, Gerald Joseph

Kamber, Franz W.

Ketchum, Pierce W.

Knight, Frank Bardsley

Kogut, John Benjamin

Current Geographical Location

Li, Wen-Ching Winnie
Libgober, Anatoly S.
Licht, Arthur Lewis
Lin, Charles S. C.
Moreno, Carlos Julio
Pines, David*
Queller, Donald Edward
Rao, R. Ranga*
Ravenhall, David Geoffrey*
Reiner, Irving
Rickert, Neil William*
Rickert, Yao-Chun Yen*
Rubel, Lee A.
Shimkin, Demetri Boris
Stewart, John O.
Stolarsky, Kenneth B.
Suzuki, Michio
Tait, William Walker, III*
Takeuti, Gaisi
Tartakoff, David S.
Uhlenbeck, Karen*
Ullom, Stephen Virgil
Wagreich, Philip Donald
Walter, John H. Wood, John William

Indiana

Indiana University

Bagby, S. Thomas, Jr.*
Brothers, John Edwin
Buehrig, Edward H.
Byrnes, Robert F.
Chadam, John Martin
Downey, Glanville
Edmonds, Allan Lee
Grant, Edward
Gustin, William Sharp*
Jaworowski, Jan
Kulkarni, Ravi S.
Lenard, Andrew
Mullins, Nicholas C.
Newton, Roger Gerhard
Pflanze, Otto Paul
Rabinowitch, Alexander
Sonneborn, Tracy M.
Stegenga, David Allen
Strauss, Gerald
Thomas, Tracy Yerkes
Torchinsky, Alberto

Purdue University

Balázs, Louis Attila Peter
Branges, Louis de
Clark, Allan H.
Goffman, Casper
Jerison, Meyer
Kaplan, Samuel
Knapp, Robert E.*
Lipshitz, Leonard Michael
Maire, Henri-Michel
Moh, Tzuong-Tsieng
Neugebauer, Christoph J.
Novodvorsky, Mark Eugenievich
Pollard, Harry

Price, Justin Jesse
Protter, Philip E.
Putnam, Calvin Richard
Rubin, Herman*
Schultz, Reinhard Edward
Shahidi, Freydoon
Shanks, Merrill Edward
Shu, Shien Siu
Silverman, Edward
Tong, Yue-Lin Lawrence
Wang, John S. P.
University of Notre Dame
Bose, Samir Kumar
Gabriel, Astrik L.
Nadel, Mark Edward
O'Meara, O. Timothy
Sommese, Andrew John
Stoll, Wilhelm Friedrich

Iowa

Iowa State University

Pursey, Derek L.*
University of Iowa
Aydelotte, William Osgood
Boals, Alfred John*
Dankner, Alan
Giesey, Ralph E.
Klink, William H.
Kutzko, Philip C.*
Spitzer, Alan B.

Kansas

Kansas State University

Shult, Ernest E.
Summerhill, R. Richard
University of Kansas
Liang, Chao-Chu
Mostert, Paul Stallings
Moyer, Robert D.
Roitman, Judith
Salinas, Norberto

Kentucky

University of Kentucky

Chapman, Thomas A.*
Eastwood, Bruce Stansfield
Ferry, Steven Charles
McCord, Michael Campbell
Royster, Wimberly Calvin
Wells, James H.*
University of Louisville
Bier, Justus

Louisiana

Louisiana State University

Anderson, Richard Davis
Conner, Pierre Euclide, Jr.
Pall, Gordon
Wade, Luther Irwin, Jr.*
Tulane University
Clifford, Alfred H.

Goldstein, Jerome A.
Hofmann, Karl Heinrich

Maine

Bowdoin College

Fay, John David
University of Maine
Pogorzelski, Henry Andrew

Maryland

Goucher College

Bernstein, Dorothy Lewis

Johns Hopkins University

Chow, Wei-Liang
Cohn, Leslie
Feldman, Gordon
Follin, James Wightman, Jr.
Forster, Robert
Fulton, Thomas
Goldthwaite, Richard A.
Greene, Jack P.
Higham, John
Igusa, Jun-ichi
Kagan, Richard Lauren
Kessler, Herbert Leon
Lewis, Daniel Clark, Jr.
Markle, Minor M., III*
Menikoff, Arthur
Mintz, Sidney Wilfred
Morava, Jack Johnson*
Ono, Takashi
Ranum, Orest Allen
Richter, Curt Paul
Sampson, Joseph Harold
Shalika, Joseph Andrew*
Shiffman, Bernard
Walker, Mack
Wilson, W. Stephen
Yamaguchi, Hiroyuki*
St. John's College
Brann, Eva T. H.
Ruhm von Oppen, Beate
University of Maryland
Adams, William Wells
Chang, Sun-Yung
Chen, Hsing-Hen
Cohen, Leon W.*
Dragt, Alexander James
Dribin, Daniel Maccabaeus
Greenberg, Oscar Wallace
Heins, Maurice Haskell
Herb, Rebecca Ann
King, Henry Churchill
Kudla, Stephen S.*
Levitine, George*
Liu, Chuan-Sheng
Neumann, Walter David
Niebur, Douglas P.*
Oneda, Sadao
Pati, Jogesh C.
Prange, Richard E.
Shapere, A. Dudley*

Snow, George Abraham
Theilheimer, Feodor
Weber, Joseph
Winkelkemper, Horst Elmar
Woo, Ching-Hung
Yang, Paul C. P.

Massachusetts

Amherst College

Birnbaum, Norman

Boston University

Corinaldesi, Ernesto
Edgerton, Samuel Youngs, Jr.
Lee, Robert

Brandeis University

Adler, Allan Russell*
Auslander, Maurice*
Berkowitz, David Sandler
Brown, Edgar Henry, Jr.
Buchsbaum, David A.
Deser, Stanley
Goldstein, Jack S.
Manuel, Frank E.
Palais, Richard Sheldon
Schwarz, Gerald Walter
Smith, A. Mark*
Spivak, Michael D.*

Clark University

Cline, Edward Thomas, Jr.
Lucas, Paul
Srinivasan, Bhama

Hampshire College

Bernstein, Herbert J.

Harvard University

Ahlfors, Lars Valerian
Banyaga, Augustin*
Birkhoff, Garrett
Bloomfield, Morton Wilfred
Bott, Raoul
Cavell, Stanley Louis
Colglazier, Elmer William, Jr.
Coolidge, John Phillips
Donald, David Herbert
Draine, Bruce T.*
Eichten, Estia Joseph
Flannery, Brian Paul
Ford, Franklin Lewis
Gleason, Andrew M.
Griffiths, Phillip A.
Hanfmann, George Maxim Anossov
Heimert, Alan E.*
Hiebert, Erwin Nick
Hironaka, Heisuke
Holmes, Stephen Taylor
Holton, Gerald
Hu, Bei-Lok
Jaffe, Arthur M.
Kitzinger, Ernst
Leibenstein, Harvey*
Lieberman, Judy
Luce, R. Duncan
Mackey, George Whitelaw

Current Geographical Location

Mandelbrot, Benoit B.
Mayr, Ernst
Mazur, Barry C.
Mumford, David Bryant*
Nagy, Gregory
Östör, Ákos
Oberhuber, Konrad Johannes
Patterson, Orlando Horace
Quine, Willard Van Orman
Rawls, John*
Riesman, David*
Ševčenko, Ihor
Schmid, Wilfried
Siegel, Warren David*
Smyth, Craig Hugh
Tate, John T.*
Wald, George
Wu, Tai Tsun
Yau, Stephen Shing-Toung
Zariski, Oscar

Massachusetts Institute of Technology

Ambrose, Warren*
Ankeny, Nesmith Cornett*
Charney, Jule G.
Chomsky, A. Noam
Coppi, Bruno
Durand, David
Goldfeld, Dorian
Graham, Loren R.
Guillemin, Victor
Held, Richard
Helgason, Sigurdur
Huang, Kerson
Joss, Paul Christopher
Kashiwara, Masaki*
Kaysen, Carl (D)
Kindleberger, Charles Poor
Kostant, Bertram
Krolik, Julian Henry
Lin, Chia-Chiao
Low, Francis E.
Lusztig, George
Martin, William Ted
Mazlish, Bruce
Melrose, Richard B.*
Millon, Henry Armand
Orszag, Steven A.
Quillen, Daniel G.*
Schafer, Richard Donald
Segal, Irving Ezra
Stark, Harold Mead*
Sze, Alexander
Toomre, Alar
Vogan, David Alexander, Jr.
Yellin, Joel

Mount Holyoke College

Dean, Ruth J.
Johnson, Kent W.

Northeastern University

Arnowitt, Richard Lewis
Sherman, Thomas Oakley*

Smith College

Asimov, Daniel Alan
Elkins, Stanley Maurice
Lazerowitz, Alice Ambrose
Little, Lester K.
McCoy, Neal H.

Southeastern Massachusetts University

Huff, Toby E.

Tufts University

Gutiérrez, Mauricio Alvarez
University of Massachusetts

Benson, Jack Leonard
Berger, Melvyn S.*
Blattner, Robert James*
Chen, Yu Why
Cohen, Haskell
Edwards, Richard C.
Gaffney, Matthew P.*
Gintis, Herbert M.
Humphreys, James E.

Ku, Hsu-Tung

Lowry, Bates*

Mann, Larry N.

Morris, Robert A.

Munn, Nancy*

Stone, Marshall Harvey

Su, Jin-Chen

Wellesley College

Schafer, Alice Turner

Williams College

Held, Julius S.

Park, David Allen

Richmond, Donald Everett

Spencer, Guilford L., II*

Winston, Gordon Chester

Woods Hole Oceanographic Institute

Stommel, Henry Melson

Michigan

Calvin College

Venema, Gerard A.

Kalamazoo College

Calloway, Jean Mitchener

Michigan State University

Chojnacki, Stanley J.

Frame, James Sutherland

Handel, Michael

Kwun, Kyung Whan

Nathan, Hans

Rood, Herbert Jesse

University of Michigan

Becker, Marvin B.*

Bien, David Duckworth

Brown, Morton

Burns, Daniel Matthew

Cesari, Lamberto

Duren, Peter Larkin

Eisenberg, Marvin

Federbush, Paul Gerard

Fiedorowicz, Zbigniew*

Forsyth, George Howard, Jr.

Forsyth, Ilene H.

Griess, Robert Louis, Jr.

Harary, Frank
 Hollinger, David A.
 Kister, James M.
 Latter, Robert H.
 Lewis, Donald J.
 Lewis, Robert R.
 MacAlpine, Gordon Madeira
 Milne, James Stuart
 Montgomery, Hugh L.
 Nesbitt, Cecil James
 Ortner, Sherry B.
 Randell, Richard C.
 Rauch, Jeffrey B.
 Raymond, Frank Albert
 Rosen, Ronald H.
 Sevici, Constantin*
 Shih, Kuang-Yen
 Storer, Thomas
 Suwa, Tatsuo*
 Taylor, B. A.
 Tilly, Charles
 Tomozawa, Yukio
 Wasserman, Arthur G.
 Wu, Chi-Tai
 Yao, York-Peng Edward
 Yengoyan, Aram A.

Wayne State University

Jones, Alfred Welwood
 Lassner, Jacob*
 Seidel, Wladimir
 Weiss, Paul
 Wilkerson, Clarence W., Jr.*
Western Michigan University
 Cohen, Eckford*

Minnesota

Hamline University

Varberg, Dale E.

University of Minnesota

Bamford, Paul Walden
 Cameron, Robert Horton
 Ellis, Robert*
 Gaal, Ilse Lisl Novak*
 Gaal, Steven Alexander
 Gudeman, Stephen Frederick
 Gulliver, Robert D., II*
 Hardt, Robert Miller
 Harris, Morton Edward
 Jaffee, Harris Alexander
 Kallianpur, Gopinath
 Kinderlehrer, David S.*
 Marden, Albert
 Pedoe, Daniel
 Pour-El, Marian Boykan
 Prikry, Karel L.
 Reich, Edgar
 Rickman, Seppo U.*
 Rosner, Jonathan Lincoln
 Shapiro, Alan E
 Sperber, Steven Irwin
 Suura, Hiroshi*

Mississippi

University of Mississippi

Cabaniss, J. Allen

Missouri

University of Missouri

Blumenthal, Leonard M.
 Cheng, Ta-Pei
 Ehrlich, Paul E.*
 Haimo, Deborah Tepper
 Mitchel, Fordyce Wood
 Utz, W. Roy
 Weinberg, Saul S.

Washington University

Bender, Carl Martin
 Boothby, William M.
 Gerhard, Dietrich
 Haimo, Franklin
 Hexter, Jack H.
 Hirschman, Isidore Isaac, Jr.
 Jenkins, James Allister
 Nussbaum, A. Edward
 Schaerf, Henry Maximilian
 Silverstein, Martin Louis
 Tableson, Mitchell Herbert

New Hampshire

Dartmouth College

Doney, Willis Frederick
 Ehrmann, Henry Walter
 Marx, Daniel, Jr.

University of New Hampshire

Batho, Edward H.*
 Shepard, Harvey Kenneth

New Jersey

Bell Laboratories

Fishburn, Peter C.
 Landau, Henry J.
 Lloyd, Stuart P.

Institute for Advanced Study (excluding Faculty)

Alcock, Charles Roger*
 Kuhn, Thomas S.
 Lee, Yee-Chun
 Lewis, Bernard*
 Neugebauer, Otto E.
 Teitelboim, Claudio
 Tremaine, Scott Duncan

Princeton Theological Seminary

Jurji, Edward J.
 Metzger, Bruce Manning

Princeton University

Almgren, Frederick Justin, Jr.
 Bargmann, Valentine
 Browder, William
 Callan, Curtis G.
 Coale, Ansley Johnson
 Darnton, Robert*
 Davis, Natalie Zemon
 Dicke, Robert H.
 Furley, David John
 Gross, David J.

Current Geographical Location

Heckscher, William S.
Hsiang, Wu-chung
Hunt, Gilbert Agnew
Iwasawa, Kenkichi
Jeffrey, Richard C.
Karp, Leon*
Kochen, Simon Bernard
Kohn, Joseph John*
Krommes, John A.
Lee, Rensselaer Wright
Link, Arthur Stanley
Mason, Alpheus Thomas
May, Robert McCredie
Mayer, Arno J.*
Monticello, Donald Andrew
Nelson, Edward
Peebles, Philip James E.
Perry, Malcolm John
Post, Gaines
Schorske, Carl E.
Shearman, John K. G.
Shimura, Goro
Socolow, Robert Harry
Sprout, Harold*
Stein, Elias M.*
Stone, Lawrence
Terng, Chuu-Lian*
Thurston, William P.
Tucker, Robert C.
Turner, Edwin Lewis
Vinciarelli, Patrizio
Vlastos, Gregory
Washnitzer, Gerard*
Weitzmann, Kurt(PM)
White, Roscoe Beryl
Wightman, Arthur Strong
Wilczek, Frank Anthony*
Rutgers University
Akbulut, Selman
Barbasch, Dan Mihai
Benjamin, Anna Shaw
Bredon, Glen E.
Cohn, Richard M.
Corwin, Lawrence Jay
Dekker, Jacob C. E.
Ellentuck, Erik
Faith, Carl
Gilman, Jane Piore
Goldstein, Sheldon
Goodman, Roe William
Gorenstein, Daniel
Greven, Philip J., Jr.
Hanges, Nicholas William
Hermann, Robert*
Hoyt, William L*
Jacobowitz, Howard
Kann, Robert A.
Kellogg, Alfred Latimer
Kosinski, Antoni A.
Landweber, Peter S.
Lepowsky, James Ivan
Lyons, Richard Neil

Merker, Irwin Loeb
Milnor, Tilla Klotz
Moevs, Maria Teresa Marabini
Nussbaum, Roger D.
Osofsky, Barbara Langer
Rader, Cary Baker*
Ratner, Sidney
Roberts, Fred Stephen*
Rockmore, Ronald Marshall
Rosenstein, Joseph G.
Speer, Eugene Richard
Taft, Earl Jay
Taylor, Jean E.
Turkevich, Ludmilla Buketoff
Wheeden, Richard L.
Wolfson, Kenneth G.
Stevens Institute of Technology
Bernstein, Jeremy
Tindell, Ralph Stanley

New Mexico
College of Santa Fe
Henriques, Anna Stafford
Los Alamos Scientific Laboratory
Campbell, David Kelly
Channell, Paul Jackson
Cooper, Frederick Michael
Kiskis, Joseph E., Jr.
New Mexico State University
MacKichan, Barry B.
Walker, Carol Lee
Walker, Elbert A.
Wisner, Robert Joel*

New York
Barnard College
Kessler, Clive Samuel
Baruch College, CUNY
Jacob, Margaret Candee
Sheingorn, Mark Elliot
Tepper, David E.
Brookhaven National Laboratory
Muzinich, Ivan J.
Wang, Ling-Lie
Brooklyn College, CUNY
Farkas, Ann Elizabeth
Prenowitz, Walter
Sibner, Robert J.
Stone, David A.
City College, CUNY
Barber, Sherburne F.
Baumslag, Gilbert
Chang, Ngee-Pong
Cohn, Harvey
Marshak, Robert E.*
City University of New York
Auslander, Louis
Dyer, S. Eldon, Jr.*
Heller, Alex
Herz, John H.
Randol, Burton
Schlesinger, Arthur M., Jr.

Thayer, H. Standish
 Vasquez, Alphonse Thomas*
Columbia University
 Ash, Avner Dolnick
 Baker, Norman Hodgson, Jr.
 Bass, Hyman
 Beck, James H.
 Bers, Lipman
 Bruchey, Stuart Weems
 Chiu, Hong-Yee
 Davis, Michael*
 Duncan, H. E. Anthony
 Feinberg, Gerald
 Fischer-Colbrie, Doris Helga
 Friedberg, Richard Michael
 Gallagher, Patrick Ximenes
 Green, Philip Palmer
 Harris, William Vernon
 Jacquet, Hervé Michel
 Jastrow, Robert
 Kolchin, Ellis Robert
 Kristeller, Paul Oskar
 Krusemeyer, Mark I.*
 Lee, Tsung Dao* (F)
 Luttinger, Joaquin Mazdak
 Maxwell, Kenneth Robert
 McKittrick, Eric Louis
 Morris, Richard Brandon
 Mundy, John Hine
 Palfrey, John Gorham
 Phong, Duong Hong
 Rabi, Isidor Isaac
 Reff, Theodore
 Rice, Eugene Franklin, Jr.
 Robbins, Herbert Ellis
 Rosenbloom, Paul C.*
 Ruderman, Malvin Avram
 Saavedra, Neantro R.
 Shelstad, Diana*
 Skendi, Stavro
 Smith, Morton
 Smith, Paul A.*
 Somerville, Robert E.*
 Stanton, Nancy K.
 Stern, Fritz
 Tarán, Leonardo
 Thompson, Margaret
 Weinberg, Erick J.
 Wick, Gian Carlo*
 Woloch, Isser
Cornell University
 Black, Max*
 Boon, James Alexander
 Chase, Stephen Urban
 Cohen, Marshall M.
 Dennis, R. Keith
 Earle, Clifford John, Jr.
 Fox, Edward Whiting
 Gelbart, Stephen Samuel
 Gibson, Eleanor Jack
 Gross, Leonard
 Guerlac, Henry E.

Henderson, David Wilson
 John, James Joseph
 Kahn, Peter J.
 Kinoshita, Toichiro
 Knapp, Anthony William
 Konvitz, Milton R.
 Kubert, Daniel S.*
 Lichtenbaum, Stephen
 Livesay, George Roger
 Mitchell, Edward J.*
 Murra, John Victor
 Nerode, Anil
 Rosenberg, Alex
 Rothaus, Oscar S.*
 Schanuel, Stephen Hoel*
 Shefter, Martin Allen
 Siegel, James T.
 Tierney, Brian
 West, James Edward
 Wilson, Kenneth Geddes*
 Yennie, Donald Robert
Council on Foreign Relations
 Stebbins, Richard Poate
Fordham University
 Curran, Peter M.*
 Miller, Kenneth S.
 Neisendorfer, Joseph A.*
 Tong, Hing*
Hobart and William Smith Colleges
 Moodie, Thomas Dunbar
Hunter College, CUNY
 Richter, Melvin
 Roitberg, Joseph
 Sandri, Guido*
 Tryon, Edward Polk
Lehman College, CUNY
 Dauben, Joseph Warren
 Keen, Linda
 Lazarov, Connor
New School for Social Research
 Morgenthau, Hans J.
New York University
 Blanckenhagen, Peter H. von
 Blu, Karen I.
 Bonfante, Larissa*
 Bonic, Robert Allen*
 Brown, Jonathan
 Buchthal, Hugo H.
 Davis, Martin D.
 Eickelman, Dale Floyd
 Eisler, Colin T.
 Erim, Kenan Tevfik
 Fahy, Everett
 Gordon, Cyrus Herzl
 Harrison, Evelyn Byrd
 Janson, Horst W.
 Krautheimer, Richard
 Lax, Peter David
 Lowenstein, John Hood
 Magnus, Wilhelm
 McCredie, James R.
 Moser, Jürgen K.

Current Geographical Location

Nirenberg, Louis
Posner, Donald
Sennett, Richard
Polytechnic Institute of New York
Fialkow, Aaron David
Sibner, Lesley M.
Queens College, CUNY
Aufhauser, R. Keith
Hoffmann, Banesh
Leites, Edmund*
Moise, Edwin Evariste
Philip, Lotte Brand
Rensselaer Polytechnic Institute
Brown, Joseph E.
Poor, Walter Andrew
Rochester Institute of Technology
Randolph, John F.*
Rockefeller University
Bég, Mirza Abdul Baqi
Glimm, James
Kac, Mark
Khuri, Nicola N.
Miller, George Armitage
Pais, Abraham (F)
Tsao, Hung-Sheng
Uhlenbeck, George Eugene
Sarah Lawrence College
Lauterbach, Albert
St. John Fisher College
Blanton, John David
State University of New York, Albany
Cowling, Vincent F.
Jenkins, Joe Wiley
Korenblum, Boris
Smiley, Malcolm Finlay
State University of New York, Binghamton
Edwards, David Alan*
Geoghegan, Ross
McAuley, Louis F.
Roy, Prabir*
Transue, William Reagle
Trexler, Richard C.
State University of New York, Buffalo
Breit, Gregory
Dimock, Jonathan D.*
Gelbaum, Bernard Russell
Isbell, John Rolfe
Mitchell, Josephine Margaret
Schoenfeld, Lowell*
Tamari, Dov
Wang, Kai
Webster, Dallas Eugene*
Yuan, Shuen*
State University of New York, Potsdam
Stephens, Clarence Francis
State University of New York, Stony Brook
Charlap, Leonard S.
Cheeger, Jeff
Doss, Raouf
Douglas, Ronald George
Dynin, Alexander
Eisenbud, Leonard

Freedman, Daniel Z.
Hill, C. Denson*
Jones, Lowell E.*
Kuga, Michio
Maskit, Bernard
McDuff, Dusa Waddington
Nobs, Alexandre*
Phillips, Anthony Valiant
Rapp, Richard Tilden
Solomon, Philip*
Serman, George Franklin*
Thorpe, John A.
Weinstein, Fred
Weisinger, Herbert
Yahil, Amos
Yang, Chen Ning(F)
Syracuse University
Balachandran, Aiyalam Parameswaran
Church, Philip Throop
Rohrlich, Fritz
Wellner, Marcel N.
Union College
Farrell, Orin James
University of Rochester
Albritton, James R.
Brown, Theodore M.
Kelley, Donald R.
Lavine, Richard B.
Lubkin, Saul
Mandelbaum, Richard
Simon, Albert
Stone, Arthur Harold
Stone, Dorothy Maharam
Watts, Charles E.
Williams, Edward A.*
Zagorin, Perez
Vassar College
Askew, Pamela*
Wagner College
Stern, Adolph*
Yeshiva University
Ackerman, Robert A.
Behrends, Ralph Eugene
Ehrenpreis, Leon*
Fishman, Joshua A.
Schechter, Martin

North Carolina
Duke University
Arthur, James Greig
Carlitz, Leonard*
Fox, Richard G.
Murray, Francis Joseph
Pardon, William*
Reddy, William M.
Richardson, Lawrence, Jr.
Shoenfeld, Joseph Robert
Warner, Seth L.
Woodbury, Max Atkin
North Carolina Central University
Manasse, Ernst Moritz
North Carolina State University

Singer, Michael F.
University of North Carolina
 Brezin, Jonathan Paul*
 Broughton, T. Robert S.
 Eberlein, Patrick Barry
 Gardner, Robert Brown
 Goodman, Sue Ellen
 Karel, Martin Lewis
 McVaugh, Michael Rogers
 Merzbacher, Eugen
 Ng, Yee Jack
 Pletsch, Carl Erich
 Scott, Joan Wallach
 Sher, Richard B.
 Stasheff, James Dillon
 Tindall, George Brown
 Wahl, Jonathan Michael

Ohio
Case Western Reserve University

Foldy, Leslie Lawrence
 Long, Herbert Strange
 Mawardi, Osman Kamel
 Robinson, Henry S.*
 Schofield, Robert Edwin
 Tobocman, William
 Weisberg, Gabriel P.

Cleveland State University

Kendig, Keith Milo
 Silberger, Allan J.

Ohio State University

Bartholomew, James Richard
 Benedict, Michael Les
 Burghlelea, Dan*
 Dorpalen, Andreas
 Dowty, David R.
 Harada, Koichiro
 Mills, Robert L.
 Ponomarev, Paul
 Powell, William Chamber
 Rallis, Stephen J.
 Zassenhaus, Hans J.

University of Cincinnati

Caskey, John L.*
 Günther, Marian W.J.
 Kock, Winston E.

Oklahoma

Oklahoma State University

Evans, Benny Dan*
University of Oklahoma
 Ewing, George McNaught
 Springer, Charles Eugene
 Unguru, Sabetai

Oregon

Oregon State University

Petersen, Bent Edvard
University of Oregon
 Alef, Gustave
 Anderson, Frank W.
 Civin, Paul*

Curtis, Charles W.
 Dyer, Micheal Neal
 Girardeau, Marvin D.
 Hwa, Rudolph C.
 Linderski, Jerzy
 Mannheim, Philip David
 Olum, Paul

Pennsylvania

Bloomsburg State College

Hartung, Paul Gilbert

Bryn Mawr College

Dunn, Mary Maples
 Levine, Steven Z.
 Phillips, Kyle Meredith, Jr.
 Ridgway, Brunilde Sismondo

Haverford College

Comfort, Howard
 Green, Louis C.

Lehigh University

Cohen, Paul Edward
 Cutler, Edward Hutchens*
 Pitcher, Everett

Pennsylvania State University

Ayoub, Christine Williams
 Baan, Willem Adrianus
 Bressoud, David Marius
 Chowla, Sarvadaman
 Curry, Haskell Brooks
 Davids, Norman
 Farrell, F. Thomas
 Fine, Nathan Jacob
 Formanek, Edward William
 Frink, Orrin
 Good, Roland H., Jr.
 Jech, Thomas J.
 O'Sullivan, John Joseph
 Sasakura, Nobuo
 Staffeldt, Ross E.
 Weisfeiler, Boris
 Yood, Bertram

Swarthmore College

England, James W.*
 Kurth, James R.*
 Ostwald, Martin
 Wallach, Hans

Temple University

Cohen, Frederick Ronald
 Grosswald, Emil
 Havas, Peter
 Knopp, Marvin Isadore

University of Pennsylvania

Amado, Ralph David
 Bludman, Sidney Arnold
 Calabi, Eugenio
 Cohen, Jeffrey M.
 Cohen, Michael
 Crane, Diana
 Dunn, Richard S.*
 Frankel, Francine Ruth
 Frye, Roland Mushat
 Gerstenhaber, Murray*

Current Geographical Location

Gluck, Herman R.
Goitein, Shelomo Dov
Goldman, Oscar
Gundersheimer, Werner L.
Iakovidis, Spyros Eustace
Joshi, Aravind K.
Kadison, Richard Vincent*
Katz, Michael Barry
Knauer, Georg Nicolaus
Lewin, Moshe
Minott, Charles Ilsley
Ni, Wei-Ming
Nijenhuis, Albert
Powers, Robert T.
Pratt, Robert Armstrong
Pritchard, James Bennett
Robb, David M.
Rosenberg, Charles Ernest
Rosenberg, Jonathan M.
Ross, James F.
Shale, David*
Thackray, Arnold*
Vance, Robert Neil
Wallace, Andrew Hugh
Weibel, Charles A.
Witmer, Enos Eby
Zee, Anthony

University of Pittsburgh

Fowler, George Bingham
Goldstein, Bernard R.
Lehner, Joseph
Masani, Pesi R.
Nordenfalk, Carl A. J.
Stahl, Hans-Peter
Summers, John David

Rhode Island

Brown University

Accola, Robert Daniel Mize
Anderson, Barbara A.
Anderson, Michael P.*
Baum, Paul Frank
Cooper, Leon N.
Federer, Herbert
Feldman, David
Fried, Herbert M.
Harris, Bruno
Jevicki, Antal
Kuhn, Reinhard
Lubin, Jonathan
Lyon, Bryce Dale
McCrorry, Clinton Graydon
Pingree, David Edwin
Schulz, Juergen
Wermer, John
Zerner, Catherine Wilkinson

Tennessee

East Tennessee State University

Walters, Gary Max

Oak Ridge National Laboratory

Callen, James D.

University of Tennessee

Crater, Horace William
Shelton, Robert Orrin
Vanderbilt University
Ahner, John Franklin
Fleming, Denna Frank

Texas

North Texas State University

Neuberger, John W.

Rice University

Bochner, Salomon
Curtis, Morton Landers*
Harvey, F. Reese
Haskell, Thomas L.
Hempel, John Paul
Jaco, William Howard
Jones, B. Frank, Jr.
Michel, F. Curtis
Stanton, Robert Joseph
Thrall, Robert McDowell
Veech, William Austin
Wells, Raymond O'Neil, Jr.
Wolf, Richard Alan

Texas A&M University

Asmuth, Charles A.
Hensley, Douglas Austin

University of Houston

Bourgin, David Gordon
Hill, John Hugh

University of Texas

Armentrout, Steve*
Bing, R. H.
Cantor, Murray Robert
DeWitt, Bryce Seligman
DeWitt-Morette, Cecile
Eaton, William Thomas
Gillman, Leonard
Gordon, Cameron McAllan
Hamrick, Gary Calvin*
Hazeltine, Richard Deimel
Horton, Wendell, Jr.
Meritt, Benjamin Dean (F)
Meritt, Lucy Shoe
Mourelatos, Alexander Phoebus D.
Peters, Stanley
Piran, Tsvi*
Ross, David W.
Smoluchowski, Roman
Starbird, Michael Peter
Strauss, Henry R.
Tow, Don Mei
Wheeler, John Archibald

Utah

University of Utah

Atiya, Aziz S.
Burgess, C. Edmund
Cagle, Fredric William, Jr.
Clemens, Charles Herbert
Gersten, Stephen M.*
Glaser, Leslie Curtis

Hecht, Henryk
 Patton, Charles Milan
 Scott, William Raymond
 Stern, Ronald John
 Toledo, Domingo

Virginia

National Radio Astronomy Observatory

Jaffe, Walter Joseph

University of Virginia

Assadi, Amir Hossein
 Collins, Randall
 Floyd, Edwin E.
 Giffen, Charles H.*
 Hale, Oron James
 Hinrichsen, John James*
 Kabir, Prabahan Kemal
 Khare, Ravindra Sahai
 McShane, Edward James
 Moxey, Patricio Keith Fleming
 Parshall, Brian J.
 Rovnyak, James L.
 Sapir, J. David
 Sarazin, Craig Leish
 Scott, Leonard L., Jr.*
 Stong, Robert Evert
 Turner, Victor Witter

Virginia Commonwealth University

Haver, William E

Virginia Polytechnic Institute

Li, Ming Chiang*
 Quinn, Frank S.
 Slawny, Joseph*

Washington

University of Washington

Adolphson, Alan Carl
 Bardeen, James M.*
 Beaumont, Ross Allen
 Blumenthal, Robert M.
 Brown, Lowell Severt
 Brownell, Frank H.
 Butow, Robert J. C.
 Curjel, Caspar Robert
 Durfee, Alan H.
 Folland, Gerald Budge
 Gangolli, Ramesh
 Glicksberg, Irving L.
 Greenberg, Ralph
 Grünbaum, Branko
 Haris, Stephen Joseph
 Hewitt, Edwin
 King, James Richard
 Klee, Victor L.
 Kottwitz, Robert E.*
 MacKay, Pierre Antony
 McDiarmid, John Brodie
 Michael, Ernest A.
 Minbashian, Farshid
 Morris, Morris David
 Namioka, Isaac
 Phelps, Robert Ralph

Ravenel, Douglas Conner
 Segal, Jack
 Sullivan, John Brendan
 Warner, Garth William, Jr.*
 Westwater, Michael John
 Wilets, Lawrence

Western Washington State College

Jewett, Robert Israel*

Wisconsin

Marquette University

Zupko, Ronald Edward

University of Wisconsin

Ahern, Patrick Robert*
 Bagemihl, Frederick
 Barker, John Walton
 Bennett, Emmett L., Jr.
 Cannon, James W.
 Chover, Joshua
 Clover, Frank M.
 Durand, Bernice Black
 Durand, Loyal III
 Edson, Charles Farwell, Jr
 Epstein, Saul Theodore
 Fadell, Edward Richard
 Hirschfelder, Joseph Oakland
 Kingdon, Robert McCune
 Kleene, Stephen Cole
 Lindberg, David C.
 MacKendrick, Paul Lachlan
 McMillan, Daniel Russell, Jr.
 McMillan, John Emerson
 Orlik, Peter P.
 Rothschild, Linda Preiss
 Sachse, William Lewis
 Schoenberg, Isaac Jacob
 Sella, Domenico
 Smith, Peter Hopkinson
 Solomon, Louis
 Uhlenbrock, Dietrich Albert
 Wainger, Stephen*

Wyoming

University of Wyoming

Cowles, John Richard
 Martin, Joseph Morison

Puerto Rico

University of Puerto Rico

Bachiller, Tomas Rodrigues*

Foreign Countries

Argentina

National University of Cordoba

Vargas, Jorge Antonio

University of Buenos Aires

Gentile, Enzo R.
 Herrera, Miguel Emilio
 Sanchez-Albornoz, Claudio
 Santaló, Luis Antonio
 Villamayor, Orlando Eugenio

University of La Plata

Ricabarra, Rodolfo Alfredo*

Current Geographical Location

Australia

Australian National University

Buchdahl, Hans Adolph
Hancock, Sir William Keith
Kalnajs, Agris Janis
Yamamuro, Sadayuki

James Cook University

Rose, Paul Lawrence

Macquarie University

McIntosh, Alan G. R.

University of Adelaide

Green, Herbert Sydney

University of Melbourne

Clarke, Graeme Wilber
McKellar, Bruce Harold John*
Miller, Charles Frederick, III
Simon, Leon M.*

Thompson, Colin John

University of New South Wales

Donovan, Peter Windeyer

University of Newcastle

Robinson, Robert William

University of Sydney

Butler, Stuart Thomas
Derrick, Graham H.
McMullen, John Roderick

Room, Thomas Gerald

Sinclair, Robert Keith

University of Western Australia

Bosworth, Albert Brian
Melville Jones, John Richard

Austria

University of Vienna

Hlawka, Edmund
Nachtmann, Otto*
Pächt, Otto
Reiter, Hans
Schmidt, Gerhard
Sexl, Roman U.
Stourzh, Gerald
Thirring, Walter Eduard*

Belgium

Free University of Brussels

Papy, George Léopold Anatole
Waelbroeck, Lucien

University of Antwerp

Kuyk, Willem

University of Louvain

Borgers, Alfons M.F.
Dedecker, Paul Jean
Speiser, David Rudolf*
Verbeke, Gerard

University of Mons

Nuyts, Jean

Botswana

University of Botswana and Swaziland

Erlwanger, Stanley Herbert

Brazil

Catholic University of Rio de Janeiro

Schweitzer, Paul Alexander, S. J.
Tiomno, Jayme
Centro Brasileiro de Anelise e Planejamento
Cardoso, Fernando Henrique

Federal University of Pernambuco

Adler, Ronald J.*

Cardoso, Fernando

Institute of Pure and Applied Mathematics

Lima, Elon Lages

University of Campinas

Castro, Antonio Barros de
Conde, Antonio
Schwarz, Roberto*

University of São Paulo

Goncalves, Daciberg Lima
Rodrigues, Alexandre Martins

Bulgaria

Academy of Sciences

Todorov, Ivan

University of Sofia

Mihailov, Georgi Ivanov

Canada

Dalhousie University

Radjavi, Heydar

Lakehead University

Booth, Andrew Donald

McGill University

Gildenhuys, Dion
Herz, Carl S.

Labute, John Paul
Rosenthal, Edward

McMaster University

Hambleton, Ian
McKay, Alexander Gordon
Riehm, Carl Richard
Rossmann, Wulf T.

Queen's University

Geramita, Anthony Vito
Kemp, Robert R.D.

Orzech, Morris

University of Alberta

Antonelli, Peter Louis
Kane, Richard M.*

University of British Columbia

Casselmann, William Allen
McGregor, Malcolm Francis
Rolfsen, Dale Preston Odin
Sion, Maurice
Watkiss, Christopher*

University of Guelph

Renninger, George Hill*

University of Manitoba

Henriksen, Melvin*
Osborn, Thomas Arthur

University of Montreal

Granas, Andrzej
Klemola, Tapio
Sabidussi, Gert Otto

Verdier, Philippe M.
University of New Brunswick
 Willoughby, William R.
University of Ottawa
 Elliott, George Arthur
University of Toronto
 Barnes, Timothy David
 Bierstone, Edward
 Brieger, Peter Henry
 Callahan, Thomas H.
 Davis, Chandler
 Dushman, Robert
 Duff, George Francis Denton
 Friedlander, John Benjamin
 Goffart, Walter André
 Greiner, Peter Charles
 Grube, G.M.A.*
 Hillgarth, Jocelyn N.
 Jones, Christopher Prestige
 Millson, John J.*
 O'Donnell, James Reginald
 Patterson, Gordon Neil
 Shorter, Edward
 Wilkinson, Bertie
 Zacour, Norman
University of Western Ontario
 Holsztyński, Włodzimierz
York University
 Kritzeck, James
 Verney, Douglas Vernon

Chile
Catholic University of Chile
 Chuaqui, Rolando Basim
 Lagos, Miguel*
 Lund, Fernando*

China, People's Republic of
Academia Sinica
 Chen, Chiang-jun
 Chiang, Li-Fu*
 Ho, Yu Ping
 Hua, Loo-Keng
 Wu, Wen-chün
Peking University
 Chou, Péi-Yüan*
 Kiang, Tsai-han
Szechuan University
 Chang, Shih-Hsun

China, Republic of
Academia Sinica
 Chu, Wan Li
National Tsing Hua University
 Hu, Men-Chang*
Taiwan University
 Tsao, Liang-Chi

Colombia
University of the Andes
 Leal-Buitrago, Francisco

University of Valle
 Restrepo, Guillermo S.

Denmark
Aarhus University
 Andersen, Henning Haahr
 Jeppesen, Kristian Knud
 Oliver, Robert Alan
 Rudkjøbing, Mogens Hegelund
 Słowikowski, Wojciech
 Nordic Institute for, Theoretical Atomic Physics
 (NORDITA)
 Bohr, Aage Niels
 Cvitanović, Predrag
University of Copenhagen
 Fenchel, Werner
 Fuglede, Bent
 Jessen, Børge Christian
 Mørkholm, Otto
 Reiz, S. Anders*
 Strömberg, Bengt G. D.(F)*

Egypt
Cairo University
 El-Nadi, Adel Mohamed Ragab, Fouad Mohamed

Finland
Swedish University of Åbo
 Bruun, Patrick Magnus
University of Helsinki
 Cronström, Christofer Eige
 Illman, Sören Arnold
 Jussila, Olli K.*
 Mattila, Pertti E.J.
 Simons, Jakob Lennart

France
Bibliothèque Nationale
 LeRider, Georges Charles
Collège de France
 Dumézil, Georges
 Leray, Jean*
 Serre, Jean-Pierre
 Tits, Jacques Léon
 Vuillemin, Jules M. E.
Ecole des Hautes Etudes en Sciences Sociales
 Bourdieu, Pierre
 Leenhardt, Jacques
 Lemaine, Gérard
Ecole Normale Supérieure
 Neveu, André
 Virasoro, Miguel A.*
Ecole Polytechnique
 Bussac, Marie-Noëlle*
 Laval, Guy*
Institute for Scientific Higher Education (IHES)
 Cartier, Pierre Emile
 Connes, Alain*
 Deligne, Pierre
 Kuiper, Nicolaas H.
 Michel, Louis

Current Geographical Location

Ruelle, David Pierre

Shih, Weishu

Thom, René F.*

Trauber, Philip*

National Center for Scientific Research (CNRS)

Beldiceanu, Nicoară

Bernard, Paul

Bourguignon, Jean-Pierre*

Costa De Beauregard, Olivier

d'Alverny, Marie-Thérèse

Epstein, Henri

Gauthier, Marie-Madeleine

Ginibre, Jean

Julia, Bernard L.

Loday, Jean-Louis

Lohoué, Noël*

Malgrange, Bernard

Malliavin, Paul

Mehta, Madan Lal

Pressouyre, Léon

Puig, Lluís

Rafael, Eduardo de

Siebenmann, Laurence C.

Stora, Raymond Felix

Paris Observatory

Cayrel, Roger

Saclay Nuclear Research Center

Itzykson, Claude

University of Aix-Marseilles

Bacry, Henri

University of Grenoble

Fontaine, Jean-Marc*

Kozsul, Jean-Louis

Lancel, Serge Henri

University of Lille

Bollack, Jean

Deyon, Pierre

University of Lyon

Roux, Georges

University of Montpellier

Akutowicz, Edwin James

University of Nantes

Vogel, Pierre

University of Nice

Goldschmidt, Hubert

University of Paris

Aubin, Thierry Emilien

Bruhat, François

Cartan, Henri Paul

Cerf, Jean

Chastagnol, André

Chevalley, Claude*

Choquet, Gustave

Choquet, Yvonne Bruhat

Demargne, Pierre

Dentzer, Jean-Marie

Deny, Jacques

Duval, Noël

Ferrand, Jacqueline

Gérardin, Paul

Ginouès, René

Guenée, Bernard Marie

Hervé, Michel André

Heurgon, Jacques

Kahane, Jean-Pierre

Karoubi, Max

Lacombe, Daniel

Lassus, Jean

Lazard, Michel Paul

Le Glay, Marcel

Lelong, Pierre

Levy, Maurice Marc

Lurçat, François

Nicolet, Claude

Poenaru, Valentin-Alexandre

Ramnoux, Clémence

Sjöstrand, Johannes

Valensi, Lucette

Weiller, Jean Sylvain

University of Poitiers

Sergeraert, Francis Georges

University of Provence

Fourès, Léonce Guy

Granger, Gilles Gaston

Vovelle, Michel

University of Strasbourg

Dellacherie, Claude

Glaeser, Georges

Leite Lopes, José

Morin, Bernard C.

Reeb, Georges

Schwartz, Jacques

Germany

Central Institute for Art History

Sauerländer, Willibald

Deutsches Elektronen Synchrotron (DESY)

Symanzik, Kurt

Free University of Berlin

Fischer, Wolfram

Gaehgens, Thomas Wolfgang

Kauffmann, Johannes

Lepenies, Wolf D.

Max Planck Society for the Advancement of Sciences

Ames, Susan

Seiler, Erhard Karl

Technical University of Aachen

Müller, Claus

Technical University of Clausthal-Zellerfeld

Tarski, Jan

University of Bielefeld

Bak, Anthony

Dress, Andreas W. M.

Fischer, Bernd*

Kocka, Jürgen

Mennicke, Jens L.

Offe, Claus

Steinmann, Othmar Viktor

Waldhausen, Friedhelm*

University of Bonn

Bracher, Karl Dietrich

Derbolav, Josef Lothar

Einem, Herbert von

Erle, Dieter Heinz
 Frommel, Christoph Luitpold
 Herter, Hans Lukas
 Hildebrandt, Stefan O. W.*
 Hirzebruch, Friedrich Ernst Peter
 Jantzen, Jens Carsten
 Klingenberg, Wilhelm P.
 Olivier, Reinhard Martin
 Schmid, Wolfgang
 Straub, Johannes Anton
 Ziller, Wolfgang
University of Cologne
 Osten, Gert von der
 Scheuch, Erwin K.
 Schieder, Theodor W.
 Soreth, Marion*
University of Dortmund
 Hegenbarth, Friedrich
University of Düsseldorf
 Mommsen, Wolfgang J.
University of Erlangen
 Lorenzen, Paul Peter Wilhelm
 Stürmer, Michael
University of Frankfurt
 Baer, Reinhold
University of Freiburg
 Klingen, Helmut P.
 Pohlmeier, Klaus
 Wolff, Hans Julius
University of Giessen
 Buchholz, Hans-Günther*
University of Göttingen
 Borchers, Hans-Jürgen*
 Christian, Ulrich Hans Richard Otto
 Classen, Carl Joachim
 Deuring, Max Friedrich
 Grauert, Hans
 Kneser, Martin L.
 Reeh, Helmut Rudolf
 Siegel, Carl Ludwig* (F)
University of Hamburg
 Braun, Hel
 Deininger, Jürgen*
 Herrmann, Peter
 Lehmann, Harry Paul
 Ludwig, Walther
 Mack, Gerhard
 Oehler, Klaus Herbert
 Riemenschneider, Oswald W.
University of Heidelberg
 Alföldy, Géza
 Classen, Peter
 Dold, Albrecht E.
 Görler, Woldemar Ernst Heinrich
 Janko, Zvonimir
 Roquette, Peter Jaques
 Seifert, Herbert
 Weispfenning, Volker B.
University of Kiel
 Hausherr, Reiner
 Lehmann, Hartmut R. W.
 Mayer, Hans Eberhard

University of Konstanz
 Nesselhauf, Herbert
University of Mainz
 Brommer, Frank*
 Hofmeister, Gerd Rolf Ernst
 Wlosok, Antonie Elisabeth
University of Mannheim
 Lepsius, Mario Rainer
University of Marburg
 Errington, Robert Malcolm
University of Münster
 Dörner, Friederich K.*
 Dorfmeister, Josef
 Forster, Otto F.
 Fuchs, Werner Rudolf
 Kauffmann, Georg
 Scharlau, Winfried Wilhelm
 Sicherl, Martin
University of Munich
 Aumann, Georg
 Biermann, Ludwig Franz Benedikt
 Bischoff, Bernhard
 Fritz, Kurt von
 Mütterich, Florentine
 Nipperdey, Thomas H.
 Roelcke, Walter O. P.
 Schütte, Kurt
University of Regensburg
 Jänich, Klaus Werner
 Knebusch, Manfred
 Winzinger, Franz*
University of the Ruhr
 Enss, Volker
 Gerritzen, Lothar Georg
 Meier, Christian
 Spallek, Karlheinz
 Zehnder, Eduard
University of Tübingen
 Bittel, Kurt
 Hausmann, Ulrich
 Stroheker, Karl Friedrich
University of Ulm
 Wirsing, Eduard A.J.M.
University of Würzburg
 Herde, Peter
 Simon, Erika
University of Wuppertal
 Ossa, Erich

Greece
Academy of Athens
 Mylonas, George Emmanuel
American School of Classical Studies
 Broneer, Oscar Theodore
 Frantz, M. Alison
 Grace, Virginia Randolph
Byzantine Museum
 Chatzidakis, Emmanuel*
French Archaeological School
 Amandry, Pierre
Italian Archaeological School
 Levi, Doro

Current Geographical Location

National Archaeological Museum

Yalouris, Nicholas

University of Athens

Bakalakis, Georgios Michael

Moutsopoulos, Evanghélou A.

University of Ioannina

Petsas, Photios Michael

Hong Kong

University of Hong Kong

Wong, Yung-Chow

Hungary

Academy of Sciences

Erdős, Paul*

Halász, Gábor

India

Hyderabad University

Reddy, Aluru Raghuram

Indian Statistical Institute

Srivastava, Shashi Mohan

Panjab University

Bambah, Ram Prakash

Tata Institute of Fundamental Research

Dani, Shrikrishna Gopal

Deodhar, Vinay Vithal

Gupta, Virendra

Narasimhan, Mudumbai S.

Nori, Madhav Vithal

Parthasarathy, Rajagopalan

Prasad, Gopal

Raghavan, Srinivasacharya

Raghunathan, Madabusi Santanam

Ramachandra, Kankanahalli*

Ramanan, Sundavaraman

Ramanathan, Annamalai

Ramanathan, K. Gopalaiyer

Rangachari, Sundaravaradan Srinivasa

Seshadri, Conjeeveram Srirangachari

Shorey, Tarlok Nath

Singh, Virendra

Udgaonkar, Bhalchandra Madhav

Verma, Daya-Nand

University of Madras

Balachandran, Vadekke Kurupath

Bhanu Murthy, Tyakel Subbiah

Ireland

Dublin Institute for Advanced Studies

Lewis, John Trevor

O'Raiheartaigh, Lochlainn

National University of Ireland

Canny, Nicholas P.

O'Meara, John Joseph

University of Dublin

Bieler, Ludwig J. G.

Moody, Theodore William

Wormell, Donald Ernest Wilson

Israel

Bar-Ilan University

Kantorovitz, Shmuel

Luban, Marshall

Pinchuk, Bernard

Haifa University

Dothan, Moshe*

Hebrew University

Amitsur, Shimshon A.

Ayalon, David

Barag, Dan Pinhas

Barasch, Moshe

Ben-David, Joseph

Bregel, Yuri

Dvoretzky, Aryeh*

Friedland, Shmuel

Heyd, Michael

Jacoby, David

Mann, Avinoam

Narkiss, Bezalel

Rabin, Michael O.

Wasserstein, Abraham

Zabrodsky, Alexander

Technion-Israel Institute of Technology

Cwikel, Michael

Finzi, Arrigo

Rosen, Nathan

Tel Aviv University

Banks, Thomas I.

Dothan, Yossef

Horn, David

Ne'eman, Yuval

Nussinov, Shmuel*

Weizmann Institute

Avni, Yoram

Frishman, Yitzhak

Kannai, Yakar Israel

Pekeris, Chaim Leib

Italy

American Academy in Rome

D'Arms, John Haughton

Bibliotheca Hertziana, Rome

Lotz, Wolfgang

Casa Buonarroti

Tolnay, Charles Erich de

Scuola Normale Superiore

Andreotti, Aldo

Vesentini, Edoardo

Swedish Institute, Rome

Gjerstad, Einar

Turin Institute of Technology

Rasetti, Mario G.

University of Bologna

Ginzburg, Carlo

Poni, Carlo

University of Calabria

Boskovits, Miklós

University of Florence

Bosco, Bernardino

Salvini, Roberto

Vivarelli, Roberto

University of Genoa

Morpurgo, Giacomo
 Storchi, Edoardo
University of Milan
 Pizzorno, Alessandro De Giovanni*
University of Modena
 Baiada, Emilio
University of Padua
 Fedalto, Giorgio
 Muraro, Michelangelo
 Puppi, Lionello
University of Pavia
 Gabba, Emilio G.
University of Pisa
 Laffi, Umberto
 Radicati di Brozolo, Luigi A.
University of Rome
 Mazzarino, Santo
 Negri, Enrico de
 Ruffini, Remo Jacopo
University of Salerno
 Guerra, Francesco
University of Siena
 Maffei, Domenico
University of Trent
 Silva, Alessandro
University of Trieste
 Fonda, Luciano
 Furlan, Giuseppi
 Hack, Margherita
University of Turin
 Alfaro, Vittorio de
 Cracco, Lellia Ruggini
 Ponzano, Giorgio Enrico
 Sertorio, Luigi
 Verde, Mario
University of Venice
 Berengo, Marino
 Cozzi, Gaetano

Jamaica
University of the West Indies
 Niederreiter, Harald G.

Japan
Gakushuin University
 Ito, Kiyosi
 Kodaira, Kunihiko
Hiroshima University
 Eguchi, Masaaki
 Hotta, Ryoshi
 Matumoto, Takao
 Nishi, Mieo
 Okamoto, Kiyosato
Hokkaido University
 Doi, Koji
 Miyake, Toshitsune
 Morita, Yasuo
 Yamamoto, Kazuhiro*
 Yoshida, Tomoyuki*
Japan Women's University
 Minemura, Katsuhiko
Kanazawa University

Naganuma, Hidehisa
Keio University
 Indow, Tarow
Kyoto University
 Fujisawa, Norio
 Hijikata, Hiroaki
 Kawai, Takahiro
 Kobayasi, Minoru
 Matsuda, Satoshi
 Nakanishi, Noboru
 Nakano, Shigeo
 Ohta, Masami
 Sato, Mikio*
 Toda, Hiroshi*
Kyushu University
 Goto, Midori S.*
 Goto, Morikuni*
 Yamazaki, Tadashi
Nagoya University
 Kimura, Tatsuo
 Koike, Masao
 Kubota, Tomio
 Morikawa, Hisasi
 Tsuchiya, Akihiro*
Nara Women's University
 Akagawa, Yasumasa
Ochanomizu University
 Komura, Yukio*
Osaka City University
 Araki, Shôrô
 Kawachi, Akio
 Nakano, Tadao
Osaka University
 Kawakubo, Katsuo
 Kawanaka, Noriaki
 Matsuda, Michihiko
 Murakami, Shingo
 Nakaoka, Minoru
 Takeuchi, Masaru
 Tanaka, Shunich
 Tsujishita, Toru
 Utiyama, Ryoyu
 Watanabe, Takesi
 Yamamoto, Yoshihiko
Rikkyo University
 Fujii, Akio
Seikei University
 Kubota, Kinuko*
Sophia University
 Kawada, Yukiyosi
Tohoku University
 Tannaka, Tadao
 Uchida, Kôji
Tokyo Institute of Technology
 Fukuda, Hiroshi
 Homma, Tatsuo
Tokyo Metropolitan University
 Omori, Hideki
University of Tokyo
 Horikawa, Eiji
 Ichimaru, Setsuo
 Igi, Keiji

Current Geographical Location

Ihara, Yasutaka
Iitaka, Shigeru
Iwahori, Nagayoshi*
Kawarabayashi, Ken
Kondo, Takeshi
Kuroda, Wataru
Maruyama, Masao
Matsumoto, Yukio
Miyazawa, Hironari
Morita, Shigeyuki
Nishijima, Kazuhiko
Ochiai, Takushiro
Ohmori, Shozo
Oshima, Toshio
Saito, Makoto
Sasaki, Shigeo
Shimizu, Hideo
Shintani, Takuro
Yosida, Kôzaku
University of Tsukuba
Hara, Yasuo
Iwasaki, Yoichi
Miyazima, Tatsuoki
Sawada, Katuro
Soda, Toshio
Takahashi, Moto-o
Takeuchi, Mitsuhiro

Lebanon

American University of Beirut

Bitar, Khalil Michel
Kennedy, Edward Stewart

Mexico

Centro de Investigación del IPN

Astey, Luis*
Gitler, Samuel
Ramírez de Arellano, Enrique
Rivaud, Juan-José
Warman, Arturo

University of Mexico

Mello, Pier Achille

Netherlands

Nijmegen University

Levelt, Willem T. M.

University of Amsterdam

de Boer, Jan*
Nagata, Jun-Iti
Wouthuysen, Siegfried A.

University of Groningen

Drijvers, Hendrik J. W.
Hugenholtz, Nicolaas Marinus
Os, Hendrick Willem van
Pottasch, Stuart Robert

University of Leiden

Beukers, Frits*
Dijk, Gerrit van
Greenberg, J. Mayo
Laan, Harry van der
Peters, Christiaan A. M.
Tijdeman, Robert

University of Utrecht

Gelder, Jan Gerrit van
Kampen, Nicolaas G. van
Mars, Johannes G. M.
Nijboer, Bernard R. A.
Ruijgrok, Theodorus W.
Springer, Tonny Albert*

Nigeria

University of Ibadan

Babalola, Victor A.*
Joris, Henri E.*

Norway

University of Bergen

Selmer, Ernst Sejersted

University of Oslo

Aubert, Karl Egil
Barricelli, Nils Aall*
Seeberg, Axel
Skjelbred, Tor
University of Trondheim
Baas, Nils Andreas

Poland

Academy of Sciences

Borsuk, Karol
Kuratowski, Kazimierz
Plezia, Marian

Adam Mickiewicz University

Parnicki-Pudętko, Stefan

Gdańsk University

Gęba, Kazimierz

Institute of Nuclear Research

Dabrowski, Janusz

Jagellonian University

Kalinowski, Lech
Łojasiewicz, Stanisław

Lodz University

Kuksewicz, Zdzisław

University of Warsaw

Białostocki, Jan
Biezuńska-Małowist, Izabela*
Królikowski, Wojciech
Małowist, Marian
Woronowicz, Stanisław Lech

University of Wrocław

Łopuszanski, Jan Thaddaeus

Rumania

University of Bucharest

Pippidi, Dionis Michael

Spain

Council for Scientific Research (CSIC)

Arce, J. Javier

University of Barcelona

Nadal, Jordi

University of Madrid

Montesinos, José María
Ruiz-Martín, Felipe

Sweden

Gothenburg University

Åkerström, Åke Bertil

Hanner, Olof*

Lund University

Gårding, Lars

Hörmander, Lars Valter

Östenberg, Carl Eric

University of Stockholm

Björck, Göran

Lech, Christer

University of Umeå

Wallin, Hans

University of Uppsala

Kiselman, Christer Oscar

Pleijel, Åke Vilhelm Carl*

Switzerland

European Council for Nuclear Research (CERN)

Fubini, Sergio Piero

Hove, Leon Charles van

Martin, André J.

Steinberger, Jack

Veneziano, Gabriele

Woltjer, Lodewyk

Federal Institute of Technology (ETH)

Chandrasekharan, Komaravolu*

Eckmann, Beno

Jost, Res W.

Moosbrugger-Leu, Rudolf

Specker, Ernst Paul*

Schaffhausen State Archives

Lieb, Hans Wolfgang

University of Basel

Eichler, Martin Maximilian Emil

Fierz, Markus

Guggisberg, Hans Rudolf

Habicht, Walter

Schäublin, Christoph

Schefold, Karl

University of Bern

Fellmann, Rudolf

Gelzer, Thomas Carl

Graeser, Andreas

Jucker, Hans

University of Fribourg

Kahil, Lilly Louise

University of Geneva

Berchem, Denis van

Dörig, José

Enz, Charles Paul

Frölicher, Alfred Victor

Giovannini, Adalberto

Haefliger, André

Hausmann, Jean-Claude

Jeanquartier, Pierre

Kervaire, Michel André*

Paschoud, François

Piaget, Jean

Roethlisberger, Marcel G.

Ronga, Felice L. L.

Ruegg, Henri E.

Weber, Claude Alain

University of Lausanne

Béranger, Jean

Ducrey, Pierre B.

Loeffel, Jean-Jacques*

Maumary, Serge

Rham, Georges de

University of Neuchatel

Knoepfler, Denis

Robert, Alain

University of Zurich

Batschelet, Eduard

Clairmont, Victorine Von Gonzenbach

Hager, Fritz-Peter Paul

Strebel, Kurt O.

Wehrli, Fritz

Turkey

Bogazici University

Aritürk, Haluk

Middle East Technical University

Arf, Cahit*

Erder, Cevat

University of Ankara

Alisbah, Orhan H.*

Özgüç, Nimet

Özgüç, Tahsin

Uluçay, Cengiz

University of Istanbul

Inan, Jale*

United Kingdom

Brunel University

Hopkins, Keith Morris

Hudson, Liam

Cambridge University

Adams, John Frank

Baker, Alan

Brink, Charles Oscar

Burgess, Alan

Burke, Peter

Burkill, John Charles

Bury, John Patrick Tuer

Camps, William Anthony

Carr, Edward Hallett

Duncan-Jones, Richard Phare

Eden, Richard John

Edwards, Samuel Frederick

Goddard, Peter

Hawthorn, Geoffrey

Hoffstein, Jeffrey Ezra*

Laslett, Thomas Peter Ruffell

Leigh, Ralph Alexander

Longair, Malcolm Sim

Morris, Geoffrey Christopher

Pagden, Anthony Robin Dermer

Pars, Leopold Alexander

Polkinghorne, John Charlton

Rees, Martin John

Skinner, Quentin Robert Duthie

Smithies, Frank

Squires, Gordon Leslie

Current Geographical Location

Steiner, George
Stone, John Richard Nicholas
Thompson, John G.*
Twitchett, Denis Crispin
Woodhead, Arthur Geoffrey
Wrigley, Edward Anthony
Culham Laboratory
Roberts, Keith Varnden
Taylor, John Bryan
London University
Audley, Robert John
Balme, David Mowbray
Barron, John Penrose
Brown, Thomas Julian
Cameron, Averil Millicent
Charap, John Michael
Corbett, Peter E.*
Dicks, David Reginald
Dowker, Yael Naim*
Gilsenan, Michael Cole
Goodwin, Geoffrey Lawrence
Graham, Gerald Sandford
Green, Michael Boris
Handley, Eric Walter
Harvey, William James
Hirst, David Michael*
Hodgkin, Luke Howard*
Hunt, John Dixon
Johnson, Francis Edward Anthony
Joll, James B.*
Macdonald, Ian Grant
Medlicott, William Norton
Millar, Fergus Graham B.
Newman, John Arthur
Pugh, Ralph Bernard
Rogers, Claude Ambrose
Rubinstein, Nicolai
Salam, Abdus
Skutsch, Otto
Stevens, Philip Theodore
Taylor, John Gerald
Thomas, Charles Benedict
Turner, Eric Gardner
Valatin, John George*
Winnington-Ingram, Reginald Pepys
Zarnecki, George
Middlesex Polytechnic Institute
Grattan-Guinness, Ivor
Open University
Briggs, Asa (Lord Briggs)
Oxford University
Ackrill, John Lloyd
Atiyah, Michael Francis (F)
Aylmer, Gerald Edward
Barker, S. Ross
Barnes, Jonathan
Bond, Godfrey William
Bowman, Alan Keir
Collins, Michael John
Dalitz, Richard Henry
Davies, Edward Brian
Derow, Peter Sidney

Gottmann, Jean Iona
Holmes, George Arthur
James, Ioan Mackenzie
Jeffery, Lilian Hamilton
Lepper, Francis Alfred
Mack Smith, Denis
Mackesy, Piers Gerald
Minio-Paluello, Lorenzo
Nicholas, Herbert George
Peierls, Sir Rudolf Ernst
Rees, David Arthur
Reynolds, Leighton Durham
Robinson, Richard*
Sciama, Dennis William
Segal, Graeme
Seton-Watson, Christopher Ivan William
Sinclair, Donald Keith*
Steer, Brian
Sternfeld, Frederick William
Vickers, Michael
Queen's University of Belfast
Astin, Alan Edgar
Smallwood, E. Mary
Talbert, Richard John Alexander
Royal Holloway College
Jones, Antony J.
Southampton University
Griffiths, Hubert Brian
Rhodes, Frank
Riley, Robert Freed*
Roberts, John Morris
Sparkes, Brian Allison
University College at Buckingham
Beloff, Max
University College of North Wales
Wycherley, Richard Ernest
University of Aberdeen
Baxendale, Peter Herbert
University of Bath
Matthews, Paul Taunton
University of Birmingham
Campbell, Alexander Elmslie
Hopkins, Antony Gerald
University of Bristol
Hammond, Nicholas Geoffrey Lempriere
Shepherdson, John Cedric
University of Cardiff
Hooley, Christopher
University of Durham
Armstrong, Mark Anthony
James, Mervyn Evans
Richardson, Roger W., Jr.*
Skemp, Joseph Bright
Thomas, John David
University of East Anglia
Allen, Harry Cranbrook
Kennedy, Paul Michael
Thistlethwaite, Frank
University of Edinburgh
Barnes, Stanley Barry
Candlin, David John
Fowler, Alastair David Shaw

Isard, Stephen David*
 Rees, Elmer G.
 Robertson, Giles H.
University of Glasgow
 Checkland, Sydney George
University of Hull
 Wilton-Ely, John*
University of Kent
 Gibbs, John Arthur
University of Lancaster
 Fox, Robert
 Osborne, Michael John
 Tagg, Eric Donovan
University of Leeds
 Arnott, William Geoffrey
 Clark, Timothy James
 Ravetz, Jerome R.
University of Leicester
 Clark, Peter Alan
University of Liverpool
 Long, Anthony Arthur
 Walbank, Frank William
 Wall, Charles T.C.
University of Manchester
 Kahn, Franz Daniel
 Yates, Michael Charles
 Zuntz, Günther
University of Newcastle-upon-Tyne
 Saunders, Trevor John
University of Nottingham
 Smart, P. Alastair M.
University of Reading
 Lyttelton, N.A.O.*
University of Sheffield
 Sharp, Rodney Yorke
University of St. Andrews
 Black, Matthew
 Kidd, Ian Gray
University of Sussex
 Barton, Gabriel
 Dore, Ronald
 Johnson-Laird, Philip Nicholas

Mestel, Leon
 Winch, Donald Norman
University of Warwick
 Carter, Roger William
 Eells, James
 Epstein, David Bernard Alper
 Green, James Alexander
 Rourke, Colin Patrick*
 Sanderson, Brian Joseph
 Schwarzenberger, Rolph Ludwig Edward
 Tall, David Orme
 Zeeman, Erik Christopher
University of York
 Bossy, John Antony
 Williamson, John Hunter
Winchester College
 Partner, Peter David

USSR
Leningrad University
 Andrianov, Anatolii N.*

Venezuela
Central University of Venezuela
 Sadosky, Cora S.

Vietnam
University of Ho Chi Minh City
 Anh, Nguyen Huu
Yugoslavia
Academy of Sciences
 Šašel, Jaroslav
University of Ljubljana
 Vrabec, Jože
University of Zagreb
 Kurepa, Djuro R.
 Mardešić, Sibe
 Miličić, Dragan
 Petrović, Gajo
 Rendić-Miočević, Duje

Unaffiliated Members

United States

California

Anaheim

De Luccia, Frank Joseph

Berkeley

Karliner, Inga

Culver City

Pao, Peter Sie

Hayward

Shiffman, Max*

Los Altos

Possony, Stefan Thomas

Los Angeles

Puckett, William Thomas, Jr.*

Pacific Palisades

Serbin, Hyman S.*

Palo Alto

Hanson, Andrew Jorgen

Randels, William C.

Sacramento

Paige, Lowell J.

San Diego

Chernin, David Paul

Cole, Kenneth Stewart

Santa Monica

Hull, Ralph

Sunnyvale

Thompson, Richard Joseph

Colorado

Boulder

Current Geographical Location

Norton, Karl Kenneth

Connecticut

Branford

Lawton, Wayne Michael*

New Haven

Klein, Martin Jesse

Willcox, William Bradford

Ridgefield

Koplik, Joel

Sherman

Vagts, Alfred

Storrs

Hancock, Roger Nelson*

Woodbridge

Shapiro, Paul R.*

District of Columbia

de la Torre, Pilar

Ghaffari, Abolghassem*

Szu, Harold Hwaling

Topping, Peter

Florida

Hollywood

Coleman, Robert F.*

Miami

Sgro, Joseph Anthony*

Sarasota

Dunford, Nelson

Idaho

Idaho Falls

Wilkins, J. Ernest, Jr.

Illinois

Argonne

Coester, Fritz

Champaign

Ore, Fred Robert, Jr.

Zeilberger, Doron

Chicago

Carlitz, Robert D.*

Maryland

Chevy Chase

Rioch, David M.

Ruxton

Long, Clarence D., Jr.*

Massachusetts

Amherst

Farmer, Paul

Beverly

Samuel, Stuart Alan

Brookline

Berger, Robert William

Frank, Nathaniel Herman

Weiss, Edwin*

Cambridge

Cohen, David Mordechai*

Day, Florence Ely

Meyvaert, Paul Jeffrey

Peck, Leslie Gilbert*

Sacerdote, George S.

Northampton

Harris, Robert M.*

Stoneham

Landis, Dale L.

Weston

Dippolito, Paul Randall

Winchester

Shannon, Claude Elwood*

Yilmaz, Hüseyin

Woods Hole

Szent-Györgyi, Albert

Minnesota

Bloomington

Lang, William Edward

New Hampshire

West Franklin

Hutchins, Francis Gilman

New Jersey

Andover

Burke, Kenneth

Cresskill

Green, Frederic L.*

East Windsor

Hyman, Murray Harvey

Fords

Meister, James Elliot*

Hightstown

Nash, John Forbes, Jr.*

Kingston

Fergusson, Francis

Murray Hill

Kwan, John Y.

Old Tappan

Henderson, Janice A.

Princeton

Asch, Solomon E.*

Baluni, Varouzhan

Case, Kenneth Myron*

Draper, Theodore

Gilbert, Margaret Patricia

Giuliani, John Lawrence, Jr.

Lieberman, David Ira

Newman, William Isaac

Ran, Ziv

Roethel, Hans K.

Sewell, William H., Jr.

Sheng, Ping

Soneira, Raymond M.

Stillwell, Richard

Taiani, Geraldine Anne*

Van Dam, James Walter

Wilber, Donald Newton

Wilmerding, Lucius*

Yasuhara, Mitsuru

Tinton Falls

Lee, Chester C. Y.

New Mexico

Los Alamos

Critchfield, Charles Louis

New York

Glenmont

Smiley, Dorothy Manning*

Hartsdale

Scheuneman, John

Jamaica

Chein, Joseph E. Z.*

Kew Gardens

Koppel, Moshe*

New York

Bickerman, Elias Joseph

Dolciani, Mary Patricia*

Gelbart, Abe*

Grandjouan, Claireve*

Huang-Mueller, Julia*

Kelly, George Armstrong

Manassah, Jamal Tawfek*

Mitchell, William John

Mottola, Emil*

Roffman, Eric H.

Schoen, Richard M.*

Zippin, Leo*

Scarsdale

O'Neill, Michael Jerome*

Upton

Peierls, Ronald F.

Yorktown Heights

Hoffman, Alan Jerome

Price, Peter J.

Risch, Robert Henry*

North Carolina

Fuquay-Varina

Bryant, Robert Leamon

Pennsylvania

Abington

Hess, Andrew*

Bryn Mawr

Welker, Marian Hoppe

Narberth

Yang, Chung-Tao*

Philadelphia

Jameson, Michael H.*

Pittsburgh

Comenetz, George

Rosemont

Robbins, Caroline

Rhode Island

Barrington

Guralnik, Gerald Stanford*

South Carolina

Drayton

Wong, Yue Kei

Texas

Dallas

Shei, Sun-Sheng

Houston

Carazzone, James Joseph*

Lees, Jack Alexander

Utah

Salt Lake City

Varley, Robert, Jr.*

Vermont

Cavendish

Hoey, Allan Spencer

Virginia

Arlington

Danskin, John Moffatt, Jr.*

Glidden, Harold Walter

Charlottesville

Jehle, Herbert

Washington

East Redmond

Yagi, Fumio

Kent

Thomas, Charles Gomer*

Foreign Countries

Argentina

Buenos Aires

O'Donnell, Guillermo Alberto

La Plata

Coleff, Nicolás R.*

Australia

Cabramatta

Ivanov, George

Canberra

Mahler, Kurt

O'Brian, Nigel Robert

Werribee

Pearce, Paul A.*

Austria

Vienna

Fleischner, Herbert*

Belgium

Brussels

Debever, Robert*

Louvain

Bouckaert, Louis P.*

Current Geographical Location

Mechelen

Denef, Jan

Brazil

Rio de Janeiro

Turner, Stuart Price

Canada

Burlington

Hamilton, Donald Ross*

Montreal

Olechowska, Elzbieta*

New Brunswick

Ireland, Kenneth Frederick*

Pisa

Adkins, William A.*

Rome

Becatti, Giovanni*

Cabibbo, Nicola*

Calogero, Guido

Faldi, Italo

Forni, Giovanni

Tilia, Ann Britt Pettersson

Vatican City

Daltrop, Georg

Japan

Hiratsuka

Kondô, Motokiti*

Hiroshima

Tange, Toshio*

Sapporo

Hida, Haruzo*

Tokyo

Ito, Shuntaro*

Shigemitsu, Junko

Yokohama

Yosida, Natuhiko*

Malta

Mosta

Luttrell, Anthony Thornton

Mexico

Mexico City

Vallarta, Manuel Sandoval

Netherlands

Amsterdam

Lehning, Arthur

Swierczkowski, Stanislaw Slawomir

Leiden

Ven, Ton van de*

Vrier

Brascamp, Herrn Jan

Poland

Warsaw

Bernhard, Marie Louise*

Sikorski, Roman*

Rumania

Bucharest

Moscovici, Henri*

Spain

Barcelona

Corominas, Ernesto*

Flores, Antonio

Roca-Puig, Ramon

Madrid

Anes Alvarez, Gonzalo*

Sweden

Bromma

Hilding, Sven Herbert

Odhnoff, Jan Edvard*

Djorsholm

Carleson, Lennart A. E.*

Gothenburg

Holmberg, Erik John

Stockholm

Seiberg, Henrik Ludvig

Switzerland

Geneva

Zumino, Bruno

Mels

Good, J. Anton*

Pully

Poncet, Jean*

Zurich

Ettlinger, Elisabeth

Wyler, Armand

Turkey

Ankara

Ikeda, Masatoshi G.*

United Kingdom

Cambridge

Butterfield, Sir Herbert*

Crawley, Charles William

Dirac, Paul Adrian Maurice*

Lapedes, Alan S.*

Postan, Sir Michael*

Wylie, Shaun

Cheshire

Dodwell, Charles R.*

Martin, Alfred Ivor

Croydon

Todd, John Arthur*

Exeter

Rees, S. Mary

Frinton-on-Sea

Ward, Augustus John

Hereford

Mynors, Sir Humphrey Charles Baskerville

London

Kent, John Philip Cozens
Robbins, Lionel (Lord Robbins)
Watson, Sir Francis
Wedgwood, Dame Veronica, O.M.

Oxford

Andrewes, Antony
Burn, Andrew Robert
Hall, Sir Noel
Haynes, Denys Eyre Lankester
Hitchin, Nigel James
Lewis, David Malcolm
Myres, John Nowell Linton
Roberts, Colin Henderson
Sutherland, Sir Carol Humphrey Vivian
Temple, George Frederick James

Sussex

Nadel, George H.
Sayles, George Osborne

USSR

Moscow

Illarionov, Andrej Fedorovich*

Yugoslavia

Zagreb

Kraljević, Hrvoje*

Appendix C

IAS School of Membership

Explanatory Notes

This appendix lists members according to the school with which they were affiliated while in residence. Present names of the schools are used so that members who attended the School of Humanistic Studies and the School of Economics and Politics before their merger in 1949 are shown under the School of Historical Studies, the name which resulted from the consolidation. Natural scientists and social scientists who came to the Institute before their respective schools were founded attended the School of Mathematics and are listed there. A few members hold joint appointments and are named in both schools with which they are affiliated.

The field of academic specialization, where known, is given following the name. A field in parentheses is the special interest pursued while at the Institute, with the current field of specialization coming next.

Directors who held faculty appointments concurrently are designated by a (D) following their names. Neither Abraham Flexner nor Frank Aydelotte held a faculty position during their respective tenures as directors. Concurrent with their directorships, J. Robert Oppenheimer was as member of the faculty in the School of Mathematics and Carl Kaysen a member of the faculty in the School of Social Science. Harry Woolf is not affiliated with any school as a faculty member; he is a professor-at-large.

Faculty and permanent members are designated by (F) or (PM) after their names.

IAS School of Membership

School of Historical Studies

- Ackerman, Robert A. *Intellectual History*
Ackrill, John Lloyd *Ancient Philosophy*
Åkerström, Åke Bertil *Mycenaean Archaeology, Archaic Greek Art*
Alef, Gustave *Medieval History*
Alexander, Paul Julius *Byzantine History*
Alföldi, Andrew E. Z. (F) *Roman History and Culture*
Alföldy, Géza *Ancient History*
Allen, Harry Cranbrook *International History*
Allen, Reginald E. *Ancient Philosophy*
Amandry, Pierre *Greek Archaeology*
Andrewes, Antony *Ancient Greek History*
Anes Alvarez, Gonzalo (*no specialty given*)
Arce, J. Javier *Ancient History*
Arnott, William Geoffrey *Ancient Greek Literature*
Arthur, Marylin Bentley *Ancient History, Greek*
Askew, Pamela *History of Art*
Astin, Alan Edgar *Roman History*
Atiya, Aziz S. *History*
Auerbach, Erich *Mediaeval Literature*
Avril, François *History of Art*
Ayalon, David *Mediaeval History*
Aydelotte, William Osgood *The Nature of Political Behavior*
Aylmer, Gerald Edward *Modern History*
Bailey, Thomas A. *American Diplomatic History*
Bakalakis, Georgios Michael *Archaeology*
Bald, Robert Cecil *English Literature*
Balme, David Mowbray *Greek Philosophy*
Bamford, Paul Walden *Modern European History*
Banti, Luisa *Classical Archaeology*
Barag, Dan Pinhas *Classical Art & Archaeology*
Barasch, Moshe *History of Art*
Barker, John Walton *Byzantine History*
Barnes, Jonathan *History of Philosophy*
Barnes, Timothy David *Ancient History*
Baron, Hans *Italian Renaissance Studies*
Barron, John Penrose *Ancient History and Archaeology*
Bartholomew, James Richard *History of Science*
Bauer, George C. *Art History*
Baylen, Joseph O. *Modern European History*
Bean, George Ewart *Archaeology*
Becatti, Giovanni *History of Roman Art*
Beck, James H. *Art History*
Becker, Marvin B. (*no specialty given*)
Begemann, Egbert Haverkamp *History of Art*
Beguín, Sylvie M. (*no specialty given*)
Beldiceanu, Nicoară *Turkic Languages and Literature*
Bellinger, Alfred Raymond *Classics*
Beloff, Max *Recent History*
Benedict, Michael Les *American History*
Benesch, Otto *Art History*
Benjamin, Anna Shaw *Classical Archaeology*
Bennett, Emmett L., Jr. *Classical Studies, Archaeology*
Benson, Jack Leonard *Classical Archaeology*
Benson, Robert Louis *Mediaeval History*
Béranger, Jean *Ancient History*
Berchem, Denis van *Greek and Roman History*
Berengo, Marino *Early Modern History*
Berger, Robert William *Art History*
Berkowitz, David Sandler *History of Ideas*
Bernard, Paul *Archaeology*
Bernhard, Marie Louise *Greek Archaeology*
Bernheimer, Richard Max *Art and Archaeology*
Bertelli, Sergio *History*
Bettagno, Alessandro *History of Art*
Białostocki, Jan *History of Art*
Bickerman, Elias Joseph *History*
Bieler, Ludwig J. G. *Palaeography*
Bien, David Duckworth (*no specialty given*)
Bier, Justus (*no specialty given*)
Biezuńska-Małowist, Izabela *Social History of the Hellenistic Period*
Bischoff, Bernhard *Latin Palaeography, Mediaeval Latin Philology*
Bisson, Thomas Noel *Medieval History*
Bittel, Kurt *Archaeology, Old History*
Black, Matthew (*no specialty given*)
Blackmur, Richard Palmer (*no specialty given*)
Blanckenhagen, Peter H. von *Classical Archaeology*
Blatt, Franz *Medieval Latin*
Bloch, Herbert C. *Greek Historiography*
Bloomfield, Morton Wilfred *Literature and Languages*
Bluck, Richard Stanley Harold *Classics*
Boas, George *Philosophy*
Bollack, Jean *Greek Philosophy*
Bond, Godfrey William *Study of Greek Literature*
Bonfante, Larissa *Classics*
Boskovits, Miklós *Art History*
Bossy, John Antony (*no specialty given*)
Bosworth, Albert Brian *Ancient History*
Bowman, Alan Keir *Ancient History*
Bracher, Karl Dietrich *Contemporary History, History of Ideas*
Bradeen, Donald William *Greek History*
Brann, Eva T. H. *Archaeology*
Breasted, James Henry, Jr. *Art and Archaeology*
Breckenridge, James D. *Art History*

- Breen, Quirinius *Humanism of the Northern Renaissance*
- Breen, Timothy Hall *American Studies*
- Bregel, Yuri (*no specialty given*)
- Brevern, Maxim von *Political Science*
- Brieger, Peter Henry *Art History*
- Briggs, Asa (Lord Briggs) *Social and Economic History*
- Brink, Charles Oscar *Classical Studies*
- Brodie, Bernard *American Military Policy*
- Brommer, Frank (*no specialty given*)
- Broneer, Oscar Theodore *Classics*
- Broughton, T. Robert S. *Roman History*
- Brown, Jonathan *History of Art*
- Brown, Joseph E. *History of Mediaeval Science*
- Brown, Theodore M. *History of Science*
- Brown, Thomas Julian *Latin Palaeography*
- Bruchey, Stuart Weems (*no specialty given*)
- Brucker, Gene A. *Renaissance*
- Bruun, Patrick Magnus *Late Roman History*
- Buchanan, Norman S. *Economics*
- Bucher, François *History of Art*
- Buchholz, Hans-Günther *Archaeology*
- Buchthal, Hugo H. *History of Art, Archaeology, Cultural History*
- Buehrig, Edward H. *History*
- Burke, Kenneth *Literary Criticism*
- Burke, Peter *History*
- Burke, William Lozier Munro *Mediaeval Archaeology*
- Burn, Andrew Robert *Classical Greek History*
- Burns, Robert I., S.J. *Medieval History, Spanish Crusades*
- Bury, John Patrick Tuer *Modern French History*
- Butow, Robert J. C. *Modern Diplomatic History*
- Butterfield, Sir Herbert *Life of Charles James Fox*
- Byrnes, Robert F. *French History*
- Cabaniss, J. Allen *Medieval History*
- Calogero, Guido *History of Ancient Greek Philosophy*
- Cameron, Averil Millicent *Roman History*
- Campbell, Alexander Elmslie (*no specialty given*)
- Campbell, William A. *Archaeology*
- Camps, William Anthony *Ancient Literature*
- Canny, Nicholas P. *Early Modern History*
- Cantimori, Delio *Modern Italian History*
- Capps, Edward, Jr. *Fine Arts*
- Carr, Edward Hallett *History*
- Caskey, John L. (*no specialty given*)
- Cavell, Stanley Louis *Philosophy*
- Chakravarty, Amiya (*no specialty given*)
- Chapman, Guy Patterson *Modern History*
- Charitonides, Seraphim J. *Classical Archaeology*
- Chastagnol, André *Roman History*
- Chatzidakis, Emmanuel *History of Art*
- Checkland, Sydney George *History*
- Cherniss, Harold Fredrik (F) *Greek and Ancient Philosophy*
- Chevallier, Jean-Jacques *Political Science, History of Ideas*
- Chinard, Gilbert *Modern France*
- Chojnacki, Stanley J. *History, Renaissance*
- Chu, Wan Li *Chinese History*
- Ciriacy-Wantrup, Siegfried von *Economics*
- Clagett, Marshall (F) *Medieval Science*
- Clairmont, Victorine Von Gonzenbach *Greek and Roman Archaeology*
- Clark, Peter Alan *Renaissance Studies*
- Clarke, Graeme Wilber *Ancient History*
- Classen, Carl Joachim *Classics*
- Classen, Peter *Medieval History*
- Clay, Sir Henry *Relations between Industry and the State*
- Clement, Paul A. *Classical Philology, Archaeology*
- Clover, Frank M. *Roman History*
- Coale, Ansley Johnson *Economics*
- Comfort, Howard *Roman Archaeology*
- Coolidge, John Phillips *History of Architecture*
- Cooper, John C. *Aviation Law*
- Corbett, Peter E. *Attic Red-figured Pottery*
- Court, William Henry B. *Economic and Social History*
- Cozzi, Gaetano (*no specialty given*)
- Cracco, Lellia Ruggini *History of the Late Antiquity*
- Craig, Gordon Alexander *Modern European History*
- Cranz, F. Edward *Medieval and Renaissance Thought*
- Crawley, Charles William *Modern European History*
- Creaghan, John S., S.J. (*no specialty given*)
- Crocker, Lester G. *Ethical Thought in the Eighteenth Century*
- Crow, John W. *Elizabethan Literature*
- Curtius, Ernst Robert *Mediaeval Literature*
- Dales, Richard Clark *History of Science*
- Daltrop, Georg *Classical Archaeology*
- d'Alverny, Marie-Thérèse *Mediaeval History*
- d'Arcy, Martin C., S.J. *History, Religion*
- D'Arms, John Haughton *Roman History*
- Dauben, Joseph Warren *History of Science*
- Daux, Georges Louis *Greek Epigraphy, History, Literature*
- Davies, Martin *Art History*
- Davis, Joseph S. *Consumption Economics*
- Day, Florence Ely *Humanities*
- Deakin, Sir William *Modern History*
- Dean, Ruth J. *Paleography*
- Debevoise, Neilson C. *Oriental Studies*
- Debus, Allen George (*no specialty given*)
- Deiningner, Jürgen *Greek and Roman History*
- Delaissé, Léon *Fine Arts, Philology*
- Demargne, Pierre *Greek Archaeology*
- Dembowski, Peter Florian *Literary History of Medieval France*
- Dennery, Etienne (*no specialty given*)
- Dentzer, Jean-Marie *Archaeology*
- Derbolav, Josef Lothar *Ancient Philosophy*
- Derow, Peter Sidney *Ancient History*
- de Russett, Alan W. *International Organization*
- Deshman, Robert *Art History*
- DeWeerd, Harvey Arthur *History*
- Dicks, David Reginald *History of Ancient Science*
- Dikaios, Porphyrios *Archaeology*
- Dodwell, Charles R. *Art History*
- Donald, David Herbert *American History*
- Doney, Willis Frederick *History of Philosophy*
- Dörig, José *Classical Archaeology*

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Dorpalen, Andreas *European History*
Dothan, Moshe *Archaeology*
Downey, Glanville *Classics; Ancient History*
Drabkin, Israel Edward *History of Science and Medicine*
Drake, Harold Allen *Classics*
Draper, Theodore *American History*
Drijvers, Hendrik J. W. *Classical Studies and Archaeology*
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Dumézil, Georges *Archaic Roman Religion, Indo-European Civilization*
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Duval, Noël *Ancient History and Archaeology*
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Einem, Herbert von (*no specialty given*)
Eisenberg, Marvin *History of Art*
Eisler, Colin T. *Art History*
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Eliot, Thomas Stearns *Literature*
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Erder, Cevat *Classical Archaeology*
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Errington, Robert Malcolm *Ancient History*
Ettinghausen, Richard *Islamic Art*
Ettlinger, Elisabeth *Roman Provincial Archaeology*
Ettlinger, L. D. *History of Art*
Everett, Charles Warren (*no specialty given*)
Fahy, Everett *Italian Renaissance Painting*
Faldi, Italo *History of Art*
Farkas, Ann Elizabeth *Ancient Art*
Farmer, Paul *History*
Fedalto, Giorgio *Middle Ages*
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Fernandez-Santamaria, Jose A. *Spanish History*
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Forster, Robert *European History*
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Frankl, Paul *Art History*
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Frel, Jiří *Classical Archaeology*
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Frommel, Christoph Luitpold *Art History*
Fronzizi, Risieri *Philosophy*
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Geyl, Pieter *American History, Historiography*
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Gilbert, Felix (F) *Renaissance History*
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Ginouvés, René (*no specialty given*)
Ginzburg, Carlo *Modern European History*
Giovannini, Adalberto *Ancient History*
Gjerstad, Einar *Early Roman History*
Glidden, Harold Walter *Philology*
Glueck, Nelson *Oriental Studies*
Gnudi, Cesare *History of Art*
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Goitein, Shelomo Dov *Medieval History*
Goldenweiser, Emanuel A. *Economics*
Goldman, Hetty (F) *Archaeology*
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Goldthwaite, Richard A. (*no specialty given*)
Goldwater, Robert *Art History*
Goodwin, Geoffrey Lawrence *International Relations/History*
Gordon, Cyrus Herzl *Archaeology*
Görler, Woldemar Ernst Heinrich *Classics*
Gottmann, Jean Iona (*no specialty given*)
Gough, Michael Richard Edward *Classical Archaeology*
Grace, Virginia Randolph *Archeology*
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Graham, Gerald Sandford *Diplomatic History*
Graham, Loren R. *History of Science, Russian History*
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Grant, Edward *History of Science*
Grattan-Guinness, Ivor *History of Science*
Greene, Jack P. *Modern History*
Gregori, Mina G. *History of Art*
Grodecki, Louis *Mediaeval History*

- Grube, G.M.A. *Literary Criticism in Greece & Rome*
 Gruen, Erich Stephen *Classics, Ancient History*
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 Guerlac, Henry E. *History of Science*
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 Hahnloser, Hans Robert *Art History*
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 Hall, Sir Noel *Economic Theory*
 Hammer, Jacob *Mediaeval Latin and History*
 Hammond, Nicholas Geoffrey Lempriere *Greek History and Archaeology*
 Hampe, Roland *Greek Archaeology and Art*
 Hancock, Roger Nelson *Reason & Faith in 19th Century Philosophy*
 Hancock, Sir William Keith *History*
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 Harrison, Evelyn Byrd *Classical Archaeology*
 Harrison, Francis Llewellyn *Mediaeval Music*
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 Haussherr, Reiner *History of Art*
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 Heimert, Alan E. *American Intellectual History*
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 Henderson, Janice A. *History of Science*
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 Herde, Peter *Renaissance Studies*
 Herrmann, Peter *Greek Epigraphy*
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 Hess, Andrew *History of the Ottoman Empire in the 16th Century*
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 Heymann, Frederick G. *Czechoslovakian History*
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 Hillgarth, Jocelyn N. *Medieval History*
 Hirst, David Michael (no specialty given)
 Hoey, Allan Spencer *Humanities*
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 Hollinger, David A. *Intellectual History*
 Holmberg, Erik John *Classical Archaeology*
 Holmes, George Arthur *Medieval, Renaissance History*
 Holzinger, Ernst Heinrich *Art History*
 Hondius, Jacob Johannes Ewoud *Greek Epigraphy*
 Hosoya, Chichiro (no specialty given)
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 Hughes, Merritt Yerkes *English Literature*
 Hunt, John Dixon *Art History*
 Iakovidis, Spyros Eustace *Archaeology*
 Inan, Jale *Classical Archaeology, Sculpture*
 Ito, Shuntaro *History of Science*
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 Jacob, Margaret Candee *European Intellectual History*
 Jacoby, David *Medieval History*
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 Janáček, Karel *Classical Philology*
 Janson, Horst W. *History of Art*
 Jeffery, Lilian Hamilton *Classical Archaeology and History*
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 John, James Joseph *Paleography*
 Joll, James B. (no specialty given)
 Jones, Christopher Prestige *Classical Antiquity*
 Jones, Leslie W. *Paleography*
 Jucker, Hans *Classical Archaeology*
 Jurji, Edward J. *Arabic/Islamic Studies*
 Kaegi, Walter E., Jr. *Byzantine History*
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 Kahane, Penuel P. *Greek Archaeology*
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 Köhler, Erich G. von *Philosophy of History*
 Kalinowski, Lech *History of Art*
 Kann, Robert A. *Modern European History*
 Kantorowicz, Ernst H. (F) *History*
 Katzenellenbogen, Adolf *Art History*
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 Kennedy, Edward Stewart *History of the Exact Sciences*
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 Kirshner, Julius *History*
 Kitzinger, Ernst *History of Art*
 Klein, Martin Jesse *History of Science*
 Knauer, Georg Nicolaus *Classics*
 Knoepfler, Denis *Greek Epigraphy and History*
 Knorr, Wilbur Richard *History of Science, Ancient Mathematics*
 Koch, Adrienne *American History*
 Kocka, Jürgen *Modern History*
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 Konvitz, Milton R. *History of Ideas*
 Koyré, Alexandre *History of Science*

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Kuhn, Thomas S. *History of Modern Physics*
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Laffi, Umberto *Ancient History*
Lancel, Serge Henri *Archaeology and History of North Africa in Antiquity*
Laslett, Thomas Peter Ruffell (*no specialty given*)
Lassner, Jacob *Islamic History*
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Latte, Kurt *Roman Religion, Greek and Roman Literature*
Lauterbach, Albert *Political Economy*
Lavin, Irving (F) *History of Art*
Lawrence, Marion *Fine Arts*
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Lee, Rensselaer Wright *History of Art*
Le Glay, Marcel *Ancient History*
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Lehning, Arthur (*no specialty given*)
Leigh, Ralph Alexander *18th Century Studies*
Leigh, Robert D. *Government*
Leites, Edmund *History of Philosophy*
Leopold, Richard William *History*
Lepper, Francis Alfred *Roman History*
LeRider, Georges Charles (*no specialty given*)
Levey, Martin H. *History of Mathematics*
Levi, Doro *Archaeology*
Levine, Steven Z. *Art History*
Levitine, George *Art History*
Lewin, Moshe *History; 20th Century Russia*
Lewis, Bernard *Islamic History*
Lewis, David Malcolm *Greek History and Epigraphy*
Lieb, Hans Wolfgang *Roman History*
Lindberg, David C. *History of Science*
Lindberg, John *Economics*
Linderski, Jerzy *Ancient History, Classics*
Linforth, Ivan M. *Sophocles*
Link, Arthur Stanley (*no specialty given*)
Lipgens, Walter *Modern History*
Little, Lester K. *Medieval European History*
Littman, Robert J. *Ancient History*
Lockwood, William W. (*no specialty given*)
Long, Anthony Arthur *Ancient Philosophy*
Long, Clarence D., Jr. *Economics*
Long, Herbert Strainge (*no specialty given*)
Lotz, Wolfgang *History of Art*
Loveday, Alexander *Relation Between Economic Control and Political Freedom*
Lowe, Elias Avery (F) *Paleography*
Lowinsky, Edward E. *History of Art*
Lowry, Bates *Art History*
Ludwig, Walther *Classical Studies*
Luttrell, Anthony Thornton *Medieval History*
Lutz, Friedrich A. *Economics*
Lyon, Bryce Dale *Medieval History*
Lyttelton, N.A.O. (*no specialty given*)
MacKay, Pierre Antony *Classics, Islamic Studies*
MacKendrick, Paul Lachlan *Greek Epigraphy*
Mackesy, Piers Gerald *History*
Mack Smith, Denis *History*
MacMullen, Ramsay *Roman history*
Maenchen, Otto J. *History*
Maffei, Domenico *Medieval and Renaissance History*
Major, James Russell *Renaissance, Modern France*
Malowist, Marian *Social History, Medieval History*
Manasse, Ernst Moritz *Ancient Greek Philosophy*
Mantoux, Étienne Gabriel *Economics*
Marchini, Giuseppe *History of Art*
Marg, Walter *Greek Philosophy*
Marichal, Robert Pierre *Latin Palaeography*
Marinatos, Spyridon *Greek Archaeology*
Markle, Minor M., III *Greek History*
Martin, Richard Milton *American Philosophy*
Marx, Daniel, Jr. *Economics*
Mason, Alpheus Thomas *Economics and Politics*
Maxwell, Kenneth Robert (*no specialty given*)
Mayer, Arno J. *Modern European History*
Mayer, Hans Eberhard *History of the Crusades*
Mazzarino, Santo *Ancient History*
McCredie, James R. *Classical Archaeology*
McDiarmid, John Brodie *Greek Philosophy*
McDonald, A. H. *Classical Studies*
McGregor, Malcolm Francis *Greek Epigraphy and History*
McKay, Alexander Gordon *Roman Literature & Art History*
McKittrick, Eric Louis *American History*
McVaugh, Michael Rogers *History of Science*
Medlicott, William Norton *Modern History*
Meier, Christian *Ancient History*
Meiss, Millard (F) *Art History*
Melville Jones, John Richard *Archaeology*
Menasce, Rev. P. J. de *Oriental Studies*
Meritt, Benjamin Dean (F) *Greek Epigraphy*
Meritt, Lucy Shoe *Classical Archaeology*
Merker, Irwin Loeb *Ancient History*
Merlan, Philip *Classical Studies*
Metzger, Bruce Manning *Classics*
Meyvaert, Paul Jeffrey *Medieval History*
Middleton, William Edgar Knowles *History of Science*
Mihailov, Georgi Ivanov *Ancient Greek Epigraphy and History*
Miles, George C. *Numismatics*
Millar, Fergus Graham B. *Ancient History*
Miller, Perry *American Intellectual History*
Millon, Henry Armand *Art History*
Milne, Alan John *Political and Moral Philosophy*
Miner, Dorothy E. *Art History*
Minio-Paluello, Lorenzo *History of Mediaeval Philosophy*
Minott, Charles Ilsley *History of Art*
Mitchel, Fordyce Wood *Greek History, Epigraphy*
Mitchell, Jonathan (*no specialty given*)
Mitford, Terence B. *Greek Epigraphy*

- Mitrany, David (F) *International Relations*
 Mitsòs, Márkellos Th. *Greek Inscriptions*
 Moevs, Maria Teresa Marabini *Classical Archaeology*
 Mommsen, Hans (no specialty given)
 Mommsen, Wolfgang J. *History and Social Sciences*
 Moody, Theodore William *19th C European History*
 Moosbrugger-Leu, Rudolf *Archaeology*
 Morgenthau, Hans J. (no specialty given)
 Mørkholm, Otto *Ancient Numismatics*
 Morris, Geoffrey Christopher (no specialty given)
 Morris, Richard Brandon *American History*
 Morrison, Karl *Mediaeval History*
 Moscovici, Serge *History of Science*
 Mourelatos, Alexander Phoebus D. *Ancient Philosophy*
 Moutsopoulos, Evaghélos A. *Ancient Philosophy*
 Moxey, Patricio Keith Fleming *Art History*
 Mundy, John Hine *Medieval History*
 Muraro, Michelangelo *Art History*
 Mütterich, Florentine *Art History*
 Mylonas, George Emmanuel *Archaeology*
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 Myres, John Nowell Linton *Anglo-Saxon and Medieval History*
 Nadal, Jordi *Economic History*
 Nadel, George H. *Classical Studies*
 Nagy, Gregory *Archaic Greek History and Archaeol-*
 Narkiss, Bezalel *History of Art*
 Nathan, Hans *Musicology*
 Negri, Enrico de *History of Ideas*
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 Neugebauer, Otto E. *History of Astronomy*
 Neumann, Sigmund *International Relations*
 Newman, John Arthur *Art History*
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 Nicolet, Claude *Classics, Ancient History*
 Nicolson, Marjorie Hope *Literary History*
 Niebuhr, Reinhold (no specialty given)
 Nipperdey, Thomas H. *Modern History*
 Nordenfalk, Carl A. J. *Art History*
 Nordström, Folke *History of Mediaeval Art and Iconography*
 Nurske, Ragnar (no specialty given)
 Oberhuber, Konrad Johannes *History of Art*
 O'Donnell, James Reginald *Palaeography and Edition of Texts*
 Oehler, Klaus Herbert *Philosophy*
 Ohly, Dieter *Greek Sculpture*
 Ohmori, Shozo (no specialty given)
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 Orsini, Gian N. *History*
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 Osborne, Michael John *Greek History*
 Osten, Gert von der *History of Art*
 Östenberg, Carl Eric *Archaeology*
 Ostwald, Martin *Classical Studies*
 Özgüç, Nimet *Near Eastern Archaeology*
 Özgüç, Tahsin *Near Eastern Archaeology*
 Pächt, Otto *Art History*
 Pagden, Anthony Robin Dermer *Early Modern History*
 Palfrey, John Gorham (no specialty given)
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 Panofsky, Erwin *History of Art*
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 Paschoud, François *Later Roman History*
 Pearson, Lionel *Greek History and Philosophy*
 Peck, Arthur *Greek Philosophy*
 Pedroni, Catherine *Art History*
 Penfield, Wilder G. *Medical Education*
 Penrose, Ernest F. *Geography*
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 Petrović, Gajo *History of Philosophy*
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 Plezia, Marian *Classical Philology*
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 Poole, De Witt C. (no specialty given)
 Posner, Donald *Art History*
 Possony, Stefan Thomas (no specialty given)
 Post, Gaines (no specialty given)
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 Pratt, Robert Armstrong *Palaeography*
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Robertson, Giles H. *History of Art*
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Robinson, Richard *Philosophy*
Robinson, Ronald E. *History of the British Commonwealth*
Roca-Puig, Ramon *Latin Papyrology*
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Rowley, George *Fine Arts*
Rubinstein, Nicolai *Renaissance History*
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Sachs, Judith *Classical and Mediaeval Studies*
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Säflund, Lars G. *History of Art, Greek Archaeology*
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Salvini, Roberto *Art History*
Samuel, Deborah Hobson *Classics*
Sanchez-Albornoz, Claudio *History of Spain*
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Sauerländer, Willibald *Art History*
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Schulz, Juergen *History of Art*
Schwabacher, Wilhelm H. *Greek Numismatics*
Schwartz, Jacques *Roman History*
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Scobie, James R. *Latin American and Urban History*
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Seferis, George *Literary Criticism*
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Setton, Kenneth M. (F) *Middle Ages, Renaissance*
Ševčenko, Ihor *Mediaeval Studies*
Seyrig, Henri *Archaeology*
Shahid, Irfan A. *Late Roman and Early Mediaeval History*
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Shapiro, Alan E. *History of Science*
Shearman, John K. G. *History of Art*
Sheehan, James J. *Modern Europe*
Shimkin, Demetri Boris (no specialty given)
Sicherl, Martin *Classics*
Silberner, Edmund (no specialty given)
Silver, Larry Arnold *Art History*
Silverstein, Theodore *History of Ideas and of Philosophy*
Simon, Erika *Classical Archaeology*
Simon, Walter M. *History of Ideas*
Sinclair, Robert Keith *Greek History and Epigraphy*
Skemp, Joseph Bright *Ancient Greek Philosophy*
Skendi, Stavro *Balkan peoples under the Ottomans*
Skinner, Quentin *Social Theory*
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Sparkes, Brian Allison *Archaeology*
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Stevens, Philip Theodore *Ancient Greek Literature*
Stewart, Walter W. (F) *Economics*
Stillwell, Richard *Classical Archaeology*
Stone, Feodora (no specialty given)
Stone, John Richard Nicholas *Economics*
Stone, Lawrence *History*
Stourzh, Gerald *Modern History*
Straub, Johannes Anton *Roman History*
Strauss, Gerald *History*
Strittmatter, Anselm, O.S.B. (no specialty given)

- Stroheker, Karl Friedrich *Late Roman Studies*
 Strunk, Oliver *History of Fine Art*
 Strycker, Emile L. de *Greek Philosophy*
 Stürmer, Michael *Modern European History*
 Summers, John David *History of Art*
 Sumner, Benedict Humphrey *Russian History*
 Sutherland, Sir Carol Humphrey Vivian *Ancient History*
 Swarzenski, Georg (*no specialty given*)
 Swarzenski, Hanns P. (*no specialty given*)
 Swerdlow, Noel M. *History of Science*
 Szövényfi, Joseph *Cultural and Literary History*
 Talbert, Richard John *Alexander Ancient History*
 Talbot, John Edwin *Modern European History*
 Talmon, Jacob Laib *Intellectual History*
 Tannenbaum, Frank (*no specialty given*)
 Tarán, Leonardo *Ancient Philosophy, Classics*
 Taylor, Lily Ross *Roman Republican Politics*
 Tedesco, Paul Maximilian (*no specialty given*)
 Thackray, Arnold *History of Science*
 Thayer, H. Standish *American Philosophy*
 Thistlethwaite, Frank *American History*
 Thomas, John David *Roman History/Papyrology*
 Thompson, Homer Armstrong (F) *Classical Archaeology*
 Thompson, Margaret *Archaeology, Numismatics*
 Thomson, David *Modern France*
 Thomson, S. Harrison *Latin Paleography of Later Middle Ages*
 Threpsiades, Antigone (*no specialty given*)
 Threpsiades, Ioannes (*no specialty given*)
 Tierney, Brian *Medieval History*
 Tilia, Ann Britt Pettersson *Archaeology*
 Tindall, George Brown *American History*
 Tolnay, Charles Erich de *History of Art*
 Topping, Peter *Medieval History*
 Toynbee, Arnold Joseph *History*
 Travlos, John *Archaeology*
 Trexler, Richard C. *History*
 Trypanis, Constantine Athanasius (*no specialty given*)
 Tucker, Robert C. *Russian History and Politics*
 Turkevich, Ludmilla Buketoff *Russian-Soviet Area*
 Turner, Eric Gardner *The Ancient World*
 Unguru, Sabetai *History of Science*
 Vagts, Alfred *History*
 Vanderpool, Eugene *Archaeology*
 Vayer, Lajos *Italian Renaissance Art*
 Verbeke, Gerard *History of Greek Philosophy*
 Verdier, Philippe M. *History of Art*
 Verheyen, Egon *History of Art*
 Ver Steeg, Clarence L. *Early United States History*
 Vickers, Michael *Archaeology, Art History*
 Viner, Jacob (PM) *Economics*
 Vivarelli, Roberto i
 Vlastos, Gregory *Classical Philosophy*
 Vuillemin, Jules M. E. *Greek Philosophy*
 Wace, Alan John B. *Archaeology*
 Wade-Gery, Henry T. *Classical Philology*
 Walbank, Frank William *Greek and Roman History*
 Walker, Mack *Modern European History*
 Wallace, William Augustine *History of Science, Renaissance*
 Wallace, William Pitkin *Classics*
 Walzer, Richard R. *Arabic and Greek Philosophy*
 Ward-Perkins, John B. *Roman Archaeology and Architecture*
 Warren, Robert B. (F) *Economics*
 Wasserstein, Abraham *Classics*
 Watson, Sir Francis *History of Art*
 Webster, J. Carson *History of Art*
 Webster, Sir Charles (*no specialty given*)
 Webster, Thomas B. L. *Greek*
 Wedgwood, Dame Veronica, O.M. *Early Modern and European History*
 Wehrli, Fritz *Greek Philosophy*
 Weiller, Jean Sylvain *Economics*
 Weinberg, Albert K. *History of American Militarism*
 Weinberg, Bernard *Literary Criticism*
 Weinberg, Saul S. *Archaeology*
 Weinstein, Donald *Renaissance History*
 Weisberg, Gabriel P. *History of Art*
 Weisinger, Herbert *Renaissance Studies*
 Weitzmann, Kurt (PM) *Archaeology*
 Welker, Marian Hoppe *Publication of Tarsus Finds*
 White, Lynn, Jr. *Mediaeval Studies*
 White, Mary E. *Greek Archaeology*
 White, Morton G. (F) *Intellectual History and Philosophy*
 Wilber, Donald Newton *Archaeology*
 Wilkinson, Bertie (*no specialty given*)
 Willcox, William Bradford *History*
 Willoughby, William R. (*no specialty given*)
 Wilmerding, Lucius (*no specialty given*)
 Wilton-Ely, John *Fine Arts*
 Winnington-Ingram, Reginald Pepys *Ancient Greek Literature*
 Winzinger, Franz *Art History*
 Wittkower, Rudolf J. *History of Art*
 Wlosok, Antonie Elisabeth *Roman History, History of Greek Philosophy*
 Wolfe, Don Marion (*no specialty given*)
 Wolff, Hans Julius *Ancient History*
 Woloch, Isser *Modern European History*
 Woodhead, Arthur Geoffrey *Greek Epigraphy*
 Woodruff, William *Economic History*
 Woodward, Sir (Ernest) Llewellyn (F) *Modern History, International Relations*
 Wormald, Francis *Paleography*
 Wormell, Donald Ernest Wilson *Ancient History*
 Wright, David H. *History of Art*
 Wright, Gordon *Modern European History*
 Wycherley, Richard Ernest *Greek Archaeology*
 Yalouris, Nicholas (*no specialty given*)
 Yosida, Natuhiko (*no specialty given*)
 Zacour, Norman *Medieval History*
 Zagorin, Perez (*no specialty given*)
 Zarnecki, George *History of Art*
 Zawodny, J. K. *International Relations*
 Zerner, Catherine Wilkinson *History of Art*
 Zuntz, Günther *Archaeology, Classics*
 Zupko, Ronald Edward *History of Science and Technology*

School of Mathematics

- Accola, Robert Daniel Mize *Riemann Surfaces, Algebraic Geometry*
 Adams, John Frank *Algebraic Topology*
 Adams, William Wells *Number Theory*
 Addison, John West, Jr. *Foundations of Mathematics*
 Adkins, William A. *Ideals of Differentiable Functions*
 Adler, Allan Russell (*no specialty given*)
 Adler, Felix T. *Neutron Physics*
 Adolphson, Alan Carl *Number Theory*
 Ahern, Patrick Robert *Number Theory*
 Ahlfors, Lars Valerian (*no specialty given*)
 Ahner, John Franklin *Analysis*
 Akagawa, Yasumasa *Number Theory*
 Akbulut, Selman *Topology*
 Akeley, Edward S. *Relativity*
 Akutowicz, Edwin James *Analysis*
 Albada, Gale Bruno van *Astrophysics*
 Albert, Abraham Adrian *Algebra, Geometry*
 Albrecht, Felix Robert *Geometry, Global Analysis*
 Alexander, James Waddell (F) *Topology*
 Alexander, John Ralph (*no specialty given*)
 Alfaro, Vittorio de *Theoretical Physics*
 Alisbah, Orhan H. *Theory of Functions of a Complex Variable*
 Allendoerfer, Carl B. *Differential Geometry*
 Almgren, Frederick Justin, Jr. (*no specialty given*)
 Alperin, Jonathan L. (*no specialty given*)
 Ambrose, Warren *Topological Groups*
 Amirà, Binyamin A. *Mathematical Analysis*
 Amitsur, Shimshon A. (*no specialty given*)
 Andersen, Henning Haahr *Algebraic Geometry*
 Anderson, Frank W. *Algebra*
 Anderson, Michael P. *Algebraic Geometry*
 Anderson, Richard Davis *Topology*
 Andreotti, Aldo *Complex Analysis*
 Andrews, James Joseph (*no specialty given*)
 Andrianov, Anatolii N. (*no specialty given*)
 Anh, Nguyen Huu *Theory of Group Representations*
 Ankeny, Nesmith *Cornett Number Theory*
 Antonelli, Peter Louis (*no specialty given*)
 Anzai, Hirotada *Harmonic Analysis*
 Araki, Shôrô *Algebraic Topology*
 Arens, Richard F. (*no specialty given*)
 Arf, Cahit *Algebra*
 Aritürk, Haluk *Automorphic Forms*
 Armentrout, Steve *Topology*
 Armstrong, Mark Anthony *Topology*
 Arnold, Herbert Eli *Mathematical Statistics*
 Arnowitz, Richard Lewis *Physics*
 Arthur, James Greig *Representations of Lie Groups*
 Aschbacher, Michael George *Finite Group Theory*
 Ash, Avner Dolnick *Automorphic Forms*
 Asimov, Daniel Alan *Topology, Geometry*
 Asmuth, Charles A. *Harmonic Analysis on p -adic Groups*
 Asplund, O. Edgar *Functional Analysis*
 Assadi, Amir Hossein *Topology*
 Astey, Luis *Algebraic Topology*
 Atiyah, Michael Francis (F)
 Aubert, Karl Egil *Algebra*
 Aubin, Thierry Emilien *Differential Geometry*
 Auluck, Faqir Chand *Theoretical Physics*
 Aumann, Georg *Topology*
 Auslander, Louis (*no specialty given*)
 Auslander, Maurice *Algebra*
 Austin, George Allen (*no specialty given*)
 Ayoub, Christine Williams *Algebra, Group Theory*
 Baas, Nils Andreas *Topology*
 Babalola, Victor A. *Partial Differential Equations*
 Babbitt, Donald G. *Analysis*
 Bachiller, Tomas Rodriques *Topology*
 Baer, Reinhold *Pure Mathematics*
 Bagby, S. Thomas, Jr. *Quasiconformal Mappings*
 Bagemihl, Frederick Set Theory, *Complex Analysis*
 Baiada, Emilio *Analysis*
 Baily, Walter Lewis, Jr. (*no specialty given*)
 Bak, Anthony *Algebraic K-Theory and Topology*
 Baker, Alan *Number Theory*
 Baker, Norman Hodgson, Jr. *Astrophysics*
 Balachandran, Vadekke Kurupath *Number Theory*
 Balázs, Louis Attila Peter *Physics, Elementary Particles, Theory*
 Bambah, Ram Prakash *Number Theory*
 Banyaga, Augustin *Differential Topology*
 Barbasch, Dan Mihai *Harmonic Analysis on Lie Groups*
 Barber, Sherburne F. (*no specialty given*)
 Bardakci, Korkut *Physics*
 Bargmann, Valentine *Theoretical Physics*
 Barkas, Walter H. *Physics*
 Barker, S. Ross *Analysis*
 Barnes, Mabel Schmeiser *Analysis*
 Barricelli, Nils Aall *Bionumerical Experiments by the Computer*
 Bartlett, James Holly *Theoretical Physics*
 Barton, Gabriel *Physics*
 Bass, Hyman *Algebra*
 Bassi, Achille (*no specialty given*)
 Bateman, Felice Davidson *Algebra*
 Bateman, Paul Trevier *Number Theory*
 Batho, Edward H. *Algebra*
 Batschelet, Eduard (*no specialty given*)
 Baum, Paul Frank *Topology*
 Baumslag, Gilbert *Algebra*
 Baxendale, Peter Herbert *Analysis*
 Beaumont, Ross Allen *Pure Mathematics, Algebra*
 Beckenbach, Edwin Ford *Analysis*
 Bég, Mirza Abdul Baqi *Theoretical Physics*
 Behrends, Ralph Eugene *Elementary Particle Theory*
 Berger, Melvyn S. *Non-linear Problems in Partial Differential Equations*
 Berlin, Theodore H. *Statistical Mechanics*
 Bernays, Paul *Mathematical Logic*
 Berndt, Bruce Carl *Number Theory*
 Bernstein, Dorothy Lewis (*no specialty given*)
 Bernstein, Jeremy *Theoretical Physics*
 Bers, Lipman *Analysis*
 Bertotti, Bruno *Theoretical Physics*
 Besicovitch, Abram S. (*no specialty given*)
 Beukers, Frits *Number Theory*
 Beurling, Arne K. A. (F) *Analysis*
 Bhanu Murthy, Tyakel Subbiah *Harmonic Analysis on Semi-Simple Lie Groups*

- Biermann, Ludwig Franz Benedikt *Origin of Cosmic Rays*
- Bierstone, Edward (*no specialty given*)
- Bing, R. H. *Topology*
- Birkhoff, Garrett (*no specialty given*)
- Bishop, Errett A. *Several Complex Variables*
- Bitterman, Morton E. *Psychology*
- Björck, Göran *Analysis*
- Bjorken, James Daniel *Theoretical Physics*
- Blackwell, David (*no specialty given*)
- Blanton, John David *Topology*
- Blattner, Robert James (*no specialty given*)
- Bleick, Willard Evan *Applied Mathematics*
- Bludman, Sidney Arnold *Particle Physics; Astrophysics*
- Blumenthal, Leonard M. *Geometry, Topology*
- Blumenthal, Robert M. (*no specialty given*)
- Boals, Alfred John *Topology*
- Bochner, Salomon *Electronic Computer Project*
- Bohr, Aage Niels (*no specialty given*)
- Bohr, Harald (*no specialty given*)
- Bohr, Niels H. D. *Physics*
- Bombieri, Enrico (F) *Number Theory*
- Bonic, Robert Allen *Branch Algebras, Quantum Theory*
- Boone, William Werner *Logic*
- Booth, Andrew Donald *Electronic Computation*
- Boothby, William M. (*no specialty given*)
- Borchers, Hans-Jürgen *Physics*
- Borel, Armand (F) *Algebraic Groups*
- Borgers, Alfons M.F. *Mathematical Logic*
- Borsuk, Karol *Topology*
- Bosco, Bernardino *Physics*
- Bose, Samir Kumar *Theoretical Physics*
- Bott, Raoul (*no specialty given*)
- Bouckaert, Louis P. (*no specialty given*)
- Bourgin, David Gordon *Algebraic Topology and Analysis*
- Bourguignon, Jean-Pierre (*no specialty given*)
- Bourne, Samuel G. *Algebra, Topological Algebra*
- Bowen, Rufus *Dynamical Systems*
- Brahana, Thomas R. (*no specialty given*)
- Branges, Louis de *Analysis*
- Brauer, Richard (*no specialty given*)
- Braun, Hel (*no specialty given*)
- Bredon, Glen E. *Transformation Groups*
- Breit, Gregory *Physics*
- Bremermann, Hans Joachim *Several Complex Variables, Quantum Field Theory*
- Bressoud, David Marius *Number Theory*
- Brezin, Jonathan Paul *Analysis*
- Brothers, John Edwin *Geometric Measure Theory*
- Browder, Felix *Analysis*
- Browder, William *Topology*
- Brown, Edgar Henry, Jr. *Topology*
- Brown, Laurie Mark *Theoretical Physics*
- Brown, Morton *Topology*
- Brownell, Frank H. (*no specialty given*)
- Brueckner, Keith Allan (*no specialty given*)
- Bruhat, François *Group Theory*
- Bruner, Jerome S. *Experimental Psychology*
- Bruno, Björn Arvid William *Nuclear Physics*
- Bryant, John L. *Topology*
- Bryant, Robert Leamon *Geometry*
- Buchdahl, Hans Adolph *Theoretical Physics*
- Buchsbaum, David A. *Algebra*
- Burgess, Alan *Astrophysics*
- Burgess, C. Edmund *Topology*
- Burghlea, Dan *Topology, Geometry*
- Burkill, John Charles (*no specialty given*)
- Burns, Daniel Matthew *Analysis, Geometry*
- Busemann, Herbert *Geometry*
- Butler, Stuart Thomas (*no specialty given*)
- Byers, Nina *Physics*
- Cagle, Fredric William, Jr. *Applied Mathematics*
- Cairns, Stewart Scott *Differential Topology, Analysis*
- Calabi, Eugenio *Geometry, Complex Manifolds*
- Calderón, Alberto Pedro *Mathematical Analysis*
- Calkin, John Williams (*no specialty given*)
- Callahan, Thomas H. *Representation Theory*
- Calloway, Jean Mitchener *Number Theory*
- Cameron, Robert Horton *Analysis*
- Campbell, Alan D. (*no specialty given*)
- Candlin, David John *High Energy Physics*
- Cannon, James W. (*no specialty given*)
- Cantor, Murray Robert *Differential Equations*
- Cantrell, James C. *Topology*
- Cardoso, Fernando *Partial Differential Equations*
- Carleson, Lennart A. E. *Analysis*
- Carlitz, Leonard (*no specialty given*)
- Carlson, John Franklin *Theoretical Physics*
- Carnap, Rudolf *Mathematical Logic*
- Cartan, Henri Paul *Analytic Functions, Topology*
- Carter, Roger William *Algebraic Groups and Related Finite Groups*
- Cartier, Pierre Emile *Algebra*
- Case, Kenneth Myron *Theoretical Physics*
- Casselman, William Allen *Automorphic Forms*
- Cassou-Noguès, Philippe *Algebraic Number Theory*
- Cassou-Noguès, Pierrette *Number Theory Čech, Edvard (no specialty given)*
- Cerf, Jean *Topology*
- Cesari, Lamberto *Analysis*
- Chan, Hong-Mo *Physics*
- Chandrasekharan, Komaravolu (*no specialty given*)
- Chang, Chen Chung *Logic*
- Chang, Cheng Shu Wang *Statistical Physics*
- Chang, Ngee-Pong *Physics*
- Chang, Shih-Hsun (*no specialty given*)
- Chang, Sun-Yung *Mathematics*
- Chang, Tsung Sui (*no specialty given*)
- Chapman, Thomas A. *Topology*
- Charap, John Michael *Theoretical Physics*
- Charlap, Leonard S. *Geometry*
- Charney, Jule G. *Applied Mathematics*
- Charpentier, Marie (*no specialty given*)
- Chase, Stephen *Urban Algebra*
- Cheeger, Jeff *Differential Geometry*
- Chein, Joseph E. Z. *Number Theory*
- Chen, Chiang-jun *Number Theory*
- Chen, Kien-Kwong (*no specialty given*)
- Chen, Kuo-Tsai (*no specialty given*)
- Chen, Yu *Why Analysis*
- Chern, Shiing-Shen *Differential Geometry*

IAS School of Membership

- Chevalley, Claude (*no specialty given*)
Chew, Geoffrey Foucar *Physics*
Chiang, Li-Fu (*no specialty given*)
Chiang, Po-Chu *Topology*
Chittenden, Edward Wilson (*no specialty given*)
Chiu, Hong-Yee *Physics-astronomy*
Chomsky, A. Noam *Logic, Philosophy*
Choquet, Gustave *Mathematical Analysis*
Choquet, Yvonne Bruhat *Partial Differential Equations*
Chou, Péi-Yüan *Physics*
Chover, Joshua *Analysis*
Chow, Wei-Liang *Algebraic Geometry*
Chowla, Sarvadaman *Theory of Numbers*
Christian, Richard Stuart *Theoretical Physics*
Christian, Ulrich Hans Richard Otto *Modular Functions*
Christy, Robert Frederick *Theoretical Physics*
Chuaqui, Rolando Basim *Logic and Foundations*
Church, Alonzo (*no specialty given*)
Church, Philip Throop *Topology*
Civin, Paul Fourier *Analysis*
Clark, Allan H. *Topology*
Clarkson, James Andrew (*no specialty given*)
Clemens, Charles Herbert *Algebraic Geometry*
Clifford, Alfred H. (*no specialty given*)
Cline, Edward Thomas, Jr. *Representations and Cohomology of Algebraic Groups*
Coester, Fritz *Theoretical Physics*
Cohen, David Mordechai *Number Theory*
Cohen, Eckford *Theory of Numbers*
Cohen, Frederick Ronald *Algebraic Topology*
Cohen, Haskell *Topology*
Cohen, Irvin Sol (*no specialty given*)
Cohen, Leon W. *Analysis, Topology*
Cohen, Marshall M. *Topology*
Cohen, Michael *Physics*
Cohen, Paul Edward *Logic*
Cohen, Paul J. (*no specialty given*)
Cohn, Harvey *Number Theory*
Cohn, Leslie *Representation Theory*
Cohn, Richard M. *Algebra*
Cole, Kenneth Stewart (*no specialty given*)
Coleff, Nicolás R. *Several Complex Variables*
Coleman, Robert F. *Number Theory*
Collins, Michael John *Algebra*
Comenetz, George *Differential Geometry*
Conde, Antonio *Topology*
Conforto, Fabio *Algebraic Geometry, Theory of Functions*
Conn, Jack Frederick *Differential Geometry*
Connell, Edwin H. *Topology*
Conner, Pierre Euclide, Jr. *Differential Topology*
Connes, Alain (*no specialty given*)
Converse, George A. *Mathematics*
Cooke, George Erskine *Harmonic Integrals*
Cooper, Leon N. (*no specialty given*)
Corinaldesi, Ernesto (*no specialty given*)
Cornwall, John Michael *Elementary Particle Theory*
Corominas, Ernesto *Algebra*
Corson, Edward Michael *Physics*
Corwin, Lawrence Jay *Group Representations*
Costa De Beauregard, Olivier *Theoretical Physics*
Cowles, John Richard *Mathematical Logic*
Cowling, Vincent F. *Analysis*
Craggs, Robert F. *Mathematics (Topology)*
Critchfield, Charles Louis *Mathematical Physics*
Cronbach, Lee Joseph *Psychology*
Crutchfield, Richard Stanley *Psychology*
Curjel, Caspar Robert (*no specialty given*)
Curran, Peter M. *Cohomology of Groups*
Curry, Haskell Brooks *Mathematical Logic*
Curtis, Charles W. *Algebra*
Curtis, Morton Landers *Topology*
Curtis, Richard Bertram *Theoretical Physics*
Cutler, Edward Hutchens (*no specialty given*)
Cwikel, Michael *Analysis*
Dabrowski, Janusz *Theoretical Physics, Many Body Theory*
Dalitz, Richard Henry *Theoretical Physics of Elementary Particles*
Dalla Volta, Vittorio *Differential Geometry*
Dancoff, Sidney Michael *Physics*
Dani, Shrikrishna Gopal *Ergodic Theory*
Dankner, Alan *Topology*
Danskin, John Moffatt, Jr. *Calculus of Variations, Functional Equations*
Davids, Norman *Applied Math*
Davies, Edward Brian (*no specialty given*)
Davis, Chandler *Hilbert-Space Operators*
Davis, Martin D. *Mathematical Logic*
Davis, Michael *Transformation Groups, Differential Topology*
Day, Mahlon Marsh *Analysis*
Debever, Robert (*no specialty given*)
de Boer, Jan *Quantum Statistical Mechanics*
DeCelles, Paul Craig *Physics*
Dedecker, Paul Jean *Algebraic and Differential Topology*
Dekker, Jacob C. E. *Logic*
Delange, Hubert *Number Theory*
de la Torre, Pilar (*no specialty given*)
deLeeuw, Karel *Functional Analysis, Harmonic Analysis*
Deligne, Pierre (*no specialty given*)
Dellacherie, Claude (*no specialty given*)
Delsarte, Jean *Analysis*
de Lyra, Carlos *Algebraic Topology*
Denef, Jan *Logic and Algebra*
Dennis, R. Keith (*no specialty given*)
Deny, Jacques *Potential Theory*
Deodhar, Vinay Vithal *Algebraic Groups, Representation Theory*
Derrick, Graham H. *General Relativity*
De Sapio, Rodolfo Vittorio *Topology*
Deser, Stanley *Physics*
Deuring, Max Friedrich *Number Theory, Algebra*
Devinatz, Allen *Analysis*
De Wet, Jacobus S. *Quantum Mechanics, Hilbert Spaces*
DeWitt, Bryce Seligman (*no specialty given*)
DeWitt-Morette, Cecile *Theoretical Physics*
Diamond, Harold G. *Analytic Number Theory*
Dias, Candido L. da Silva *Differential Geometry*
Dijk, Gerrit van *Harmonic Analysis on Lie Groups*

- Diliberto, Stephen Peter Lucio (*no specialty given*)
 Dippolito, Paul Randall *Topology*
 Dirac, Paul Adrian Maurice *Physics*
 Doi, Koji *Number Theory*
 Dolciani, Mary Patricia (*no specialty given*)
 Dold, Albrecht E. *Algebraic Topology*
 Dominicis, Cyrano Tullio de *Physics*
 Donovan, Peter Windeyer (*no specialty given*)
 Doob, Joseph Leo *Analysis*
 Dorfmeister, Josef *Mathematics*
 Doss, Raouf *Analysis*
 Douglas, Jesse (*no specialty given*)
 Douglas, Ronald George (*no specialty given*)
 Dowker, Yael Naim *Measure Theory*
 Dragt, Alexander James *Theoretical Physics*
 Dresden, Arnold (*no specialty given*)
 Dress, Andreas W. M. *Topology*
 Dribin, Daniel Maccabaeus *Algebra, Number Theory*
 Dubins, Lester E. *Probability Theory*
 Duff, George Francis Denton *Differential Equations*
 Dunford, Nelson (*no specialty given*)
 Durand, Loyal III *Particle Physics*
 Duren, Peter Larkin *Analysis*
 Durfee, Alan H. *Topology*
 DuVal, Patrick (*no specialty given*)
 Dvoretzky, Aryeh (*no specialty given*)
 Dwork, Bernard M. *Algebraic Number Theory*
 Dwyer, William G. *Algebraic Topology*
 Dye, Henry Abel (*no specialty given*)
 Dyer, Micheal Neal *Algebraic Topology*
 Dyer, S. Eldon, Jr. *Topology*
 Dynin, Alexander *Partial Differential Equations*
 Earle, Clifford John, Jr. *Mathematics, Analysis*
 Eaton, William Thomas (*no specialty given*)
 Eberlein, Patrick Barry *Topology*
 Eberlein, William Frederick (*no specialty given*)
 Echols, Robert Lewis *Physics*
 Eckart, Carl Henry *Geophysics*
 Eckmann, Beno *Topology, Algebra, Homology*
 Eden, Richard John *High Energy Physics and Energy*
 Edmonds, Allan Lee *Topology*
 Edwards, Charles H., Jr *Topology*
 Edwards, David Alan *Global Analysis, Index Theory*
 Edwards, Robert Duncan *Topology*
 Edwards, Samuel Frederick *Quantum Field Theory*
 Eells, James *Elliptic Analysis, Differential Geometry*
 Eguchi, Masaaki *Harmonic Analysis on Homogeneous Spaces*
 Ehrenpreis, Leon *Theory of Distributions*
 Ehrlich, Paul E. (*no specialty given*)
 Eichler, Martin Maximilian Emil *Modular Functions*
 Einstein, Albert (F) *Physics*
 Eisenbud, Leonard *Theoretical Physics*
 Eliasson, Halldor Ingimar *Differential Geometry*
 Eliezer, Christie Jayaratnam *Theoretical Physics*
 Ellentuck, Erik (*no specialty given*)
 Elliott, George Arthur *Operator Algebras*
 Elliott, Joanne *Analysis*
 Ellis, Hubert W. *Analysis*
 Ellis, Robert *Transformation Groups*
 England, James W. *Topological Dynamics*
 Enright, Thomas J. *Representation Theory*
 Enz, Charles Paul *Theoretical Physics*
 Epstein, David Bernard Alper *Topology*
 Epstein, Henri *Quantum Field Theory*
 Epstein, Saul Theodore (*no specialty given*)
 Erdős, Paul (*no specialty given*)
 Erle, Dieter Heinz (*no specialty given*)
 Erlwanger, Stanley Herbert *Mathematics Learning*
 Ernest, John Arthur *Analysis*
 Evans, Benny Dan *Geometric Topology*
 Evans, Trevor *Algebra*
 Ewing, George McNaught (*no specialty given*)
 Fadell, Edward Richard *Topology*
 Faith, Carl (*no specialty given*)
 Fan, Ky *Functional Analysis*
 Farrell, F. Thomas *Topology*
 Farrell, Orin James *Function Theory, Analysis*
 Fay, John David (*no specialty given*)
 Feder, Samuel S. *Differential Topology*
 Federer, Herbert (*no specialty given*)
 Feenberg, Eugene (*no specialty given*)
 Feer, Daniel B. *Theoretical Physics*
 Feferman, Solomon *Mathematical Logic*
 Feinberg, Gerald *Theoretical Physics*
 Feit, Walter *Group Theory*
 Fekete, Michael *Classical Analysis*
 Feldman, David *High-Energy Physics*
 Feldman, Gordon *Theoretical Physics*
 Feldman, Jacob *Functional Analysis*
 Fenchel, Werner (*no specialty given*)
 Ferrand, Jacqueline *Theory of groups*
 Ferry, Steven Charles *Topology*
 Fialkow, Aaron David *Differential Geometry*
 Fiedorowicz, Zbigniew *Algebraic Topology*
 Fierz, Markus *Theoretical Physics*
 Fillmore, Jay Paul *Geometry*
 Fine, Nathan Jacob (*no specialty given*)
 Finkelstein, Robert Jay *Theoretical Physics*
 Finn, Robert S. *Analysis*
 Finzi, Arrigo (*no specialty given*)
 Fischer, Bernd (*no specialty given*)
 Fischer-Colbrie, Doris Helga *Geometry*
 Fleischner, Herbert *Graph Theory*
 Flexner, William Welch (*no specialty given*)
 Flicker, Yuval Zvi *Automorphic Representations*
 Flores, Antonio *Topology*
 Floyd, Edwin E. *Topology*
 Foldy, Leslie Lawrence *Physics*
 Folland, Gerald Budge *Analysis*
 Follin, James Wightman, Jr. *Theoretical Physics*
 Følner, Erling (*no specialty given*)
 Fonda, Luciano *Elementary Particles, Foundations of Quantum Mechanics*
 Fontaine, Jean-Marc *Algebraic Number Theory*
 Ford, George Willard *Statistical Mechanics*
 Formanek, Edward William *Algebra*
 Forster, Otto F. *Complex Analysis*
 Fourès, Léonce Guy (*no specialty given*)
 Frame, James Sutherland *Group Theory*
 Frank, Nathaniel Herman *Physics*
 Frankel, Theodore T. (*no specialty given*)
 Franklin, Philip (*no specialty given*)
 Frazer, William R. *Theoretical Physics*

IAS School of Membership

- Freedman, Michael H *Topology*
Freund, Peter George Oliver *Theoretical Particle Physics*
Fried, Herbert M. *Theoretical Physics*
Fried, Michael D. *Algebraic Geometry and Number Theory*
Friedberg, Richard Michael *Physics*
Friedland, Shmuel *Analysis*
Friedlander, John Benjamin *Number Theory*
Frink, Orrin (*no specialty given*)
Frölicher, Alfred Victor (*no specialty given*)
Fubini, Guido (*no specialty given*)
Fubini, Sergio Piero *Theoretical Physics*
Fuglede, Bent *Functional Analysis*
Fujii, Akio *Number Theory*
Fukuda, Hiroshi *Physics*
Fulton, Thomas *Theoretical Physics*
Gaal, Ilse Lisl Novak *Mathematical Logic*
Gaal, Steven Alexander *Number Theory*
Gaffney, Matthew P. *Analysis*
Galewski, David E. *Topology of Manifolds*
Gallagher, Patrick Ximenes *Analytic Number Theory*
Gangolli, Ramesh *Harmonic Analysis*
Gårding, Lars *Analysis*
Gardner, Robert Brown *Differential Geometry*
Garland, Howard (*no specialty given*)
Gaveau, Bernard *Complex Analysis, Differential Geometry*
Ge ba, Kazimierz (*no specialty given*)
Gelbart, Abe (*no specialty given*)
Gelbart, Stephen Samuel *Automorphic Representations*
Gelbaum, Bernard Russell (*no specialty given*)
Gentile, Enzo R. (*no specialty given*)
Geoghegan, Ross *Topology*
Geramita, Anthony Vito *Algebra*
Gérardin, Paul (*no specialty given*)
Gerhardt, Claus *Partial Differential Equations*
Gerritzen, Lothar Georg *Algebraic Geometry, p-adic Function Theory*
Gersten, Stephen M. *Algebra*
Gerstenhaber, Murray *Algebraic Geometry*
Ghaffari, Abolghassem *Differential Equations*
Gherardelli, Francesco *Algebraic Geometry*
Gibbs, John Arthur (*no specialty given*)
Gibson, Eleanor Jack *Psychology*
Gibson, James Jerome *Psychology*
Gidas, Basilis Constantine *Mathematical Physics*
Gieseke, David *Algebraic Geometry*
Giffen, Charles H. *Algebraic K-Theory, Topology*
Gildenhuys, Dion *Algebra*
Giles, William B. *Algebra*
Gill, Bennington Pearson (*no specialty given*)
Gillman, David Saul *Topology*
Gillman, Leonard *Topology*
Gilman, Jane Piore *Riemann Surfaces, Complex Analysis*
Girardeau, Marvin D. *Theoretical Physics*
Gitler, Samuel *Algebraic Topology*
Giusti, Enrico *Partial Differential Equations*
Givens, James Wallace, Jr. *Geometry and Mathematical Physics*
Glaeser, Georges *Differential Analysis*
Glaser, Leslie Curtis *Topology*
Glauber, Roy Jay *Theoretical Physics*
Glauber, George Isaac *Algebra*
Gleason, Andrew M. (*no specialty given*)
Glicksberg, Irving L. (*no specialty given*)
Glimm, James (*no specialty given*)
Gluck, Herman R. *Geometry, Topology*
Gödel, Kurt (F) *Mathematical Logic*
Godement, Roger *Automorphic Functions*
Goebel, Charles James *Theoretical Physics*
Goffman, Casper *Analysis*
Goldfeld, Dorian *Number Theory*
Goldman, Oscar *Arithmetic*
Goldschmidt, Hubert *Differential Geometry, Partial Differential Equations*
Goldstein, Jack S. *Astrophysics*
Goldstein, Jerome A. *Analysis*
Golubitsky, Martin (*no specialty given*)
Goncalves, Daciberg Lima *Topology*
Good, J. Anton *Analytic Number Theory*
Good, Roland H., Jr. *Theoretical Physics*
Goodall, Marcus Campbell *Mathematical Physics*
Goodman, Adolph Winkler *Analysis, Complex Variables*
Goodman, Roe William *Harmonic Analysis on Lie Groups*
Goodman, Sue Ellen *Topology*
Gordon, Cameron McAllan *Topology*
Gorenstein, Daniel *Theory of Finite Groups*
Goto, Midori S. *Differential Geometry*
Goto, Morikuni *Topology*
Gottlieb, Morris J. (*no specialty given*)
Granás, Andrzej *Topology*
Grau, Albert A. (*no specialty given*)
Grauert, Hans *Complex Analysis*
Graves, Lawrence M. *Calculus of Variation*
Gray, John Walker *Category Theory*
Green, Anthony Maurice *Physics*
Green, Herbert Sydney *Theoretical Physics*
Green, James Alexander *Algebra*
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Green, Philip Palmer *Group Representations*
Greenberg, J. Mayo *Astrophysics*
Greenberg, Oscar Wallace *Physics*
Greenberg, Ralph *Number Theory*
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Greiner, Peter Charles *Analysis*
Griess, Robert Louis, Jr. (*no specialty given*)
Griffiths, Hubert Brian *Topology*
Griffiths, Phillip A. (*no specialty given*)
Gross, Leonard (*no specialty given*)
Grossman, Nathaniel *Geometry*
Grossmann, Alexander *Physics*
Grosswald, Emil *Number Theory*
Gruenberg, Karl Walter *Algebra*
Grünbaum, Branko (*no specialty given*)
Guckenheimer, John (*no specialty given*)
Gugenheim, Victor K. A. M. (*no specialty given*)
Guillemin, Victor *Analysis*
Gulliver, Robert D., II (*no specialty given*)

- Günther, Marian W.J. *Theoretical Physics*
 Gupta, Virendra *Theoretical High Energy Physics*
 Gürsey, Feza *Theoretical Physics*
 Gustin, William Sharp *Set Theory*
 Gutiérrez, Mauricio Alvarez *Algebraic Topology*
 Habicht, Walter *Algebraic Geometry*
 Haboush, William J. *Algebraic Groups*
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 Haefeli, Verena *Group Theory*
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 Hahn, Frank John *Transformation Groups*
 Haimo, Deborah Tepper *Analysis*
 Haimo, Franklin (no specialty given)
 Haken, Wolfgang *Topology*
 Halász, Gábor *Number Theory*
 Hale, Mark Pendleton, Jr. *Group Theory*
 Hall, Marshall, Jr. *Algebra*
 Halmos, Paul R. *Algebraic Logic*
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 Hamstrom, Mary-Elizabeth *Geometric Topology of Manifolds*
 Handel, Michael *Topology*
 Hanf, William Porter *Logic*
 Hanges, Nicholas William *Analysis, Linear Partial Differential Equations*
 Hanner, Olof *Topology*
 Hara, Yasuo *Physics*
 Harada, Koichiro *Group Theory*
 Harary, Frank *Combinatorics*
 Harder, Günter *Algebraic Geometry*
 Hardt, Robert Miller *Algebraic Topology*
 Hardy, Godfrey H. (no specialty given)
 Haris, Stephen Joseph *Algebraic Number Theory*
 Harish-Chandra (F) *Harmonic Analysis on Reductive Groups*
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 Harris, Morton Edward *Finite Group Theory*
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 Harrold, Orville G., Jr. *Topology*
 Hartle, James B. *Physics*
 Hartung, Paul Gilbert *Number Theory*
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 Harvey, William James *Discrete Group Theory*
 Hasenjaeger, Gisbert *Mathematical Logic*
 Hatcher, Allen Edward *Topology*
 Hausmann, Jean-Claude *Topology*
 Havas, Peter *Physics*
 Haver, William E *Topology*
 Hecht, Henryk *Representation of Lie Groups*
 Hecke, Erich (no specialty given)
 Hedlund, Gustav Arnold (no specialty given)
 Hegenbarth, Friedrich *Topology*
 Heider, Lester Joseph, S.J. *Functional Analysis*
 Heins, Maurice Haskell *Analysis*
 Held, Richard *Psychology*
 Helgason, Sigurdur (no specialty given)
 Heller, Alex *Algebraic Topology*
 Helmer, Olaf (no specialty given)
 Helson, Henry *Analysis*
 Hempel, John Paul *Topology*
 Henderson, David Wilson *Topology*
 Henderson, William James *Physics*
 Henkin, Leon Albert *Logic and Foundations*
 Henriksen, Melvin *Functional Analysis*
 Henriques, Anna Stafford (no specialty given)
 Hensley, Douglas Austin *Number Theory*
 Hepp, Klaus *Physics*
 Herb, Rebecca Ann (no specialty given)
 Herrera, Miguel Emilio *Several Complex Variables*
 Herring, Conyers *Theoretical Physics, Solid State*
 Hertzig, David (no specialty given)
 Hervé, Michel André *Complex Analysis*
 Herz, Carl S. *Harmonic Analysis*
 Hester, William *Philosophy of Science*
 Hewitt, Edwin *Analysis*
 Hida, Haruzo *Number Theory*
 Higman, Graham *Group Theory*
 Hijikata, Hiroaki (no specialty given)
 Hildebrandt, Stefan O. W. (no specialty given)
 Hilding, Sven Herbert (no specialty given)
 Hill, C. Denson *Differential Equations, Complex Variables*
 Hill, Paul Daniel *Algebraic Topology*
 Hinrichsen, John James *Algebraic Topology, Partial Differential Equations*
 Hironaka, Heisuke *Geometry*
 Hirsch, Morris William *Topology*
 Hirschfelder, Joseph Oakland *Physics*
 Hirschman, Isidore Isaac, Jr *Harmonic Analysis*
 Hirzebruch, Friedrich Ernst Peter *Algebraic Topology and Complex Manifolds*
 Hitchin, Nigel James (no specialty given)
 Hlavatý, Václav (no specialty given)
 Hlawka, Edmund (no specialty given)
 Hochschild, Gerhard Paul *Algebra*
 Hodgkin, Luke Howard *Algebraic Topology*
 Hoffman, Alan Jerome (no specialty given)
 Hoffmann, Banesh (no specialty given)
 Hoffstein, Jeffrey Ezra *Analytic Number Theory*
 Hofmann, Karl Heinrich *Topological and Lie Groups, Transformation Groups*
 Hofmeister, Gerd Rolf Ernst *Number Theory*
 Hollingsworth, John G. *Topology*
 Holsztyński, Włodzimierz *Topology*
 Holton, Gerald *Physics*
 Homma, Tatsuo *Topology*
 Hooley, Christopher *Theory of Numbers*
 Horikawa, Eiji *Algebraic Geometry*
 Hörmander, Lars Valter (F) *Analysis*
 Horn, Alfred (no specialty given)
 Hostetter, Ingomar M. (no specialty given)
 Hotta, Ryoshi *Group Representations*
 Househam, Keith Ortlepp *Measure Theory*
 Hove, Leon Charles van *Theoretical Physics*
 Howard, William A. *Mathematical Logic*
 Howe, Roger Evans *Representation Theory, Automorphic Forms*
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Hu, Men-Chang *Harmonic Analysis on Semi-Simple Lie Groups*
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Hu, Sze-Tsen *Topology*
Hua, Loo-Keng (no specialty given)
Huang, Kerson *Theoretical Physics*
Huang, Su-Shu *Astrophysics*
Huang-Mueller, Julia *Analytic Number Theory*
Huber, Heinz *Analysis*
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Hugenholtz, Nicolaas Marinus *Many-body Problem*
Hull, Ralph *Algebra, Number Theory*
Humphreys, James E. *Algebraic Groups*
Hunt, Gilbert Agnew (no specialty given)
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Ireland, Kenneth Frederick (no specialty given)
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Ise, Mikio (no specialty given)
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Iwasawa, Kenkichi (no specialty given)
Jaco, William Howard *Topology*
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James, Robert Clarke *Functional Analysis*
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Jantzen, Jens Carsten (no specialty given)
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Jech, Thomas J. *Logic*
Jeffrey, Richard C. *Logic*
Jehle, Herbert *Theoretical Physics*
Jehne, Wolfram *Class Field Theory, Topological Groups*
Jenkins, James Allister *Theory of Functions of a Complex Variable*
Jenkins, Joe Wiley (no specialty given)
Jensen, J. Hans D. *Nuclear Physics*
Jerison, Meyer (no specialty given)
Jessen, Børge Christian (no specialty given)
Jewett, Robert Israel *Analysis*
Jin, Yong-Son *Physics*
Johnson, Dennis Lee *Algebraic Topology*
Johnson, Francis Edward Anthony *Topology*
Johnson, Kent W. *Algebraic Geometry*
Jones, Alfred Welwood *Modern Algebra*
Jones, Antony J. *Number Theory*
Jones, B. Frank, Jr. *Partial Differential Equations*
Jones, Burton W. *Theory of Numbers*
Jones, Floyd Burton *Topology*
Jones, Lowell E. *Differential Topology*
Jones, Stephen Lester *Topology*
Joos, Hans H. *Field theory*
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Jost, Res W. *Mathematical Physics*
Jussila, Olli K. *Algebraic Topology, Algebraic Geometry*
Kabir, Prabahan Kemal *Physics*
Kac, Mark (no specialty given)
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Kahane, Jean-Pierre (no specialty given)
Kahn, Franz Daniel *Astrophysics*
Kahn, Peter J. *Topology*
Kakutani, Shizuo *Analysis, Topology*
Kalisch, Gerhard K. *Analysis*
Källén, Anders Olof Gunnar *Field Theory*
Kallianpur, Gopinath *Probability Theory*
Kamber, Franz W. *Differential Geometry, Algebraic Topology*
Kampen, Egbertos R. van (no specialty given)
Kampen, Nicolaas G. van *Theoretical Physics*
Kane, Richard M. *Algebraic Topology*
Kannai, Yakar Israel *Analysis*
Kantorovitz, Shmuel *Functional Analysis*
Kaplan, Lewis David *Numerical Weather Prediction*
Kaplan, Samuel (no specialty given)
Kaplansky, Irving (no specialty given)
Karel, Martin Lewis *Automorphic Forms*
Karoubi, Max (no specialty given)
Karp, Leon *Differential Geometry*
Karplus, Robert *Theoretical Physics*
Kashiwara, Masaki (no specialty given)
Kato, Mitsuyoshi *Topology*
Kaufman, Bruria *Physics*
Kawada, Yukiyosi *Number Theory*
Kawai, Takahiro *Analysis*
Kawakubo, Katsuo (no specialty given)
Kawanaka, Noriaki *Group Representation*
Kawarabayashi, Ken *Physics*
Kawauchi, Akio *Topology*
Keen, Linda *Complex Analysis*
Kelley, Allen F., Jr. *Ordinary Differential Equations*
Kelley, John L. *Homology*
Kelly, John Beckwith *Theory of Numbers*
Kelly, Paul Joseph *Geometry*
Kemp, Robert R.D. *Ordinary Differential Equations*
Kendig, Keith Milo *Algebraic Geometry*

- Kerckhoff, Steven Paul *Topology*
 Kervaire, Michel André (*no specialty given*)
 Ketchum, Pierce W. *Complex Analysis*
 Khuri, Nicola N. *Particle Physics*
 Kiang, Tsai-han *Topology*
 Kimball, Spofford Harris (*no specialty given*)
 Kimura, Tatsuo (*no specialty given*)
 Kinderlehrer, David S. (*no specialty given*)
 King, Henry Churchill *Topology*
 King, James Richard *Complex Manifolds*
 Kinoshita, Shin'ichi *Topology*
 Kinoshita, Toichiro *Physics*
 Kirby, Robion Cromwell *Topology*
 Kiselman, Christer Oscar *Complex Analysis*
 Kister, James M. *Topology*
 Klee, Victor L. (*no specialty given*)
 Kleene, Stephen Cole *Mathematical Logic*
 Klein, Oskar Benjamin *Atomic Physics, Relativity Theory*
 Klemola, Tapio (*no specialty given*)
 Klingen, Helmut P. *Automorphic Functions*
 Klingenberg, Wilhelm P. (*no specialty given*)
 Knapp, Anthony William *Lie Groups*
 Knapp, Robert E. *Differential Geometry*
 Knebusch, Manfred *Algebraic Geometry*
 Kneser, Martin L. *Pure Mathematics*
 Knight, Frank Bardsley *Probability*
 Knopp, Marvin Isadore *Number Theory*
 Kobayashi, Shoshichi *Differential Geometry*
 Kobayasi, Minoru *Theoretical Nuclear Physics*
 Kochen, Simon Bernard *Logic*
 Kock, Winston E. *Physics*
 Kodaira, Kunihiko *Complex Manifolds*
 Kohn, Joseph John *Differentiable and Complex Analytic Manifolds*
 Koike, Masao (*no specialty given*)
 Kolchin, Ellis Robert (*no specialty given*)
 Komura, Yukio *Functional Analysis*
 Kondô, Motokiti *Foundations of Mathematics*
 Kondo, Takeshi (*no specialty given*)
 Koppel, Moshe *Mathematical Logic, Number Theory*
 Koppelman, Walter *Several Complex Variables*
 Korenblum, Boris *Complex Analysis*
 Kosinski, Antoni A. (*no specialty given*)
 Kostant, Bertram *Harmonic Analysis, Group Theory*
 Koszul, Jean-Louis (*no specialty given*)
 Kottwitz, Robert E. *Automorphic Forms, Number Theory*
 Kozłowski, George A., Jr. *Topology*
 Kraljević, Hrvoje *Structure & Representations of Semisimple Lie Groups*
 Kramers, Hendrik Anthony *Quantum Theory of Matter*
 Kreezer, George Lawrence *Psychology*
 Kreisel, Georg *Mathematical Logic*
 Królikowski, Wojciech *Physics*
 Kroll, Norman Myles *Physics*
 Krusemeyer, Mark I. (*no specialty given*)
 Ku, Hsu-Tung *Transformation Groups*
 Kubert, Daniel S. *Algebraic Number Theory*
 Kubota, Tomio *Number Theory*
 Kudla, Stephen S. *Algebra*
 Kuga, Michio *Number Theory, Automorphic Functions*
 Kuiper, Nicolaas H. (*no specialty given*)
 Kulkarni, Ravi S. (*no specialty given*)
 Kunze, Ray A. *Group Representations*
 Kuratowski, Kazimierz *Topology and Set Theory*
 Kurepa, Djuro R. (*no specialty given*)
 Kuroda, Sigekatu (*no specialty given*)
 Kusaka, Shuichi *Physics*
 Kutzko, Philip C. *Representation Theory of p-adic Groups*
 Kuyk, Willem (*no specialty given*)
 Kwun, Kyung Whan *Topology*
 Labute, John Paul *Number Theory*
 Lacher, Robert Christopher *Topology*
 Lacombe, Daniel *Logic*
 Lambek, Joachim *Algebra, Logic*
 Lampe, William Austyn *Logic*
 Landau, Henry J. *Harmonic Analysis*
 Landis, Dale L. *Topology and Analysis*
 Landovitz, Leon Fred *Meson Theory*
 Landweber, Peter S. *Algebraic Topology*
 Lang, Serge *Number Theory*
 Lang, William Edward *Algebraic Geometry*
 Langlands, Robert Phelan (F) *Automorphic Forms*
 Lannes, Jean E. *Topology*
 Larmore, Lawrence L. *Algebraic Topology*
 Lascoux, Jean Pierre *Physics*
 Lashof, Richard K. *Topology*
 Latter, Robert H. *Harmonic Analysis*
 Laue, Max von *Physics*
 Lawson, H. Blaine, Jr. *Differential Geometry*
 Lawton, Wayne Michael *Global Analysis, Number Theory*
 Lax, Peter David (*no specialty given*)
 Lazard, Michel Paul *Algebra*
 Lazarov, Connor *Geometry-Topology*
 Lazerowitz, Alice Ambrose *Philosophy of Mathematics*
 Lech, Christer (*no specialty given*)
 Lee, Benjamin W. *Physics*
 Lee, Chester C. Y. *Automaton Theory*
 Lee, Ronnie (*no specialty given*)
 Lee, Tsung Dao (F) *Theoretical Physics*
 Lees, Jack Alexander *Topology, Geometry*
 Lees, Milton *Partial Differential Equations*
 Lehmann, Harry Paul *Theoretical Particle Physics*
 Lehmer, Derrick Henry (*no specialty given*)
 Lehner, Joseph *Automorphic Forms*
 Leibler, Richard Arthur (*no specialty given*)
 Leipnik, Roy Bergh *Functional Analysis, Measure Theory*
 Lelong, Pierre (*no specialty given*)
 Lemaître, Georges (*no specialty given*)
 Lenard, Andrew *Mathematical Physics*
 Leonard, Henry S. *Symbolic Logic*
 Leopoldt, Heinrich-Wolfgang *Algebraic Number Theory*
 Lepore, Joseph Vernon *Theoretical Physics*
 Lepowsky, James Ivan *Lie Theory*
 Lepson, Benjamin *Analysis, Theory of Functions*
 Leray, Jean *Partial Differential Equations*
 Leslie, Joshua A. *Topology*
 Levi-Civita, Tullio (*no specialty given*)

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Lewis, Donald J. (*no specialty given*)
Lewis, Harold W. *Physics*
Lewis, John Trevor *Analysis*
Lewis, Robert R. *Theoretical Physics*
Lewy, Hans *Partial Differential Equations*
Li, Peter W.-K. *Differential Geometry*
Li, Wen-Ching Winnie *Number Theory*
Liang, Chao-Chu (*no specialty given*)
Liao, San Dao *Algebraic Topology*
Libgober, Anatoly S. *Topology*
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Lima, Elon Lages *Topology*
Lin, Charles S. C. *Functional Analysis*
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Liulevicius, Arunas L. *Algebraic Topology*
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Lloyd, Stuart P. (*no specialty given*)
Loday, Jean-Louis *Algebra and Topology*
Lohoué, Noël *Harmonic Analysis*
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Long, Robert L. (*no specialty given*)
Łopuszanski, Jan Thaddeus *Theoretical Physics*
Lorenzen, Paul Peter Wilhelm *Mathematical Logic*
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Lowan, Arnold N. (*no specialty given*)
Luban, Marshall *Physics*
Lubin, Jonathan *Algebra*
Lubkin, Saul *Algebraic Geometry*
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Lusztig, George *Group Representations*
Luttinger, Joaquin Mazdak *Theoretical Physics*
Lyons, Richard Neil *Group Theory*
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Macdonald, Ian Grant *Lie Groups, Algebraic Groups*
MacDowell, Samuel W. *Elementary Particle Physics*
MacDuffee, Cyrus C. (*no specialty given*)
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Mackey, George Whitelaw (*no specialty given*)
MacKichan, Barry B. (*no specialty given*)
MacLane, Gerald Robinson (*no specialty given*)
Madow, William Gregory *Statistics*
Magnus, Wilhelm *Algebra*
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Mahler, Kurt *Number Theory*
Maire, Henri-Michel *Partial Differential Equations*
Malgrange, Bernard (*no specialty given*)
Malliavin, Paul *Mathematical Analysis*
Mandelbaum, Richard *Geometry*
Mandelbrot, Benoit B. (*no specialty given*)
Mann, Avinoam *Group Theory*
Mann, Larry N. *Transformation Groups, Topology*
Marden, Albert *Complex Analysis*
Mardešić, Sibe *Topology*
Margenau, Henry *Physics*
Maria, Alfred Joseph (*no specialty given*)
Mariani, Jean *Philosophy of Science and of Mathematics*
Markoe, Andrew Guy *Several Complex Variables*
Mars, Johannes G. M. (*no specialty given*)
Marshak, Robert E. *Theoretical Physics*
Marshall, Leona Woods *Theoretical Physics*
Martin, Alfred Ivor (*no specialty given*)
Martin, Allan D. *Calculus of Variations*
Martin, André J. *High Energy Physics*
Martin, Joseph Morison *Topology*
Martin, William Ted (*no specialty given*)
Masani, Pesi R. (*no specialty given*)
Maskit, Bernard (*no specialty given*)
Masley, John M. *Algebraic Number Theory*
Matiis, Eben (*no specialty given*)
Matsuda, Michihiko *Differential Systems*
Matsumoto, Yukio *Topology of Manifolds*
Matsusaka, Teruhisa *Algebraic Geometry*
Matsushima, Yozo *Differential Geometry*
Matthews, Paul Taunton *Elementary Particles*
Mattila, Pertti E.J. *Geometric Measure Theory*
Matumoto, Takao *Topology*
Maumary, Serge *Topology*
Mautner, Friederich Ignaz *Group Representations, Functional Analysis*
May, J. Peter *Topology*
Mayer, Alan L. *Algebraic Geometry*
Mayer, Walther (PM) (*no specialty given*)
Mazur, Barry C. (*no specialty given*)
McAuley, Louis F. *Topology*
McCord, Michael Campbell *Topology*
McCoy, Neal H. *Algebra*
McCrorry, Clinton Graydon *Topology*
McDuff, Dusa Waddington *Topology*
McIntosh, Alan G. R. *Analysis*
McKenzie, Ralph *Logic*
McMillan, Daniel Russell, Jr. *Topology*
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McMullen, John Roderick (*no specialty given*)
McShane, Edward James *Analysis*
Mehta, Madan Lal *Theoretical Physics*
Meister, James Elliot *Automorphic Forms and Group Representations*
Mello, Pier Achille *Physics*
Melrose, Richard B. *Partial Differential Equations*
Menikoff, Arthur *Partial Differential Equations*
Mennicke, Jens L. (*no specialty given*)
Merzbacher, Eugen *Physics*
Messiah, Albert M. L. *Nuclear Physics*
Mestel, Leon *Astrophysics*
Michael, Ernest A. *General Topology*
Michel, Louis *High Energy Physics*
Mielke, Marvin V. (*no specialty given*)
Milgram, Arthur N. (*no specialty given*)
Miličić, Dragan *Harmonic Analysis on Semisimple Lie Groups*
Miller, Charles Frederick, III *Logic and Algebra*
Miller, Kenneth S. *Complex Stochastic Processes*

- Milliken, Keith R. *Mathematical Logic and Combinatorics*
- Mills, Robert L. *Theoretical Physics*
- Millson, John J. *Differential Geometry*
- Milne, James Stuart (*no specialty given*)
- Milnor, John Willard (F) *Topology*
- Milnor, Tilla Klotz *Geometry*
- Min, Szu-Hoa (*no specialty given*)
- Minakshisundaram, Subbaramiah (*no specialty given*)
- Minbashian, Farshid (*no specialty given*)
- Minemura, Katsuhiko *Harmonic Analysis*
- Mirkil, Hazelton *Banach Algebras*
- Mitchell, Josephine Margaret *Pure Mathematical Analysis*
- Mitchell, William John *Logic*
- Mittal, Yashaswini Deval *Probability*
- Miyake, Toshitsune *Number Theory*
- Miyazawa, Hironari *Physics*
- Miyazima, Tatsuoki *Physics*
- Moerbeke, Pierre van *Probability, Analysis*
- Moh, Tzuong-Tsieng *Algebra*
- Moise, Edwin Evariste *Topology*
- Mong, Shaw *Analysis*
- Montesinos, José María *Topology*
- Montgomery, Deane (F) *Topology*
- Montgomery, Hugh L. *Number Theory*
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- Moore, Charles Napoleon (*no specialty given*)
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- Moreno, Carlos Julio (*no specialty given*)
- Morikawa, Hisasi (*no specialty given*)
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- Morita, Shigeyuki *Topology*
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- Morse, Anthony Perry (*no specialty given*)
- Morse, Marston (F) *Calculus of Variations in the Large, Analysis, Topology*
- Moscovici, Henri *Theory of Group Representations*
- Moser, Jürgen K. *Analysis*
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- Mostow, George Daniel (*no specialty given*)
- Mostowski, Andrzej *Mathematical Logic*
- Moulton, Elton James (*no specialty given*)
- Moyer, Robert D. (*no specialty given*)
- Muhly, Harry Townsend (*no specialty given*)
- Müller, Claus *Mathematical Physics, Analysis*
- Mumford, David Bryant *Algebraic Geometry*
- Murakami, Shingo *Differential Geometry*
- Murnaghan, Francis D. (*no specialty given*)
- Murray, Francis Joseph *Operator Theory*
- Muto, Toshinosuke (*no specialty given*)
- Myers, Sumner Byron (*no specialty given*)
- Myhill, John *Mathematical Logic*
- Nachbin, Leopoldo *Abstract Analysis*
- Nadel, Mark Edward *Logic*
- Naganuma, Hidehisa *Number Theory*
- Nagata, Jun-Iti *Topology*
- Nakanishi, Noboru *Physics*
- Nakano, Shigeo (*no specialty given*)
- Nakano, Tadao *Theory of Elementary Particles (Theoretical Physics)*
- Nakaoka, Minoru (*no specialty given*)
- Nakayama, Tadasi *Algebraic Number Theory*
- Nambu, Yoichiro *Physics*
- Namioka, Isaac (*no specialty given*)
- Narasimhan, Mudumbai S. (*no specialty given*)
- Narasimhan, Raghavan *Function Theory, Number Theory*
- Nash, John Forbes, Jr. *Partial Differential Equations*
- Nathan, David S. (*no specialty given*)
- Nathanson, Melvyn Bernard *Number Theory*
- Nauenberg, Michael *Physics*
- Neisendorfer, Joseph A. *Algebraic Topology*
- Nelson, Edward *Analysis*
- Nerode, Anil (*no specialty given*)
- Néron, André *Algebraic Geometry*
- Nesbitt, Cecil James *Algebra*
- Neuberger, John W. *Analysis*
- Neugebauer, Christoph J. *Analysis*
- Neuman, Maurice *Quantum Theory*
- Neumann, Walter David *Topology*
- Nevanlinna, Rolf Herman *Function Theory*
- Newburgh, John David *Banach Algebras*
- Newman, Maxwell Herman A. (*no specialty given*)
- Ni, Wei-Ming *Analysis, Partial Differential Equations*
- Niebur, Douglas P. *Automorphic Forms*
- Niederreiter, Harald G. *Number Theory*
- Nijboer, Bernard R. A. *Theoretical Physics*
- Nijenhuis, Albert *Geometry*
- Nirenberg, Louis *Analysis*
- Nishi, Mieno (*no specialty given*)
- Nishijima, Kazuhiko *Theoretical Physics*
- Nobs, Alexandre (*no specialty given*)
- Nori, Madhav Vithal (*no specialty given*)
- Norton, Karl Kenneth *Theory of Numbers*
- Novodvorsky, Mark Eugenievich *Automorphic L-Functions*
- Nussbaum, A. Edward *Functional Analysis*
- Nussbaum, Roger D. (*no specialty given*)
- Nussenzweig, Herch Moyses *Physics*
- O'Brian, Nigel Robert *Algebraic Geometry*
- Ochiai, Takushiro *Differential Geometry*
- Odhnoff, Jan Edvard *Partial Differential Operators*
- Oehme, Reinhard *Physics*
- Ogg, Andrew P. *Number Theory*
- Ohta, Masami *Number Theory*
- Okamoto, Kiyosato (*no specialty given*)
- Oliver, Robert Alan *Topology*
- Olivier, Reinhard Martin *Algebra*
- Olum, Paul *Algebraic Topology*
- O'Meara, O. Timothy *Number Theory*
- Omori, Hideki (*no specialty given*)
- Oneda, Sadao *Physics*
- O'Neill, Michael Jerome *Analysis*
- Ono, Takashi *Number Theory, Algebraic Groups*
- Oppenheimer, J. Robert (D) *Physics*

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- Orlik, Peter P. *Topology*
Ornstein, Donald S. (*no specialty given*)
Orzech, Morris (*no specialty given*)
Oshima, Toshio *Linear Partial Differential Equations*
Osofsky, Barbara Langer *Algebra*
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Paige, Lowell J. (*no specialty given*)
Pais, Abraham (F) *Physics*
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Pall, Gordon *Quadratic Forms*
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Parshall, Brian J. *Algebraic Groups*
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Patterson, Gordon Neil (*no specialty given*)
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Polkinghorne, John Charlton *Theoretical Elementary Particle Physics*
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Quillen, Daniel G. *Topology, Algebra*
Quine, Willard Logic
Quinn, Frank S. *Topology*
Rabi, Isidor Isaac *Physics*
Rabin, Michael O. *Logic*
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Rademacher, Hans *Analytic Theory of Numbers*
Rader, Cary Baker *Harmonic Analysis*
Radha, Thayyoor K. *Physics*
Radicati di Brozolo, Luigi A. *Physics*
Radjavi, Heydar *Theory of Operators*
Radó, Tibor (*no specialty given*)
Rådström, Hans Vilhem (*no specialty given*)
Rafael, Eduardo de *Particle Physics*
Ragab, Fouad Mohamed *Analysis*
Raghavan, Srinivasacharya *Number Theory, Automorphic Forms*
Raghunathan, Madabusi Santanam *Lie Groups, Algebraic Groups*
Rallis, Stephen J. *Representation Theory*
Ramachandra, Kankanahalli *Riemann Zeta Function, Distribution of Prime Numbers*
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Ramanan, Sundavaraman *Algebraic Geometry*
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Ramanathan, K. Gopalaiyer *Number Theory*
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Ran, Ziv *Algebraic Geometry*
Randell, Richard C. *Topology*
Randels, William C. (*no specialty given*)
Randol, Burton *Analysis*
Randolph, John F. (*no specialty given*)
Rangachari, Sundaravaradan Srinivasa *Number Theory*
Rao, Malempati M. *Functional Analysis, Probability*
Rao, R. Ranga *Harmonic Analysis*
Raphael, Robert B. *Theoretical Physics*
Rauch, Harry Ernest *Functions of Several Variables*
Rauch, Jeffrey B. *Analysis*
Ravenel, Douglas Conner *Algebraic Topology*

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- Raymond, Frank Albert (*no specialty given*)
- Reddy, Aluru Raghuram *Analysis*
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- Reeh, Helmut Rudolf *Quantum Field Theory*
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- Reich, Edgar (*no specialty given*)
- Reid, William Thomas (*no specialty given*)
- Reidemeister, Kurt Werner Friedrich *Topology*
- Reiner, Irving *Algebra, Number Theory*
- Reinhardt, William Nelson *Logic*
- Reiter, Hans *Harmonic Analysis*
- Reiz, S. Anders *Astrophysics*
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- Rhodes, John L. *Algebra*
- Ricabarra, Rodolfo Alfredo *Complex Manifolds*
- Ricci, Giovanni *Theory of Numbers*
- Richardson, Moses *Topology*
- Richardson, Roger W., Jr. *Topology*
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- Richter, Curt Paul *Biology*
- Rickert, Neil William *Functional Analysis*
- Rickert, Yao-Chun Yen *Functional Analysis*
- Rickman, Seppo U. *Theory of Quasiregular Mappings*
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- Riley, Robert Freed *Kleinian Groups and 3-dimensional Manifolds*
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- Robbins, Herbert Ellis (*no specialty given*)
- Robert, Alain *Algebraic Groups, Representations*
- Robert, Gilles *Number Theory*
- Roberts, Keith Varnden (*Particle Physics*), *Plasma Physics*
- Robinson, Abraham *Mathematical Logic*
- Robinson, Robert William *Logic*
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- Roelcke, Walter O. P. *Automorphic Functions*
- Rogers, Claude Ambrose *Theory of Numbers*
- Rohrlich, David Ephraim *Number Theory*
- Rohrlich, Fritz *Quantum Field Theory*
- Roitberg, Joseph *Topology*
- Roitman, Judith *Set Theory*
- Rolfson, Dale Preston Odin *Topology*
- Ronga, Felice L. L. *Topology*
- Room, Thomas Gerald *Pure Mathematics*
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- Rosen, Ronald H. *Topology*
- Rosenberg, Alex *Algebra*
- Rosenberg, Jonathan M. *Representations of Lie Groups*
- Rosenblatt, Alfred (*no specialty given*)
- Rosenbloom, Paul C. *Analytic Functions*
- Rosenblum, Marvin *Analysis*
- Rosenfeld, Léon (*no specialty given*)
- Rosenstein, Joseph G. *Logic*
- Rosenthal I, Edward *Number Theory*
- Rossmann, Wulf T. (*no specialty given*)
- Rothaus, Oscar S. *Logarithmic Sobolev Inequalities*
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- Rovnyak, James L. *Analysis*
- Roy, Prabir *Geometric Topology*
- Royden, Halsey Lawrence *Analysis*
- Royster, Wimberly Calvin *Analysis*
- Rubel, Lee A. (*no specialty given*)
- Rubin, Herman (*no specialty given*)
- Rudkjøbing, Mogens Hegelund *Astronomy*
- Ruegg, Henri E. *Particle Physics*
- Ruelle, David Pierre *Mathematical Physics*
- Rufener, Ernst *Functional Analysis*
- Ruijgrok, Theodorus W. *Physics*
- Ruse, Harold Stanley (*no specialty given*)
- Ryff, John Vincent *Analysis*
- Ryser, Herbert John *Algebra*
- Saavedra, Neantro R. *Algebraic Geometry*
- Sabidussi, Gert Otto *Algebra and Category Theory*
- Sacerdote, George S. *Logic*
- Sachs, Abraham J. (*no specialty given*)
- Sacks, Gerald Enoch *Mathematical Logic*
- Sadosky, Cora S. *Analysis*
- Sagen, Oswald Karl (*no specialty given*)
- Sakurai, Jun John *Theoretical Physics*
- Salam, Abdus (*no specialty given*)
- Salinas, Norberto *Functional Analysis*
- Sally, Paul Joseph, Jr. *Analysis*
- Samelson, Hans *Topology*
- Sampson, Joseph Harold *Analysis and Geometry*
- Sanders, James *Partial Differential Equations*
- Sanderson, Brian Joseph *Algebraic Topology*
- Sandri, Guido *Theoretical Physics*
- Santaló, Luis Antonio *Differential Geometry*
- Sarason, Donald Erik (*no specialty given*)
- Sario, Leo Reino *Complex Analysis*
- Sasaki, Shigeo *Differential Geometry*
- Sasakura, Nobuo *Moduli Theory of Algebraic Varieties*
- Satake, Ichiro (*no specialty given*)
- Sato, Mikio *Analysis*
- Savage, Leonard Jimmie (*no specialty given*)
- Sawada, Katuro *Physics*
- Sawyer, Raymond Francis *Physics*
- Schaerf, Henry Maximilian *Measure Theory and Related Fields*
- Schafer, Alice Turner *Projective Differential Geometry, Group Theory*

- Schafer, Richard Donald *Algebra*
 Schafroth, Max Robert *Theoretical Physics*
 Schanuel, Stephen Hoel (*no specialty given*)
 Scharlau, Winfried Wilhelm (*no specialty given*)
 Scharlemann, Martin George *Topology*
 Schatten, Robert *Linear Transformations*
 Schechter, Martin (*no specialty given*)
 Schenberg, Mario (*no specialty given*)
 Schenkman, Eugene Victor *Group Theory, Lie Algebras*
 Scheuneman, John (*no specialty given*)
 Schiffmann, Gerard *Semi-simple Groups*
 Schild, Alfred (*no specialty given*)
 Schilling, Otto Franz Georg (*no specialty given*)
 Schmid, Wilfried (*no specialty given*)
 Schmidt, Olaf Henrik *History of Mathematics*
 Schmidt, Wolfgang M. *Number Theory*
 Schneider, Chester R. *Semi-simple Lie Groups*
 Schoen, Richard M. *Geometry, General Relativity*
 Schoenberg, Isaac Jacob (*no specialty given*)
 Schoenfeld, Lowell *Number Theory*
 Schroer, Bert *Physics*
 Schultz, Reinhard Edward *Topology*
 Schumacher, Clifford Rodney *Physics*
 Schütte, Kurt *Mathematical Logic*
 Schwarz, Gerald Walter *Transformation Groups*
 Schwarzenberger, Rolf Ludwig Edward (*no specialty given*)
 Schweitzer, Paul Alexander, S. J. *Topology*
 Sciama, Dennis William *Astrophysics*
 Scott, Leonard L., Jr. *Finite and Algebraic Groups*
 Scott, William Raymond *Algebra (Group Theory)*
 Segal, Graeme *Topology*
 Segal, Irving Ezra *Physical Mathematics, Analysis*
 Segal, Jack *Topology*
 Segre, Beniamino *Algebraic Topology*
 Seidel, Wladimir (*no specialty given*)
 Seifert, Herbert *Topology, Morse Theory*
 Seiberg, Atle (F) *Number Theory, Analysis*
 Seiberg, Henrik Ludvig (*no specialty given*)
 Seligman, George Benham *Algebraic Lie Theory*
 Selmer, Ernst Sejersted *Computer Design*
 Sen, Pritam *Theoretical Physics*
 Serbin, Hyman S. (*no specialty given*)
 Sergeraert, Francis Georges *Differential Analysis*
 Serre, Jean-Pierre (*no specialty given*)
 Seshadri, Conjeeveram Sriangachari (*no specialty given*)
 Sevici, Constantin *Number Theory*
 Sexl, Roman U. *Relativity*
 Seymour, Robert M. *Algebraic Topology*
 Sgro, Joseph Anthony *Mathematical Logic and Foundations*
 Shadmi, Yehuda *Physics*
 Shahidi, Freydoon *Automorphic Forms and Group Representations*
 Shale, David *Functional Analysis, Quantum Theory*
 Shalika, Joseph Andrew *Applications of the Theory of Representations to Number Theory*
 Shanks, Merrill Edward *Topological Algebra*
 Shannon, Claude Elwood (*no specialty given*)
 Shapiro, Arnold Samuel *Algebraic Topology*
 Shapiro, Victor L. *Mathematical Analysis*
 Sharp, Rodney Yorke *Algebraic Geometry*
 Sheingorn, Mark Elliot *Number Theory*
 Shelstad, Diana (*no specialty given*)
 Shelton, Robert Orrin *Analysis*
 Shepherdson, John Cedric *Logic*
 Sher, Richard B. *Topology*
 Sherman, Seymour *Measure Theory*
 Sherman, Thomas Oakley *Functional Analysis*
 Shiffman, Bernard *Complex Analysis*
 Shiffman, Max *Analysis*
 Shih, Kuang-Yen *Number Theory*
 Shih, Weishu *Global Analysis and Topology*
 Shimizu, Hideo *Number Theory*
 Shimura, Goro *Number Theory*
 Shintani, Takuro (*no specialty given*)
 Shoenfeld, Joseph Robert (*no specialty given*)
 Shorey, Tarlok Nath *Theory of Numbers*
 Shu, Shien Siu *Differential Equations, Fluid Mechanics*
 Shudeman, Conrad L. B. (*no specialty given*)
 Shult, Ernest E. *Group Theory*
 Shyr, Jih-Min *Number Theory*
 Sibner, Lesley M. (*no specialty given*)
 Sibner, Robert J. (*no specialty given*)
 Siebenmann, Laurence C. *Topology*
 Siegel, Carl Ludwig (F) *Analysis*
 Siegert, Arnold John Frederick *Theoretical Physics*
 Sikorski, Roman *Function Theory*
 Silberger, Allan J. *Harmonic Analysis, Semi-simple Groups*
 Silva, Alessandro (*no specialty given*)
 Silverman, Edward (*no specialty given*)
 Silverstein, Martin Louis *Probability Theory*
 Simon, Leon M. (*no specialty given*)
 Simons, Jakob Lennart *Nuclear Physics*
 Sinclair, Mary Emily (*no specialty given*)
 Singer, Isadore M. *Group Representation Operator Theory*
 Singer, Michael F. (*no specialty given*)
 Singh, Virendra (*no specialty given*)
 Sion, Maurice *Analysis*
 Sjöstrand, Johannes *Analysis*
 Skjelbred, Tor *Geometry, Cohomology*
 Skolnick, Malcolm Harris *Physics*
 Skyrme, Tony Hilton Royle *Quantum Field Theory*
 Slater, John C. *Theoretical Physics*
 Slotnick, Murray *Field Theories*
 Słowikowski, Wojciech *Functional Analysis*
 Smale, Stephen (*no specialty given*)
 Smiley, Dorothy Manning (*no specialty given*)
 Smiley, Malcolm Finlay *Algebra*
 Smith, H. Lyle (*no specialty given*)
 Smith, Paul A. (*no specialty given*)
 Smithies, Frank (*no specialty given*)
 Smoluchowski, Roman *Physics*
 Snow, George Abraham *Elementary Particle Physics*
 Socolow, Robert Harry *Theoretical High Energy Physics*
 Soda, Toshio *Many Body Problem and Statistical Mechanics*
 Solomon, Louis (*no specialty given*)

- Solovay, Robert M. *Logic*
 Sommese, Andrew John (*no specialty given*)
 Sonneborn, Tracy M. (*no specialty given*)
 Spallek, Karlheinz (*no specialty given*)
 Spanier, Edwin H. *Topology*
 Specker, Ernst Paul (*no specialty given*)
 Spector, Clifford *Foundations of Mathematics*
 Speiser, David Rudolf *Elementary Particles*
 Speisman, Gerald (*no specialty given*)
 Spencer, Guilford L., II *Topology, Partial Differential Equations*
 Sperber, Steven Irwin *Number Theory*
 Spivak, Michael D. *Algebraic Topology*
 Springer, Charles Eugene (*no specialty given*)
 Springer, Tonny Albert *Algebra*
 Squires, Gordon Leslie *Mathematical Physics*
 Srinivasan, Bhama *Algebraic Groups*
 Srivastava, Shashi Mohan *Descriptive Set Theory*
 Staffeldt, Ross E. *Algebraic Topology*
 Stallings, John Robert, Jr. *Topology*
 Stanley, Gertrude Katherine (*no specialty given*)
 Stanton, Nancy K. (*no specialty given*)
 Stanton, Robert Joseph *Group Representations*
 Starbird, Michael Peter *Topology*
 Stark, Harold Mead *Analytic Number Theory*
 Stasheff, James Dillon *Algebraic Topology*
 Staver, Tor Böhm *Quantum Mechanics*
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 Stegenga, David Allen *Fourier Analysis and Complex Analysis*
 Stein, Elias M. *Analysis*
 Steinberg, Maria Alice *Analysis*
 Steinberg, Robert *Algebraic Groups, Lie Groups*
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 Stephens, Clarence Francis *Analysis*
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 Stern, Adolph *Elementary Particles*
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 Stewart, Thomas Edward *Transformation Groups*
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 Thomas, Paul Emery *Algebraic Topology*
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Tomonaga, Sin-itiro *Theoretical Elementary Particles*
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Transue, William Reagle *Functional Analysis*
Trauber, Philip *Topology*
Treger, Robert *Algebraic Geometry*
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Trjitzinsky, Waldemar J. (*no specialty given*)
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Trombi, Peter C. *Analysis on Semi-simple Lie Groups*
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Tuan, San Fu *Theoretical Particle Physics*
Tucker, Howard Gregory *Probability and Mathematical Statistics*
Turán, Paul *Number Theory*
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Uhlenbrock, Dietrich Albert *Mathematical Physics*
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Veblen, Oswald (F) *Foundations of Geometry*
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von Neumann, John (F)
Vrabec, Jože *Topology*
Wade, Luther Irwin, Jr. (*no specialty given*)
Waelbroeck, Lucien *Functional Analysis*
Wagoner, John B. *Topology*
Wagreich, Philip Donald *Algebraic Geometry*
Wahl, Jonathan Michael *Algebraic Geometry*
Wainger, Stephen *Harmonic Analysis*
Waismann, Friedrich *Philosophy of Mathematics*
Wald, George *Biology*
Waldhausen, Friedhelm (*no specialty given*)
Walker, Carol Lee *Algebra*
Walker, Elbert A. (*no specialty given*)
Wall, Charles T.C. *Topology*
Wall, Hubert Stanley (*no specialty given*)
Wallace, Andrew Hugh *Geometry*
Wallach, Hans *Psychology*
Wallin, Hans *Classical Analysis*
Walsh, Joseph Leonard (*no specialty given*)
Walter, John H. *Algebra*
Wang, Hsien-Chung *Topology, Differential Geometry*
Wang, John S. P. *Discrete Subgroups of Lie Groups*
Wang, Kai *Topology*
Ward, Augustus John *Topology*
Ward, John Clive *Field Theory*
Ward, Morgan (*no specialty given*)
Warner, Garth William, Jr. *Representation Theory*
Warner, Seth L. *Functional Analysis*
Washnitzer, Gerard *Algebraic Geometry*
Wasserman, Arthur G. *Topology*
Watanabe, Takesi *Analysis Probability*
Watkiss, Christopher (*no specialty given*)
Watson, Howard Lee *Physics*
Watson, Kenneth Marshall *Theoretical Physics*
Watts, Charles E. (*no specialty given*)
Weaver, David William *Topology*
Weber, Claude Alain *Topology*
Weber, Joseph *Physics*
Webster, Dallas Eugene *Linear and Differentiable Topology*
Weibel, Charles A. (*no specialty given*)
Weil, André (F)
Weinstein, Alan David *Differential Geometry*
Weisfeiler, Boris *Algebraic Groups*
Weispfenning, Volker B. *Logic, Algebra*
Weiss, Edwin *Topological Rings Class Field Theory*
Weiss, Max L. (*no specialty given*)
Weiss, Paul *Mathematical Physics*
Wellner, Marcel N. *Quantum Fields*
Wells, James H. (*no specialty given*)
Wells, Raymond O'Neil, Jr. (*no specialty given*)
Wermer, John *Analysis*
West, James Edward *Topology*
Weyl, Hermann (F)
Wheeden, Richard L. *Analysis*
Wheeler, John Archibald *Physics*

Whitehead, John Henry Constantine *Theory of Manifolds*
 Whiteman, Albert Leon (no specialty given)
 Whitney, Hassler (F) *Topology, Analysis, Instruction*
 Wichmann, Eyvind Hugo *Theoretical Physics*
 Wick, Gian Carlo *Theoretical Physics*
 Widom, Harold *Analysis*
 Wightman, Arthur Strong *Theoretical Physics*
 Wilcox, L. R. *Lattice Theory*
 Wilder, Raymond Louis *Topology*
 Wildt, Rupert *Astrophysics*
 Wilets, Lawrence *Theoretical Physics*
 Wilkerson, Clarence W., Jr. *Algebraic Topology*
 Wilkins, J. Ernest, Jr. (no specialty given)
 Williams, Robert Fones *Topology*
 Williamson, John Hunter *Analysis*
 Williamson, Robert E. *Differential Topology*
 Wilson, David C. *Topology*
 Wilson, W. Stephen *Algebraic Topology*
 Winkelkemper, Horst Elmar (no specialty given)
 Wintner, Aurel Frederick (no specialty given)
 Wirsing, Eduard A.J.M. *Number Theory*
 Wisner, Robert Joel *Number Theory, Homological Algebra*
 Witmer, Enos Eby *Theoretical Physics*
 Witt, Ernst *Algebra, Number Theory*
 Wolf, Joseph A. *Geometry, Lie Groups*
 Wolfson, Kenneth G. (no specialty given)
 Woltjer, Lodewyk *Astrophysics*
 Wong, Yue Kei *Functional Analysis*
 Wong, Yung-Chow *Differential Geometry*
 Woo, Ching-Hung *Physics*
 Wood, John William *Topology*
 Woodbury, Max Atkin *Measure Theory*
 Wouthuysen, Siegfried A. *Theoretical Physics*
 Wu, Chi-Tai *Theoretical Physics*
 Wu, Hung-Hsi *Geometry*
 Wu, Tai Tsun *Theoretical Physics*
 Wu, Ta-You *Theoretical Physics*
 Wu, Wen-chün *Topology*
 Wylie, Shaun *Topology*
 Yagi, Fumio *Analysis*
 Yamabe, Hidehiko *Topological Groups*
 Yamaguchi, Hiroyuki (no specialty given)
 Yamamoto, Kazuhiro *Partial Differential Equations*
 Yamamoto, Yoshihiko *Number Theory*
 Yamamuro, Sadayuki (no specialty given)
 Yamazaki, Tadashi *Number Theory*
 Yang, Chen Ning (F) *Theoretical Physics*
 Yang, Chung-Tao *Algebraic Topology, Transformation Groups*
 Yang, Paul C. P. *Differential Geometry*
 Yao, York-Peng Edward *Particle Theory*
 Yasuhara, Mitsuru *Mathematical Logic*
 Yates, Michael Charles *Mathematical Logic*
 Yau, Shing-Tung (no specialty given)
 Yau, Stephen Shing-Toung (no specialty given)
 Yeaton, Marie Johnson (no specialty given)
 Yennie, Donald Robert *Theoretical Physics*
 Yilmaz, Hüseyin *Gravitation, Field Theory*
 Yood, Bertram (no specialty given)
 Yoshida, Tomoyuki *Finite Group Theory*

Yosida, Kôzaku *Functional Analysis*
 Yuan, Shuen (no specialty given)
 Yukawa, Hideki *Elementary Particle Theory*
 Zabrodsky, Alexander *Algebraic Topology*
 Zadeh, Lotfi A. *Mathematical Probability in System Analysis*
 Zafran, Misha *Analysis*
 Zariski, Oscar *Algebraic Geometry, Algebra*
 Zassenhaus, Hans J. *Group Theory*
 Zeeman, Erik Christopher *Topology, Dynamical Systems*
 Zeilberger, Doron (no specialty given)
 Zelinsky, Daniel *Algebra*
 Zener, Clarence *Mathematical Physics*
 Ziller, Wolfgang *Differential Geometry*
 Zimmermann, Wolfhart *Theoretical Physics*
 Zimmert, Rainer *Arithmetic Groups*
 Zippin, Leo (no specialty given)
 Zuckerman, Gregg Jay *Representation Theory*
 Zumino, Bruno (no specialty given)

School of Natural Sciences

Abarbanel, Henry Don Isaac (no specialty given)
 Abdellatif, Refat Ahmed (no specialty given)
 Adler, Ronald J. *Relativity Theory*
 Adler, Stephen L. (F) *High Energy Physics*
 Albritton, James R. *Plasma Physics*
 Alcock, Charles Roger *Astrophysics*
 Amado, Ralph David *Theoretical Physics*
 Ames, Susan *Astrophysics*
 Appelquist, Thomas W. *Physics*
 Arons, Jonathan *Astrophysics*
 Asano, Taro (no specialty given)
 Avni, Yoram *Astrophysics*
 Baan, Willem Adrianus *Astrophysics*
 Bacry, Henri *Mathematical Physics*
 Bahcall, John Norris (F) *Astrophysics*
 Balachandran, Aiyalam Parameswaran *Physics*
 Baluni, Varouzhan *Particle Physics*
 Banks, Thomas I. *Particle Physics*
 Bardeen, James M. *Physics*
 Bardeen, William A. *Elementary Particle Theory, Field Theory*
 Bar-Gadda, Uzi Y. *Particle Physics Theory*
 Bars, Itzhak *Physics*
 Bender, Carl Martin *Physics*
 Bernstein, Herbert J. *Theoretical Quantum Physics*
 Bernstein, Ira Borah *Theoretical Plasma Physics*
 Bigelow, Julian Himely (PM) *Computer Science, Applied Mathematics*
 Bitar, Khalil Michel *Theoretical Particle Physics*
 Blandford, Roger D. *Astrophysics*
 Brascamp, Herrn Jan *Mathematical Physics*
 Bros, Jacques M. E. *Quantum Field Theory*
 Brown, Lowell Severt *Elementary Particle Theory*
 Bussac, Marie-Noelle *Plasma Physics*
 Cabibbo, Nicola *Particle Physics*
 Callan, Curtis G. *Particle Physics*
 Callen, James D. *Plasma Physics*
 Campbell, David Kelly *Elementary Particle Physics*
 Carazzone, James Joseph *Field Theory*

IAS School of Membership

- Carlitz, Robert D. *Elementary Particle Physics*
Carreras, Benjamin A. *Plasma Physics*
Catto, Peter James *Plasma Physics*
Cayrel, Roger *Astrophysics*
Chadam, John Martin *Mathematical Physics*
Chandrasekhar, Subrahmanyan (*no specialty given*)
Chang, Shau-Jin *Elementary Particle Physics*
Channell, Paul Jackson *Plasma Physics*
Chen, Hsing-Hen *Astrophysics, Plasma Physics*
Cheng, Ta-Pei *Elementary Particle Theory*
Chernin, David Paul *Plasma Physics*
Cohen, Jeffrey M. *Astrophysical and General Relativity*
Colglazier, Elmer William, Jr. *High Energy Physics*
Cooper, Frederick Michael *Elementary Particle Physics*
Coppi, Bruno *Physics*
Crater, Horace William *Particle Physics*
Cronström, Christofer Eige *Mathematical Physics*
Cvitanović, Predrag *Theoretical Elementary Particle Physics*
Dashen, Roger Frederick (F) *Quantum Field Theory*
Dell'Antonio, Gianfausto *Mathematical Physics*
De Luccia, Frank Joseph *Theoretical Particle Physics*
Diamond, Patrick Henry *Plasma Physics*
Dicke, Robert H. *Physics*
Dimock, Jonathan D. *Mathematical Physics*
Dothan, Yossef *Theoretical Particle Physics*
Draine, Bruce T. *Astrophysics*
Duncan, H. E. Anthony *Particle Theory*
Durand, Bernice Black *Theoretical Physics*
Dyson, Freeman John (F) *Mathematical Physics*
Eichten, Estia Joseph *High Energy Theory*
Elitzner, Shmuel *Field Theory*
Enss, Volker *Mathematical Physics*
Farrar, Glennys Reynolds *Particle Physics*
Federbush, Paul Gerard *Mathematical Physics*
Flannery, Brian Paul *Physics*
Fox, Geoffrey Charles *High Energy Physics*
Freedman, Daniel Z. *Elementary Particle Theory*
Frishman, Yitzhak *Particle Physics, Field Theory*
Furlan, Giuseppe *Particle Physics, Field Theory*
Gell-Mann, Murray *Elementary Particle Physics*
Gilman, Frederick Joseph *Physics*
Ginibre, Jean *Theoretical Physics*
Giuliani, John Lawrence, Jr. *Astrophysics*
Goddard, Peter *Theoretical Physics, Elementary Particles and Quantum Field Theory*
Goldberger, Marvin L. (*no specialty given*)
Goldstein, Sheldon *Statistical Mechanics*
Goldstine, Herman (PM) **History of Mathematics**
Gonsalves, Richard John *Elementary Particle Physics*
Green, Frederic L. *Elementary Particle Theory*
Green, Michael Boris *Elementary Particle Theory*
Greenstein, Jesse Leonard *Astrophysics*
Gross, David J. *Theoretical Physics*
Guerra, Francesco *Theoretical Physics*
Guralnik, Gerald Stanford *Particle Physics*
Halpern, Martin Brent *Physics*
Hanson, Andrew Jorgen *Elementary Particle Physics*
Hasslacher, Brosl *Theoretical High Energy Physics*
Hazeltine, Richard Deimel *Physics*
Healy, James Bruce *Theoretical Particle Physics*
Hermann, Robert *Mathematical Physics*
Ho, Yu Ping *Plasma Physics, Statistical Mechanics*
Horn, David *Elementary Particles*
Horton, Wendell, Jr. *Plasma Physics*
Hu, Bei-Lok *Relativity & Gravitation Physics, Mathematical Physics*
Ichimaru, Setsuo *Plasma Physics*
Illarionov, Andrej Fedorovich (*no specialty given*)
Itzykson, Claude *Quantum Field Theory*
Iwasaki, Yoichi *Particle Physics*
Jaffe, Arthur M. *Mathematical Physics*
Jaffe, Walter Joseph *Astronomy*
Jakšić, Borivoj *Theoretical Physics*
Jevicki, Antal *Quantum Field Theory*
Joglekar, Satish D. *Elementary Particle Theory*
Joss, Paul Christopher *Astrophysics*
Julia, Bernard L. *Theoretical Particle Physics*
Kalnajs, Agris Janis *Astronomy*
Karlner, Inga *Particle Physics*
Kastler, Daniel *Algebraic Field Theory*
Katz, Jonathan Isaac *Astrophysics*
Kiskis, Joseph E., Jr. *High Energy Theory*
Klink, William H. *Elementary Particles*
Kogut, John Benjamin *High Energy Theory*
Koplik, Joel *Particle Theory*
Krolik, Julian Henry *Astrophysics*
Krommes, John A. *Plasma Physics*
Kuriyan, Jacob George *Particle Physics, Group Theory*
Kwan, John Y. *Astrophysics*
Laan, Harry van der *Astrophysics*
Lagos, Miguel *Physics*
Lanford, Oscar Erasmus, III *Physics*
Lapedes, Alan S. *Physics*
Laval, Guy (*no specialty given*)
Lavine, Richard B. *Mathematical Physics*
Lee, Edward Prentiss *Plasma Physics*
Lee, Yee-Chun *Theoretical Plasma Physics*
Leite Lopes, José *Theoretical Physics*
Li, Ming Chiang *Physics*
Lieberman, Judy *Elementary particles*
Limić, Nedžad *Physics*
Liu, Chuan-Sheng *Plasma Physics*
Loeffel, Jean-Jacques (*no specialty given*)
Longair, Malcolm Sim *Astrophysics*
Lowenstein, John Hood *Quantum Field Theory*
Lubow, Stephen Harvey *Astrophysics*
Lund, Fernando *General Relativity, Statistical Mechanics*
Lurçat, François *Physics*
Ma, Shang-Keng *Physics*
MacAlpine, Gordon Madeira *Astrophysics*
Mack, Gerhard *Quantum Field Theory*
Manassah, Jamal Tawfek *Theoretical Physics*
Mandula, Jeffrey Ellis *Particle Physics*
Mannheim, Philip David *Theoretical Particle Physics*
Matsuda, Satoshi *High Energy Theoretical Physics*
Mawardi, Osman Kamel *Plasma Physics*
May, Robert McCredie (*no specialty given*)
Mayr, Ernst *History of Science*
McKellar, Bruce Harold John *Nuclear Physics*

- Michel, F. Curtis *Astrophysics*
 Monticello, Donald Andrew *Plasma Physics*
 Mottola, Emil *Theoretical Physics*
 Mueller, Alfred H. *High Energy Physics*
 Muzinich, Ivan J. *High Energy Theoretical Physics*
 Myerson, Robert James *Critical Phenomena*
 Nachtmann, Otto *Electromagnetic and Weak Interactions*
 El-Nadi, Adel Mohamed *Plasma Physics*
 Ne'eman, Yuval *Particle Physics*
 Neugebauer, Otto E. *History of Astronomy*
 Neveu, André *Field Theory*
 Newman, William Isaac *Astrophysics*
 Newton, Roger Gerhard *Theoretical Physics*
 Ng, Yee Jack *Theoretical Particle Physics*
 Nussinov, Shmuel *Theoretical Physics*
 Nuyts, Jean *High Energy Physics*
 Oakes, Robert J. *Elementary Particle Physics*
 O'Raifeartaigh, Lochlainn *Particle Physics*
 Ore, Fred Robert, Jr. *High-Energy Physics*
 Orszag, Steven A. *Astrophysics*
 Osborn, Thomas Arthur *Particle Physics*
 Pakvasa, Sandip *Theoretical Physics*
 Papanicolaou, Nicolas *High Energy Physics*
 Patrascioiu, Adrian N. *Physics*
 Pearce, Paul A. *Statistical Mechanics*
 Pearson, Robert Bernard, III *Particle Theory*
 Peebles, Philip James E. *Astrophysics*
 Perry, Malcolm John *Quantum Gravity*
 Piran, Tsvi *General Relativity, Astrophysics*
 Pohlmeier, Klaus *Quantum Field Theory*
 Ponzano, Giorgio Enrico *Mathematical Physics*
 Powers, Robert T. *Mathematical Physics*
 Rajaraman, Ramamurti *Theoretical Particle Physics and Statistical Mechanics*
 Rasetti, Mario G. *Mathematical Physics*
 Rees, Martin John *Astrophysics*
 Regge, Tullio Eugene (F) *Mathematical Physics*
 Renner, Bruno Karl *Physics*
 Renninger, George Hill *Particle Physics*
 Roffman, Eric H. *Particle Physics*
 Rood, Herbert Jesse *Astrophysics*
 Rosenbluth, Marshall Nicholas (F) *Plasma Physics*
 Rosner, Jonathan Lincoln *Elementary Particle Theory*
 Ross, David W. *Physics*
 Ross, Randy Richard *Astrophysics*
 Ruderman, Malvin Avram *Physics*
 Ruffini, Remo Jacopo *Theoretical Physics and Astrophysics*
 Samuel, Stuart Alan *Physical Sciences*
 Sarazin, Craig Leish *Astrophysics*
 Schechter, Paul (no specialty given)
 Seiler, Erhard Karl *Mathematical Physics*
 Sertorio, Luigi *Particle Physics*
 Shapiro, Paul R. *Theoretical Astrophysics*
 Shei, Sun-Sheng *High Energy Physics*
 Sheng, Ping *Physics*
 Shepard, Harvey Kenneth *Theoretical (Elementary Particle) Physics*
 Shigemitsu, Junko *Elementary Particle Physics*
 Siegel, Warren David *Physics*
 Silk, Joseph Ivor *Astronomy*
 Simon, Albert *Plasma Physics*
 Sinclair, Donald Keith *High Energy Physics, Elementary Particle Theory*
 Slawny, Joseph *Mathematical Physics*
 Sloan, Millard Lee *Plasma Physics*
 Smolin, Lee *Physics*
 Snyderman, Neal J. *Quantum Field Theory*
 Solomon, Philip (no specialty given)
 Soneira, Raymond M. *Astrophysics*
 Speer, Eugene Richard *High Energy Physics*
 Serman, George Franklin *Elementary Particle Theory*
 Strauss, Henry R. *Plasma Physics*
 Suzuki, Mahiko *Theoretical Physics*
 Szu, Harold Hwaling (no specialty given)
 Tana, Mahgoub O. *Physics*
 Tange, Toshio (no specialty given)
 Taylor, John Bryan *Plasma Physics*
 Teitelboim, Claudio *Theoretical Physics*
 Thompson, Colin John *Statistical Mechanics*
 Thompson, William Bell *Plasma Theory*
 Tiomno, Jayme *General Relativity*
 Todorov, Ivan *Mathematical Physics*
 Toton, Edward T. *Gravitation*
 Tow, Don Mei *Elementary Particle Physics*
 Trabert, Kenneth K. *Theoretical Physics*
 Tremaine, Scott Duncan *Astrophysics*
 Tryon, Edward Polk *High Energy Physics, Cosmology*
 Tsao, Hung-Sheng *Particle Physics*
 Tung, Wu-Ki *Elementary Particle Physics*
 Turner, Edwin Lewis *Astrophysics*
 Ulrich, Roger Keith *Astrophysics*
 Van Dam, James Walter *Plasma Physics*
 Veneziano, Gabriele *Particle Physics*
 Vinciarelli, Patrizio *Particles, Field Theory*
 Virasoro, Miguel A. *Theoretical Physics*
 Waddell, Bruce V. (no specialty given)
 Walters, Gary Max *Plasma Physics*
 Wang, Ling-Lie *High Energy Particle Physics*
 Weinberg, Erick J. *Elementary Particle Physics*
 Weinstein, Marvin *Physics*
 Westwater, Michael John *Mathematical Physics*
 White, Roscoe Beryl *Plasma Physics*
 Wilczek, Frank Anthony *High Energy Physics*
 Williams, David Noel *Theoretical Physics*
 Williams, Edward A. *Theoretical Plasma Physics*
 Wilson, Kenneth Geddes *Particle Physics*
 Wolf, Richard Alan *Astrophysics*
 Wong, David Y. *Theoretical Physics*
 Woronowicz, Stanisław Lech *Mathematical Physics*
 Wyler, Armand *Representations of Groups*
 Yahil, Amos *Astrophysics*
 Yanase, Michael Mutsuo *Mathematical Physics*
 Yellin, Joel (no specialty given)
 Zee, Anthony *Particle Theory*
 Zehnder, Eduard (no specialty given)
 Zweibel, Ellen Gould *Astrophysics*

School of Social Science

- Alpers, Svetlana Leontief *History of Art*
 Anderson, Barbara A. *Social Change*
 Apter, David E. (no specialty given)

IAS School of Membership

- Asch, Solomon E. *Cognitive Processes*
Audley, Robert John *Mathematical Psychology*
Aufhauser, R. Keith *Political Economy*
Babcock, Barbara A. *Symbolic Anthropology*
Baker, Keith Michael (*no specialty given*)
Barnes, Stanley Barry (*no specialty given*)
Basso, Keith Hamilton *Anthropology*
Bellah, Robert N. *Islamic Religions*
Ben-David, Joseph *Sociology*
Bendix, Reinhard *Sociology, Political Science*
Birnbaum, Norman *Sociology*
Black, Max *Philosophy and Linguistics*
Blu, Karen I. *The Study of Systems of Meaning*
Boon, James Alexander (*no specialty given*)
Bourdieu, Pierre *Sociology*
Brenner, Robert P. *Social History*
Cardoso, Fernando Henrique *State and Civil Society in Brazil*
Castro, Antonio Barros de *History*
Clark, Timothy James (*no specialty given*)
Collins, Randall (*no specialty given*)
Conklin, Harold C. *Anthropology, Linguistics*
Cooter, Robert D. *Economics*
Crane, Diana *Sociology of Science*
Darnton, Robert *History*
Davis, Natalie Zemon *European History*
Day, Richard H. *Economics*
Deyon, Pierre *Social History*
Dore, Ronald *Sociology*
Dowty, David R. *Linguistics*
Dumont, Louis Charles Jean *Social Anthropology*
Edwards, Richard C. *Economics*
Eickelman, Dale Floyd *Anthropology*
Errington, Shelly Elizabeth *Anthropology, Southeast Asia*
Field, Alexander James *Economics*
Fischer, Wolfram *Economic History*
Fishburn, Peter C. *Choice Behavior*
Fishman, Joshua A. *Sociology*
Fox, Richard G. *Anthropology*
Frankel, Francine Ruth *Political Economy*
Geertz, Clifford (F) *Social Anthropology*
Gerschenkron, Alexander *Economics*
Gilsenan, Michael Cole *Anthropology*
Gintis, Herbert M *Economics*
Goldberg, Victor Paul *Economics*
Greven, Philip J., Jr. *History*
Gudeman, Stephen Frederick *Anthropology*
Hawkins, David (*no specialty given*)
Hawthorn, Geoffrey *Sociology*
Hermassi, Elbaki (*no specialty given*)
Hermassi, Karen C. (*no specialty given*)
Hirschman, Albert O. (F) *Economics*
Holmes, Stephen Taylor *Political Theory*
Hopkins, Antony Gerald *Economic History of the Underdeveloped World*
Hopkins, Keith Morris *Historical Sociology*
Hudson, Liam (*no specialty given*)
Huff, Toby E. *Sociology*
Hutchins, Francis Gilman (*no specialty given*)
Inden, Ronald B. *Anthropology, History*
Indow, Tarow *Human Information Processing*
Inkeles, Alex *Sociology*
Isard, Stephen David *Linguistics*
Johnson-Laird, Philip Nicholas *Psychology*
Joshi, Aravind K. *Linguistics and Psychology*
Katz, Michael Barry *Social History*
Kaysen, Carl (D) *Economics*
Kelly, George Armstrong *Political Theory*
Kessler, Clive Samuel *Anthropology*
Khare, Ravindra Sahai *Social Anthropology*
Kindleberger, Charles Poor *Economics*
Kuhn, Thomas S. *History of Modern Physics*
Kurth, James R. *Industrial Structure*
Leal-Buitrago, Francisco *Sociology*
Lebergott, Stanley *Economic History*
Lee, Robert *Sociology of Religion*
Leenhardt, Jacques *Sociology of Art and Literature*
Leibenstein, Harvey *Economics*
Lemaine, Gérard *Sociology of Science*
Lepenes, Wolf D. *Sociology of Art, Literature*
Lepsius, Mario Rainer (*no specialty given*)
Levelt, Willem T. M. *Psychology*
Lewis, Bernard *Islamic History*
Linz, Juan J. *Social Science*
Lucas, Paul *History*
Luce, R. Duncan *Information Processing*
Manuel, Frank E. (*no specialty given*)
Maruyama, Masao (*no specialty given*)
Mazlish, Bruce *History*
McNeill, David *Anthropology*
Miller, George Armitage (*no specialty given*)
Mintz, Sidney Wilfred *Anthropology, History*
Mitchell, Edward J. *Comparative Studies in Land Distribution and Political Stability*
Moodie, Thomas Dunbar *Sociology*
Morris, Morris David *Economics, Economic History*
Mullins, Nicholas C. (*no specialty given*)
Munn, Nancy *Symbolic Theory and Analysis*
Murra, John Victor *Anthropology*
O'Donnell, Guillermo Alberto *Sociology, Economics*
Offe, Claus (*no specialty given*)
Ortner, Sherry B. *Anthropology*
Östör, Ákos *Anthropology*
Patterson, Orlando Horace *Sociology*
Peters, Stanley *Psycholinguistics*
Pizzorno, Alessandro De Giovanni *Exchange Theory, Pluralist Theory of the State*
Pletsch, Carl Erich *Intellectual History*
Poni, Carlo *Economic History*
Ravetz, Jerome R. (*no specialty given*)
Rawls, John (*no specialty given*)
Reddy, William M. *Anthropology*
Richter, Melvin (*no specialty given*)
Riesman, David *Social Change and Education in the US*
Roberts, Fred Stephen *Theoretical Models of Space Perception*
Rosaldo, Michelle Zimbalist *Symbolic Anthropology*
Rosaldo, Renato Ignacio *Cultural Anthropology*
Rumelhart, David Everett *Models of Perception and Decision-making*
Sapir, J. David *Social Anthropology*
Scheuch, Erwin K. *Sociology*

Schwarz, Roberto <i>Literature and Ideology</i>	Valensi, Lucette (<i>no specialty given</i>)
Scott, Joan Wallach <i>Social History</i>	Verney, Douglas Vernon <i>Political Science</i>
Sennett, Richard <i>Sociology</i>	Vovelle, Michel (<i>no specialty given</i>)
Sewell, William H., Jr. <i>Social History</i>	Warman, Arturo <i>Anthropology</i>
Shefter, Martin Allen <i>Political Science</i>	Weinstein, Fred <i>Social Theory</i>
Shorter, Edward <i>Social Anthropology, Social History</i>	Wiebe, Robert H. <i>History</i>
Siegel, James T. <i>Anthropology</i>	Winch, Donald Norman <i>Economics, History of Social Sciences</i>
Skinner, Quentin Robert Duthie <i>Social Theory</i>	Winston, Gordon Chester <i>Economics</i>
Smith, Peter Hopkinson <i>Political Economy</i>	Wrigley, Edward Anthony (<i>no specialty given</i>)
Stewart, John O. <i>Social Anthropology</i>	Yellott, John Ingle, Jr. <i>Models of Perception and Decision-making</i>
Sulloway, Frank Jones, II <i>History of Science, Psychology and Sociology of Knowledge</i>	Yengoyan, Aram A. <i>Anthropology</i>
Tilly, Charles (<i>no specialty given</i>)	el-Zein, Abdul-Hamid M. <i>Anthropology</i>
Trow, Martin Aaron (<i>no specialty given</i>)	Zolberg, Aristide Rodolphe <i>Political Science</i>
Turner, Victor Witter <i>Anthropology</i>	
Twitchett, Denis Crispin <i>Chinese Social History</i>	

Appendix D

Country of Birth of Members

Explanatory Notes

This appendix lists the Institute's members by the country of their birth. The United States is given first, followed by foreign countries. Directors, faculty members and permanent members are designated by (D), (F) or (PM) following their names.

Because it was not possible in all cases to identify the correct political subdivision of China and Germany, those countries are listed as one geographical entity rather than Mainland China and Taiwan or East and West Germany. Israel is so named even though it did not exist by that name for some who claim it as their birthplace. Members born in countries which later became part of the Soviet Union are included in the USSR listing. The countries of the United Kingdom are named separately in this appendix, whereas in Appendixes A and B the many sub-headings made such a breakdown unwieldy.

Country of Birth of Members

United States

Alabama

Albritton, James R.
Alexander, John Ralph
Almgren, Frederick Justin, Jr.
Cabaniss, J. Allen
Floyd, Edwin E.
Frye, Roland Mushat
Hill, Paul Daniel
Morrison, Karl
Taylor, Lily Ross
Watson, Howard Lee
Williams, Robert Fones

Arizona

Royden, Halsey Lawrence
Storer, Thomas
Thomas, Paul Emery

Arkansas

Aschbacher, Michael George
Markle, Minor M., III
Martin, William Ted
McMillan, John Emerson
Mostert, Paul Stallings Stallings,
John Robert, Jr.

California

Adams, William Wells
Amado, Ralph David
Anderson, Michael P.
Bailey, Thomas A.
Bowen, Rufus
Bredon, Glen E.
Brown, Lowell Severt
Burns, Robert I., S.J.
Butow, Robert J. C.
Byers, Nina
Campbell, David Kelly
Charney, Jule G.
Converse, George A.
Cowles, John Richard
Cronbach, Lee Joseph
Danskin, John Moffatt, Jr.
Dauben, Joseph Warren
DeWitt, Bryce Seligman
Eaton, William Thomas
Eberlein, Patrick Barry
Edson, Charles Farwell, Jr.
Freedman, Michael H.

Geertz, Clifford (F)
Giesecker, David
Gleason, Andrew M.
Glicksberg, Irving L.
Goodman, Roe William
Gulliver, Robert D., II
Hanf, William Porter
Hermassi, Karen C.
Johnson, Dennis Lee
Kelly, Paul Joseph
Kendig, Keith Milo
King, James Richard
Kiskis, Joseph E., Jr.
Klee, Victor L.
Latter, Robert H.
Lees, Milton
Lehmer, Derrick Henry
Leipnik, Roy Bergh
Linthorpe, Ivan M.
Marx, Daniel, Jr.
McNeill, David
Milliken, Keith R.
Morris, Morris David
Muzinich, Ivan J.
Nerode, Anil
Pearson, Robert Bernard, III
Perreiah, Alan R.
Phelps, Robert Ralph
Phillips, Ralph S.
Raphael, Robert B.
Schiller, A. Arthur
Sgro, Joseph Anthony
Sheehan, James J.
Silver, Larry Arnold
Stanton, Nancy K.
Starbird, Michael Peter
Stark, Harold Mead
Starn, Randolph
Swerdlow, Noel M.
Taylor, Jean E.
Thomson, S. Harrison
Ulrich, Roger Keith
Vance, Robert Neil
Walker, Carol Lee
Walter, John H.
White, Lynn, Jr.
Winston, Gordon Chester
Yellin, Joel
Yengoyan, Aram A.
Zuckerman, Gregg Jay

Colorado

Bamford, Paul Waiden
 Clover, Frank M.
 Cornwall, John Michael
 Dashen, Roger Frederick (F)
 Richter, Curt Paul
 Ross, Braxton

Connecticut

Akutowicz, Edwin James
 Anderson, Richard Davis
 Campbell, Alexander Elmslie
 Church, Philip Throop
 Durfee, Alan H.
 Farmer, Paul
 Freedman, Daniel Z.
 Hanges, Nicholas William
 Kane, Richard M.
 Kleene, Stephen Cole
 Kozlowski, George A., Jr.
 Lawton, Wayne Michael
 Lewis, Robert R.
 Licht, Arthur Lewis
 Meister, James Elliot
 Pingree, David Edwin
 Richmond, Donald Everett
 Sapir, J. David
 Shapiro, Paul R.
 Turkevich, Ludmilla Buketoff

Delaware

Ahner, John Franklin
 Charlap, Leonard S.
 Katz, Michael Barry
 Stommel, Henry Melson

District of Columbia

Abarbanel, Henry Don Isaac
 Addison, John West, Jr.
 Bernstein, Herbert J.
 Bruchey, Stuart Weems
 Chew, Geoffrey Foucar
 Church, Alonzo
 Clagett, Marshall (F)
 Cooter, Robert D.
 Crater, Horace William
 Farrar, Glennys Reynolds
 Gilman, Jane Piore
 Goldberg, Victor Paul
 Gross, David J.
 Haskell, Thomas L.
 Hirschman, Isidore Isaac, Jr.
 Hunt, Gilbert Agnew
 Johnson, Kent W.
 Landweber, Peter S.
 Larmore, Lawrence L.
 McVaugh, Michael Rogers
 Rohrich, David Ephraim
 Spanier, Edwin H.
 Serman, George Franklin
 Stone, David A.
 Sze, Alexander
 Thurston, William P.

Ullom, Stephen Virgil
 Wahl, Jonathan Michael

Florida

Boon, James Alexander
 Harvey, F. Reese
 Rapp, Richard Tilden
 Tindell, Ralph Stanley
 Wheeler, John Archibald

Georgia

Blumenthal, Leonard M.
 Caved, Stanley Louis
 Channell, Paul Jackson
 Clement, Paul A.
 Colglazier, Elmer William, Jr.
 Goldstein, Sheldon
 Green, Louis C.
 Griess, Robert Louis, Jr.
 Harrison, Jenny
 Hester, William
 Lacher, Robert Christopher
 McMillan, Daniel Russell, Jr.
 Nelson, Edward
 Pritchett, W. Kendrick

Idaho

Mullins, Nicholas C.
 Summers, John David

Illinois

Ambrose, Warren
 Ash, Avner Dolnick
 Bauer, George C.
 Baylen, Joseph O.
 Behrends, Ralph Eugene
 Benedict, Michael Les
 Bernstein, Dorothy Lewis
 Bjorken, James Daniel
 Blackwell, David
 Blu, Karen I.
 Blumenthal, Robert M.
 Brahana, Thomas R.
 Breasted, James Henry, Jr.
 Brodie, Bernard
 Brown, Edgar Henry, Jr.
 Brucker, Gene A.
 Buehrig, Edward H.
 Cagle, Fredric William, Jr.
 Capps, Edward, Jr.
 Cline, Edward Thomas, Jr.
 Cohen, Frederick Ronald
 Cohen, Marshall M.
 Cowling, Vincent F.
 Day, Mahlon Marsh
 Debus, Allen George
 deLeeuw, Karel
 Devinatz, Allen
 Dribin, Daniel Maccabaeus
 Eickelman, Dale Floyd
 Fleming, Denna Frank

Country of Birth

Ford, Franklin Lewis
Formanek, Edward William
Forsyth, George Howard, Jr.
Gibson, Eleanor Jack
Giffen, Charles H.
Glaser, Leslie Curtis
Glimm, James
Goebel, Charles James
Goldberger, Marvin L.
Goldstine, Herman Heine (PM)
Goodman, Sue Ellen
Grossman, Nathaniel
Gudeman, Stephen Frederick
Hale, Mark Pendleton, Jr.
Harrold, Orville G., Jr.
Heimert, Alan E.
Henriques, Anna Stafford
Hirsch, Morris William
Hollinger, David A.
Howe, Roger Evans
Jaffee, Harris Alexander
Kelley, Donald R.
Kessler, Herbert Leon
Kingdon, Robert McCune
Kirby, Robion Cromwell
Klink, William H.
Knight, Frank Bardsley
Knopp, Marvin Isadore
Lazerowitz, Alice Ambrose
Leibler, Richard Arthur
Leites, Edmund
Livesay, George Roger
McCredie, James R.
Miller, Charles Frederick, III
Miller, Perry
Mueller, Alfred H.
Neisendorfer, Joseph A.
Osborn, Thomas Arthur
Pinchuk, Bernard
Reddy, William M.
Rolfson, Dale Preston Odin
Rosaldo, Renato Ignacio
Rosenberg, Jonathan M.
Rubin, Herman
Sachse, William Lewis
Scheuneman, John
Schultz, Reinhard Edward
Schumacher, Clifford Rodney
ennett, Richard
Shapiro, Victor L.
Shepard, Harvey Kenneth
Shorter, Edward
Shult, Ernest E.
Smiley, Malcolm Finlay
Stegenga, David Allen
Stern, Ronald John
Stolarsky, Kenneth B
Summerhill, R. Richard
Tableson, Mitchell Herbert
Taub, Abraham Haskel
Thomas, Tracy Yerkes
Thrall, Robert McDowell

Tilly, Charles
Turner, Stuart Price
Wallace, William Pitkin
Weinberg, Bernard
Weinberg, Saul S.
White, Roscoe Beryl
Wilcox, L. R.
Wilkins, J. Ernest, Jr.
Wolf, Joseph A.
Zagorin, Perez
Zelinsky, Daniel

Indiana

Aufhauser, R. Keith
Aydelotte, Frank (D)
Aydelotte, William Osgood
Douglas, Ronald George
Dragt, Alexander James
Frazer, William R.
Goldthwaite, Richard A.
Graham, Loren R.
Greene, Jack P.
Hatcher, Allen Edward
James, Robert Clarke
Kaegi, Walter E., Jr.
Long, Clarence D., Jr.
Montgomery, Hugh L.
Phillips, Melba N.
Robinson, Robert William
Staffeldt, Ross E.
Tryon, Edward Polk
Weibel, Charles A.

Iowa

Anderson, Barbara A.
Appelquist, Thomas W.
Barnes, Mabel Schmeiser
Breen, Quirinius
Day, Richard H.
Durand, Bernice Black
Dyer, Micheal Neal
Guralnik, Gerald Stanford
Heider, Lester Joseph, S.J.
Hinrichsen, John James
Kunze, Ray A.
Martin, Joseph Morison
Neuberger, John W.
Randell, Richard C.
Shanks, Merrill Edward
Springer, Charles Eugene
Talbot, John Edwin
Varberg, Dale E.
Veblen, Oswald (F)
Ver Steeg, Clarence L.
Watson, Kenneth Marshall
West, James Edward
Wilson, W. Stephen

Kansas

Bishop, Errett A.
Callen, James D.
England, James W.

Helson, Henry
 Kelley, John L.
 Stewart, Walter W. (F)
 Taylor, B. A.
 Thompson, John G.
 Tucker, Howard Gregory
 Webster, Dallas Eugene
 Williamson, Robert E.

Kentucky

Adkins, William A.
 Bagby, S. Thomas, Jr.
 Faith, Carl
 Flexner, Abraham (D)
 Holland, Leicester Bodine
 Hutchins, Francis Gilman
 Pritchard, James Bennett
 Rice, Eugene Franklin, Jr.
 Royster, Wimberly Calvin
 Willoughby, William R.

Louisiana

Arthur, Marylin Bentley
 Bahcall, John Norris (F)
 Duren, Peter Larkin
 Greven, Philip J., Jr.
 Guckenheimer, John
 Hill, C. Denson
 McShane, Edward James
 Moise, Edwin Evariste
 Richardson, Roger W., Jr.
 Sumners, De Witt Lee

Maine

Bradeen, Donald William
 Fay, John David
 Huff, Toby E.
 Mitchell, Jonathan
 Morse, Marston (F)
 Thorpe, John A.

Maryland

Bien, David Duckworth
 Coale, Ansley Johnson
 Cohen, Irvin Sol
 Creaghan, John S., S.J.
 Downey, Glanville
 Ferry, Steven Charles
 Giuliani, John Lawrence, Jr.
 Greenberg, J. Mayo
 Hartle, James B.
 Hickman, Walter Braddock
 Hirschfelder, Joseph Oakland
 Hyman, Murray Harvey
 Ireland, Kenneth Frederick
 Karel, Martin Lewis
 Lang, William Edward
 Mason, Alpheus Thomas
 Muhly, Harry Townsend
 Putnam, Calvin Richard
 Rothaus, Oscar S.

Shalika, Joseph Andrew
 Sonneborn, Tracy M.
 Weinberg, Albert K.
 Wheeden, Richard L.
 Wood, John William

Massachusetts

Alperin, Jonathan L.
 Alpers, Svetlana Leontief
 Bak, Anthony
 Bateman, Felice Davidson
 Brown, Jonathan
 Callan, Curtis G.
 Caskey, John L.
 Catto, Peter James
 Coolidge, John Phillips
 Curry, Haskell Brooks
 Dankner, Alan
 Dippolito, Paul Randall
 Eastwood, Bruce Stansfield
 Elkins, Stanley Maurice
 Feer, Daniel B.
 Field, Alexander James
 Finkelstein, Robert Jay
 Frank, Nathaniel Herman
 Gorenstein, Daniel
 Guillemin, Victor
 Hedlund, Gustav Arnold
 Heins, Maurice Haskell
 Henderson, Janice A.
 Jaffe, Walter Joseph
 Jeffrey, Richard C.
 Kottwitz, Robert E.
 Lees, Jack Alexander
 Leonard, Henry S.
 Levine, Steven Z.
 Lieberman, Judy
 Lubow, Stephen Harvey
 MacKendrick, Paul Lachlan
 MacLane, Gerald Robinson
 Manuel, Frank E.
 Minott, Charles Ilsley
 Mostow, George Daniel
 Myerson, Robert James
 Palais, Richard Sheldon
 Palfrey, John Gorham
 Palmer, Hazel
 Pletsch, Carl Erich
 Pollard, Harry
 Richter, Melvin
 Sally, Paul Joseph, Jr.
 Setton, Kenneth M. (F)
 Shapiro, Arnold Samuel
 Spencer, Guilford L., II
 Sullivan, John Brendan
 Tartakoff, David S.
 Trombi, Peter C.
 Vasquez, Alphonse Thomas
 Walker, Mack
 Wilder, Raymond Louis
 Wilson, Kenneth Geddes
 Wright, David H.

Country of Birth

Michigan

Austin, George Allen
Babbitt, Donald G.
520
Berndt, Bruce Carl
Boals, Alfred John
Boothby, William M.
Chover, Joshua
Davis, Natalie Zemon
DeWeerd, Harvey Arthur
Ford, George Willard
Forsyth, Ilene H.
Garland, Howard
Giesey, Ralph E.
Gilman, Frederick Joseph
Gustin, William Sharp
Halpern, James Daniel
Janusz, Gerald Joseph
Kaplan, Samuel
Krolik, Julian Henry
Lazarov, Connor
Lebergott, Stanley
Lepore, Joseph Vernon
McKittrick, Eric Louis
Newburgh, John David
Pardon, William
Prakken, Donald W.
Ross, David W.
Sarason, Donald Erik
Savage, Leonard Jimmie
Sher, Richard B.
Shoenfeld, Joseph Robert
Siegel, Warren David
Smale, Stephen
Sprout, Harold
Szczarba, Robert H.
Tobocman, William
Van Dam, James Walter
Veech, William Austin
Venema, Gerard A.
Warner, Garth William, Jr.
Warner, Seth L.

Minnesota

Ahern, Patrick Robert
Baker, Norman Hodgson, Jr
Bardeen, James M.
Bennett, Emmett L., Jr.
Brueckner, Keith Allan
Cantor, Murray Robert
Carlson, John Franklin
Conn, Jack Frederick
Dunn, Richard S.
Eichten, Estia Joseph
Fillmore, Jay Paul
Frantz, M. Alison
Gray, John Walker
John, James Joseph
Jones, Burton W.
Kritzeck, James
Lewis, Donald J.
Lindberg, David C.

Mitchell, William John
Montgomery, Deane (F)
Oakes, Robert J.
Plummer, John H.
Ranum, Orest Allen
Sawyer, Raymond Francis
Silverman, Edward
Tate, John T.

Mississippi

Ames, Susan
Bryant, John L.
Calloway, Jean Mitchener
Cohen, Eckford
Donald, David Herbert
Hollingsworth, John G.

Missouri

Allendoerfer, Carl B.
Benson, Jack Leonard
Blanton, John David
Cherniss, Harold Fredrik (F)
Clifford, Alfred H.
DeCelles, Paul Craig
Dicke, Robert H.
Dunford, Nelson
Eckart, Carl Henry
Eliot, Thomas Stearns
Ewing, George McNaught
Hall, Marshall, Jr.
Holmes, Stephen Taylor
Hurwitz, Wallie Abraham
Jacoby, Alexander Robb
Jenkins, Joe Wiley
Lampe, William Austyn
Lavin, Irving (F)
Lloyd, Stuart P.
Mackey, George Whitelaw
Martin, Allan D.
Niebuhr, Reinhold
Pines, David
Queller, Donald Edward
Rabinowitz, Wilson Gerson
Schanuel, Stephen Hoel
Stephens, Rothwell
Thomas, Charles Gomer
Tucker, Robert C.
Utz, W. Roy
Watts, Charles E.
Wisner, Robert Joel

Montana

MacAlpine, Gordon Madeira

Nebraska

Anderson, Frank W.
Cohen, Haskell
Hancock, Roger Nelson
Leigh, Robert D.
Niebur, Douglas P.
Schofield, Robert Edwin

Spitz, Lewis William
Thomas, Richard Nelson

New Hampshire

Cairns, Stewart Scott
Enright, Thomas J.
Gaffney, Matthew P.
Kelley, Allen F., Jr.
Pitcher, Everett
Sulloway, Frank Jones, II

New Jersey

Alexander, James Waddell (F)
Batho, Edward H.
Bigelow, Julian Himely (PM)
Birkhoff, Garrett
Bleick, Willard Evan
Casselman, William Allen
Chernin, David Paul
Cohen, Jeffrey M.
Cohen, Paul J.
Corwin, Lawrence Jay
Curtis, Richard Bertram
De Luccia, Frank Joseph
Debevoise, Neilson C.
Drabkin, Israel Edward
Dwyer, William G.
Eisenbud, Leonard
Federbush, Paul Gerard
Galewski, David E.
Gallagher, Patrick Ximenes
Gelbart, Abe
Halpern, Martin Brent
Hartung, Paul Gilbert
Haver, William E.
Hazeltine, Richard Deimel
Healy, James Bruce
Kagan, Richard Lauren
Knapp, Anthony William
Krieger, Leonard
Krusemeyer, Mark I.
Lapedes, Alan S.
Lawrence, Marion
Leake, Chauncey Depew
Lewis, Daniel Clark, Jr.
Lieberman, David Ira
Littman, Robert J.
Lowenstein, John Hood
Meritt, Lucy Shoe
Mills, Robert L.
Milnor, John Willard (F)
Mintz, Sidney Wilfred
Mitchell, Edward J.
Morris, Robert A.
Ore, Fred Robert, Jr.
Pogorzelski, Henry Andrew
Quillen, Daniel G.
Rood, Herbert Jesse
Ryff, John Vincent
Sacerdote, George S.
Schenkman, Eugene Victor
Stern, Adolph

Strittmatter, Anselm, O.S.B.
Thompson, Margaret
Vanderpool, Eugene
Wasserman, Arthur G.
Weber, Joseph
Widom, Harold
Yennie, Donald Robert
Yood, Bertram

New Mexico

Cohen, Paul Edward
Fergusson, Francis
Hanson, Andrew Jorgen
Partridge, Loren Wayne

New York

Accola, Robert Daniel Mize
Ackerman, Robert A.
Adler, Allan Russell
Adler, Stephen L. (F)
Alef, Gustave
Andrews, James Joseph
Antonelli, Peter Louis
Apter, David E.
Arnowitz, Richard Lewis
Asimov, Daniel Alan
Askew, Pamela
Auslander, Louis
Auslander, Maurice
Bagemihl, Frederick
Banks, Thomas I.
Barber, Sherburne F.
Barker, John Walton
Bartlett, James Holly
Baum, Paul Frank
Beck, James H.
Bender, Carl Martin
Berger, Melvyn S.
Berger, Robert William
Berlin, Theodore H.
Bernstein, Ira Borah
Bernstein, Jeremy
Birnbaum, Norman
Bisson, Thomas Noel
Bitterman, Morton E.
Bludman, Sidney Arnold
Breckenridge, James D.
Brenner, Robert P.
Browder, William
Brown, Laurie Mark
Brown, Morton
Brown, Theodore M.
Brownell, Frank H.
Bruner, Jerome S.
Buchsbaum, David A.
Burke, William Lozier Munro
Burns, Daniel Matthew
Byrnes, Robert F.
Cameron, Robert Horton
Cheeger, Jeff
Civin, Paul
Cohen, Leon W.

Country of Birth

Cohen, Michael
Conn, Harvey
Cohn, Richard M.
Cole, Kenneth Stewart
Coleman, Robert F.
Comenetz, George
Cooper, Frederick Michael
Cooper, Leon N.
Crocker, Lester G.
Curran, Peter M.
D'Arms, John Haughton
Darnton, Robert
Davids, Norman
Davis, Chandler
Davis, Martin D.
De Sapio, Rodolfo Vittorio
Dean, Ruth J.
Diamond, Harold G.
Diamond, Patrick Henry
Dolciani, Mary Patricia
Douglas, Jesse
Draper, Theodore
Durand, David
Dwork, Bernard M.
Dye, Henry Abel
Earle, Edward Mead (F)
Edwards, David Alan
Edwards, Robert Duncan
Ehrenpreis, Leon
Ehrlich, Paul E.
Ellentuck, Erik
Epstein, Saul Theodore
Ernest, John Arthur
Fadell, Edward Richard
Feferman, Solomon
Feinberg, Gerald
Feis, Herbert
Feldman, David
Fialkow, Aaron David
Finn, Robert S.
Flannery, Brian Paul
Forster, Robert
Fowler, George Bingham
Fox, Richard G.
Frame, James Sutherland
Frankel, Francine Ruth
Franklin, Philip
Fried, Herbert M.
Fried, Michael D.
Friedberg, Richard Michael
Frink, Orrin
Gardner, Robert Brown
Gelbaum, Bernard Russell
Gell-Mann, Murray
Geramita, Anthony Vito
Gersten, Stephen M.
Gillman, David Saul
Glauber, Roy Jay
Glauberman, George Isaac
Glidden, Harold Walter
Gluck, Herman R.
Goldman, Hetty (F)
Goldman, Oscar
Goldschmidt, Hubert
Goldstein, Bernard R.
Goldstein, Jack S.
Goldwater, Robert
Gottlieb, Morris J.
Grace, Virginia Randolph
Green, Frederic L.
Green, James Alexander
Greenberg, Oscar Wallace
Greenstein, Jesse Leonard
Gross, Leonard
Guerlac, Henry E.
Haboush, William J.
Hahn, Frank John
Handel, Michael
Harary, Frank
Harris, Morton Edward
Harris, Robert M.
Hasslacher, Brosl
Held, Richard
Heller, Alex
Henkin, Leon Albert
Henriksen, Melvin
Hensley, Douglas Austin
Hermann, Robert
Herring, Conyers
Hertzog, David
Herz, Carl S.
Higham, John
Hoffman, Alan Jerome
Hoffstein, Jeffrey Ezra
Horn, Alfred
Huebsch, William Martin
Hughes, H. Stuart
Inkeles, Alex
Jacob, Margaret Candee
Jacobowitz, Howard
Jacobsohn, Boris A.
Jaffe, Arthur M.
Jastrow, Robert
Jones, Alfred Welwood
Joss, Paul Christopher
Kadison, Richard Vincent
Kaplan, Lewis David
Karp, Leon
Katz, Jonathan Isaac
Kaufman, Bruria
Keen, Linda
Kelly, John Beckwith
Kindleberger, Charles Poor
King, Henry Churchill
Kirshner, Julius
Klein, Martin Jesse
Knorr, Wilbur Richard
Kogut, John Benjamin
Kolchin, Ellis Robert
Koplik, Joel
Koppel, Moshe
Kostant, Bertram
Kutzko, Philip C.
Landovitz, Leon Fred

Lanford, Oscar Erasmus, III
 Lassner, Jacob
 Lehner, Joseph
 Leopold, Richard William
 Lepowsky, James Ivan
 Lepson, Benjamin
 Lewis, Harold W.
 Lichtenbaum, Stephen
 Long, Herbert Strainge
 Low, Francis E.
 Lubin, Jonathan
 Lubkin, Saul
 Lucas, Paul
 Luttinger, Joaquin Mazdak
 Lyons, Richard Neil
 MacMullen, Ramsay
 Madow, William Gregory
 Mandula, Jeffrey Ellis
 Markoe, Andrew Guy
 Marshak, Robert E.
 Maskit, Bernard
 Masley, John M.
 May, J. Peter
 Mayer, Alan L.
 Mazlish, Bruce
 Mazur, Barry C.
 Menikoff, Arthur
 Merker, Irwin Loeb
 Miller, Kenneth S.
 Milnor, Tilla Klotz
 Miner, Dorothy E.
 Monticello, Donald Andrew
 Moore, Calvin C.
 Morel, Anne C.
 Morris, Richard Brandon
 Mottola, Emil
 Munn, Nancy
 Murray, Francis Joseph
 Nadel, Mark Edward
 Nicolson, Marjorie Hope
 Oliver, Robert Alan
 Olum, Paul
 Oppenheimer, J. Robert (D)
 Ornstein, Donald S.
 Orszag, Steven A.
 Ortner, Sherry B.
 Osofsky, Barbara Langer
 Park, David Allen
 Parshall, Brian J.
 Patton, Charles Milan
 Peck, Leslie Gilbert
 Phillips, Anthony Valiant
 Posner, Donald
 Pottasch, Stuart Robert
 Prendergast, Kevin H.
 Prenowitz, Walter
 Protter, Murray H.
 Protter, Philip E.
 Putnam, Alfred L.
 Randol, Burton
 Ratner, Sidney
 Rauch, Jeffrey B.
 Raymond, Frank Albert
 Reddy, William Lawrence
 Reff, Theodore
 Reiner, Irving
 Resnikoff, Howard L.
 Richardson, Moses
 Riefler, Winfield W. (F)
 Riley, Robert Freed
 Rittenberg, David
 Roberts, Fred Stephen
 Robinson, Henry S.
 Rockmore, Ronald Marshall
 Roffman, Eric H.
 Roitberg, Joseph
 Roitman, Judith
 Rosaldo, Michelle Zimbalist
 Rosen, Nathan
 Rosenberg, Charles Ernest
 Rosenblum, Marvin
 Rosenbluth, Marshall Nicholas (F)
 Rosner, Jonathan Lincoln
 Rubel, Lee A.
 Ruderman, Malvin Avram
 Sacks, Gerald Enoch
 Samuel, Stuart Alan
 Schafer, Richard Donald
 Schechter, Paul
 Schneider, Chester R.
 Schorske, Carl E.
 Schweitzer, Paul Alexander, S. J.
 Scott, Joan Wallach
 Segal, Irving Ezra
 Seligman, George Benham
 Shapiro, Alan E.
 Shefter, Martin Allen
 Sheingorn, Mark Elliot
 Sherman, Seymour
 Sherman, Thomas Oakley
 Shiffman, Bernard
 Shiffman, Max
 Sibner, Lesley M.
 Sibner, Robert J.
 Simon, Albert
 Singer, Michael F.
 Slotnick, Murray
 Smith, A. Mark
 Smith, Peter Hopkinson
 Smolin, Lee
 Smyth, Craig Hugh
 Snow, George Abraham
 Socolow, Robert Harry
 Solomon, Louis
 Solomon, Philip
 Solovay, Robert M.
 Sommese, Andrew John
 Soneira, Raymond M.
 Speisman, Gerald
 Sperber, Steven Irwin
 Spivak, Michael D.
 Stasheff, James Dillon
 Stebbins, Richard Poate
 Stein, Harold

Country of Birth

Stillwell, Richard
Stone, Marshall Harvey
Strunk, Oliver
Taft, Earl Jay
Tait, William Walker, III
Thayer, H. Standish
Tolimieri, Richard
Tromba, Anthony J.
Trow, Martin Aaron
Wagreich, Philip Donald
Wald, George
Wallace, William Augustine
Warren, Robert B. (F)
Washnitzer, Gerard
Weaver, David William
Weinberg, Erick J.
Weinstein, Alan David
Weinstein, Donald
Weinstein, Fred
Weinstein, Marvin
Weisberg, Gabriel P.
Weisinger, Herbert
Weiss, Edwin
Welker, Marian Hoppe
White, Morton G. (F)
Whitney, Hassler (F)
Wightman, Arthur Strong
Wilczek, Frank Anthony
Willcox, William Bradford
Wilson, David C.
Wolfson, Kenneth G.
Woloch, Isser
Wolf, Harry (D)
Yellott, John Ingle, Jr.
Zweibel, Ellen Gould

North Carolina

Basso, Keith Hamilton
Bryant, Robert Leamon
Carlitz, Robert D.
Green, Philip Palmer
Griffiths, Phillip A.
Meritt, Benjamin Dean (F)
Tindall, George Brown
Varley, Robert, Jr.

North Dakota

Edwards, Richard C.
Knapp, Robert E.
Randels, William C.

Ohio

Ayoub, Christine Williams
Boone, William Werner
Breen, Timothy Hall
Chase, Stephen Urban
Clark, Allan H.
Clemens, Charles Herbert
Craggs, Robert F.
Critchfield, Charles Louis
Dales, Richard Clark
Deshman, Robert

Doob, Joseph Leo
Drake, Harold Allen
Edgerton, Samuel Youngs, Jr.
Eells, James
Ellis, Robert
Farrell, F. Thomas
Gibson, James Jerome
Gillman, Leonard
Girardeau, Marvin D.
Glueck, Nelson
Goffman, Casper
Grant, Edward
Hess, Andrew
Kellogg, Alfred Latimer
Kister, James M.
Kock, Winston E.
Kuhn, Thomas S.
Long, Robert L.
Lowry, Bates
Lyon, Bryce Dale
Martin, Richard Milton
Meiss, Millard (F)
Morrey, Charles Bradfield, Jr.
Ogg, Andrew P.
Osterbrock, Donald E.
Prange, Richard E.
Quine, Willard Van Oman
Ray, Daniel Burrill
Rhodes, John L.
Rosen, Ronald H.
Schlesinger, Arthur M., Jr.
Schoen, Richard M.
Scott, William Raymond
Tennenbaum, Stanley
Webster, J. Carson
Zupko, Ronald Edward

Oklahoma

Edmonds, Allan Lee
Kroll, Norman Myles
Lee, Edward Prentiss
McCoy, Neal H.
Reinhardt, William Nelson
Sewell, William H., Jr.
Stong, Robert Evert

Oregon

Benson, Robert Louis
Haimo, Franklin
Isbell, John Rolfe
Lee, Robert
Schwarz, Gerald Walter
Swift, Jonathan Dean
Zerner, Catherine Wilkinson

Pennsylvania

Adler, Ronald J.
Allen, Reginald E.
Arons, Jonathan
Babcock, Barbara A.
Baily, Walter Lewis, Jr.
Bardeen, William A.

Bateman, Paul Trevier
 Becker, Marvin B.
 Bellinger, Alfred Raymond
 Benjamin, Anna Shaw
 Berkowitz, David Sandier
 Bressoud, David Marius
 Brezin, Jonathan Paul
 Burke, Kenneth
 Cannon, James W.
 Chomsky, A. Noam
 Cohen, David Mordechai
 Cohn, Leslie
 Comfort, Howard
 Conklin, Harold C.
 Cooke, George Erskine
 Crutchfield, Richard Stanley
 Dancoff, Sidney Michael
 Davis, Joseph S.
 Davis, Michael
 Doney, Willis Frederick
 Eisenberg, Marvin
 Fahy, Everett
 Farkas, Ann Elizabeth
 Farrell, Orin James
 Feldman, Jacob
 Fine, Nathan Jacob
 Fishburn, Peter C.
 Fishman, Joshua A.
 Follin, James Wightman, Jr.
 Frankel, Theodore T.
 Gintis, Herbert M.
 Goldstein, Jerome A.
 Golubitsky, Martin
 Gordon, Cyrus Herzl
 Greenberg, Ralph
 Hamstrom, Mary-Elizabeth
 Hardt, Robert Miller
 Hughes, Merritt Yerkes
 Humphreys, James E.
 Kaysen, Carl (D)
 Kelly, George Armstrong
 Krommes, John A.
 Kubert, Daniel S.
 Landis, Dale L.
 Lashof, Richard K.
 Lavine, Richard B.
 Lawson, H. Blaine, Jr.
 Lee, Rensselaer Wright
 Levey, Martin H.
 Levy, David M.
 Luce, R. Duncan
 MacKichan, Barry B.
 Mann, Larry N.
 Matlis, Eben
 Metzger, Bruce Manning
 Miles, George C.
 Milgram, Arthur N.
 Millon, Henry Armand
 Mirkil, Hazelton
 Moyer, Robert D.
 Nathanson, Melvyn Bernard
 Nussbaum, Roger D.

Powell, William Chamber
 Powers, Robert T.
 Price, Justin Jesse
 Ravetz, Jerome R.
 Renninger, George Hill
 Richardson, Lawrence, Jr.
 Riesman, David
 Robbins, Herbert Ellis
 Rothschild, Linda Preiss
 Rovnyak, James L.
 Scharlemann, Martin George
 Schlechter, Martin
 Segal, Jack
 Silberger, Allan J.
 Silverstein, Martin Louis
 Smith, Morton
 Snyderman, Neal J.
 Somerville, Robert E.
 Speer, Eugene Richard
 Spitzer, Alan B.
 Stanton, Robert Joseph
 Tepper, David E.
 Thomas, Joseph Miller
 Toton, Edward T.
 Trabert, Kenneth K.
 Transue, William Reagle
 Trexler, Richard C.
 Vogan, David Alexander, Jr.
 Wagoner, John B.
 Whiteman, Albert Leon
 Witmer, Enos Eby
 Wolf, Richard Alan

Rhode Island

Boas, George
 Curtis, Charles W.
 Derow, Peter Sidney
 Elliott, Joanne
 Jewett, Robert Israel
 Little, Lester K.
 Ross, James F.

South Carolina

McAuley, Louis F.
 McCrory, Clinton Graydon
 Stephens, Clarence Francis

South Dakota

Akeley, Edward S.
 Bartholomew, James Richard
 Jones, Lowell E.
 Rumelhart, David Everett

Tennessee

Cantrell, James C.
 Collins, Randall
 Edwards, Charles H., Jr.
 Greene, Robert Everist
 Hexter, Jack H.
 McCord, Michael Campbell
 Mitchel, Fordyce Wood

Country of Birth

Pflanze, Otto Paul
Stewart, Thomas Edward
Turner, Edwin Lewis
Williams, David Noel

Texas

Bass, Hyman
Beaumont, Ross Allen
Beckenbach, Edwin Ford
Bing, R. H.
Burgess, C. Edmund
Connell, Edwin H.
Conner, Pierre Euclide, Jr.
Curtis, Morton Landers
Dennis, R. Keith
Dowty, David R.
Dyer, S. Eldon, Jr.
Evans, Benny Dan
Goodman, Adolph Winkler
Green, John W.
Hamrick, Gary Calvin
Hawkins, David
Hill, John Hugh
Horton, Wendell, Jr.
Jones, B. Frank, Jr.
Jones, Floyd Burton
Jones, Stephen Lester
McKenzie, Ralph
O'Neill, Michael Jerome
Peters, Stanley
Poor, Walter Andrew
Post, Gaines
Shapere, A. Dudley
Shelton, Robert Orrin
Sloan, Millard Lee
Walker, Elbert A.
Wells, James H.
Wells, Raymond O'Neil, Jr.
Wiebe, Robert H.
Wilkerson, Clarence W., Jr.

Utah

Brothers, John Edwin
Folland, Gerald Budge
Hempel, John Paul
Hoyt, William L.
Ketchum, Pierce W.
Skolnick, Malcolm Harris
Weiss, Max L.
Woodbury, Max Atkin

Vermont

Phillips, Kyle Meredith, Jr.
Pratt, Robert Armstrong
Rallis, Stephen J.

Virginia

Givens, James Wallace, Jr.
Harrison, Evelyn Byrd
Link, Arthur Stanley
Major, James Russell

Puckett, William Thomas, Jr.
Ravenel, Douglas Conner
Rosenbloom, Paul C.
Schafer, Alice Turner
Stinespring, William Forrest
Waddell, Bruce V.
Walters, Gary Max

Washington

Adolphson, Alan Carl
Ankeny, Nesmith Cornett
Fox, Edward Whiting
Gilliam, James Frank (F)
Hale, Oron James
Henderson, David Wilson
Hewitt, Edwin
Luban, Marshall
Rader, Cary Baker
Ross, Randy Richard
Sampson, Joseph Harold
Thompson, Richard Joseph
Wright, Gordon
Yagi, Fumio

West Virginia

Chapman, Thomas A.
Jaco, William Howard
Miller, George Armitage
Nash, John Forbes, Jr.
Stone, Dorothy Maharam
Wolfe, Don Marion

Wisconsin

Asmuth, Charles A.
Blattner, Robert James
Bonic, Robert Allen
Brown, Joseph E.
Chojnacki, Stanley J.
Dunn, Mary Maples
Durand, Loyal III
Earle, Clifford John, Jr.
Herb, Rebecca Ann
Kennan, George Frost (F)
Kerckhoff, Steven Paul
Kurth, James R.
Marden, Albert
Michel, F. Curtis
Mielke, Marvin V.
Paige, Lowell J.
Ryser, Herbert John
Sarazin, Craig Leish
Siegel, James T.
Starr, Richard F. S.
Topping, Peter
Wilber, Donald Newton
Wilets, Lawrence
Puerto Rico
Toledo, Domingo

Foreign Countries**Albania**

Skendi, Stavro

Algeria

Bacry, Henri

Deny, Jacques

Levy, Maurice Marc

Argentina

Calderón, Alberto Pedro

Coleff, Nicolás R.

Frondizi, Risieri

Gentile, Enzo R.

Herrera, Miguel Emilio

Moxey, Patricio Keith Fleming

O'Donnell, Guillermo Alberto

Orzech, Morris

Ricabarra, Rodolfo Alfredo

Sadosky, Cora S.

Salinas, Norberto

Tarán, Leonardo

Torchinsky, Alberto

Vargas, Jorge Antonio

Villamayor, Orlando Eugenio

Virasoro, Miguel A.c

Australia

Bald, Robert Cecil

Butler, Stuart Thomas

Cwikel, Michael

Dalitz, Richard Henry

Derrick, Graham H.

Donovan, Peter Windeyer

Hancock, Sir William Keith

Hoey, Allan Spencer

Kessler, Clive Samuel

May, Robert McCredie

McIntosh, Alan G. R.

McKellar, Bruce Harold John

McMullen, John Roderick

Melrose, Richard B.

Mestel, Leon

Rickert, Neil William

Segal, Graeme

Shelstad, Diana

Simon, Leon M.

Sinclair, Donald Keith

Sinclair, Robert Keith

Thompson, Colin John

Austria

Benesch, Otto

Bieler, Ludwig J. G.

Derbolav, Josef Lothar

Erle, Dieter Heinz

Federer, Herbert

Feit, Walter

Fischer-Colbrie, Doris Helga

Fleischner, Herbert

Gaal, Ilse Lisl Novak

Gabriel, Astrik L.

Gruen, Erich Stephen

Hlawka, Edmund

Kann, Robert A.

Karplus, Robert

Koppelman, Walter

Kreisel, Georg

Ladner, Gerhart Burian

Lauterbach, Albert

Maenchen, Otto J.

Mandelbaum, Richard

Mautner, Friederich Ignaz

Mayer, Walther (PM)

Merlan, Philip

Nachtmann, Otto

Nadel, George H.

Neugebauer, Otto E.

Niederreiter, Harald G.

Oberhuber, Konrad Johannes

Pächt, Otto

Possony, Stefan Thomas

Rabi, Isidor Isaac

Raubitschek, Antony Erich

Reich, Edgar

Reiter, Hans

Rohrlich, Fritz

Roll, Eric

Sabidussi, Gert Otto

Schmidt, Gerhard

Schmidt, Wolfgang M.

Schwarz, Roberto

Sexl, Roman U.

Smoluchowski, Roman

Sternfeld, Frederick William

Stourzh, Gerald

Tannenbaum, Frank

Tedesco, Paul Maximilian

Thirring, Walter Eduard

Wermer, John

Belgium

Borgers, Alfons M.F.

Bouckaert, Louis P.

Debever, Robert

Dedecker, Paul Jean

Delaissé, Léon

Deline, Pierre

Denef, Jan

Hove, Leon Charles van

Jacoby, David

Kochen, Simon Bernard

Lemaître, Georges

Lijn, Gaston van der

Moerbeke, Pierre van

Nuyts, Jean

Papy, George Léopold Anatole

Pirenne, Jean C. L.

Rosenfeld, Léon

Ruelle, David Pierre

Speiser, David Rudolf

Country of Birth

Stein, Elias M.
Strycker, Emile L. de
Tits, Jacques Léon
Verbeke, Gerard
Wellner, Marcel N.
Zolberg, Aristide Rodolphe

Brazil

Cardoso, Fernando
Cardoso, Fernando Henrique
Castro, Antonio Barros de
Conde, Antonio
de Lyra, Carlos
Dias, Candido L. da Silva
Goncalves, Daciberg Lima
Leite Lopes, José
Lepsius, Mario Rainer
Lima, Elon Lages
MacDowell, Samuel W.
Nachbin, Leopoldo
Nussenzveig, Herch Moyses
Rodrigues, Alexandre Martins
Schenberg, Mario
Tiomno, Jayme

Bulgaria

Ivanov, George
Mihailov, Georgi Ivanov
Todorov, Ivan

Cameroons

Lohoué, Noël

Canada

Arthur, James Greig
Bierstone, Edward
Bloomfield, Morton Wilfred
Broughton, T. Robert S.
Callahan, Thomas H.
Chadam, John Martin
Checkland, Sydney George
Christy, Robert Frederick
Crane, Diana
Duff, George Francis Denton
Elliott, George Arthur
Ellis, Hubert W.
Feldman, Gordon
Friedlander, John Benjamin
Good, Roland H., Jr.
Graham, Gerald Sandford
Grube, G.M.A.
Hambleton, Ian
Henderson, William James
Hiebert, Erwin Nick
Howard, William A.
Jenkins, James Allister
Japlansky, Irving
Jemp, Robert R.D.
Labute, John Paul
Lambek, Joachim
Langlands, Robert Phelan (F)

Livingston, Marilyn L.
MacKay, Pierre Antony
McDiarmid, John Brodie
McKay, Alexander Gordon
Millson, John J.
Mitchell, Josephine Margaret
Nesbitt, Cecil James
Newman, William Isaac
Nirenberg, Louis
O'Donnell, James Reginald
Pall, Gordon
Patterson, Gordon
Neil Peebles, Philip James E.
Penfield, Wilder G.
Riehm, Carl Richard
Roebuck, Carl A.
Rosenthal, Edward
Samuel, Deborah Hobson
Sanders, James
Schild, Alfred
Siebenmann, Laurence C.
Thompson, Homer Armstrong (F)
Tremaine, Scott Duncan
Viner, Jacob (PM)
White, Mary E.
Zacour, Norman

Ceylon

Eliezer, Christie Jayaratnam

Chile

Chuaqui, Rolando Basim
Kahn, Peter J.
Lagos, Miguel
Lund, Fernando
Saavedra, Neantro R.
Scobie, James R.
Teitelboim, Claudio

China

Balázs, Louis Attila Peter
Chan, Hong-Mo
Chang, Chen Chung
Chang, Cheng Shu Wang
Chang, Shau-Jin
Chang, Shih-Hsun
Chang, Sun-Yung
Chang, Tsung Sui
Chein, Joseph E. Z.
Chen, Chiang-jun
Chen, Hsing-Hen
Chen, Kien-Kwong
Chen, Kuo-Tsai
Chen, Yu Why
Cheng, Ta-Pei
Chern, Shiing-Shen
Chiang, Li-Fu
Chiang, Po-Chu
Chiu, Hong-Yee
Chou, Péi-Yüan
Chow, Wei-Liang
Chu, Wan Li

Fan, Ky
 Ho, Yu Ping
 Hsiang, Wu-chung
 Hsiang, Wu-Yi
 Hu, Bei-Lok
 Hu, Men-Chang
 Hu, Ning
 Hu, Sze-Tsen
 Hua, Loo-Keng
 Huang, Kerson
 Huang, Su-Shu
 Huang-Mueller, Julia
 Hwa, Rudolph C.
 Kiang, Tsai-han
 Ku, Hsu-Tung
 Lee, Chester C. Y.
 Lee, Ronnie
 Lee, Tsung Dao (F)
 Li, Ming Chiang
 Li, Wen-Ching Winnie
 Liang, Chao-Chu
 Liao, San Dao
 Lin, Charles S. C.
 Lin, Chia-Chiao
 Liu, Chuan-Sheng
 Lockwood, William W.
 Ma, Shang-Keng
 Min, Szu-Hoa
 Moh, Tzuong-Tsieng
 Mong, Shaw
 Morin, Bernard C.
 Ng, Yee Jack
 Ni, Wei-Ming
 Ochiai, Takushiro
 Pao, Peter Sie
 Peng, Chia-Kuei
 Rickert, Yao-Chun Yen
 Robb, David M.
 Shei, Sun-Sheng
 Sheng, Ping
 Shih, Kuang-Yen
 Shih, Weishu
 Shu, Shien Siu
 Shyr, Jih-Min
 Su, Jin-Chen
 Szu, Harold Hwaling
 Tai, Yung-Sheng
 Terng, Chuu-Lian
 Tong, Yue-Lin Lawrence
 Tow, Don Mei
 Tsao, Hung-Sheng
 Tsao, Liang-Chi
 Tuan, San Fu
 Tung, Wu-Ki
 Wang, Hsien-Chung
 Wang, John S. P.
 Wang, Kai
 Wang, Ling-Lie
 Wong, David Y.
 Wong, Yue Kei
 Wong, Yung-Chow
 Woo, Ching-Hung

Wu, Chi-Tai
 Wu, Tai Tsun
 Wu, Ta-You
 Wu, Wen-chün
 Yang, Chen Ning (F)
 Yang, Chung-Tao
 Yang, Paul C. P.
 Yao, York-Peng Edward
 Yau, Shing-Tung
 Yuan, Shuen
 Zee, Anthony

Colombia

Gutiérrez, Mauricio Alvarez
 Leal-Buitrago, Francisco
 Moreno, Carlos Julio
 Restrepo, Guillermo S.

Cuba

Lancel, Serge Henri
 Quinn, Frank S.

Cyprus

Dikaos, Porphyrios

Czechoslovakia

Čech, Edvard
 Foldy, Leslie Lawrence
 Frankl, Paul
 Frel, Jiří
 Gödel, Kurt (F)
 Herrmann, Peter
 Hlavatý, Václav
 Janáček, Karel
 Jech, Thomas J.
 Köhler, Erich G. von
 Kohn, Hans
 Kohn, Joseph John
 Placzek, George (PM)
 Prikry, Karel L.
 Sicherl, Martin
 Taussky-Todd, Olga

Denmark

Andersen, Henning Haahr
 Blatt, Franz
 Bohr, Aage Niels
 Bohr, Harald
 Bohr, Niels H. D.
 Følner, Erling
 Fuglede, Bent
 Jeppesen, Kristian Knud
 Jessen, Børge Christian
 Mørkholm, Otto
 Petersen, Bent Edvard
 Reiz, S. Anders
 Rudkjøbing, Mogens Hegelund
 Schmidt, Olaf Henrik

Egypt

Abdellatif, Refat Ahmed

Country of Birth

Atiya, Aziz S.
Baluni, Varouzhan
Doss, Raouf
Mawardi, Osman Kamel
El-Nadi, Adel Mohamed
Ragab, Fouad Mohamed
el-Zein, Abdul-Hamid M.

England

Ackrill, John Lloyd
Adams, John Frank
Alcock, Charles Roger
Allen, Harry Cranbrook
Andrewes, Antony
Armstrong, Mark Anthony
Arnott, William Geoffrey
Astin, Alan Edgar
Atiyah, Michael Francis (F)
Audley, Robert John
Aylmer, Gerald Edward
Baker, Alan
Baker, Keith Michael
Balme, David Mowbray
Barag, Dan Pinhas
Barker, S. Ross
Barnes, Jonathan
Barnes, Stanley Barry
Barnes, Timothy David
Barron, John Penrose
Baxendale, Peter Herbert
Bean, George Ewart
Beloff, Max
Blandford, Roger D.
Bluck, Richard Stanley Harold
Bond, Godfrey William
Booth, Andrew Donald
Bossy, John Antony
Bosworth, Albert Brian
Bourne, Samuel G.
Bowman, Alan Keir
Briggs, Asa (Lord Briggs)
Brown, Thomas Julian
Burgess, Alan
Burke, Peter
Burkill, John Charles
Burn, Andrew Robert
Bury, John Patrick Tuer
Cameron, Averil Millicent
Camps, William Anthony
Candlin, David John
Carr, Edward Hallett
Carter, Roger William
Chapman, Guy Patterson
Charap, John Michael
Chowla, Sarvadaman
Clark, Peter Alan
Clark, Timothy James
Clay, Sir Henry
Collins, Michael John
Corbett, Peter E.
Court, William Henry B.
Crawley, Charles William

Crow, John W.
Davies, Martin
de Russett, Alan W.
Deakin, Sir William
Dirac, Paul Adrian Maurice
Dodwell, Charles R.
Dore, Ronald
Duncan-Jones, Richard Phare
Dyson, Freeman John (F)
Eden, Richard John
Elliott, John Huxtable (F)
Errington, Robert Malcolm
Ettlinger, L. D.
Evans, Trevor
Fiedorowicz, Zbigniew
Fleming, John Marcus
Fox, Robert
Furley, David John
Gibbs, John Arthur
Gilbert, Margaret Patricia
Gilsenan, Michael Cole
Goddard, Peter
Goodall, Marcus Campbell
Goodwin, Geoffrey Lawrence
Gough, Michael Richard Edward
Grattan-Guinness, Ivor
Green, Herbert Sydney
Green, Michael Boris
Griffiths, Hubert Brian
Gruenberg, Karl Walter
Hall, Sir Noel
Handley, Eric Walter
Harris, William Vernon
Harrison, Francis Llewellyn
Harvey, William James
Hawthorn, Geoffrey
Haynes, Denys Eyre Lankester
Higman, Graham
Hillgarth, Jocelyn N.
Hirst, David Michael
Hitchin, Nigel James
Hodgkin, Luke Howard
Hoffmann, Banesh
Hopkins, Antony Gerald
Hopkins, Keith Morris
Hudson, Liam
Hull, Ralph
Hunt, John Dixon
Ingham, Albert Edward
Jacob, Ernest Fraser
James, Ioan Mackenzie
Jameson, Michael H.
Jeffery, Lilian Hamilton
Johnson, Francis Edward Anthony
Johnson-Laird, Philip Nicholas
Joll, James B.
Jones, Antony J.
Jones, Christopher Prestige
Kennedy, Paul Michael
Kent, John Philip Cozens
Laslett, Thomas Peter Ruffell
Leigh, Ralph Alexander

Lepper, Francis Alfred
 Lewis, Bernard
 Lewis, David Malcolm
 Long, Anthony Arthur
 Luttrell, Anthony Thornton
 Lyttelton, N.A.O.
 Macdonald, Ian Grant
 Mack Smith, Denis
 Mannheim, Philip David
 Martin, Alfred Ivor
 Maxwell, Kenneth Robert
 McDuff, Dusa Waddington
 McGregor, Malcolm Francis
 Medicott, William Norton
 Melville Jones, John Richard
 Meyvaert, Paul Jeffrey
 Middleton, William Edgar Knowles
 Milne, Alan John
 Morris, Geoffrey Christopher
 Mumford, David Bryant
 Mundy, John Hine
 Myhill, John
 Mynors, Sir Humphrey Charles Baskerville
 Myres, John Nowell Linton
 Newman, John Arthur
 Newman, Maxwell Herman A.
 Norton, Karl Kenneth
 O'Brian, Nigel Robert
 Osborne, Michael John
 Pagden, Anthony Robin Dermer
 Pars, Leopold Alexander
 Partner, Peter David
 Pearce, Paul A.
 Pearson, Lionel
 Peck, Arthur
 Pedoe, Daniel
 Peierls, Ronald F.
 Perry, Malcolm John
 Polkinghorne, John Charlton
 Postan, Sir Michael
 Price, Derek de Solla
 Price, Peter J.
 Pryce, Maurice Henry Lecorney
 Pugh, Ralph Bernard
 Rabinowitch, Alexander
 Ravenhall, David Geoffrey
 Rees, David Arthur
 Rees, Martin John
 Rees, S. Mary
 Rhodes, Frank
 Robbins, Caroline
 Robbins, Lionel (Lord Robbins)
 Roberts, Colin Henderson
 Roberts, John Morris
 Roberts, Keith Varnden
 Robertson, C. Martin
 Robertson, Giles H.
 Robinson, Richard
 Robinson, Ronald E.
 Rogers, Claude Ambrose
 Room, Thomas Gerald
 Rosenstein, Joseph G.
 Rourke, Colin Patrick
 Ruse, Harold Stanley
 Sanderson, Brian Joseph
 Saunders, Trevor John
 Sayles, George Osborne
 Schwarzenberger, Rolf Ludwig Edward
 Sciama, Dennis William
 Seton-Watson, Christopher Ivan William
 Seymour, Robert M.
 Sharp, Rodney Yorke
 Shearman, John K. G.
 Shepherdson, John Cedric
 Silk, Joseph Ivor
 Silverstein, Theodore
 Skemp, Joseph Bright
 Skinner, Quentin Robert Duthie
 Skyrme, Tony Hilton Royle
 Smallwood, E. Mary
 Smart, P. Alastair M.
 Sparkes, Brian Allison
 Squires, Gordon Leslie
 Steer, Brian
 Stevens, Philip Theodore
 Stone, Arthur Harold
 Stone, John Richard Nicholas
 Stone, Lawrence
 Sumner, Benedict Humphrey
 Sutherland, Sir Carol Humphrey Vivian
 Tagg, Eric Donovan
 Talbert, Richard John Alexander
 Tall, David Orme
 Taylor, John Bryan
 Taylor, John Gerald
 Temple, George Frederick James
 Thackray, Arnold
 Thistlethwaite, Frank
 Thomas, Charles Benedict
 Thomas, John David
 Thomson, David
 Tierney, Brian
 Toynbee, Arnold Joseph
 Turner, Eric Gardner
 Twitchett, Denis Crispin
 Verney, Douglas Vernon
 Vickers, Michael
 Wace, Alan John B.
 Wade-Gery, Henry T.
 Waismann, Friedrich
 Walbank, Frank William
 Wall, Charles T.C.
 Walzer, Richard R.
 Ward, Augustus John
 Ward, John Clive
 Ward-Perkins, John B.
 Watson, Sir Francis
 Webster, Sir Charles
 Webster, Thomas B. L.
 Wedgwood, Dame Veronica, O.M.
 Westwater, Michael John
 Wilkinson, Bertie
 Williams, Edward A.
 Wilton-Ely, John

Country of Birth

Winch, Donald Norman
Winnington-Ingram, Reginald Pepys
Woodhead, Arthur Geoffrey
Woodruff, William
Woodward, Sir (Ernest) Llewellyn (F)
Wormald, Francis
Wormell, Donald Ernest Wilson
Wrigley, Edward Anthony
Wycherley, Richard Ernest
Wylie, Shaun
Yates, Michael Charles

Finland

Ahlfors, Lars Valerian
Bruun, Patrick Magnus
Cronström, Christofer Eige
Green, Anthony Maurice
Illman, Sören Arnold
Jussila, Olli K.
Klemola, Tapio
Mattila, Pertti E.J.
Nevanlinna, Rolf Herman
Rickman, Seppo U.
Sario, Leo Reino
Simons, Jakob Lennart

France

Amandry, Pierre
Aubin, Thierry Emilien
Avril, François
Beguín, Sylvie M.
Bernard, Paul
Bollack, Jean
Bourdieu, Pierre
Bourguignon, Jean-Pierre
Branges, Louis de
Bros, Jacques M. E.
Bruhat, François
Bussac, Marie-Noelle
Cartan, Henri Paul
Cartier, Pierre Emile
Cassou-Noguès, Philippe
Cayrel, Roger
Cerf, Jean
Charpentier, Marie
Chástagnol, André
Chevalley, Claude
Chevallier, Jean-Jacques
Choquet, Gustave
Choquet, Yvonne Bruhat
Connes, Alain
Costa De Beauregard, Olivier
d'Alverny, Marie-Thérèse
Daux, Georges Louis
Delange, Hubert
Dellacherie, Claude
Delsarte, Jean
Demargne, Pierre
Dennery, Etienne
Dentzer, Jean-Marie
DeWitt-Morette, Cecile
Deyon, Pierre

Dominicis, Cyrano Tullio de
Dumézil, Georges
Dumont, Louis Charles Jean
Duval, Noël
Epstein, Henri
Ferrand, Jacqueline
Fontaine, Jean-Marc
Fourès, Léonce Guy
Gauthier, Marie-Madeleine
Gaveau, Bernard
Gérardin, Paul
Ginibre, Jean
Ginouvés, René
Glaeser, Georges
Godement, Roger
Grandjouan, Clairève
Granger, Gilles Gaston
Grodecki, Louis
Guenée, Bernard Marie
Hervé, Michel André
Heurgon, Jacques
Itzykson, Claude
Jacquet, Hervé Michel
Julia, Bernard L.
Kahane, Jean-Pierre
Kastler, Daniel
Koszul, Jean-Louis
Lacombe, Daniel
Lang, Serge
Lannes, Jean E.
Lascoux, Jean Pierre
Lassus, Jean
Laval, Guy
Lazard, Michel Paul
Le Glay, Marcel
Lelong, Pierre
Lemaine, Gérard
Leray, Jean
LeRider, Georges Charles
Loday, Jean-Louis
Lurçat, François
Malgrange, Bernard
Malliavin, Paul
Mantoux, Étienne Gabriel
Mariani, Jean
Marichal, Robert Pierre
Martin, André J.
Messiah, Albert M. L.
Michel, Louis
Moscovici, Serge
Néron, André
Neveu, André
Nicolet, Claude
Pines, Shlomo
Pressouyre, Léon
Ramnoux, Clémence
Reeb, Georges
Robert, Gilles
Rosenberg, Pierre Max
Roux, Georges
Ruffini, Remo Jacopo
Schiffmann, Gerard

Schlumberger, Daniel
 Schwartz, Jacques
 Sergeraert, Francis Georges
 Serre, Jean-Pierre
 Seyrig, Henri
 Steiner, George
 Stora, Raymond Felix
 Thorn, René F.
 Verdier, Philippe M.
 Vogel, Pierre
 Vovelle, Michel
 Vuillemin, Jules M. E.
 Weil, André (F)
 Weiller, Jean Sylvain
 Wyler, Armand

Germany

Alexander, Paul Julius
 Arens, Richard F.
 Aumann, Georg
 Baer, Reinhold
 Bargmann, Valentine
 Baron, Hans
 Bendix, Reinhard
 Bernheimer, Richard Max
 Bier, Justus
 Biermann, Ludwig Franz Benedikt
 Bischoff, Bernhard
 Bittel, Kurt
 Bloch, Herbert C.
 Borchers, Hans-Jürgen
 Bracher, Karl Dietrich
 Brann, Eva T. H.
 Brauer, Richard
 Braun, Hel
 Bremermann, Hans Joachim
 Brieger, Peter Henry
 Brink, Charles Oscar
 Brommer, Frank
 Buchdahl, Hans Adolph
 Buchholz, Hans-Günther
 Buchthal, Hugo H.
 Busemann, Herbert
 Carnap, Rudolf
 Christian, Ulrich Hans Richard Otto
 Ciriacy-Wantrup, Siegfried von
 Classen, Carl Joachim
 Classen, Peter
 Coester, Fritz
 Cranz, F. Edward
 Curjel, Caspar Robert
 Curtius, Ernst Robert
 Daltrop, Georg
 Deininger, Jürgen
 Dearing, Max Friedrich
 Dold, Albrecht E.
 Dorfmeister, Josef
 Dörner, Friederich K.
 Dorpalen, Andreas
 Dress, Andreas W. M.
 Edelstein, Ludwig
 Ehrmann, Henry Walter

Eichler, Martin Maximilian Emil
 Einem, Herbert von
 Einstein, Albert (F)
 Eisler, Colin T.
 Eizenhöfer, Leo Alfons, O.S.B.
 Enss, Volker
 Ettinghausen, Richard
 Ettliger, Elisabeth
 Fenchel, Werner
 Fischer, Bernd
 Fischer, Fritz
 Fischer, Wolfram
 Forster, Otto F.
 Fritz, Kurt von
 Frommel, Christoph Luitpold
 Fuchs, Werner Rudolf
 Gaetgens, Thomas Wolfgang
 Gatzke, Hans Wilhelm
 Gerhard, Dietrich
 Gerhardt, Claus
 Gerritzen, Lothar Georg
 Gilbert, Felix (F)
 Goffart, Walter André
 Goitein, Shelomo Dov
 Goldfeld, Dorian
 Görler, Woldemar Ernst Heinrich
 Graeser, Andreas
 Grauert, Hans
 Gugenheim, Victor K. A. M.
 Guggisberg, Hans Rudolf
 Gundersheimer, Werner L.
 Habicht, Christian Herbert (F)
 Haken, Wolfgang
 Hampe, Roland
 Harder, Günter
 Hasenjaeger, Gisbert
 Hausmann, Ulrich
 Hausserr, Reiner
 Heckscher, William S.
 Hegenbarth, Friedrich
 Held, Julius S.
 Henning, Walter B.
 Hepp, Klaus
 Herde, Peter
 Herter, Hans Lukas
 Herz, John H.
 Herzfeld, Ernst (F)
 Heydenreich, Ludwig Heinrich
 Heymann, Frederick G.
 Hildebrandt, Stefan O. W.
 Hirschman, Albert O. (F)
 Hirzebruch, Friedrich Ernst Peter
 Hochschild, Gerhard Paul
 Hofmann, Karl Heinrich
 Hofmeister, Gerd Rolf Ernst
 Holton, Gerald
 Holzinger, Ernst Heinrich
 Jahn, Helmut Otto
 Jänich, Klaus Werner
 Jantzen, Jens Carsten
 Jehle, Herbert
 Jehne, Wolfram

Country of Birth

Jensen, J. Hans D.
Joos, Hans H.
Kahane, Penuel P.
Kahn, Franz Daniel
Kalisch, Gerhard K.
Kantorowicz, Ernst H. (F)
Katzenellenbogen, Adolf
Kauffmann, Georg
Kauffmann, Johannes
Kirchner, Walther
Kitzinger, Ernst
Klingen, Helmut P.
Klingenberg, Wilhelm P.
Knauer, Georg Nicolaus
Knebusch, Manfred
Kneser, Martin L.
Kocka, Jürgen
Kraft, Konrad
Krautheimer, Richard
Kristeller, Paul Oskar
Kuhn, Reinhard
Latte, Kurt
Laue, Max von
Lehmann, Harry Paul
Lehmann, Hartmut R. W.
Leopoldt, Heinrich-Wolfgang
Lepenies, Wolf D.
Lewy, Hans
Linz, Juan J.
Lippens, Walter
Lorenzen, Paul Peter Wilhelm
Lotz, Wolfgang
Lowinsky, Edward E.
Ludwig, Walther
Mack, Gerhard
Magnus, Wilhelm
Mahler, Kurt
Manasse, Ernst Moritz
Mardešić, Sibe
Marg, Walter
Margenau, Henry
Mayer, Hans Eberhard
Mayr, Ernst
Meier, Christian
Mennicke, Jens L.
Merzbacher, Eugen
Mommsen, Hans
Mommsen, Wolfgang J.
Moran, Siegfried
Morgenthau, Hans J.
Moser, Jürgen K.
Müller, Claus
Mütherich, Florentine
Nathan, Hans
Nauenberg, Michael
Nesselhauf, Herbert
Neugebauer, Christoph J.
Neumann, Sigmund
Newton, Roger Gerhard
Nipperdey, Thomas H.
Nussbaum, A. Edward
Oehler, Klaus Herbert
Oehme, Reinhard
Offe, Claus
Ohly, Dieter
Olivier, Reinhard Martin
Ossa, Erich
Osten, Gert von der
Ostwald, Martin
Panofsky, Erwin (F)
Paret, Peter
Peierls, Sir Rudolf Ernst
Pflaum, Hans Georg
Philip, Lotte Brand
Pohlmeyer, Klaus
Rabin, Michael O.
Reeh, Helmut Rudolf
Reidemeister, Kurt Werner Friedrich
Remmert, Reinhold
Renner, Bruno Karl
Riemenschneider, Oswald W.
Robinson, Abraham
Roelcke, Walter O. P.
Roethel, Hans K.
Roquette, Peter Jaques
Rosenberg, Alex
Rosinski, Herbert
Rossmann, Wulf T.
Rubinstein, Nicolai
Samelson, Hans
Sauerländer, Willibald
Scharlau, Winfried Wilhelm
Scheffold, Karl
Scheuch, Erwin K.
Schieder, Theodor W.
Schiffer, Walter Bernhard
Schilling, Otto Franz Georg
Schmid, Wilfried
Schmid, Wolfgang
Schroer, Bert
Schuchhardt, Walter
Schulz, Juergen
Schütte, Kurt
Segall, Berta
Seifert, Herbert
Seiler, Erhard Karl
Siegel, Carl Ludwig (F)
Siegert, Arnold John Frederick
Simon, Erika
Simon, Walter M.
Skutsch, Otto
Soreth, Marion
Spallek, Karlheinz
Stahl, Hans-Peter
Stechow, Wolfgang
Steidle, Wolf
Steinberg, Maria Alice
Steinberger, Jack
Stern, Fritz
Stern, Henri
Stobbe, Martin Hermann
Stoii, Wiiheim Friedrich
Straub, Johannes Anton
Straus, Ernst Gabor

Strauss, Gerald
 Stroheker, Karl Friedrich
 Stürmer, Michael
 Swarzenski, Hanns P.
 Symanzik, Kurt
 Tamari, Dov
 Temesvary, Stefan
 Teutsch, Werner Bernhard
 Theilheimer, Feodor
 Uhlenbrock, Dietrich Albert
 Vagts, Alfred
 Verheyen, Egon
 Waldhausen, Friedhelm
 Wallach, Hans
 Wasserstein, Abraham
 Weispfenning, Volker B.
 Weiss, Paul
 Weitzmann, Kurt (PM)
 Weyl, Hermann (F)
 Winkelkemper, Horst Elmar
 Winzinger, Franz
 Wirsing, Eduard A.J.M.
 Wittkower, Rudolf J.
 Wolff, Hans Julius
 Zafran, Misha
 Zassenhaus, Hans J.
 Ziller, Wolfgang
 Zimmermann, Wolfhart
 Zimmert, Rainer
 Zuntz, Günther

Greece

Charitonides, Seraphim J.
 Chatzidakis, Emmanuel
 Gidas, Basilis Constantine
 Iakovidis, Spyros Eustace
 Marinatos, Spyridon
 Mitsôs, Márkellos Th.
 Mourelatos, Alexander Phoebus D.
 Moutsopoulos, Evanghélos A.
 Papadimitriou, John
 Papakyriakopoulos, Christos
 Papanicolaou, Nicolas
 Petsas, Photios Michael
 Philippaki, Barbara
 Seferis, George
 Stamires, George A.
 Triantafillou, Georgia Višnjić
 Trypanis, Constantine Athanasius

Hong Kong

Kwan, John Y.
 Li, Peter W.-K.
 Wu, Hung-Hsi
 Yau, Stephen Shing-Toung

Hungary

Alföldi, Andrew E. Z. (F)
 Alföldy, Géza
 Barton, Gabriel
 Ben-David, Joseph
 Boskovits, Miklós

Bott, Raoul
 Erdős, Paul
 Fekete, Michael
 Fulton, Thomas
 Gaal, Steven Alexander
 Greiner, Peter Charles
 Halász, Gábor
 Halmos, Paul R.
 Haris, Stephen Joseph
 Havas, Peter
 Lax, Peter David
 Lenard, Andrew
 Nagy, Gregory
 Orlik, Peter P.
 Östör, Ákos
 Pedroni, Catherine
 Radó, Tibor
 Szent-Györgyi, Albert
 Tolnay, Charles Erich de
 Turán, Paul
 Valatin, John George
 Vayer, Lajos
 von Neumann, John (F)

Iceland

Eliasson, Halldor Ingimar
 Helgason, Sigurdur

India

Auluck, Faqir Chand
 Balachandran, Aiyalam Parameswaran
 Balachandran, Vadekke Kurupath
 Bambah, Ram Prakash
 Bég, Mirza Abdul Baqi
 Bhanu Murthy, Tyakel Subbiah
 Bose, Samir Kumar
 Chandrasekharan, Komaravolu
 Chandrasekhar, Subrahmanyan
 Dani, Shrikrishna Gopal
 Deodhar, Vinay Vithal
 Dicks, David Reginald
 Draine, Bruce T.
 Gangolli, Ramesh
 Gonsalves, Richard John
 Gupta, Virendra
 Harish-Chandra (F)
 Joglekar, Satish D.
 Joshi, Aravind K.
 Kabir, Prabahan Kemal
 Kallianpur, Gopinath
 Khare, Ravindra Sahai
 Kidd, Ian Gray
 Kulkarni, Ravi S.
 Kuriyan, Jacob George
 Mahanthappa, Kalyana T.
 Masani, Pesi R.
 Matthews, Paul Taunton
 Mehta, Madan Lal
 Minakshisundaram, Subbaramiah
 Mittal, Yashaswini Deval
 Narasimhan, Mudumbai S.
 Narasimhan, Raghavan

Country of Birth

Nori, Madhav Vithal
Pakvasa, Sandip
Parthasarathy, Rajagopalan
Pati, Jogesh C.
Patil, Sharashchandra H.
Patodi, Vijay Kumar
Pittie, Harsh V.
Prasad, Gopal
Radha, Thayyoor K.
Raghavan, Srinivasacharya
Raghunathan, Madabusi Santanam
Rajaraman, Ramamurti
Ramachandra, Kanakanahalli
Ramakrishnan, Alladi
Ramanan, Sundavaraman
Ramanathan, Annamalai
Ramanathan, K. Gopalaiyer
Rangachari, Sundaravaradan Srinivasa
Rao, Malempati M.
Rao, R. Ranga
Reddy, Aluru Raghuram
Rioch, David M.
Roy, Prabir
Sen, Pritam
Seshadri, Conjeeveram Srirangachari
Shorey, Tarlok Nath
Singh, Virendra
Srinivasan, Bhama
Srivastava, Shashi Mohan
Udgaonkar, Bhalchandra Madhav
Varadarajan, Veeravalli Seshadri
Verma, Daya-Nand
Whitehead, John Henry Constantine

Indonesia

Uhlenbeck, George Eugene

Iran

Assadi, Amir Hossein
Ghaffari, Abolghassem
Hachtroudi, Mohsen
Minbashian, Farshid
Foreign Countries
Radjavi, Heydar
Shahidi, Freydoon

Ireland

Canny, Nicholas P.
Geoghegan, Ross
Moody, Theodore William
O'Meara, John Joseph
O'Raiheartaigh, Lochlainn
O'Sullivan, John Joseph
Parke, Herbert William
Power, Sheila Christine
Thompson, William Bell

Israel

Amitsur, Shimshon A.
Avni, Yoram
Ayalon, David

Bar-Gadda, Uzi Y.
Dothan, Yossef
Dowker, Yael Naim
Elitzer, Shmuel
Flicker, Yuval Zvi
Heyd, Michael
Horn, David
Kannai, Yakar Israel
Konvitz, Milton R.
Mann, Avinoam
Narkiss, Bezalel
Ne'eman, Yuval
Nussinov, Shmuel
Piran, Tsvi
Ran, Ziv
Shahid, Irfan A.
Yahil, Amos
Zabrodsky, Alexander
Zeilberger, Doron

Italy

Alfaro, Vittorio de
Andreotti, Aldo
Banti, Luisa
Barricelli, Nils Aall
Bassi, Achille
Becatti, Giovanni
Berengo, Marino
Bertelli, Sergio
Bertotti, Bruno
Bettagno, Alessandro
Bombieri, Enrico (F)
Bonfante, Larissa
Bosco, Bernardino
Cabibbo, Nicola
Calabi, Eugenio
Calogero, Guido
Cantimori, Delio
Cesari, Lamberto
Conforto, Fabio
Coppi, Bruno
Corinaldesi, Ernesto
Cozzi, Gaetano
Cracco, Lellia Ruggini
Dalla Volta, Vittorio
Dell'Antonio, Gianfausto
Faldi, Italo
Fedalto, Giorgio
Finzi, Arrigo
Forni, Giovanni
Fubini, Guido
Fubini, Sergio Piero
Furlan, Giuseppi
Gabba, Emilio G.
Gherardelli, Francesco
Giannini, Torquato Carlo
Ginzburg, Carlo
Giusti, Enrico
Gnudi, Cesare
Gregori, Mina G.
Guerra, Francesco
Hack, Margherita

Haefeli, Verena
 Laffi, Umberto
 Levi, Doro
 Levi-Civita, Tullio
 Lucchini, Maria
 Maffei, Domenico
 Marchini, Giuseppe
 Mazzarino, Santo
 Mello, Pier Achille
 Minio-Paluello, Lorenzo
 Moevs, Maria Teresa Marabini
 Morpurgo, Giacomo
 Muraro, Michelangelo
 Negri, Enrico de
 Orsini, Gian N.
 Pizzorno, Alessandro De Giovanni
 Poni, Carlo
 Ponzano, Giorgio Enrico
 Puppi, Lionello
 Racah, Giulio
 Radicati di Brozolo, Luigi A.
 Rasetti, Mario G.
 Regge, Tullio Eugene (F)
 Ricci, Giovanni
 Ridgway, Brunilde Sismondo
 Ronga, Felice L. L.
 Salvini, Roberto
 Segre, Beniamino
 Sella, Domenico
 Sertorio, Luigi
 Silva, Alessandro
 Storchi, Edoardo
 Veneziano, Gabriele
 Verde, Mario
 Vesentini, Edoardo
 Vinciarelli, Patrizio
 Vitale, Bruno
 Vivarelli, Roberto
 Wick, Gian Carlo
 Zumino, Bruno

Jamaica

Duncan, H. E. Anthony
 Leslie, Joshua A.
 Patterson, Orlando Horace

Japan

Akagawa, Yasumasa
 Anzai, Hirotada
 Araki, Shôrô
 Asano, Taro
 Doi, Kôji
 Eguchi, Masaaki
 Fujii, Akio
 Fujisawa, Norio
 Fukuda, Hiroshi
 Goto, Midori S.
 Goto, Morikuni
 Hara, Yasuo
 Harada, Koichiro
 Hida, Haruzo
 Hijikata, Hiroaki

Hironaka, Heisuke
 Homma, Tatsuo
 Horikawa, Eiji
 Hosoya, Chichiro
 Hotta, Ryoshi
 Ichimaru, Setsuo
 Igi, Keiji
 Igusa, Jun-ichi
 Ihara, Yasutaka
 Itaka, Shigeru
 Ikeda, Masatoshi G.
 Indow, Tarow
 Ise, Mikio
 Ito, Kiyosi
 Ito, Shuntaro
 Iwahori, Nagayoshi
 Iwasaki, Yoichi
 Iwasawa, Kenkichi
 Kakutani, Shizuo
 Kashiwara, Masaki
 Kato, Mitsuyoshi
 Kawada, Yukiyosi
 Kawai, Takahiro
 Kawakubo, Katsuo
 Kawanaka, Noriaki
 Kawarabayashi, Ken
 Kawachi, Akio
 Kimura, Tatsuo
 Kinoshita, Shin'ichi
 Kinoshita, Toichiro
 Kobayashi, Shoshichi
 Kobayasi, Minoru
 Kodaira, Kunihiko
 Koike, Masao
 Komura, Yukio
 Kondô, Motokiti
 Kondo, Takeshi
 Kubota, Kinuko
 Kubota, Tomio
 Kuga, Michio
 Kuroda, Sigekatu
 Kuroda, Wataru
 Kusaka, Shuichi
 Maruyama, Masao
 Matsuda, Michihiko
 Matsuda, Satoshi
 Matsumoto, Yukio
 Matsusaka, Teruhisa
 Matsushima, Yozo
 Matumoto, Takao
 Minemura, Katsuhiko
 Miyake, Toshitsune
 Miyazawa, Hironari
 Miyazima, Tatsuoki
 Morikawa, Hisasi
 Morinaga, Kakutaro
 Morita, Shigeyuki
 Morita, Yasuo
 Murakami, Shingo
 Muto, Toshinosuke
 Naganuma, Hidehisa
 Nagata, Jun-Iti

Country of Birth

Nakanishi, Noboru
Nakano, Shigeo
Nakano, Tadao
Nakaoka, Minoru
Nakayama, Tadasi
Nambu, Yoichiro
Namioka, Isaac
Nishi, Mieo
Nishijima, Kazuhiko
Ohmori, Shozo
Ohta, Masami
Okamoto, Kiyosato
Omori, Hideki
Oneda, Sadao
Ono, Takashi
Oshima, Toshio
Saito, Makoto
Sakurai, Jun John
Sasaki, Shigeo
Sasakura, Nobuo
Satake, Ichiro
Sato, Mikio
Sawada, Katuro
Shigemitsu, Junko
Shimizu, Hideo
Shimura, Goro
Shintani, Takuro
Soda, Toshio
Suura, Hiroshi
Suwa, Tatsuo
Suzuki, Mahiko
Suzuki, Michio
Takahashi, Moto-o
Takeuchi, Masaru
Takeuchi, Mitsuhiro
Takeuti, Gaisi
Tamagawa, Tsuneo
Tanaka, Shunich
Tange, Toshio
Tanikawa, Yasutaka
Tannaka, Tadao
Toda, Hiroshi
Tomonaga, Sin-itiro
Tomozawa, Yukio
Tsuchiya, Akihiro
Tsujiishita, Toru
Uchida, Kôji
Utiyama, Ryoyu
Watanabe, Takesi
Yamabe, Hidehiko
Yamaguchi, Hiroyuki
Yamamoto, Kazuhiro
Yamamoto, Yoshihiko
Yamamuro, Sadayuki
Yamazaki, Tadashi
Yanase, Michael Mutsuo
Yasuhara, Mitsuru
Yoshida, Tomoyuki
Yosida, Kôzaku
Yosida, Natuhiko
Yukawa, Hideki
Zeeman, Erik Christopher

Kenya

Rattansi, Pyarally M.

Korea

Jin, Yong-Son
Kwun, Kyung Whan
Lee, Benjamin W.

Lebanon

Bitar, Khalil Michel
Day, Florence Ely
Khuri, Nicola N.
Manassah, Jamal Tawfek

Mexico

Astey, Luis
Feder, Samuel S.
Gitler, Samuel
Kennedy, Edward Stewart
Ramírez de Arellano, Enrique
Rivaud, Juan-José
Sandri, Guido
Vallarta, Manuel Sandoval
Warman, Arturo

Morocco

Cassou-Noguès, Pierrette
Kantorovitz, Shmuel

Netherlands

Albada, Gale Bruno van
Baan, Willem Adrianus
Begemann, Egbert Haverkamp
Brascamp, Herrn Jan
de Boer, Jan
Dekker, Jacob C. E.
Dijk, Gerrit van
Dresden, Arnold
Drijvers, Hendrik J. W.
Gelder, Jan Gerrit van
Geyl, Pieter
Haspels, Caroline Henrietta Emilie
Hondius, Jacob Johannes Ewoud
Hugenholtz, Nicholaas Marinus
Kampen, Egbertos R. van
Kampen, Nicolaas G. van
Kramers, Hendrik Anthony
Kuiper, Nicolaas H.
Kuyk, Willem
Laan, Harry van der
Lehning, Arthur
Levelt, Willem T. M.
Mars, Johannes G. M.
Nijboer, Bernard R. A.
Nijenhuis, Albert
Os, Hendrick Willem van
Pais, Abraham (F)
Peters, Christiaan A. M.
Ruijgrok, Theodorus W.
Springer, Tonny Albert
Tijdeman, Robert

Ven, Ton van de
Woltjer, Lodewyk
Wouthuysen, Siegfried A.

New Zealand

Clarke, Graeme Wilber
McDonald, A. H.
Milne, James Stuart
Shale, David

Nigeria

Babalola, Victor A.

Northern Ireland

Todd, John

Norway

Aubert, Karl Egil
Baas, Nils Andreas
Hylleraas, Egil A.
Seeberg, Axel
Selberg, Atle (F)
Selberg, Henrik Ludvig
Selmer, Ernst Sejersted
Skjelbred, Tor
Staver, Tor Böhm
Steensholt, Gunnar

Pakistan

Chakravarty, Amiya
Salam, Abdus

Poland

Asch, Solomon E.
Bernhard, Marie Louise
Biezuńska-Małowist, Izabela
Bochner, Salomon
Borsuk, Karol
Dabrowski, Janusz
Dembowski, Peter Florian
Deser, Stanley
Dothan, Moshe
Frishman, Yitzhak
Granas, Andrzej
Günther, Marian W.J.
Hammer, Jacob
Hecht, Henryk
Infeld, Leopold
Jacobson, Nathan
Jaworowski, Jan
Jerison, Meyer
Kac, Mark
Kalinowski, Lech
Karlner, Inga
Kervaire, Michel André
Kosinski, Antoni A.
Królikowski, Wojciech
Kuksewicz, Zdzislaw
Kuratowski, Kazimierz
Landau, Henry J.
Lewin, Moshe

Linderski, Jerzy
Łojasiewicz, Stanisław
Łopuszanski, Jan Thaddaeus
Małowist, Marian
Mandelbrot, Benoit B.
Mostowski, Andrzej
Neuman, Maurice
Olechowska, Elzbieta
Parnicki-Pudętko, Stefan
Plebanski, Jerzy
Plezia, Marian
Ponomarev, Paul
Puppe, Dieter
Rosenblatt, Alfred
Schaerf, Henry Maximilian
Schatten, Robert
Ševčenko, Ihor
Sikorski, Roman
Slawny, Joseph
Słowikowski, Wojciech
Swierczkowski, Stanislaw Slawomir
Talmon, Jacob Laib
Tarski, Alfred
Tarski, Jan
Ulam, Stanislaw M.
Wlosok, Antonie Elisabeth
Zarnecki, George
Zawodny, J. K.

Rhodesia

Erlwanger, Stanley Herbert

Rumania

Albrecht, Felix Robert
Barasch, Moshe
Barbasch, Dan Mihai
Beldiceanu, Nicoară
Burghelea, Dan
Freund, Peter George Oliver
Grosswald, Emil
Harris, Bruno
Lusztig, George
Mitrany, David (F)
Moscovici, Henri
Patrascioiu, Adrian N.
Pippidi, Dionis Michael
Poenaru, Valentin-Alexandre
Schoenberg, Isaac Jacob
Sevici, Constantin
Steinberg, Robert
Szöverffy, Joseph
Unguru, Sabetai

Rwanda

Banyaga, Augustin

Scotland

Black, Matthew
Craig, Gordon Alexander
Fowler, Alastair David Shaw
Fox, Geoffrey Charles

Country of Birth

Giles, William B.
Gordon, Cameron McAllan
Hammond, Nicholas Geoffrey Lempriere
Hooley, Christopher
Longair, Malcolm Sim
Macintyre, Angus John
Mackesy, Piers Gerald
Millar, Fergus Graham B.
Mitford, Terence B.
Purse, Derek L.
Rose, Paul Lawrence
Smithies, Frank
Turner, Victor Witter
Wallace, Andrew Hugh
Williamson, John Hunter

Singapore

Chang, Ngee-Pong
Watkiss, Christopher

South Africa

Baumslag, Gilbert
Eban, Abba
Epstein, David Bernard Alper
Gildenhuys, Dion
Househam, Keith Ortlepp
Lipshitz, Leonard Michael
Moodie, Thomas Dunbar
O'Meara, O. Timothy

Spain

Anes Alvarez, Gonzalo
Arce, J. Javier
Bachiller, Tomas Rodriques
Carreras, Benjamin A.
Corominas, Ernesto
de la Torre, Pilar
Fernandez-Santamaria, Jose A.
Flores, Antonio
Montesinos, José María
Nadal, Jordi
Puig, Lluís
Rafael, Eduardo de
Roca-Puig, Ramon
Ruiz-Martín, Felipe
Sanchez-Albornoz, Claudio
Santaló, Luis Antonio

Sudan

Taha, Mahgoub O.

Sweden

Åkerström, Åke Bertil
Asplund, O. Edgar
Beurling, Arne K. A. (F)
Björck, Göran
Broneer, Oscar Theodore
Bruno, Björn Arvid William
Carleson, Lennart A. E.
Düring, Ingemar
Gårding, Lars

Gjerstad, Einar
Hanner, Olof
Hilding, Sven Herbert
Holmberg, Erik John
Hörmander, Lars Valter (F)
Källén, Anders Olof Gunnar
Kiselman, Christer Oscar
Klein, Oskar Benjamin
Lech, Christer
Lindberg, John
Nordenfalk, Carl A. J.
Nordström, Folke
Odhnoff, Jan Edvard
Östenberg, Carl Eric
Plejijel, Åke Vilhelm Carl
Rådström, Hans Vilhelm
Säflund, Lars G.
Schwabacher, Wilhelm H.
Sjöstrand, Johannes
Strömngren, Bengt G. D. (F)
Tilia, Ann Britt Pettersson
Wallin, Hans
Wichmann, Eyvind Hugo

Switzerland

Adler, Felix T.
Batschelet, Eduard
Béranger, Jean
Berchem, Denis van
Bernays, Paul
Borel, Armand (F)
Bucher, François
Clairmont, Victorine Von Gonzenbach
Dörig, José
Ducrey, Pierre B.
Eckmann, Beno
Enz, Charles Paul
Fellmann, Rudolf
Fierz, Markus
Frölicher, Alfred Victor
Gelzer, Thomas Carl
Giovannini, Adalberto
Good, J. Anton
Grau, Albert A.
Habicht, Walter
Haefliger, André
Hager, Fritz-Peter Paul
Hahnloser, Hans Robert
Hausmann, Jean-Claude
Huber, Heinz
Jeanquartier, Pierre
Joris, Henri E.
Jost, Res W.
Jucker, Hans
Kahil, Lilly Louise
Kamber, Franz W.
Knoepfler, Denis
Leenhardt, Jacques
Lieb, Hans Wolfgang
Loeffel, Jean-Jacques
Lutz, Friedrich A.
Maire, Henri-Michel

Maumary, Serge
 Michael, Ernest A.
 Moosbrugger-Leu, Rudolf
 Nobs, Alexandre
 Paschoud, François
 Piaget, Jean
 Poncet, Jean
 Rham, Georges de
 Robert, Alain
 Roethlisberger, Marcel G.
 Rugg, Henri E.
 Rufener, Ernst
 Ruhm von Oppen, Beate
 Schafroth, Max Robert
 Schäublin, Christoph
 Specker, Ernst Paul
 Steinmann, Othmar Viktor
 Strebel, Kurt O.
 Villars, Felix M. H.
 Waelbroeck, Lucien
 Weber, Claude Alain
 Wehrli, Fritz
 Zehnder, Eduard

Syria

Jurji, Edward J.

Tunisia

Baiada, Emilio
 Hermassi, Elbaki
 Karoubi, Max
 Valensi, Lucette

Turkey

Akbulut, Selman
 Alisbah, Orhan H.
 Arf, Cahit
 Aritürk, Haluk
 Bakalakis, Georgios Michael
 Bardakci, Korkut
 Bars, Itzhak
 Beukers, Frits
 Erder, Cevat
 Erim, Kenan Tevfik
 Gürsey, Feza
 Inan, Jale
 Mylonas, George Emmanuel
 Özgüç, Nimet
 Özgüç, Tahsin
 Uluçay, Cengiz
 Vlastos, Gregory
 Yalouris, Nicholas
 Yilmaz, Hüseyin

USSR

Amirà, Binyamin A.
 Andrianov, Anatolii N.
 Bers, Lipman
 Besicovitch, Abram S.
 Białostocki, Jan
 ickerman, Elias Joseph

Blanckenhagen, Peter H. von
 Bregel, Yuri
 Breit, Gregory
 Browder, Felix
 Dvoretzky, Aryeh
 Dynin, Alexander
 Friedland, Shmuel
 Gerschenkron, Alexander
 Goldenweiser, Emanuel A.
 Gottmann, Jean Iona
 Haimo, Deborah Tepper
 Hanfmann, George Maxim Anossov
 Holsztyński, Włodzimierz
 Illarionov, Andrej Fedorovich
 Janson, Horst W.
 Kalnajs, Agris Janis
 Konefsky, Samuel J.
 Korenblum, Boris
 Koyré, Alexandre
 Leibenstein, Harvey
 Levitine, George
 Libgober, Anatoly S.
 Liulevicius, Arunas L.
 Murra, John Victor
 Novodvorsky, Mark Eugenievich
 Nurske, Ragnar
 Pekeris, Chaim Leib
 Podolsky, Boris
 Postman, Leo J.
 Rabinowitch, Eugene I.
 Seidel, Wladimir
 Shadmi, Yehuda
 Shimkin, Demitri Boris
 Struve, Otto
 Toomre, Alar
 Travlos, John
 Treger, Robert
 Weisfeiler, Boris
 Woronowicz, Stanisław Lech
 Zadeh, Lotfi A.
 Zariski, Oscar

Venezuela

Kudla, Stephen S.

Vietnam

Anh, Nguyen Huu
 Phong, Duong Hong
 Truong, Tran N.

Wales

Davies, Edward Brian
 Edwards, Samuel Frederick
 Holmes, George Arthur
 James, Mervyn Evans
 Lewis, John Trevor
 Neumann, Walter David
 Nicholas, Herbert George
 Rees, Elmer G.
 Reynolds, Leighton Durham

Country of Birth

West Indies

Stewart, John O.

Yugoslavia

Cvitanović, Predrag
Fonda, Luciano
Grossmann, Alexander
Grünbaum, Branko
Jakšić, Borivoj
Janko, Zvonimir

Jevicki, Antal
Kraljević, Hrvoje
Kurepa, Djuro R.
Limić, Nedžad
Miličić, Dragan
Petrović, Gajo
Rendić-Miočević, Duje
Šašel, Jaroslav
Sion, Maurice
Vrabec, Jože

Roster of

Visitors, Assistants and Others

Explanatory Notes

This roster gives the names of those who came to the Institute for periods of time as short as one day or as long as a year in duration. They were visiting lecturers, research assistants to faculty members, or on the staff of the Electronic Computer Project which operated during the period 1946-57. They are designated by V, A or ECP on the accompanying list. If the person attended the Institute at some time as a regular member in residence, his entry will be found in the alphabetical listings beginning on page 43. Some of those participating in the Electronic Computer Project were elected to membership in the School of Mathematics and are therefore in the main section of the book, not on this roster.

The school with which the visitor or assistant was affiliated is given where known, using the following abbreviations: M for the School of Mathematics; NS for the School of Natural Sciences; HS for the School of Historical Studies; and Soc for the School of Social Science. Present names of the schools are used so that visitors and assistants in the School of Humanistic Studies and the School of Economics and Politics before their merger in 1949 are shown as affiliated with the School of Historical Studies, the name which resulted from the consolidation. Natural scientists and social scientists who came before their respective schools were founded were usually affiliated with the School of Mathematics and are so designated.

Space limitations made it impossible to list the years of attendance of visitors and assistants because many came for repeated visits over the years.

Roster of

Visitors, Assistants and Others

Abondanza, Roberto	V(HS)	Blum, Lesser	V(NS)
Ackerman, Michael R.	A(M)	Boase, Tom S. R.	V(HS)
Adcock, Sir Frank E.	V(HS)	Bodnar, Edward W., S.J.	V(HS)
Adjan, Sergei I.	V(M)	Boggess, William F.	V(HS)
Akizuki, Yasuo	V(M)	Bogoliubov, N. N.	V(NS)
Álföldi-Rosenbaum, Elisabeth	V(HS)	Bolin, B. R. J.	ECP
Alfven, Hannes	V(NS)	Booth, Kathleen Britten	A(M)
Alperin, Roger	V(M)	Boulter, Patricia Neils	A
Anandan, Jeeva	V(NS)	Boutaleb, Brahim	V(Soc)
Anderson, David J.	A	Bowersock, Glen	V(HS)
Anderson, Douglas R.	V(M)	Bowle, John	V(HS)
Araki, Huzihiro	V(NS)	Bradford, Alfred S., Jr	A(HS)
Arida, Persio	A(Soc)	Bradt, H. L.	V(NS)
Aron, Raymond	V(HS)	Brandi, Cesare	V(HS)
Artzy, Rafael	V(M)	Brauer, Alfred T.	A(M)
Ashby, Eric (Lord Ashby)	V(Soc)	Britten, Kathleen	ECP
Atalay, B. I.	V(NS)	Brogan, Lady Oliver	V(HS)
Aull, Charles E.	V(M)	Bronzan, John B.	V(NS)
Ayoub, Raymond	V(M)	Brouwer, L. E. J.	V(M)
Azbel, Mark Ya.	V(NS)	Budiman, Arief	A(Soc)
Baade, Walter	V(NS)	Bureau, Florent J.	V(M)
Babbitt, Susan	A(HS)	Burgoyne, Nicholas	V(M)
Bahcall, Neta Assaf	A(NS)	Cahn, Albert S., Jr.	ECP
Bailyn, Bernard	V(HS)	Calsoyas, Chris D.	ECP
Balsley, E.	V(NS)	Cantwell, John C.	A(M)
Bang, Thøger	V(M)	Carli, Enzo	V(HS)
Barankin, Edward W.	A(M)	Caskey, Elizabeth	V(HS)
Barashenkov, Valadin	V(NS)	Chastel, Andre	V(HS)
Bardeen, John	V(M)	Cheever, Mary Finlayson	A(HS)
Bargmann, Sonja	ECP	Cheng, Charles Ching-an	V(M)
Bargmann, Valentine	A(NS)	Cherniavsky, Michael	A(HS)
Baron, Samuel H.	V(HS)	Cherry, T. M.	V(M)
Barros-Neto, Jose	V(M)	Ching, Wai-mee	V(M)
Bartolomeis, Paola de	A(M)	Choquard, Philippe	V(NS)
Bastien, Pierre	V(HS)	Chung, K. L.	V(M)
Baykov, Alexander	V(HS)	Clogan, Paul	V(HS)
Behnke, Heinrich A. L.	V(M)	Cohen, Benjamin	V(HS)
Bergh, Sidney van den	V(NS)	Cohn, P. M.	V(M)
Bergman, Stefan	V(M)	Coleman, William E.	V(HS)
Bergmann, Ernest	V(NS)	Colleraine, Anthony Patrick	V(NS)
Bergmann, Peter G.	A(NS)	Collier, David	V(Soc)
Berlin, Sir Isaiah	V(HS)	Combes, Jean Michel	V(NS)
Bertelli, Carlo	V(HS)	Comerford, Leo	V(M)
Berthoff, Rowland T.	A(HS)	Coor, Gertrude	A(HS)
Bill, Valentine Tschepotarioff	A(HS)	Cordini, Franco	V(HS)
Billing, Heinz	ECP	Courant, Richard	V(M)
Billington, David P.	V(HS)	Cracco, Giorgio	V(HS)
Birley, Anthony	V(HS)	Crane, Hewitt	ECP
Birnbaum, Karl E.	V(HS)	Cressman, George	ECP
Blackburn, Jacob F.	ECP	Crick, Francis Harry Compton	V(NS)
Blackman, David	V(HS)	Culley, Gerald R.	V(HS)
Blair, Robert	V(M)	Culley, Thomas, S.J.	V(HS)

Visitors, Assistants and Others

Cunningham, Father T.	A(HS)	Freudenthal, Hans	V(M)
Cutkosky, Richard	V(NS)	Friedman, R.	V(M)
Czeczowiszka, Heinze L.	A(HS)	Fröberg, Carl-Erik	ECP
Damianovich-Oliveira, Jorge	V(HS)	Froehlich, H.	V(NS)
Daniel, Glyn	V(HS)	Furet, Francois	V(HS)
D'Atri, Joseph	V(M)	Gagliano, Anthony J.	A(HS)
Davies, Mark I.	V(HS)	Gambo, Kanzaburo	ECP
Davies, T. V.	ECP	Garrow, David J.	A(Soc)
Davis, John H.	ECP	Gartenhaus, Solomon	V(NS)
Day, Jane Maxwell	V(M)	Gassman, David	A(HS)
Deem, G. S.	V(NS)	Gautschi, Werner	ECP
De Groot, S. R.	V(NS)	Gay, Peter	V(HS)
Deheuvels, Rene	A(M)	Ghirshman, R.	V(HS)
Delbrück, M.	V(NS)	Gilchrist, Bruce	ECP
Denjoy, Arnaud	V(M)	Gillis, Joseph	ECP
Devlin, Sir Patrick	V(HS)	Gilmore, Myron P.	V(HS)
Dieudonne, Jean	V(M)	Glaser, Donald A.	V(NS)
Dinghas, Alexander	V(M)	Gluckstern, Robert L.	V(NS)
Dittrich, Walter	V(NS)	Goldman, Robert N.	V(NS)
Dover, Kenneth J.	V(HS)	Goldreich, Peter	V(NS)
Dunkelman, M.	A(HS)	Goldschmidt, David M.	V(M)
Dunkl, Charles F.	V(M)	Gombrich, Ernst Hans Josef	V(HS)
Dupont, Johan L.	A(M)	Gomme, Arnold W.	V(HS)
Dyer, Joan L.	V(M)	Goodner, Dwight B.	V(M)
Eady, E. T.	ECP	Gordon, David M.	V(Soc)
Eastman, Samuel E.	A(HS)	Goren, Robert J.	A(M)
Ebin, David G.	V(NS)	Gossman, J. Lionel	V(HS)
Edwards, G. Roger	V(HS)	Gottlieb, Daniel H.	V(M)
Eftimiu, Corneliu	V(NS)	Gottschalk, Walter H.	ECP
Eggers Lan, Conrado	V(HS)	Gowrisankaran, K. N.	V(M)
Ehrenberg, V. L.	V(HS)	Greenfield, Stephen J.	V(M)
Ehresmann, Charles	V(M)	Gross, Laila	V(HS)
Eliassen, Arnt	ECP	Grossman, Nathaniel	A(M)
Emslie, Norman M.	ECP	Grunsky, Helmut	V(M)
Estermann, J.	V(M)	Gudiol, José	V(HS)
Estrin, Gerald	ECP	Gunn, J.	V(NS)
Favard, J.	V(M)	Haber-Schaim, Uri	V(NS)
Fearnley, Lawrence	V(M)	Hamburger, Hans	V(M)
Feigenbaum, Mitchell	V(NS)	Hansen, Bert	A(HS)
Fforde, I. S.	V(HS)	Harmon, Leon D.	ECP
Fine, John van Antwerp	V(HS)	Hart, Helen	ECP
Fintushel, Ronald A.	A(M)	Hayakawa, Satio	V(NS)
Fischer, Louis	A(HS)	Hegarty, T.	A(HS)
Fitch, Val L.	V(NS)	Heggi, Douglas C.	V(NS)
Fjortoft, Ragnar	ECP	Heider, Fritz	V(SS)
Fleissner, Klaus	A(HS)	Heimpel, Hermann	V(HS)
Fock, J. V.	V(NS)	Hejhal, Dennis A.	V(M)
Folda, Jaroslav	V(HS)	Hereward, Daphne	A(HS)
Foltiny, Stephen	A(HS)	Herzberger, Maximilian J.	V(NS)
Fowler, William A.	V(NS)	Hildebrandt, Theodore W.	ECP
Fox, Ralph	A(M)	Hill, David L.	V(NS)
Fradkin, Yefim S.	V(NS)	Hilton, Peter J.	V(M)
Frank, Marguerita S.	V(M)	Hovmöller, Ernst	ECP
Frankel, S. Herbert	V(HS)	Howard, Michael	V(HS)
Frankland, Noble	V(HS)	Hoyle, Fred	V(NS)
Franz, Wolfgang G.	V(M)	Hoysoya, Chihiro	V(HS)
Fraser, Peter	V(HS)	Huddelson, Richard	A(HS)
Fraser, Russell A.	V(HS)	Hunt, J. H. V.	V(M)
Frautschi, Steven	V(NS)	Husain, Taqdir	V(M)
Freeman, Harold	V(M)	Huxley, Julian	V(HS)
Freeman, John C.	ECP	Immerwahr, Mrs. Henrich	V(HS)
Frei, Ephraim H.	ECP	Ingraham, Richard L.	A(M)

Visitors, Assistants and Others

Inzinger, Rudolf	V(M)	Loughran, Rev. Charles P.	V(HS)
Isaac, Ephraim	V(HS)	Lovelace, Claude	V(NS)
Islam, Jamal N.	V(NS)	Lüst, Reimar	V(M)
Iyanaga, Shokichi	V(M)	Lukas-Teuber, Hans	V(M)
Jaki, Stanley L.	V(HS)	Lundby, A.	V(NS)
Jarvella, Robert	V(Soc)	Luthar, Indar Singh	A(M)
Jerrard, Richard P.	V(M)	Mack, John	V(M)
Jones, Frances F.	A	Mac Lane, Saunders	V(M)
Kapetanopoulos, Elias	V(HS)	Maehle, Hans J.	ECP
Karageorghis, Vassos	V(HS)	Mann, Ady	V(NS)
Kazhdan, David	V(M)	Marsden, J. E.	V(M)
Keefe, William	ECP	Marshall, Peter	A(HS)
Kelson, Itzhak	V(NS)	Martin, John R.	V(HS)
Kemeny, John G.	A(NS)	Martin, Robert S.	A
Kent, Gordon	ECP	Masrieh, Fouad J.	A(Soc)
Khalatnikov, I. M.	V(NS)	Mazur, Miriam Becker	V(M)
Kimura, Naoki	V(M)	McConnell, Alan	V(M)
Kirsch, Edith W.	A(HS)	McKee, Christopher F.	V(NS)
Kislinger, Mark B.	V(NS)	McMillan, Audrey Wishard	A(M)
Klein, Abraham	V(NS)	Mellink, Machteid J.	A
Kline, Morris	A(M)	Melter, Robert Alan	V(M)
Knaap, H. F. P.	V(NS)	Melville, Richard W.	ECP
Koba, Ziro	V(NS)	Mercier, Andre	V(NS)
Kochen, Manfred	ECP	Mertz, Richard R.	V(HS)
Kohn, Walter	V(NS)	Metropolis, Nicholas C.	ECP
Koksmas, J. F.	V(M)	Metternich, Count Franz	V(HS)
Kolb, Alan C.	V(NS)	Milgram, M.	V(NS)
Kosambi, D. D.	V(M)	Molinari, Alfredo	V(NS)
Kraft, Joseph	A(HS)	Møller, Christian	V(NS)
Kraft, Robert P.	V(NS)	Momigliano, Arnold	V(HS)
Kraichnan, Robert H.	A	Moravcsik, Gyula	V(HS)
Kraines, David Paul	V(M)	Moriguti, Sigerti	V(M)
Krishnan, V. S.	V(M)	Mottahedeh, Roy P.	V(Soc)
Ku, Mei-Chin	V(M)	Motzkin, Theodore S.	V(M)
Kuellberg, Bo	V(M)	Muckenhoupt, Benjamin	V(M)
Kuranishi, Masatake	A(M)	Murasugi, Kunio	V(M)
Kussmaul, Peter	A(HS)	Murray, Steven	V(NS)
LaBach, William A.	A(M)	Murtha, James A.	V(M)
Laha, R. G.	V(M)	Negri, Lillo de	A(HS)
Laing, Donald	V(HS)	Nesbeda, Paolo	A
Laix, Roger Alain de	V(HS)	Ness, Linda A.	V(M)
Lam, Ping-Fun	A(M)	Nielson, Jakob	V(M)
Lambe, Margaret	ECP	Nikodym, Otto Martin	V(M)
Langacker, Paul G.	V(NS)	Ninomiya, Nobiuuki	V(M)
Lansing, John Stephen	A(Soc)	Noether, Emmy	V(M)
Latch, Dana M.	V(M)	Nozieres, Philippe P.	V(NS)
Lautrup, Benny	V(NS)	Oberhettinger, Fritz	V(M)
Lavagnino, Emilio	V(HS)	Okubo, Susumu	V(NS)
Lee, S. Y.	V(NS)	Okubo, Tanjiro	V(M)
Leibowitz, Elia	V(NS)	Olcott, Douglas	V(HS)
Leipen, Neda	A(HS)	Oldenburger, Rufus	A(M)
Lenzer, Gertrud	V(Soc)	Oort, Jan H.	V(NS)
LePrince-Ringuet, Louis	V(NS)	Orr, John	V(Soc)
Leschhorn, Wolfgang	A(HS)	Osmer, Patrick S.	V(NS)
Levine, Norman	V(HS)	Osowa, K.	A(NS)
Levitzi, J.	V(M)	Otte, James	A(HS)
Levy, Azriel	V(M)	Paczyński, Bohdan	V(NS)
Lewis, Mary	ECP	Palmer, Robert R.	V(HS)
Lininger, Lloyd	A(M)	Panagos, Peter	ECP
Lipkin, C.	V(NS)	Panofsky, Gerda Soergel	A(HS)
Lockwood, Lewis	V(HS)	Parker, Leonard	V(NS)
Loewenheim, Francis	A(HS)	Patrick, Anthony	V(NS)

Visitors, Assistants and Others

Pawsey, J. L.	V(NS)	Schwartz, M.	V(NS)
Pelling, Henry	V(HS)	Schwarzschild, Martin	V(NS)
Pena, Francisco de la	A(HS)	Schweber, Silvan S.	V(NS)
Pena, Rafael E.	V(NS)	Schwinger, Julian	V(NS)
Penrose, Roger	V(M)	Searle, L. T.	ECP
Perez-Diaz, Victor Miguel	A(Soc)	Selberg, Hedvig	ECP
Perry, Charles L.	A(NS)	Serber, Robert	V(NS)
Pesme, Denis	V(NS)	Serra, José	A(Soc)
Petersen, Aage	A(NS)	Seyeri, Francesco	V(M)
Pflugger, Albert J.	V(M)	Shaneson, Julius L.	V(M)
Phillips, Norman	ECP	Shaw, Robert	ECP
Piatetskii-Shapiro, I.	V(M)	Sherwin, Martin J.	V(Soc)
Piccioni, Oreste	V(NS)	Sherwin-White, Susan	V(HS)
Platzman, George W.	ECP	Shuman, F. G.	ECP
Pohrer, Robert G.	V(M)	Siewert, Peter	V(HS)
Pomerene, James H.	ECP	Sigmund, Paul E.	V(HS)
Popham, Kathleen	A(HS)	Signorini, Antonio	V(M)
Porter, Gerald J.	V(M)	Simons, James	V(M)
Prasad, S. N.	V(HS)	Singh, Sukhjit	V(M)
Prigogine, I.	V(NS)	Sirlin, Alberto	V(NS)
Procacci, Ugo	V(HS)	Slotnick, Daniel	ECP
Prochazka, Oldrich	V(HS)	Slutz, Ralph J.	ECP
Purcell, Edward M.	V(NS)	Smagorinsky, Joseph	ECP
Queney, Paul	ECP	Smith, Charles V. L.	ECP
Rabb, Theodore K.	V(HS)	Smithson, Evelyn Lord	A(HS)
Rabban, Meyer	V(M)	Snell, Bruno	V(HS)
Rabinovich, Itamar	V(HS)	Snyder, Richard L.	ECP
Rabinow, Paul	A(Soc)	Sokolov, A.	V(NS)
Rabinowitz, Irving	ECP	Solazzi, Robert E.	A(M)
Radford, David	V(M)	Souza, Paulo R., Sr.	V(Soc)
Radzinowicz, Sir Leon	V(HS)	Speiser, Ambrose	V(M)
Raitio, Risto	V(NS)	Spruck, Joel	V(M)
Rappaport, Saul	V(NS)	Srinivasacharyulu, K.	V(M)
Raubitschek, Isabelle Kelly	A	Stein, Michael R.	V(M)
Ravindra, Ravi	V(NS)	Stemme, Erik	ECP
Reckford, Kenneth J.	V(HS)	Sterling, Daniel	V(M)
Ree, Rimhak	V(M)	Stickles, A. L.	ECP
Reed, Michael	V(NS)	Stiglitz, Joseph	V(Soc)
Reinmuth, William	V(HS)	Stockum, Willem J. van	A
Ribenboim, Paulo	V(M)	Stoop, Maria W.	V(HS)
Richtmyer, Robert D.	ECP	Strassberg, Helen A.	A(M)
Rieger, George J.	V(M)	Strauss, Leon	V(M)
Ritchie, Robert	V(Soc)	Sudan, Ravi	V(NS)
Rosen, Lawrence	A(Soc)	Sullivan, Dennis	V(M)
Rosenberg, Jack	ECP	Suviranta, Bruno K.	V(HS)
Rosenblatt-Roth, Millu	V(M)	Swoboda, Karl Maria	V(HS)
Ross, Arnold	V(M)	Syme, Sir Ronald	V(HS)
Rossby, C.G.A.	ECP	Szasz, Otto	ECP
Rossi, Bruno	V(NS)	Szemerényi, Oswald	V(HS)
Roth, J. Paul	ECP	Tamura, Takayuki	V(M)
Roth, K. F.	V(M)	Taniuti, Tosiya	V(NS)
Rothman, Neal J.	V(M)	Tanner, W. R., Jr.	V(M)
Rowland, Robert J., Jr.	V(HS)	Taylor, Sir Geoffrey E.	V(NS)
Roy, Amit	V(M)	Telegdi, Valentine L.	V(NS)
Rubinoff, Morris	ECP	Ter Haar, D. J.	V(NS)
Sakellarakis, John	V(HS)	Ter-Mikaelian, Mikhail	V(NS)
Salpeter, E. E.	V(NS)	Teukolsky, Saul A.	V(NS)
Sansone, Giovanni	V(M)	Thayer, Carl J.	A(HS)
Sargent, W. L.	V(NS)	Thomas, Marcel	V(HS)
Schmidt, Helmut Dan	A(HS)	Thompson, Dennis F.	V(Soc)
Scholem, Gershon	V(HS)	Thompson, Philip D.	ECP
Schwartz, Abraham	A(M)	t'Hooft, Gerardus	V(NS)

Visitors, Assistants and Others

Thorne, Kip	V(NS)	Wang, Hao	V(M)
Thorne, Samuel	V(HS)	Ware, Willis H.	ECP
Timourian, James G.	V(M)	Watson, James D.	V(NS)
Tinsley, Beatrice M.	V(NS)	Watson, Mary A.	V(M)
Tischler, David Charles	A(M)	Weatherburn, Charles Ernest	V(M)
Tisza, L.	V(NS)	Weaver, Thomas A.	V(NS)
Tobias, Stephen Frederic	A(Soc)	Weil-Garris, Kathleen	V(HS)
Toledo, Sue Walker	A(M)	Weinberg, Gladys	V(HS)
Trail, John Stewart	V(HS)	Weiss, Laura	V(M)
Trefftz, Eleanor	ECP	Welton, T. A.	V(M)
Tretkoff, Norman	V(M)	Wentzel, Gregor	V(M)
Tsao, Sou-Tung Chiu	V(NS)	Wexler, Harry	ECP
Tuan, Hsio-Fu	A(M)	Weymann, Ray	V(NS)
Tucker, Patricia	V(M)	Whaples, George W.	A(M)
Tucker, Robert A.	V(Soc)	White, Milton G.	V(NS)
Tuckerman, Bryant	ECP	White, Simon D. M.	V(NS)
Tumin, Melvin	V(Soc)	Whitten, Wilbur	V(M)
Twele, J.	A(HS)	Wiencke, Matthew	A(HS)
Tyablikov, Sergei	V(NS)	Williams, Francis D.	V(M)
Udovitch, Avrom L.	V(Soc)	Wilson, Joseph C.	V(M)
Underhill, Anne B.	A(NS)	Wilson, Margaret	V(HS)
Unger, George	V(M)	Winarsky, N. D.	V(M)
Urey, Harold C.	V(NS)	Wolfsohn, N. Z.	A(M)
van den Heuvel, Edward	V(NS)	Woloch, G. Michael	V(HS)
Vanderslice, John L.	A	Wong, Sung Yuen	ECP
Van Wyk, Christoffel Benjamin	V(M)	Woodbury, William W.	ECP
Varopoulos, N. Th.	V(M)	Woodruff, Edythe P.	V(M)
Venturi, Franco	V(HS)	Woolf, Stuart	V(HS)
Veronis, George	ECP	Wu, Chien Shiung	V(NS)
Vijayaraghavan, Thirjkkannapuram	V(M)	Yano, Kentaro	A(M)
von Dohnanyi, Klaus	V(HS)	Yasugi, Mariko	V(M)
Voznesensky, Andrei	V(HS)	Yates, Frances A.	V(HS)
Vranceanu, G.	V(M)	Yavetz, Zvi	V(HS)
Waddy, Patricia	V(HS)	Young, Laurence C.	V(M)
Wagstaff, Samuel S., Jr.	V(M)	Zabusky, Norman J.	V(NS)
Wallach, Dr. N.	V(M)	Ziemer, William P.	V(M)
Wallach, Nolan R.	V(M)	Zukerman, Charles	A(HS)
Wallman, Henry	A(M)		
Walsh, John J.	A(M)		