

1897

University of Wisconsin



Department of Mathematics

1997

Front Cover:

In the last 100 years the Mathematics Department was housed in Bascom Hall, approximately 1860-1918; North Hall, 1918-1963; and Van Vleck Hall, 1963-present

Pictures provided by University of Wisconsin-Archives

PhD Centennial Conference

Department of Mathematics
University of Wisconsin - Madison
May 22-24, 1997

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Welcome!

It is with very much pleasure and tremendous pride that I welcome you to the Ph.D. Centennial Conference of the Department of Mathematics of the University of Wisconsin in Madison. My pride is in the many and great contributions to mathematics that can trace their roots back to Wisconsin; in the talented and dedicated mathematicians and educators who have received degrees from Wisconsin, or have been a part of Wisconsin as faculty, collaborators, or friends; and in the people - faculty, staff, and students - who currently make the Department one that is greatly admired and respected throughout the world.

Thanks to the enthusiastic response of so many of you, we have assembled a marvelous program of talks on past and present contributions to mathematics and education by our alumni, faculty, staff, and friends. I think it is fair to say that each and everyone of these talks has part of its origin in Wisconsin. But this conference is more than just learning about old and new mathematical and educational contributions. For those of you coming back to Madison it gives an opportunity to renew your ties to Wisconsin and see how much has changed and how much is as you remember it. For all of us it is an opportunity to get reacquainted with old friends and to make new friends. It is a joyous occasion, one that I and the rest of my colleagues have been looking forward to for many months.

The history of the Department of Mathematics of the University of Wisconsin starts in 1848. Wisconsin became a state on May 29, 1848 and in the summer of that year, the legislature established the University of Wisconsin in Madison with its government vested in a Board of Regents elected by the legislature. According to the law the university was to consist of four departments: "First the department of science, literature and the arts; second, the department of law; third, the department of medicine; fourth, the department of the theory and practice of elementary instruction."

The Regents first met in August of 1848 and approved the immediate establishment of a preparatory department. It also elected the president of the University of Missouri, John H. Lathrop, as the first chancellor of the University of Wisconsin. John W. Sterling was appointed to be in charge of the preparatory department. Sterling assembled the first class of the university in a room of the Madison Female Academy on February 4, 1849. The class consisted of only seventeen boys, with three more arriving later.

In 1849 the Regents announced its plans for the organization of the first and fourth departments of the University. The Department of Science, Literature, and the Arts was to consist of six professorships. One of these was the professorship of mathematics, natural philosophy, and astronomy to give instruction in "pure and mixed Mathematics, in Civil Engineering, Practical surveying, and other field operations, in

experimental Philosophy, and the use of apparatus, and in Theoretical and Practical Astronomy." This professorship (or chair) was given to Sterling, who received the Ph.D. from the College of New Jersey (now Princeton University). Thus it is fair to say that Sterling was the father of the faculty of the University of Wisconsin, the first member of the Mathematics Department and its first chair. He was Dean of the Faculty from 1860 to 1865, Vice-Chancellor from 1865 to 1869, and Vice-President from 1870 to 1884. In the early years, in addition to providing instruction, Sterling had a number of other duties. These included administering the boardinghouse, purchasing firewood, care of the furnaces, directing repairs, and assessing and collecting students' fines! Sterling died in Madison in 1895.

Sterling was primarily a teacher and did not keep very abreast of scientific developments. Scholarship in mathematics was given a big boost with the appointment in 1881 of Charles A. Van Velzer as instructor in mathematics. He revised the curriculum, published scholarly papers, and in general stimulated interest in mathematics by giving popular lectures. (Van Velzer developed a coal business interest outside the university and this 'conflict of interest' led then university president Charles Van Hise to insist that Van Velzer choose between his business and academic interests. Van Velzer chose to resign from the University, in 1906.) An additional boost was given to mathematics with the arrival in 1886 of Charles S. Slichter.

In 1906 Edward Burr Van Vleck was appointed Professor of Mathematics (he was an instructor from 1893 to 1895 and spent the intervening years at Wesleyan University). Van Vleck began a new emphasis on research in pure mathematics. With Van Vleck in pure mathematics and Slichter in applied mathematics, Wisconsin was a leader in uniting pure and applied mathematics. Slichter's efforts in applied mathematics were aided by the appointments of Herman W. March in 1906, Max Mason in 1908 (who transferred to physics in 1925), Warren Weaver in 1918, and Ivan S. Sokolnikoff in 1927.

The first Ph.D. granted by the Department of Mathematics went to Henry Freeman Stecker. Stecker was born in Sheboygan, Wisconsin on June 3, 1867. He received a B.S. in mathematics in 1893, a M.S. in 1894, and a Ph.D. in 1897. The title of his thesis was "On the roots of equations, particularly the imaginary roots of numerical equations." Although our records are incomplete (and no copy of his thesis has been found), it is highly likely that his thesis advisor was Van Velzer. Stecker's 1894 Masters' thesis "The 'Gebilde' ordinarily known as the circle" was approved by Van Velzer. The earliest reference that I could find to Stecker in the Bulletin of the American Mathematical Society (AMS) is that a paper of his, "Non-euclidean cubics" was read at the Fifth Summer Meeting of the AMS at the Massachusetts Institute of Technology on August 19 and 20, 1898. At that meeting was E.B. Van Vleck, then a Professor of Mathematics at Wesleyan University.

[After receiving the Ph.D. Stecker was an Instructor in Algebra, Academy of Northwestern University in Evanston, Illinois. In 1901 he was appointed Instructor in

mathematics at Cornell University. Afterwards he moved to the Pennsylvania State University and held the following positions: Instructor (1903-06), Assistant Professor (1906-07), Associate Professor (1907-17), and Professor (1917-23) He died in Baltimore, Maryland, on October 29, 1923. Since 1950, Pennsylvania State has awarded the H. Freeman Stecker Scholarship to a student of any school who excels in the subject of mathematics.]

The second Wisconsin Ph.D. was granted to Theodore Running in 1899 with a thesis entitled "On systems of circles derived from three and four base circles." At the end of his thesis, Running thanks Van Velzer and Dowling for their interest in his work, so Van Velzer and Dowling were most likely joint advisors to Running. Running was an assistant in mathematics from 1898-1900.

At the commencement in 1897 in which Stecker was granted a Ph.D., Charlotte Elvira Pengra received a B.S. in Mathematics with honors for a thesis "General rational fractional linear transformations of plane curves." Pengra went on to receive in 1901 the third Wisconsin mathematics Ph.D. ("in pure mathematics, applied mathematics, and economics") with thesis "On the conformal representation of plane curves particularly for the cases $p=4, 5, \text{ and } 6$." At the end of her thesis, Pengra acknowledges her "indebtedness to Dr. Dowling for his valuable suggestions and assistance in connection with the preparation of this paper." I can only conclude that Dowling was her advisor. Pengra was an assistant in the Department of Mathematics from 1899-1901.

At the 1901 commencement, Florence Eliza Allen received a Master of Letters in Mathematics and Philosophy for her thesis "The abelian integrals of the first kind upon the Riemann's surface $s=(z-a)^{5/6}(z-b)^{5/6}(z-c)^{2/6}$." Allen later received, in 1907, a Ph.D. with a thesis "The cycle involutions of third order determined by nets of curves of deficiency 0, 1, and 2." Our records indicate that Allen was the first Ph.D. student of Edward Burr Van Vleck, but at the end of her thesis she expresses her gratitude only to Professor L.W. Dowling. Allen was a member of the Department of Mathematics of Wisconsin for 45 years and was named Assistant Professor Emerita in 1948. She died in Madison at the age of 84 on December 31, 1960.

There were three more Ph.D.s granted, for a total of seven, up to the end of World War I in 1918. Before the war, most American students received their doctorates in Europe, most notably in Germany. Following the war the training of doctorates became an increasingly important function of the Wisconsin Department of Mathematics. At least one doctorate has been granted each year since 1926. With the impending retirements of Slichter and Van Vleck, the department was augmented by the arrival of the algebraist Mark H. Ingraham in 1919 and the analyst Rudolph E. Langer in 1927. During the years immediately preceding and following the war, the Department also had on its staff some notable teachers such as Arnold Dresden, L.W. Dowling, and E.B. Skinner.

The appointment of C.C. MacDuffee in 1933, followed by those of Stephen C.

Kleene in 1935, Richard H. Bruck in 1942, R.H. Bing and Laurence C. Young in 1946, and R. Creighton Buck in 1950 greatly enhanced a tradition of excellence in graduate training and led to the Department of Mathematics at Wisconsin becoming one of the very important centers in the world for graduate education and mathematical research. Since 1950 there have been a great many people who have played a major role in mathematical research and graduate education at Wisconsin.

In this program you will find a list of mathematics faculty since the birth of the University of Wisconsin in 1848. We have tried to make it as complete as possible but there are sure to be errors and omissions, as many of our sources contain conflicting or incomplete information. There is also a list of all those who have obtained Mathematics Ph.D.s at Wisconsin (or will by the end of the summer of 1997) in the one hundred years since the first one was granted, about 900.

I am thrilled to have you with us as we celebrate one hundred years of graduate education in mathematics at the University of Wisconsin.



Richard A. Brualdi
Chair

References

The University of Wisconsin, Its history and its alumni, edited by Reuben Gold Thwaites, 1900.

The University of Wisconsin, A History, 1848-1925, Vols. I, II, Merle Curti and Vernon Carstensen, University of Wisconsin Press, 1949

The University of Wisconsin, A Pictorial History, Arthur Hove, University of Wisconsin Press, 1991.

Catalogues of the University of Wisconsin, UW Archives.

Program

Wednesday, May 21

7:00 - 9:00 pm, Welcoming Reception, 9th floor conference room, Van Vleck Hall

Thursday, May 22 B102 Van Vleck

8:15 Welcome
8:30 Walter Rudin: *Harmonic Analysis at Wisconsin*
9:30 Louis Solomon: *Algebra in Wisconsin from 1880 to 1960*
10:30 Break
10:55 Greetings from Chancellor David Ward
11:00 William Jaco: *Geometric Topology at Wisconsin: The Bing School*
11:45 Robert Brown: *Algebraic Topology From Wisconsin: Some Mathematical Snapshots*
12:30 Lunch
2:30 to 5:30 Minisymposia

Friday, May 23 B102 Van Vleck

8:30 Richard Askey: *Special functions in Wisconsin*
9:30 George Glauberman: *The Bruck Era*
10:30 Break
11:00 Josh Chover: *Chance at Wisconsin*
11:45 Richard Arratia: *Prime factorization of a uniformly chosen integer: the big picture*
12:30 Lunch
2:30 to 5:30 Minisymposia

Banquet Celebration, Great Hall, Memorial Union, Langdon Street

6:00 pm - Cash Bar

7:00 pm - Banquet

Reminiscences by Mary Ellen Rudin

Saturday, May 24 B102 Van Vleck

8:30 Yiannis Moschovakis: *Logic in Madison, when Kleene was the man*
9:30 Michael Crandall: *Wisconsin and Nonlinear Differential Equations*
10:30 Break
11:00 Carl de Boer: *Splines at MRC*
11:45 John Nohel: *Retrospect and Reminiscences of MRC/CMS*
12:30 Lunch
2:30 to 5:30 Minisymposia

Minisymposia Schedule

Thursday, May 22

Problems in Applied Mathematics
Combinatorics / Graph Theory / Combinatorial Matrix Theory
Math Education and Curriculum Issues
Legacy of Charlie Conley
Arrangements of Hyperplanes
Approximation Theory and Splines
Group Theory
Lie Algebras
Logic
Volterra Integral Equations and Related Topics
Complex Variables
Geometric Topology

Friday, May 23

Special Functions
Problems in Applied Mathematics
Combinatorics / Graph Theory / Combinatorial Matrix Theory
Math Education and Curriculum Issues
Mathematics in Industry
Legacy of Charlie Conley
Geometry
Number Theory
Arrangements of Hyperplanes
Approximation Theory and Splines
Group Theory
Lie Algebras
Logic
Volterra Integral Equations and Related Topics
Complex Variables
Geometric Topology

Saturday, May 24

Special Functions
Problems in Applied Mathematics
Combinatorics / Graph Theory / Combinatorial Matrix Theory
Math Education and Curriculum Issues
Geometry
Arrangements of Hyperplanes
Approximation Theory and Splines
Lie Algebras
Logic
Volterra Integral Equations and Related Topics
Complex Variables
Geometric Topology

Organized by
Charles Dunkl - Richard Askey

B215 Van Vleck

Friday, May 23

- 2:30 Gilbert G. Walter, University of Wisconsin-Milwaukee
Wavelets and special functions
- 3:00 Steve Milne, Ohio State University
Sums of squares, Jacobi elliptic functions and continued fractions, and Schur functions
- 3:30 Paul Nevai, Ohio State University
Orthogonal polynomials on an arc of the unit circle
- 4:00 Alan Schwartz, University of Missouri-St. Louis
Multivariate orthogonal polynomials, measure algebras, and differential operators
- 4:30 Charles F. Dunkl, University of Virginia
Generalized Hermite polynomials and root systems

Saturday, May 24

- 2:30 George Gasper, Northwestern University
q-Analogues of Erdélyi's fractional integrals and applications
- 3:00 Paul Terwilliger, University of Wisconsin-Madison
Leonard systems and the q-Racah polynomials
- 3:30 Anatol N. Kirillov, CRM, Université de Montréal
Quantum Schur functions and quantum Schubert polynomials
- 4:00 Mourad Ismail, University of South Florida
Toda lattice and orthogonal polynomials
- 4:30 Dennis Stanton, University of Minnesota
Applications of cubic hypergeometric transformations
- 5:00 Sergei Suslov, Arizona State University
A basic analog of fourier series

Organized by
Shuming Sun - Shanpu Shen - Mei Chang Shen

B105 Van Vleck

Thursday, May 22

- 2:30 Steve London, University of Houston-Downtown
Asymptotic models for resistive instability in the earth's outer core
- 3:00 Jeong-Whan Choi, Korea University
On a critical case of internal solitary waves in a two-layer liquid
- 3:30 Chia-Chin Chang, University of Wisconsin-Madison
Generation of a low-frequency axisymmetric mode in a water-filled circular basin by a high-frequency asymmetric forcing
- 4:00 Jack Asavanant and J.M. Vanden-Broeck,
Chulalongkorn Univ and Univ of WI-Madison
Free-surface flow past an object with stagnation points
- 4:30 Samuel S. Shen, University of Alberta
Forced evolution equations, bifurcation, stability and generation of uniform solitons

Friday, May 23

- 2:30 Anthony W. Leung, University of Cincinnati
Optimal control of neutron reactions
- 3:00 Dalin Tang and Jun Yang, Worcester Polytechnic Institute
A boundary iteration method for viscous flow in elastic tubes with stenosis
- 3:30 Dwight D. Freund, California State University at Sacramento
A convergence proof for rational quadratic spline interpolation
- 4:00 Jeffrey F. Painter, Lawrence Livermore Laboratory
Finite element radiation transport in one dimension
- 4:30 Nai-Sher Yeh, University of Wisconsin-Madison
Capillary-gravity waves generated by a circular wave maker under hocking's edge condition
- 5:00 S.M. Sun, Virginia Polytechnic Institute and State University
Some analytical properties of waves in two-fluid flows of infinite depth

Saturday, May 24

- 2:30 Goong Chen, Texas A&M University
Chaotic vibrations of the one-dimensional wave equation subject to nonlinear boundary conditions
- 3:00 Peter Laurence, Universita di Roma, Italy
Variational problems with topological constraints in magnetohydrodynamics
- 3:30 Shy-ming Shih, Academia Sinica
A convection type of rankine-hugoniot shock conditions for gas dynamics
- 4:00 Lynn Wilson, AT&T
Mathematics in the marketplace: proving that satisfied customers count
- 4:30 Bing-Yu Zhang, University of Cincinnati
Boundary controllability of a class of quasi-linear hyperbolic systems

Organized by
 T.S. Michael - Jennifer Quinn - Bryan Shader - Judi McDonald
 Richard Brualdi - Hans Schneider

B231 Van Vleck

Thursday May 22

- 2:30 Dan Pritikin - Miami University
Defining sets and k-defining sets in graphs
- 3:00 Jennifer Quinn & Arthur Benjamin - Occidental College & Harvey Mudd College
Paths to a multinomial inequality
- 3:30 Yoomi Rho - University of Wisconsin-Madison
An extremal problem concerning graphs not containing K_t and $K_{t,t}$
- 4:00 Kevin McDougal - University of Wisconsin-Oshkosh
The edge-added eccentricity of vertices in a graph
- 4:30 Heather Lewis - University of Wisconsin-Madison
The fundamental group of a graph
- 5:00 Han Hyuk Cho & Hwa Kyung Kim - Seoul National University
Competition indices of digraphs

Friday May 23

- 2:30 T.S. Michael - U.S. Naval Academy
Rigidity and rank: a report from Annapolis
- 3:00 Michael Tsatsomeros, Steve Kirkland & Judi McDonald - University of Regina
Sign patterns that require a positive eigenvalue
- 3:30 Judi McDonald - University of Regina
M-matrices and their inverses
- 4:00 Nancy Neudauer - University of Wisconsin-Madison
Bicircular matroids
- 4:30 Mark Lawrence - Bear Stearns and Co.
The combinatorics of highly uniformly distributed point sets with applications to option pricing in finance
- 5:00 Bit Shun Tam, Tamkang University, Taiwan
A Marcus and Sandy conjecture revisited

Saturday May 24

- 2:30 Jeff Stuart - University of Southern Mississippi
Some inflated results
- 3:00 Wenchao Huang - University of Wisconsin-Madison
Region stability of matrices
- 3:30 Olga Holtz - University of Wisconsin-Madison
Numerical ranges of normal matrices in indefinite scalar product spaces
- 4:00 Bryan Shader - University of Wyoming
How sparse can a matrix with orthogonal rows be?
- 4:30 Open Problem Session

Organized by
Walter Meyer - Michael Bleicher - John Harvey

B203 Van Vleck

Thursday, May 22

- 2:30 Neil Davidson, University of Maryland
Cooperative learning strategies in mathematics: what I have learned in the past thirty years
- 3:00 Naomi Fisher, University of Illinois-Chicago
A medley of educational reflections
- 3:30 Robert Gethner, Franklin and Marshall
An undergraduate-level model of changes in the earth's atmosphere
- 4:00 Walter Meyer, Adelphi U., USMA, West Point
Modern applications of geometry

Friday, May 23

- 2:30 Joseph Malkevitch, York College, CUNY
Teaching applications of geometry in grades K-12
- 3:00 Rochelle Wilson Meyer, Nassau Community College
An idea whose time has come - math 101
- 3:30 Gordon Prichett, Babson College
A mathematics program for undergraduate students studying investment management
- 4:00 Wuu-nan Uen, University of Wisconsin-Madison
The mathematical teaching modality of junior high school teachers in Taiwan
- 4:30 Marsha Foregger
Math mania: college math concepts for grades K-5

Saturday, May 24

- 2:30 Sol Garfunkel, COMAP
A sojourn in mathematics education
- 3:00 Jeanne LaDuke, DePaul University
Women in mathematics at Wisconsin: the early years
- 3:30 Ken Millett, University of CA - Santa Barbara
Talking is not teaching, listening is not learning: a retrospective

Organized by
Robert Wilson

B211 Van Vleck

Friday, May 23

- 2:30 Curt Tuckey, Bell Labs
Industrial applications of logic and combinatorics
- 3:00 George Dinolt, Lockheed Martin Western Development Labs
Mathematical modelling of information flow in computing systems
- 3:30 Wayne Wymore, Systems Analysis
Mathematical foundations of systems engineering
- 4:00 Christina Bahl, NSA
Characteristic sequences

Organized by
Chris McCord - Joel Robbin

B235 Van Vleck

Thursday, May 22

- 2:30 Richard Moeckel, University of Minnesota
Some isolated invariant sets in celestial mechanics
- 3:00 Carmen Chicone, University of Missouri
Two body motion influenced by gravitational radiation
- 3:30 Richard Churchill, Hunter College, CUNY
Linear and nonlinear normal forms for hamiltonian systems
- 4:00 Christopher K.R.T. Jones, Brown University
Multiple pulses on optical fibers
- 4:30 Henry Kurland
Saddle connections and bordism relations between local unstable manifolds

Friday, May 23

- 2:30 Robert Easton, University of Colorado
Modeling a magnetic top spinning in a bouquet of field lines; featuring $SO(3)$, legendre transformations, and the levitron
- 3:00 James Selgrade, North Carolina State University
Dynamical behavior of models from population biology
- 3:30 Robert Franzosa, University of Maine
Charlie, connection matrices, and me: personal reminiscences
- 4:00 Christopher McCord, University of Cincinnati
Reconstructing global dynamics via the Conley index

Organized by
Joseph Malkevitch - Amir Assadi - Michael Bleicher - Donald Crowe

B219 Van Vleck

Friday, May 23

- 2:30 Mike Bleicher, University of Wisconsin-Madison
Efficient separation of the plane into a finite number of regions of prescribed area
- 3:00 Darrah Chavey, Beloit College
Cultural concepts of geometric patterns
- 3:30 Lee Dickey, University of Waterloo
Circles of Apollonius. Exploring an old problem with a new tool
- 4:00 Walter Meyer, Adelphi University and U. S. Military Academy
How many fingers should a robot hand have?

Saturday, May 24

- 2:30 Gary Ebert, University of Delaware
Caps, codes and partitions
- 3:00 Joe Malkevitch, York College of CUNY
The emergence of discrete and combinatorial geometry
- 3:30 Don Crowe, University of Wisconsin-Madison
Rigby's precise colorings of plane tessellations
- 4:00 Sue Whitesides, McGill University
On geometric representations of graphs

Organized by
Bruce Berndt - Eric Bach - Mike Bleicher

B129 Van Vleck

Friday, May 23

- 2:30 Ken Stolarsky, University of Illinois
Beatty sequences-history and new results
- 3:00 Bruce Berndt, University of Illinois
Ramanujan's class invariants
- 3:30 Scott Lindhurst, University of Wisconsin-Madison
Sums of digits of numbers in arithmetic progressions
- 4:00 Eric Bach, University of Wisconsin-Madison
Is the Riemann hypothesis really necessary?

Organized by
Michael Falk - Richard Randell - Peter Orlik

B113 Van Vleck

Thursday, May 22

- 2:30 Anatoly Libgober, University of Illinois, Chicago
Invariants of arrangements from abelian covers
- 3:00 Steve Szydluk, University of Wisconsin-Oshkosh
Milnor fiber complexes for the reflection groups
- 3:30 Alexandru Suciù, Northeastern University
Alexander invariants of arrangements
- 4:00 Dan Cohen, Louisiana State University
Monodromy of fiber-type arrangements
- 4:30 Bruce Sagan, Michigan State University
NBB bases and subspace intersection lattices

Friday, May 23

- 2:30 Roberto Silvotti, SUNY - Stonybrook
Factorization and homotopy of the complement of a free arrangement
- 3:00 David Bailey, University of Minnesota
Enumerating tilings of zonotopes
- 3:30 Fred Cohen, University of Rochester
Orbit configuration spaces
- 4:00 Marge Bayer, University of Kansas
Toric h -vectors of polytopes and arrangements
- 4:30 Eriko Hironaka, University of Toronto
Regular neighborhoods of line arrangements

Saturday, May 24

- 2:30 Laura Anderson, Indiana University
Topology of the oriented matroid grassmannian
- 3:00 Ken Jewell, Edgewood College
More on the homotopy type of the complement of a subspace arrangement
- 3:30 Eric Westlund, University of Wisconsin-Madison
The boundary manifold of an arrangement
- 4:00 Michael Falk, Northern Arizona University
Isomorphisms of OS algebras
- 4:30 Problem Session

Organized by
Carl de Boor - Amos Ron

B223 Van Vleck

Thursday, May 22

- 2:30 Amos Ron, University of Wisconsin-Madison
Determining the smoothness of wavelets
- 3:00 Don Allen, Texas A&M University
Legendre-Hermite approximation
- 3:30 Martin Bartelt, Christopher Newport University
Strong unicity in best approximation
- 4:00 Russell Reid, Michigan Technological University
The SVD for polynomials
- 4:30 Kirk Haller, Dalhousie University
Underdetermined regression with box spline measures
- 5:00 W.C. Lynch, Interval Research Corporation
Approximation and compression of scalar functions on the 2-sphere

Friday, May 23

- 2:30 Rong-Qing Jia, University of Alberta
Dual bases for local shift invariant spaces
- 3:00 Tom Grandine, Boeing Corporation
A DAE approach to contouring
- 3:30 Jörg Peters, Purdue University
Interpolation regions for convex cubic curve segments
- 4:00 Tom Kunkle, College of Charleston
Multivariate exponential differences
- 4:30 Kang Zhao, Structural Dynamics Research Corporation
Spline curve fitting and data reduction

Saturday, May 24

- 2:30 Charles K. Chui, Texas A&M University
From splines to wavelets
- 3:00 Al Cavaretta, Kent State University
Optimal recovery in H^p
- 3:30 Thomas A. Hogan, Vanderbilt University
Multivariate interpolatory subdivision
- 4:00 Muddappa Gowda, University of Maryland Baltimore County
Piecewise smooth functions and their applications to optimization

Organized by
Steve Gagola - Mark Lewis - Marty Isaacs

B131 Van Vleck

Thursday, May 22

- 2:30 George Glauberman, University of Chicago
Limits of abelian subgroups in finite groups
- 3:00 Homer Bechtel, University of New Hampshire
Noncomplemented chief factors in finite groups
- 3:30 Steve Gagola, Kent State University
Products of faithful characters
- 4:00 Mark Lewis, Kent State University
Groups satisfying the one-prime hypothesis
- 4:30 Thomas Keller, University of Wisconsin-Madison
Fitting length and character degrees in finite solvable groups

Friday, May 23

- 2:30 Jeff Riedl, University of Wisconsin-Madison
Character degrees and fitting height of finite solvable groups: small cases
- 3:00 Gilbert Stengle, Lehigh University
Spectra and stellensatze
- 3:30 Andrea Previtali, University of Wisconsin-Madison
Theorems like Hall's

Organized by
Thomas Halverson - Robert Leduc - Georgia Benkart - Louis Solomon

B119 Van Vleck

Thursday, May 22

- 2:30 Mark Logan, University of Wisconsin-Madison
The homology and invariants of reflection groups
- 3:00 John Ballard, University of Washington
Clifford theory for algebraic groups and Lie algebras
- 3:30 Warren Koepp, Texas A&M - Commerce
Derivation subalgebras of polynomial rings
- 4:00 Break
- 4:30 Daniel Robinson, Georgia Institute of Technology
Right alternative loop rings
- 5:00 José Perez-Izquierdo, Universidad de Zaragoza
Composition algebras

Friday, May 23

- 2:00 Stefan Catoiu, University of Wisconsin-Madison
Ideals in tensor powers of the enveloping algebra $U(\mathfrak{sl}_2)$.
- 2:30 Yuri Medvedev, York University
Groups satisfying semigroup laws, nilpotent-by Burnside varieties, and Engel groups
- 3:00 Efim Zelmanov, Yale University
The Burnside problem: Madison connections
- 3:30 Tom Roby, University of Wisconsin-Madison
Schensted insertion for an infinite dimensional representation
- 4:00 Break
- 4:30 Anatol Kirillov, CRM University of Montreal
Fermionic formulae for the branching function of the affine Lie algebra $\widehat{\mathfrak{sl}(n)}$
- 5:00 Rolf Farnsteiner, University of Wisconsin-Milwaukee
The representation type of reduced enveloping algebras

Saturday, May 24

- 2:30 Daniel Britten, University of Windsor
Modules with bounded multiplicities
- 3:00 Kequan Ding, University of Illinois-Urbana
Rook polynomials
- 3:30 Oliver Eng, Epic Systems, Madison, Wisconsin
Domino tilings and skew shapes
- 4:00 Break
- 4:30 Tom Halverson, Macalester College
Iwahori-Hecke algebra characters
- 5:00 Robert Leduc, University of Wisconsin-River Falls
A second orthogonality relation for the characters of the Iwahori-Hecke algebra of Type A

Organized by
Michael Benedikt - Mirna Dzamonja

B139 Van Vleck

Thursday, May 22

- 2:00 Bob Constable, Cornell University
Type theory as a foundation for computer science
- 2:30 Joan Moschovakis, University of CA-Los Angeles
Realizability interpretations for intuitionistic analysis with lawless sequences
- 3:00 Ning Zhong, University of Connecticut
When is a Julia set computable?
- 3:30 Break
- 4:00 Curtis Herink, Mercer University
Discrete ultrafilters need not be measure zero ultrafilters
- 4:30 Maxim Burke, University of Prince Edward Island
& University of Wisconsin-Madison
Sets on which continuous functions are determined by their range
- 5:00 Peter Cholak, C. Jockusch & T. Slaman, University of Notre Dame
More on the strength of Ramsey's theorem for pairs
- 5:30 Steffen Lempp, University of Wisconsin-Madison
Understanding computably enumerable degrees

Friday, May 23

- 2:00 Franklin Tall, University of Toronto
Topology of elementary submodels
- 2:30 Yiannis Moschovakis, University of CA-Los Angeles
To be announced
- 3:00 Kenneth Kunen, University of Wisconsin-Madison
Bohr topologies
- 3:30 Break
- 4:00 Mary Ellen Rudin, University of Wisconsin-Madison
A continuous image of a linearly ordered topological space
- 4:30 Paul Corazza, Telegroup
New results on extendible and almost huge cardinals
- 5:00 Joan Hart, Union College
Bohr topologies

Saturday May 24

- 2:00 H.J. Keisler, University of Wisconsin-Madison
Randomizing a model
- 2:30 Paul Bankston, Marquette University
What 'existentially closed' means in the context of continua theory
- 3:00 Kevin Compton, University of Michigan
0-1 laws for random structures via Tauberian theorems from analytic number theory
- 3:30 Break
- 4:00 Siu-ah Ng, University of Natal
Quantifier elimination in Banach spaces
- 4:30 Carlos Ortiz, University of Wisconsin-Madison
An omitting types theorem for classes of metric structures
- 5:00 Ren-ling Jin, University of Wisconsin and College of Charleston
Nonstandard models and additive number theory
- 5:30 Curtis Tuckey, Bell Laboratories
To be announced

Organized by
Kenneth Hannsgen - Jake Levin

B135 Van Vleck

Thursday, May 22

- 2:30 Stig-Olof Londen, Helsinki University of Technology
Regularity results for some fractional evolutionary equations
- 3:00 Philippe Clément, Dept. of Pure Mathematics, University of Technology Delft
Fractional evolution equations
- 3:30 Fred Brauer, University of Wisconsin-Madison
Volterra equations and population biology
- 4:00 Scott Hansen, Iowa State University
Optimal regularity results for a class of second order systems with fractional order damping
- 4:30 Stewart Ethier, University of Utah
Thackeray and the Belgian progression

Friday, May 23

- 2:30 Richard C. MacCamy, Carnegie-Mellon University
A model for ferromagnetic behavior
- 3:00 Robert L. Wheeler, Virginia Tech
Asymptotic behavior of linear volterra integral equations
- 3:30 Kenneth B. Hannsgen, Virginia Tech
Linear volterra equations of scalar type
- 4:00 Christopher Kribs, University of Wisconsin-Madison
Core migration effects in a model for a sexually transmitted disease
- 4:30 Richard K. Miller, Iowa State University
Volterra equations at Wisconsin

Organized by
Charles Stanton - Dan Shea

B115 Van Vleck

Thursday, May 22

- 2:30 Al Baernstein, Washington University
Rearrangement theorems for multiple integrals
- 3:00 Boo Rim Choe, Korea University
The Bloch-to-BMOA composition property on the disk
- 3:30 Steve Fisher, Northwestern University
Pick-Nevalinna interpolation
- 4:00 Carl Sundberg, University of Tennessee
Measures induced by analytic functions and a problem of Walter Rudin
- 4:30 Clint Kolaski, University of Minnesota-Duluth
Isometries of the Hardy and Bergman spaces
- 5:00 Thomas McCoy, Michigan State University
On the Sendov-Ilyeff conjecture for polynomials near $z^n - 1$

Friday, May 23

- 2:30 Joe Miles, University of Illinois
On a theorem of Hayman and Stewart
- 3:00 John Rossi, Virginia Tech
Real zeros to solutions of ordinary differential equations
- 3:30 Joel Shapiro, Michigan State University
Composition operators and Schroeder's functional equation
- 4:00 Chuck Stanton, California State University
Some sharp inequalities for norms of conjugate functions
- 4:30 Ken Stephenson, University of Tennessee
Conformal structures via circle packing

Saturday, May 24

- 2:30 Luis Verde-Star, Univ. Autonoma Metro
A new approach to the theory of analytic functionals
- 3:00 C.C. Yang, Hong Kong University of Science
Progress in the theory of factorization (with respect to composition) of entire functions
- 3:30 Daniel Girela, University of Malaga
Mean Lipschitz spaces, BMO and normal functions
- 4:00 Sharad Chandarana, University of Wisconsin-Madison
Hypersingular integrals along curves
- 4:30 Li-Chien Shen, University of Florida
On a generalization of Szego's theorem

Organized by
Robert Daverman - William Jaco

B123 Van Vleck

Thursday, May 22

- 2:30 Robert Daverman, University of Tennessee
Approximate fibrations - decompositions from a global perspective
- 3:00 Fredric D. Ancel, University of Wisconsin-Milwaukee
Horizons of negatively curved contractible open manifolds
- 3:30 James Cannon, Brigham Young University
The Hawaiian earring, big free groups, and the big fundamental group
- 4:00 Robert Craggs, University of Illinois-Champaign/Urbana
Rescuing a hopeless theory
- 4:30 Dale Rolfsen, University of British Columbia
Braid groups - what's new?
- 5:00 Steve Armentrout, Pennsylvania State University
Monotone extension of monotone decompositions of 3-manifolds

Friday, May 23

- 2:30 Colin Adams, Williams College
Waist size for knots and cusps in hyperbolic 3-manifolds
- 3:00 Robert Edwards, UCLA
Decomposition spaces, then and now
- 3:30 Steve Ferry, SUNY Binghamton
Controlled topology and the geometry of strange spaces
- 4:00 Erica Flapan, Pomona College
Rigid and flexible symmetries of graphs in the 3-sphere
- 4:30 John Hempel, Rice University
Heegaard splittings for 3-manifolds

Saturday, May 24

- 2:30 William Jaco, Oklahoma State University
Algorithms in Low Dimensional Topology
- 3:00 Mike Starbird, University of Texas
A fascinating excursion: destination unknown
- 3:30 David Wright, Brigham Young University
How much of a 2-sphere can be seen in 3-space
- 4:00 W.B. Raymond Lickorish, Cambridge University
SU(2) invariants of 3-manifolds
- 4:30 John Berge
Embedding tunnel-number-one manifolds in the 3-Sphere

Banquet Celebration

Great Hall, Memorial Union, Langdon Street
Friday, May 23, 1997

6:00 pm - Cash Bar

7:00 pm - Banquet

Garden Salad

Main Course

Choice of

Cornish Hen with Raspberry Sauce

Boneless hen roasted and stuffed with wild rice topped with raspberry sauce

Black Angus Tenderloin Steak

Tender filet topped with port wine mustard sauce and garnished with red onion confit

Peruvian Stuffed Acorn Squash

Acorn squash stuffed with potatoes, feta cheese and chilies.

Beverages

Iced Tea and Wine

Dessert

Fudge Bottom Pie

(A UW-Madison tradition)

Coffee

Reminiscences by Mary Ellen Rudin

Mathematics Faculty 1849-1997

1849-1885	John W. Sterling	1908-1910	Max Mason
1857-1859	John F. Smith	1908-1913	Ralph T. Craigo
1867-1872	John B. Parkinson	1908-1918	Thomas M. Simpson
1871-1886	Delia E. Carson	1909-1910	Elton J. Moulton
1878-1879	Henry Taylor	1909-1911	Herbert E. Buchanan
1879-1880	Alice F. Frisby	1909-1911	Elmer E. Moots
1879-1880	Elizabeth Smith Spencer	1909-1914	Horace T. Burgess
1881-1906	Charles A. Van Velzer	1909-1927	Arnold Dresden
1886-1934	Charles S. Slichter	1910-1911	Clarence Keyser
1887-1891	Stimson J. Brown	1910-1911	Alfred E. Whitford
1892-1934	Ernest B. Skinner	1910-1912	Frank M. Dryzer
1893-1895	Edward B. Van Vleck	1910-1912	Samuel E. Uner
1906-1929	Edward B. Van Vleck	1910-1919	Eugene Taylor
1895-1896	Thomas F. Nichols	1910-1928	Walter W. Hart
1895-1897	John M. Howie	1911-1912	William Cushman
1895-1928	Linneaus W. Dowling	1911-1915	Joseph A. Nyberg
1897-1900	Theodore Running	1911-1916	Guy R. Clements
1897-1900	William D. Tallman	1911-1916	Ralph Keffer
1899-1901	Charlotte Elvira Pengra	1912-1913	Frank Hooper
1900-1902	Edward L. Hancock	1912-1916	Thornton C. Fry
1900-1904	Arthur R. Crathorne	1913-1914	Ethel M. Houser
1900-1919	Henry C. Wolff	1913-1914	Mary B. McMillan
1901-1906	Warren M. Persons	1913-1914	Mildred L. Sanderson
1901-1946	Florence E. Allen	1913-1914	Wilson R. Woodmansee
1903-1905	Jesse Suter	1914-1915	Arthur W. Larsen
1904-1905	Arthur Ranum	1915-1917	Frederick Wood
1904-1906	Benjamin M. Rastall	1915-1919	George P. Paine
1905-1906	Daniel Lehman	1916-1917	Oscar Peterson
1905-1906	Reuben S. Peotter	1916-1928	Rodney W. Babcock
1905-1907	Ernest A. Moritz	1917-1918	Roger E. Moore
1905-1909	Edwin R. Smith	1917-1918	Meta Wood
1905-1910	Nathan C. Grimes	1918-1918	Frances M. Wood
1906-1950	Herman W. March	1918-1932	Warren Weaver
1907-1908	Bruce Bartholomew	1919-1922	Ernest Preston Lane
1907-1909	George D. Birkhoff	1919-1923	Otis H. Rechar
1907-1909	Edmund P. Duval	1919-1966	Mark H. Ingraham
1907-1909	Anthony Underhill	1926-1928	James H. Taylor
1908-1909	Walter W. Kusterman	1927-1944	Ivan S. Sokolnikoff
1908-1910	George A. Chaney	1927-1964	Rudolph E. Langer

1928-1959	Herbert P. Evans	1960-present	Philip Miles
1929-1938	Theodore Bennett	1960-1973	Marvin Knopp
1930-1944	Paul L. Trump	1960-1982	George Box
1933-1961	Cyrus C. MacDuffee	1960-1996	Fred Brauer
1935-1979	Stephen C. Kleene	1961-present	Lawrence Levy
1937-1946	Churchill Eisenhart	1961-1962	James Andrew
1942-1952	Kenneth J. Arnold	1961-1962	Frank Raymond
1942-1985	Richard H. Bruck	1961-1963	Alvin Feldzamen
1943-1971	Rae Evans	1961-1963	Louis McAuley
1944-1946	Cornelius J. Everett	1961-1964	Charles Edwards
1944-1946	Paul V. Reichelderfer	1961-1964	Gerald O. Losey
1944-1946	George W. Whaples	1961-1965	Samuel Coleman
1944-1950	Max W. Dehn	1961-1965	Jack Ohm
1944-1950	Robert D. Specht	1961-1965	Stephen Willoughby
1944-1954	Elizabeth Stafford	1961-1991	John Nohel
	(Sokolnikoff) Hirshfelder	1961-1994	Frank Forelli
1946-1958	John R. Mayor	1962-present	Sufian Husseini
1946-1952	Burton H. Colvin	1962-present	H. Jerome Keisler
1946-1954	William F. Eberlein	1962-1965	Ralph Bean
1946-1956	Robert E. Fullerton	1962-1965	Frank J. Kosier
1946-1976	Laurence C. Young	1962-1985	Benjamin Noble
1946-1978	R.H. Bing	1962-1993	Donald Crowe
1950-1952	Robert G.D. Steel	1962-1995	Howard Conner
1950-1954	Owen G. Owens	1962-1995	Louis Rall
1950-1957	Albert C. Schaeffer	1962-1996	Michael Bleicher
1950-1990	Robert Creighton Buck	1962-1997	Rod Smart
1952-1962	Preston C. Hammer	1963-present	Richard Askey
1952-1964	Jacob Korevaar	1963-present	Robert Turner
1954-1956	Eric R. Immel	1963-1966	Prabir Roy
1954-1963	Charles W. Curtis	1963-1966	Robert D. Ryan
1955-1993	Edward R. Fadell	1963-1975	Donald L. McQuillan
1956-1980	Wolfgang Wasow	1963-1978	J. Barkley Rosser
1956-1984	William Bicknell	1963-1985	Charles C. Conley
1956-1993	Joshua Chover	1963-1996	Simon Hellerstein
1957-present	Marshall Osborn	1963-1996	Seymour Parter
1958-present	Anatole Beck	1963-1997	Jacob Levin
1958-1971	Kennan T. Smith	1964-present	Steven Bauman
1958-1971	Henry Van Engen	1964-1966	Michael Darwin Morley
1958-1994	Millard Johnson	1964-1968	William Giles
1959-1991	Mary Ellen Rudin	1964-1970	Francis Sandomierski
1959-1991	Walter Rudin	1964-1972	Joseph M. Martin
1959-1993	Hans Schneider	1964-1973	W. Charles Holland

1964-1990	Richard Meyer	1969-present	Donald Passman
1964-1996	Michael Voichick	1969-present	Paul Rabinowitz
1965-present	Richard Brualdi	1969-1987	James Cannon
1965-present	James Kuelbs	1969-1996	Louis Solomon
1965-present	Daniel Shea	1970-present	Alexander Nagel
1965-1967	Helmut W. Wielandt	1970-1971	Harvey M. Friedman
1965-1968	Allen Bernstein	1970-1984	Jon Barwise
1965-1969	Stanley Gudder	1971-1972	Dennis Peregrine
1965-1969	Melvin C. Thornton	1971-1975	Frederic Gooding, Jr.
1965-1973	Isaac Schoenberg	1972-present	Carl de Boer
1965-1985	James Hall	1974-present	Georgia Benkart
1965-1990	David Russell	1974-1990	Michael Crandall
1965-1996	Peter Ney	1976-present	Terrence Millar
1965-1996	Mei-Chang Shen	1976-1982	Ronald J. DiPerna
1966-present	Patrick Ahern	1976-1984	Linda Rothschild
1966-present	Hiroshi Gunji	1977-present	David Griffeth
1966-present	John Harvey	1981-present	Jean-Marc Vanden-Broeck
1966-present	Arnold Johnson	1982-1987	Michael Renardy
1966-present	Peter Orlik	1984-present	Arnold Miller
1966-present	Dietrich Uhlenbrock	1985-present	Paul Terwilliger
1966-present	Stephen Wainger	1986-present	Amir Assadi
1966-1967	Jack Silver	1987-present	Sigurd Angenent
1966-1968	Rajinder J. Hans	1987-present	Maury Bramson
1966-1968	Paul Schupp	1987-present	Jean-Pierre Rosay
1966-1969	Abraham Kadish	1987-present	Marshall Slemrod
1966-1985	Edward F. Moore	1988-present	Steffen Lemp
1966-1997	D. Russell McMillan	1988-present	Hiroaki Terao
1967-present	Ronald Dickey	1989-present	Alejandro Adem
1967-present	Thomas Kurtz	1989-present	Athanasios Tzavaras
1967-present	Joel Robbin	1990-present	Franc Forstneric
1967-1970	Henry B. Mann	1990-present	Andreas Seeger
1967-1974	Roger Wiegand	1990-present	Robert Wilson
1968-present	Kenneth Kunen	1990-1996	Efim Zelmanov
1968-present	Daniel Rider	1991-present	Yong-Geun Oh
1968-1970	Richard Goldstein	1991-present	Robin Pemantle
1968-1971	Ricardo Nirenberg	1991-present	Panagiotis Souganidis
1968-1972	Yoshio Akiyama	1991-present	Thaleia Zariphopoulou
1968-1972	Karel Prikry	1993-present	Claudia Neuhauser
1969-1975	Robert Wilson	1995-present	Paul Milewski
1969-present	I. Martin Isaacs	1995-present	Yongbin Ruan

Instructors & Van Vleck Assistant Professors

1970-1997

1970-1972	Alexander Nagel	1981-1983	Robert Sachs
1971-1972	Mohan S. Shrikhande	1981-1982	Klaus Hollig
1971-1973	Joseph Plante	1981-1984	Tom Lindstrom
1971-1973	K.D. Stroyan	1981-1983	Jong Uhn Kim
1973-1975	Christopher Landauer	1982-1983	Michael Renardy
1973-1975	Ronald J. Evans	1982-1983	David Terman
1973-1975	Yuan-Tong Liang	1982-1984	Rachel Manber
1974-1976	Maroin Zeman	1982-1985	Eric van Douwen
1974-1975	John P. Burgess	1983-1986	S. Allen Broughton
1974-1976	Michael Bix	1983-1985	Jose Fernandez
1974-1976	Charles Horowitz	1983-1985	Daniel Hershkowitz
1974-1976	Martin Pettet	1983-1986	Steve Jackson
1975-1976	Joseph Carroll	1983-1986	Thomas Pence
1975-1977	Frank L. Capobianco	1983-1985	Ed Stredulinsky
1975-1976	Frederick Howes	1983-1986	J. Michael Wilson
1975-1977	Wayne Barrett	1983-1986	Dan Zacharia
1975-1977	Gerard McDonald	1984-1987	Geoffrey Martin
1975-1976	Ronald Goldman	1984-1986	Kailash Misra
1976-1978	David Johnson	1984-1987	Murad Ozaydin
1976-1978	Yusuf Akulut	1984-1986	J. Blake Temple
1976-1979	Russ Browne	1985-1988	Steven C. Leth
1976-1978	Mark Adler	1985-1988	Robert C. Rogers
1977-1979	C. David Callan	1986-1989	Carol Bezuidenhout
1977-1979	Arnold Miller	1986-1988	Willy A. M. Hereman
1977-1980	Georgia Benkart	1986-1988	Chi-Kwong Li
1977-1980	David Griffeath	1986-1989	Kai-Ching Lin
1977-1979	Paul M. Melvin	1987-1989	Paul Corazza
1978-1980	J. I. Gustaf Gripenberg	1987-1989	Michael Papadimitrakis
1978-1980	David W. Erbach	1987-1990	Athanasios Tzavaras
1979-1983	John Ratcliffe	1988-1989	Reuven Gurevic
1979-1981	Shao-Shiung Lin	1988-1991	Sanjay Tiwari
1979-1981	Abdelouahab El Kohen	1988-1989	Xin Zhou
1979-1981	Reza Malek-Madini	1990-1993	Steven Hutt
1979-1980	Helene Shapiro	1990-1993	Kai-Cheong Mong
1980-1982	Howard Becker	1992-1995	Tom Ilmanen
1980-1982	John Sylvester	1992-1995	Arun Ram
1980-1981	Dennis Cox	1993-1997	Gloria Mari-Beffa
1980-1982	Daniel Ocone	1995-1998	Mima Dzamonja
1980-1981	Michel Pierre	1996-1999	David Moulton
1981-1984	David Gluck	1996-1999	Jay (Jiye) Yu
1980-1983	Dennis Stowe	1996-1999	Dikran Karagueuzian
1981-1984	Ian Musson	1997-1998	Mariko Arisawa

Chairs of the Department of Mathematics 1849-1997

1849-1884	John W. Sterling	1962-1964	L.C. Young
1884-1894	Charles A. Van Velzer	1964-1966	R.C. Buck
1894-1921	Charles S. Slichter	1966-1968	Hans Schneider
1921-1928	Edward Burr Van Vleck	1968-1970	John A. Nohel
1928-1931	Warren Weaver	1970-1972	Wolfgang Wasow
1932-1933	Mark H. Ingraham	1972-1974	Michael N. Bleicher
1933-1934	Rudolph E. Langer	1974-1977	Peter E. Ney
1934-1942	Mark H. Ingraham	1977-1979	Joshua Chover
1942-1952	Rudolph E. Langer	1979-1982	Fred Brauer
1952-1956	C.C. MacDuffee	1982-1985	J. Marshall Osborn
1956-1957	Albert C. Schaeffer Schaeffer died on Feb. 2, 1957 and C.C. MacDuffee completed the year as chair	1985-1988	Thomas G. Kurtz
		1988-1991	Simon Hellerstein
1957-1958	Stephen C. Kleene	1991-1993	Alexander Nagel
1958-1960	R.H. Bing	1993-present	Richard A. Brualdi
1960-1962	Stephen C. Kleene		

Records before 1921 do not specifically list Chairs, therefore making discrepancies possible during this period.

Ph.D. Alumni 1897-1997

- | | | |
|------|--|---|
| 1897 | Stecker, Henry Freeman
(Van Velzer?) | <i>On the roots of equations. Particularly the imaginary roots of numerical equations</i> |
| 1899 | Running, Theodore
(Van Velzer/Dowling?) | <i>On systems of circles derived from three and four base circles</i> |
| 1901 | Pengra, Charlotte Elvira
(Dowling?) | <i>On functions connected with special Riemann surfaces, in particular those for which $p=3, 4,$ and $5.$</i> |
| 1907 | Allen, Florence Eliza
(Dowling?) | <i>The cyclic involutions of third order determined by nets of curves of deficiency 0, 1, and 2.</i> |
| 1908 | Wolff, Henry Charles
(Slichter) | <i>The continuous plane motion of a liquid bounded by two right lines.</i> |
| 1910 | H'Doubler, Francis Todd
(Van Vleck) | <i>On certain functional equations</i> |
| 1916 | Simpson, Thomas Marshall
(Van Vleck) | <i>On a functional equation of Abel</i> |
| 1920 | Fry, Thornton Carle
(Slichter) | <i>The use of divergent integrals in the solution of differential equations</i> |
| 1922 | Cederberg, William Emanuel
(Slichter) | <i>On the motion of a double pendulum</i> |
| 1923 | Wood, Frederick
(March) | <i>Group velocity and the propagation of disturbances in dispersive media</i> |
| 1926 | Davis, Harold Thayler
(Van Vleck) | <i>An existence theorem for the characteristic numbers of a certain boundary value problem</i> |
| 1927 | Germond, Hallett Hunt
(Weaver) | <i>A study of the space charge effects in three-element vacuum tubes</i> |
| | Wall, Hubert Stanley
(Van Vleck) | <i>On the Pade approximants associated with the continued fraction and series of Stieltjes</i> |
| 1928 | Roth, William Edward
(Dresden) | <i>A solution of the matrix equation $P(X) = A$</i> |
| 1929 | Craig, Homer Vincent
(Taylor) | <i>On the simultaneous differential invariants of two functions with an application to the calculus of variations</i> |
| | Evans, Herbert Pulse
(Weaver) | <i>The two-dimensional boundary value problem for the transmission of alternating currents through a heterogeneous earth</i> |
| | Parkinson, George A.
(Dowling/Taylor) | <i>Pairs of curves in an S_n</i> |
| 1930 | Bunyan, Leonidas Hamlin
(Langer) | <i>A transformation of a certain integral equation and a theorem concerning an integro-differential equation</i> |
| | Rechard, Ottis Howard
(Langer) | <i>The expansion problem associated with a class of ordinary differential boundary-value problems</i> |
| | Stafford, Elizabeth Thatcher
(Ingraham) | <i>Matrices conjugate to a given matrix with respect to its minimum equation</i> |
| 1931 | Hartung, Maurice Lester
(Langer) | <i>On a family of integral equations with discontinuous kernels</i> |

- Sokolnikoff, Ivan Stephen
(March) *On a solution of Laplace's equation with an application to the torsion problem for a polygon with reentrant angles*
- 1932 Bruton, Gaston Swendell
(Ingraham) *Certain aspects of the theory of equations for a pair of matrices*
- Conwell, Herman Henry
(Ingraham) *Linear associative algebras of infinite rank whose elements satisfy finite algebraic equations*
- 1933 Gunder, Dwight Francis
(March) *The flexure problem for rectangular beams with slits*
- Mayor, John Roberts
(Bennett) *A generalization of the Veronese and Steiner surfaces*
- Pollard, Harry Strange
(Ingraham/Dowling) *On the relative stability of the median and arithmetic mean of certain frequency distributions which can be dissected into formal distributions*
- Turriffin, Hugh Lonsdale
(Langer) *Asymptotic solutions of certain ordinary differential equations with multiple roots of the characteristic equation*
- 1934 Barron, James Joseph
(Langer) *The application of asymptotic forms to an expansion problem of the Sturm Liouville type where the coefficient of the parameter changes signs*
- Schwid, Nathan
(Langer) *The asymptotic forms of the Hermite and Weber functions*
- Shea, Sister Ann Elizabeth
(Bennett) *Regular Cremona transformation in S_4*
- Trump, Paul Leroy
(Ingraham) *On a reduction of a matrix by the group of matrices commutative with a given matrix*
- Vass, John Isaac
(Langer) *A class of boundary problems of highly irregular type*
- Wegner, Kenneth W.
(Ingraham) *The equivalence of pairs of Hermitian matrices*
- 1935 Scheffe, Henry
(Langer) *Asymptotic solutions of certain linear differential equations in which the coefficient of the parameter may have a zero*
- Wolf, Louise Adelaide
(Ingraham) *Similarity of matrices in which the elements are real quaternions*
- Wolf, Margarete Caroline
(Ingraham) *Symmetric functions of matrices*
- 1936 Larsen, Harold Daniel
(Ingraham) *On the bias in the simple arithmetical index number*
- May, Albert E.
(Ingraham) *On the equivalence of pairs of Hermitian matrices in $R(k)$*
- Taylor, William Clare
(Langer) *Asymptotic formulas for the Whittaker function*
- 1937 Lester, Caroline Avery
(MacDuffee) *A determination of the automorphisms of certain algebraic fields*
- 1938 Albert, George Eugene
(Langer) *Asymptotic forms of the generalized Legendre functions*
- Bartels, Robert Christian
(Sokolnikoff) *Saint-Venant's flexure problem for a regular polygon*
- 1939 Gatewood, Buford Eckols
(Sokolnikoff) *Thermal stresses in long cylindrical bodies*
- McDaniel, Wilbur Charles
(March) *The deflection of an orthotropic plate*

- Smith, Charles Bassel
(March) *Thermo-elastic behavior of composite plates*
- Trimble, Harold Callander
(Ingraham) *On the ring of matrices commutative with a given matrix*
- Ward, James Audley
(MacDuffee) *A theory of analytic functions in linear associative algebras*
- Whaples, George William
(Ingraham) *On the structure of modulus algebras with a commutative algebra as operator domain*
- 1940 Cole, Randal Hudie
(Langer) *The expansion problem associated with an ordinary linear differential equation and boundary conditions applying at a set of colinear points*
- Everett, Cornelius Joseph Jr.
(MacDuffee) *Rings as groups with operators*
- Kiokemeister, Fred
(MacDuffee) *The parastrophic criterion for the factorization of primes*
- Mitchell, Wilbur Leonard
(Langer) *Topological rings and infinite matrices*
- Newell, Edward Homer Jr.
(Langer) *On the asymptotic forms of the solutions of an ordinary linear matrix differential equation in the complex domain*
- Stewart, Bonnie Madison
(MacDuffee) *Left-associated matrices with elements in an algebraic domain*
- Varino (Varineau), Vernon
John
(Ingraham) *An extension of the theory of matrices with elements in a principal ideal ring*
- 1941 Bell, James Henry
(Ingraham) *Topics related to the factorization of matrices*
- Crow, Edwin Louis
(Langer) *The expansion problem associated with an ordinary differential equation of the first order which is quadratic in the parameter*
- Johnson, Richard Edward
(MacDuffee) *Rings of infinite matrices and polynomial rings*
- Lindquist, Clarence Bernhart
(March) *Rectangular isotropic and anisotropic plates under forces in their planes*
- 1942 Cronvich, Lester Louis
(Sokolnikoff) *Deformation of naturally twisted compound beams*
- Kelly, Paul Joseph
(Langer) *On isometric transformations*
- Morkovin, Vladimir
(Sokolnikoff) *On the deflection of anisotropic thin plates*
- Specht, Robert Dickerson
(Sokolnikoff) *Secondary effects in the simple bending of elliptical beams*
- Thurston, Herbert Stanley
(MacDuffee) *The P-adic numbers of Hensel*
- 1943 Colvin, Burton Houston
(Langer) *The expansion problem associated with a third order ordinary differential system of highly irregular type*
- Erickson, Wilhelm Skjelstad
(Langer) *Asymptotic forms of the solutions of the differential equation for the associated Mathieu functions*
- Pell, William Hick
(Sokolnikoff) *Thermal deflection of F anisotropic thin plates*

- 1945 Good, Richard Albert
(Bruck) *On the theory of clusters*
- 1946 Nelson, Nels David
(Kleene) *Recursive functions and intuitionistic number theory*
- Wagner, Raphael Darcel
(MacDuffee) *The generalized Laplace equation in a function theory for commutative algebras*
- 1947 Leavitt, William Grenfell
(Langer) *A normal form for matrices whose elements are holomorphic functions*
- Paige, Lowell J.
(Bruck) *Neofields*
- Wiegmann, Norman Arthur
(MacDuffee) *The theory of normal matrices with some analogs of the generalized principal axis transformation*
- Wilson, Robert Lee
(MacDuffee) *A finite method for the determination of the Galois group of an equation with an application to the problem of reducibility*
- Zilmer, Delbert Edward
(March) *Two problems associated with the deflection of an orthotropic rectangular plate*
- 1948 Haltiner, George Joseph
(Langer) *On the theory of linear differential systems when based upon a new definition of the adjoint*
- Rechard, Ottis William
(Reichelderfer) *Some topics in the theory of measure space*
- Ryser, Herbert John
(MacDuffee) *Rational vector spaces*
- 1949 Andree, Richard Vernon
(MacDuffee) *A development of the p -adic number of Hensel*
- Campbell, Howard Ernest
(MacDuffee) *An extension of the principal theorem of Wedderburn*
- Cashwell, Edmond Darrell
(Langer) *The asymptotic solutions of an ordinary differential equation in which the coefficient of the parameter is singular*
- Cohen, Herman Jacob
(Bing) *Concerning homogeneous plane continua*
- Davies, Robert
(Specht) *Vibration of a rod weighted at one end*
- Engel, Joseph Henry
(Dehn) *Some contributions to the solution of the word problem for groups (canonical forms in hypoabelian groups)*
- Norton, Donald Alan
(Bruck) *Hamiltonian loops*
- Strehler, Allen Frederick
(MacDuffee) *The generalization of the Moebius μ -function to a partially ordered set*
- 1950 Fuller, Leonard Eugene
(MacDuffee) *The hermite canonical form for a matrix with elements in the ring of integers modulo m*
- Goldhaber, Jacob Kopel
(MacDuffee) *Conditions ordering the characteristic roots of matrices*
- Hachmeister, Violet Grace
(MacDuffee) *A study of the parastrophic matrices of a group*
- Hood, Rodney Taber
(Langer) *On the asymptotic representation of the solutions of linear ordinary differential equations of the third order relative to a large parameter*
- Lowney, Robert Edward
(Langer) *A boundary value problem involving an exponential turning point*

- Morrison, Donald Ross
(MacDuffee) *On the extension to rings of the regular matrix representations*
- Zemmer, Joseph Lawrence
(Bruck) *On the subalgebras of finite division algebras*
- Ziebur, Allen Douglas
(Langer) *The asymptotic solutions of a certain type of ordinary differential equation of the second order, with an application to Whittaker's function $M_{k,m}(z)$*
- 1951 Donoghue, William F. Jr.
(Eberlein) *The bounded closure of locally convex spaces*
- Fleming, Wendell Helms
(Young) *Boundary and related notions for generalized parametric surfaces*
- Fulkerson, Delbert Roy
(MacDuffee) *Quasi-hermite forms of row-finite matrices*
- Henriksen, Melvin
(Bruck) *On the ideal structure of the ring of entire functions and other function rings*
- Kleinfeld, Erwin
(Bruck) *Alternative rings*
- Mitchell, Benjamin Evans
(MacDuffee) *Some properties of matrices under unitary transformation*
- Smith, Kennan Tayler
(Young) *The L-B topology in locally convex spaces*
- 1952 Buehler, Robert Joseph
(Buck) *On functions satisfying certain differential inequalities*
- Dinnen, Gerald Paul
(MacDuffee) *The exponential function of a variable matrix*
- Rose, Gene Fuerst
(Kleene) *Jaskowski's truth-tables and realizability*
- Schurrer, Augusta Louise
(Marden) *On the location of the zeros of the derivative of rational functions of distance polynomials.*
- Smith, William Norman
(Langer) *The expansion problem for second order differential systems of the mildly irregular type*
- Thomas, Garth Hollis M.
(Bing) *Simultaneous partitionings of two sets*
- Wendt, Arnold
(Schaeffer) *A generalization of a theorem in Schlicht function theory*
- 1953 Carson, Robert C.
(Schaeffer) *On functions analytic in an annulus*
- Deskins, Wilbur Eugene
(MacDuffee) *The role of the parastrophic matrices in the theory of linear associative algebras*
- Johnson, Wallace E.
(Langer (Fullerton)) *Asymptotic solutions of a linear second order differential equation with two turning points*
- Ruchte, Marshall F.
(Buck) *Number theoretic properties of measure density*
- San Soucie, Robert Louis
(Bruck) *Right alternative division rings of characteristic two*
- Sanderson, Donald E.
(Bing) *Isotopic deformation in 3-manifolds*
- 1954 Carlson, Kermit Howard
(Young) *The application of some inequalities in the theory of surfaces*

- Chandapillai, Anna
(Langer) *The distribution of characteristic values of a linear boundary problem of the second order based on a differential equation with a turning point*
- Cowell, Wayne R.
(Bruck) *Quasinormal kernels of loops*
- Feller, Edmund H.
(Curtis) *The lattice of submodules of a module over a non commutative ring*
- Hess, Adrien Leroy
(Mayor) *Geometric constructions; an historical and interpretative study with implications for teachers of secondary school mathematics and for teacher training programs*
- Hollingsworth, Jack W.
(Hammer) *Parametric methods in the numerical solution of differential equations*
- Kazarinoff, Nicholas D.
(Langer) *Asymptotic forms for the Whittaker functions of large complex order m*
- McKelvey, Robert W.
(Langer) *The solutions of second order linear ordinary differential equations about a turning point of the second order*
- Rubel, Lee Albert
(Buck) *Entire functions and Ostrowski sequences*
- Slaby, Harold Theodore
(Bruck) *Central nilpotency of commutative Moufang loops*
- 1955 Addison, John West Jr.
(Kleene) *On some points of the theory of recursive functions*
- Batho, Edward H.
(Bruck) *On a class of rings with ideal nuclei*
- Bragg, Louis R.
(Langer) *The solutions of a linear ordinary differential equation of the third order about a simple turning point of the second order*
- Braunschweiger, Christian C.
(Fullerton) *The C -cone and geometric constructions of (L) and (M) spaces*
- Hughes, Daniel R.
(Bruck) *Planar division neo-rings*
- Pearl, Martin Herbert
(MacDuffee) *Some extensions of Cayley's theorem*
- Spector, Clifford
(Kleene) *On degrees of recursive unsolvability and recursive well-orderings*
- Wymore, Albert W.
(Eberlein) *On weak compactness in functional analysis*
- 1956 Goblirsch, Richard P.
(Bing) *Approximating the area of a surface with the area of a nearby polyhedral one*
- Peirce, William H.
(Hammer) *Numerical integration over planar regions*
- 1957 Miller, Donald W.
(Bruck) *The structure of uniform semigroups*
- Rebassoo, Herbert J.
(Hammer) *Constant breadth curves on the sphere*
- Swokowski, Earl W.
(Curtis) *On the theory of certain Lie rings of skew elements*
- 1958 Axt, Paul
(Kleene) *On a subrecursive hierarchy and primitive recursive degrees*
- Brown, Morton
(Bing) *Continuous collections of higher dimensional hereditarily indecomposable continua*

- Lehner, Guydo Rene
(Bing) *Extending homeomorphisms on the pseudo-arc*
- Meany, Robert K.
(Korevaar) *Differential equations for sequences*
- 1959 Hedstrom, Gerald W.
(Korevaar) *Absolute convergence of eigenfunction expansions*
- Kammerer, William J.
(Hammer) *Optimal approximations of functions: one sided approximation and extrema preserving approximations*
- Kister, James M.
(Bing) *Isotopies in manifolds*
- Paley, Hiram
(Curtis) *On Galois subrings of a full ring of linear transformations*
- Rishel, Raymond
(Young) *Area as the integral of the lengths of contours*
- Rosen, Ronald H.
(Bing) *Imbeddings of decompositions of 3-space*
- Sokolowsky, Daniel
(Young) *Some theorems of equicontinuity and retraction*
- Wright, Charles R. B.
(Bruck) *On groups of exponent four*
- 1960 Courter, Richard C.
(Curtis) *Maximal commutative algebras of linear transformations*
- McMillan, Daniel Russell Jr.
(Bing) *On homologically trivial 3-manifolds*
- 1961 Allaud, Guy Dante
(Fadell) *Fiber spaces and loop actions*
- Bell, Howard Edwin
(MacDuffee) *Reduction of matrices to canonical form under generalized Lorentzian transformation*
- De Mar, Richard F.
(Buck) *Existence of interpolating functions of exponential type*
- Hetherington, Richard G.
(Hammer) *Numerical integration over hypershells*
- Lange, John E.
(Korevaar) *Entire functions as limits of zero-restricted polynomials*
- Schrader, Sister Walter R.
(Korevaar) *The epistola de proportione et proportionalitate of Ametus Filius Iosephi*
- Smith, Thomas J.
(Hammer) *Planar line families*
- Stengle, Gilbert A.
(Wasow) *A construction for solutions of an n-th order linear differential equation in the neighborhood of a turning point*
- Struble, George W.
(Hammer) *Orthogonal polynomials: variable-signed weight functions*
- Tucker, Patricia Ann
(Curtis) *On the reduction of induced representatives of finite groups*
- 1962 Casler, Burtis
(Bing) *On the sum of two solid Alexander horned spheres*
- Gillman, David S.
(Bing) *Piercing 2-spheres in E^3*

- Hempel, John
(Bing) *A surface in S^3 is tame if it can be deformed into each complementary domain*
- Sinkhorn, Richard
(Buck) *On two problems concerning doubly stochastic matrices*
- Sterling, Daniel
(Curtis) *On a covering group for an automorphism group of a Lie algebra of classical type*
- Thompson, Maynard
(Korevaar) *Approximation by polynomials whose zeros lie on a curve*
- Tulley, Patricia Ann
(Fadell) *I On regularity in Hurewicz fiber spaces. II On acyclic kernels in chain complexes.*
- Van Buskirk, James
(Fadell) *Braid groups of compact 2-manifolds with elements of finite order*
- Vesley, Richard
(Kleene) *The intuitionistic continuum*
- Walter, Gilbert
(Korevaar) *Expansions of distributions*
- 1963 Bechtell, Homer
(Bruck) *Elementary groups*
- Black, Richard H.
(Hammer) *A method of pattern recognition by machine*
- Brown, Robert
(Fadell) *Generalized n -plane bundles with application to path fields on manifolds*
- Carlson, David
(Schneider) *Rank and inertia theorems for matrices: the semi definite case*
- Clarke, Douglas
(Kleene) *Hierarchies of predicates of arbitrary finite types*
- Day, James Thomas
(Hammer) *On the approximate solution of differential equations*
- Greenwood, Priscilla
(Chover) *The convolution equation over a compact real interval for some special kernels*
- Hanna, Martin
(Smith) *A coerciveness inequality for second-order elliptic operators in polyhedra*
- Krause, Eugene
(Bruck) *On the restrictive Burnside problem and theorems like Sanov's*
- Lazier, Nora
(Osborn) *Problems in non-associative algebra*
- Lynch, William
(Hammer) *Ambiguities in Backus normal form languages*
- Moschovakis, John
(Kleene) *Recursive analysis*
- Moursund, David
(Hammer) *Optimal approximation of functions: Chebyshev type approximations*
- Nirschl, Nicholas E.
(Schneider) *Applications of norm eigenvalue localization theorems and field of values theorems in matrix theory*
- Paine, Dwight
(Bruck) *Some grouplike properties of partition systems*
- Pilgrim, Donald
(Bruck) *Engel conditions on groups*

- Walkup, David William
(Bruck) *Lie rings satisfying Engel conditions*
- Weston, Kenneth
(Osborn) *Z-A groups which satisfy the M-th Engel condition*
- 1964 Barnhill, Robert
(Hammer) *Numerical contour integration*
- Giesy, Daniel
(Beck) *On convexity in Banach spaces*
- Glaser, Leslie
(Bing) *Contractable complexes in S^n*
- Hanson, Richard J.
(Wasow) *Reduction and classification of certain turning point problems for systems*
- Henderson, David W.
(Bing) *Properties of locally Euclidean spaces*
- Hessler, Paul
(Buck) *A topic in algebraic analysis*
- Hosay, Norman
(Bing) *Characterization of tame continua in E^3*
- Miller, Richard
(Nohel) *Asymptotic behavior of solutions of differential equations*
- Murtha, James
(Levy) *A generalization of Goldies' theorems*
- Price, Thomas
(Bing) *Upper semi-continuous decompositions of E^3*
- Rider, Daniel
(Rudin, W.) *Gap series, and measures on spheres*
- Robinson, Daniel A.
(Osborn) *Bol loops*
- Rowbottom, Frederick
(Keisler) *Large cardinals and small constructible sets*
- Stout, Edgar
(Rudin, W.) *Algebra of analytic functions*
- Strauss, Aaron
(Nohel) *Asymptotic behavior of differential equations*
- Todd, Christopher
(Buck) *The strict topology on $C^*(X, E)$*
- Vermes, Robert
(Marden) *On the location of the zeros in linear combination of polynomials*
- 1965 Bronikowski, Thomas A.
(Nohel) *On systems of integrodifferential equations occurring in reactor dynamics*
- Brown, Gerald L.
(Wilcox) *The inverse reflection problems for electric waves on non-uniform transmission lines*
- Dunkl, Charles F.
(W. Rudin) *Harmonic analysis on spheres*
- Foote, Stuart A.
(Bruck) *Universal control extensions of groups*
- Ganser, Carl C.
(Askey) *Infinitely differentiable positive definite functions and integrability of ultra-spherical series*

- Glauberger, George
(Bruck) *Fixed point sub-groups that contain centralizers of involution*
- Graham, George
(W. Rudin) *On dimension sub-groups--some ordering properties of torsion free locally nilpotent groups*
- Green, Charles
(Coleman) *On some properties of finitely additive measures*
- Hall, James E.
(Nohel) *Differential equations on product spaces*
- Hoppensteadt, Frank C.
(Brauer) *An application of Lyapunov's second method to singular perturbation problems*
- Liu, Shih-Chao
(Kleene) *On many one degrees*
- Mattson, Don A.
(Hammer) *Structures in extended topology*
- Moschovakis, Joan R.
(Kleene) *Disjunction, existence, and *-eliminability in formalized intuitionistic analysis*
- Mullikin, Albert L.
(Smith) *Some topics in differential equations*
- Reiter, Allen
(W. Rudin) *On topological equivalences*
- Roberts, Arthur W.
(Buck) *Classes of differentiable mappings*
- Sastry, T.V.S.L.N.
(Wasow) *Turning point problems for certain systems of linear differential equations*
- Weinstein, Joseph M.
(Keisler) *First order properties preserved by direct product*
- West, Donald C.
(Fadell) *Transitive lifting functions in fiber spaces*
- Williams, Francis
(Husseini) *Homotopy--Commutativity of H-spaces*
- 1966 Atkinson, Kendall
(Noble) *Extensions of the Nystrom method for the numerical solution of linear integral equations of the second kind*
- Bacopoulos, Alex
(Hammer) *Approximation with vector-valued norms in linear spaces*
- Baxley, John V.
(Parter) *Asymptotic behavior of the eigenvalues of generalized Toeplitz matrices associated with Jacobi polynomials*
- Berndt, Bruce
(Smart) *Identities involving the coefficients of a class of Dirichlet series*
- Chen, Hsing-Hsia
(Strikwerda) *Preconditioning for regular elliptic systems*
- Cobb, John
(Bing) *Locally tame embeddings mostly in the trivial range*
- Craggs, Robert
(Bing) *Small ambient isotopies of a 3-manifold which transform one embedding of a polyhedron into another*
- Dancis, Jerome
(Bing) *Some nice embeddings of K-complexes and K-manifolds into N-manifolds $N > 2K + 2$*
- Davis, Joel
(Wilcox) *The solution of non-linear operator equations with critical points*

- Elkins, Judith A. (Molinar)
(Hellerstein) *Approximation by polynomials with restricted zeros*
- Gastl, George C.
(Hammer) *Extended topology: uniformities and abstract spaces*
- Goetschel, Roy
(Wasow) *Simplification of certain turning point problems for systems of order four*
- Goodrick, Richard
(Roy) *Numerical invariants of knot types*
- Hathway, Robert
(Osborn) *On non-commutative non-associative algebras*
- Hirsch, Peter Max
(Hammer) *Numerical evaluation and estimation of multiple integrals*
- Kessler, Irving J.
(W. Rudin) *Semi-idempotent measures on Abelian groups*
- Kim, Yong Cheol
(Seeger) *On the maximal Bochner-Riesz operator*
- Krueger, Warren
(Husseini) *Some theorems of generalized cohomology*
- Lawver, Donald
(Osborn) *Left ideal axioms for non-associative rings*
- Lee, Jaesung
(Ahern) *An invariant volume mean operator and its iteration in the bidisc*
- McAllister, Byron L.
(Bing) *A refinement of the Whyburn cyclic element theory*
- Piccinini, Renzo
(Husseini) *Stable cohomology operations in generalized cohomology theories*
- Raab, Joseph
(Bleicher) *Some non-Jacobian ternary continued fractions*
- Weissglass, Julian
(Schneider) *Group rings, semigroup rings and their radicals*
- 1967 Cateforis, Vasily
(Sandomierski) *The maximal quotient ring and the singular sub-module*
- Chui, Charles
(Hellerstein) *Bounded approximation by polynomials with restricted zeros*
- Daverman, Robert
(Bing) *Locally fenced 2-spheres in S^3*
- Easton, Robert
(Martin & Conley) *On the existence of invariant sets inside a submanifold convex to a flow*
- Fisher, Stephen
(Forelli) *Exposed points in spaces of bounded analytic functions*
- Fournier, John
(Forelli & Wainger) *Extensions of a Fourier multiplier theorem of Paley*
- Garfunkel, Solomon
(Keisler) *On the undecidability of certain finite theories*
- Henry, Bruce
(Chover) *L_p averages and the nonlinear renewal equations*
- Jones, Stephen
(Bing) *There exists no upper-semicontinuous (USC) decomposition of E^n into arcs*

- Kapp, Kenneth
(Schneider) *Decompositions and congruences on semigroups*
- Kyrouz, Thomas
(Martin) *On the structure of spherical fiberings*
- Lee, Roy
(Wasow) *Asymptotic analysis of solutions of almost diagonal systems of ordinary differential equations at a turning point*
- Lopez, William
(Fadell) *On the fixed point theory of finite polyhedra*
- McCleary, Stephen
(Holland) *Orbit configurations of ordered permutation groups*
- Mehri, Bahman
(Wasow) *Simplification of certain turning point problems for systems of linear differential equations*
- Millett, Kenneth
(Fadell) *The theory of Euclidean bundle pairs: homotopy normal bundles and non-zero sections*
- Rolfsen, Dale
(Martin) *Convex metrics and manifolds*
- Shipp, Dale
(Bleicher) *The use of sections in the theory of perfect quadratic forms*
- Stolarsky, Kenneth
(Knopp) *Higher partition functions and their relation to finitely generated nilpotent groups*
- Thompson, R. B.
(Fadell) *A unified approach to local and global fixed point indices*
- White, Warren
(Martin) *A 2-sphere in E^3 is tame if it is 1-LC through each complementary domain*
- Williamson, Jack
(Hellerstein) *Entire functions with negative zeros and a conjecture of R. Nevanlinna*
- Wright, Thomas P.
(Bing) *On stable homeomorphisms of Euclidean n -space*
- Yohe, Michael
(Bing) *Hereditarily infinite dimensional spaces*
- 1968 Baernstein, Al
(Shea) *A nonlinear Tauberian theorem in function theory and some results on Tauberian oscillations*
- Cain, Bryan
(Schneider) *Inertia theory for operators on a Hilbert space*
- Carasso, Alfred
(Parter) *An analysis of numerical methods for parabolic problems over long times*
- Constable, Robert
(Kleene) *Extending and refining hierarchies of computable functions*
- DeJongh, Dick H. J.
(Kleene) *Investigations on the intuitionistic propositional calculus*
- Dennin, Joseph
(McQuillan) *Some results on linear groups*
- Ferguson, David
(Schoenberg) *The question of uniqueness for G.D. Birkhoff interpolation problems*
- Fitch, James S.
(Askey) *Integral representations of Jacobi-polynomials and some applications*
- Flytzanis, Elias
(Beck) *Eigenoperators of ergodic transformations*

- Hannsgen, Kenneth
(Levin) *An application of the Laplace transform to a linear Volterra equation*
- Hawkins, Thomas W. Jr.
(Buck & Hiebert) *The origins and early development of Lebesgue's theory of integration*
- Hunter, Kenneth
(Levy) *Integral orders in algebras*
- Jaco, William H.
(McMillan) *Constructing three-manifolds from group homomorphisms*
- Kantor, William
(Bruck) *2-transitive symmetric designs*
- Langston, Stephen
(Fadell) *Replacement and extension theorems in the theory of Hurewicz fiber spaces*
- Madell, Robert
(Holland) *Topological lattice ordered groups*
- Malkevitch, Joseph
(Crowe) *Properties of planar graphs with uniform vertex and face structure*
- Marsden, Martin
(Schoenberg) *An identity for spline functions with applications to variation diminishing spline approximation*
- Mason, William
(Martin) *Homeomorphic continuous curves in 2-space are isotopic in 3-space*
- Miles, Joseph
(Hellerstein) *The asymptotic behavior of the counting function for the a -values of a meromorphic function*
- Morgan, David
(Osborn) *Jordan algebras with minimum condition*
- Mullikin, Harry
(Gudder) *Measure theoretic convergences of observables and operators*
- Niebur, Douglas
(Knopp) *Automorphic integrals of arbitrary positive dimension and Poincare series*
- Patil, Dattatraya J.
(Young) *Applications of a lemma by Besicovitch including a universal imbedding theorem for Banach spaces*
- Schwartz, Alan
(W. Rudin) *Local properties of Hankel transforms*
- Slack, Stephen
(McMillan) *Cellularity in certain 3-manifolds*
- Smith, Peter
(Smart) *On the estimation of the Fourier coefficients of cusp forms for Hecke groups*
- Steinberg, Melvin
(Fadell) *The homology of configuration spaces of acyclic linear graphs*
- Underwood, Douglas
(McQuillan (Ohm)) *Ideal theory in non-noetherian rings*
- Vasavada, Mahavirendra
(Young) *Closed ideals and linear isometrics of certain function spaces*
- Wattenberg, Frank
(Fadell) *Differentiable and topological braids*
- 1969 Aschbacher, Michael
(Bruck) *Collineation groups of symmetric block designs*
- Barker, George
(Schneider) *Matrices which are nonnegative with respect to a cone*

- Bartelt, Martin
(Buck) *Strictly continuous linear operators on the bounded analytic functions on the disk*
- Booth, David
(Kunen) *Countably indexed ultrafilters*
- Boyce, Stephen S.
(Gudder) *A formulation of Segal's model for quantum mechanics in terms of a proposition system*
- Chambers, Graham A. Jr.
(Bauman) *p -Normally embedded subgroups of finite soluble groups*
- Chee, Pak-Soong
(W. Rudin) *Bounded holomorphic functions in several complex variables*
- Chell, Charlotte (Stark)
(Rosser) *Respective transcendental rank*
- Dorr, Fred
(Parter) *The asymptotic behavior and numerical solution of singular perturbation problems with turning points*
- Foster, James H.
(Ney) *Branching processes involving immigration*
- Frost, Theodore E.
(Wainger) *On error estimates for the local limit theorem*
- Goldstein, Martin
(Ney) *Critical age-dependent branching processes: single and multitype*
- Hintzman, William R.
(Buck) *Approximation and analytic functions*
- Hughes, Charles E.
(Turner) *Relative eigenvalue problems for ordinary differential operators*
- Jensen, Richard
(Bing) *Cross sectionally connected spheres*
- Klatt, Gary
(Levy) *Pre-self-injective rings and projective modules over semi perfect rings*
- Leung, David C.
(Bruck) *On nilpotent divisible groups*
- Mason, John H.
(Brualdi) *Representations of independence spaces*
- McGehee, Richard
(Conley) *Homoclinic orbits in the restricted three body problem*
- Meyer, Rochelle
(Harvey) *The identification and encouragement of mathematical creativity in first grade students*
- Meyer, Walter
(Bleicher) *Minkowski addition of convex sets*
- Quinn, John P.
(Russell) *Time optimal control of linear distributed parameter systems*
- Roosenraad, Cris
(Askey) *Inequalities with orthogonal polynomials*
- Row, William Harry
(McMillan) *Compact subsets of 3-manifolds definable by cubes-with-handles*
- Russell, Stanley J.
(Johnson, M.) *Analysis of some elastic stress concentration problems in fiber reinforced materials*
- Schindler, Susan
(Askey) *Some transplantation theorems for the generalized Mehler transform and related asymptotic expansions*

- Simon, Jonathan
(Martin) *Methods for proving that certain classes of knots have property P*
- Smith, Kirby
(Osborn) *On Jordan and associative rings*
- Tall, Franklin D.
(M. Rudin) *Set-theoretic consistency results and topological theorems concerning the normal Moore space conjecture and related problems*
- Walkoe, Wilbur J.
(Keisler) *Finite partially ordered quantification*
- Warren, Nancy MacMaster
(M. Rudin) *Extending continuous functions in Stone-Cech compactifications of discrete spaces and in zero-dimensional spaces*
- Wilson, Robert L. Jr.
(Schneider) *Loop isotopism and isomorphism, and extensions of universal algebra*
- Wright, Alden H.
(McMillan) *Monotone mappings of compact 3-manifolds*
- Yang, Chung Chun
(Hellerstein) *A generalization of the theorem of Tumusa and Clunie and its application to the values distribution of meromorphic function.*
- 1970 Appleyard, David F.
(Conley) *Invariant sets near the co-linear Langrangian points in the nonplanar restricted 3-body problem*
- Armstrong, Gerald M.
(Young) *A classical approach to the Denjoy integral and extensions of a sufficiency theory in optimal control*
- Arnold, James E. Jr.
(Fadell) *Local to global constructions in the theory of Hurewicz fibrations*
- Benda, Miroslav
(Keisler) *Reduced products, filters and Boolean ultrapowers*
- Blumberg, Duane
(Fadell) *Trivial spectral sequences in the theory of fibre spaces*
- Bruce, Robert
(Shea) *Regularity properties of a class of entire functions*
- Cavaretta, Alfred S. Jr.
(Schoenberg) *On cardinal perfect splines of least sub-norm on the real axis*
- Davidson, Neil
(Harvey) *The small group-discovery method of mathematics instruction as applied in calculus*
- Dickey, Leroy J.
(Crowe) *Construction of hyperbolic planes and absolute planes using ovoids and ruled surfaces in finite three dimensional projective geometries*
- Erickson, Kent B.
(Ney) *Renewal theorems with infinite mean*
- Escultura, Edgar E.
(Young) *The trajectories, reachable set, minimal level and chain of trajectories in a control system*
- Gerlach, Jacob
(Bing) *Toroidal decompositions of E^3 which give E^3*
- Hoffmann, Laurence D.
(W. Rudin) *Analytic functions in the polydisc*
- James, David A.
(Knopp) *Automorphic forms on domains larger than the upper half plane, and factors of automorphy*
- Kramer, Richard A.
(W. Rudin) *Zero sets of entire functions in several variables*

- Kuzmanovich, James J.
(Levy) *Localizations and completions of Dedekind prime rings*
- Lewin, Jonathan W.
(Beck) *Reparametrization of continuous flows*
- Lewin, Myrtle H.
(Beck) *Algebraic combinations of continuous flows*
- Lipow, Peter
(Schoenberg) *Cardinal hermite spline interpolation*
- Mather, David P.
(Buck) *Commutativity properties of continuous operators on the space of entire functions*
- McCord, Daniel Lee
(Fadell) *The converse of the Lefschetz fixed point theorem for surfaces and higher dimensional manifolds*
- Morris, Douglass B.
(Keisler) *Adding total indiscernibles to models of set theory.*
- Moser, Louise E.
(Martin) *Surgery along Torus knots and solvable fundamental groups of closed 3-manifolds*
- Olinick, Michael
(Bing) *Reflexive compact maps of Euclidean spaces and the monotone mapping problem*
- Olson, Lynn
(Meyer) *Near-steady oblique shock waves in a collisionless plasma*
- Pierce, Keith
(Holland) *Amalgamations of partially ordered algebraic structures*
- Prichett, Gordon
(Gunji) *A discussion on torsion subgroups of elliptic curves in P-adic fields*
- Protas, David
(Ahern) *Tangential limits of inner functions and functions orthogonal to invariant subspaces*
- Quintana, Richard B. Jr.
(Bruck) *On groups of exponent four*
- Richards, Franklin B.
(Schoenberg) *A generalized minimum norm property for spline functions and applications*
- Riesenberg, Nathaniel R.
(W. Rudin) *Polynomial extreme points in polydiscs*
- Scrimger, Edward B. Jr.
(Holland) *Intrasensitive lattice-ordered groups of order preserving permutations of chains*
- Self, William M.
(Forelli) *Homeomorphisms of some classical Banach algebras*
- Sheingorn, Mark
(Knopp) *Poincare series bounded away from zero in the fundamental region*
- Sheldon, Philip B.
(Levy) *On the quotient fields of power series rings*
- Shilepsky, Carol (Carter)
(Levin) *A boundedness theorem for solutions of a Volterra equation*
- Ummel, Brian R.
(Fadell) *Some applications of the homology of the deleted product to the problem of imbedding simplicial complexes in Euclidean space*
- Warren, Peter
(Beck) *Two classes of orthogonal functions and their relation to the strong law of large numbers*
- Webster, Dallas E.
(Bing) *Alternate methods in handle-straightening theory*

- 1971 Allen, Graham Donald
(Young) *Covariance functions, variation and stochastic integration*
- Bahl, Christina A.
(Levy) *Representations of cyclic groups of square-free order over the integers modulo a prime power*
- Boos, William T.
(Kunen) *Nonstandard large cardinals*
- Chillak, Edward W.
(Smart) *On Weierstrass points for elliptic modular forms*
- Churchill, Richard C.
(Conley) *Algebraic relations between invariant sets and their asymptotic sets*
- Coram, Donald S.
(McMillan) *Semi-cellularity of compact subsets of manifolds*
- Dinolt, George W.
(Brualdi) *Extremal and characterization problems in matroid theory*
- Forbes, Douglas R.
(Harvey) *The Texas system: R. L. Moore's original edition*
- Freund, Dwight D.
(Meyer) *Studies in asymptotics and stratified fluid flow*
- Gerlach, Mrs. Mary Anne
(Bing) *Some fibered cellular decompositions of E^3 give E^3*
- Glass, Andrew M. W.
(Holland) *Interpolation groups*
- Gooding, Frederic Jr.
(Smart) *Modular forms arising from spherical polynomials and positive definite quadratic forms*
- Haigh, J. Thomas
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- Stuart, Jeffrey
(Schneider) *ZM- and MM-matrices*
- Velickovic, Boban
(Kunen) *Some results in combinatorial set theory*
- 1987 Berge, John
(McMillan) *The knots in $D^2 \times S^1$ which have nontrivial Dehn surgeries yielding $D^2 \times S^1$*
- Blount, Douglas J.
(Kurtz) *Comparison of a stochastic model of a chemical reaction with diffusion and the deterministic model*
- Costantini, Cristina
(Kurtz) *The Skorohod oblique reflection problem and a diffusion approximation for a class of transport processes*
- Decker, Naomi Henderson
(Parter) *The Fourier analysis of multigrid-type iterative methods*
- Gunter, Elsa (Pritchard)
(Isaacs) *Pseudo-monomial characters and pseudo-M-groups*
- Hall, Mark E.
(Benkart) *Verma bases of modules for simple Lie algebras*
- Harizanov, Valentina S.
(Millar) *Degree spectrum of a recursive relation on a recursive structure*
- Henriques, Pedro M.
(Uhlenbrock) *Some variational problems for exterior differential systems*
- Hong, Geck Chan
(Shea) *Integral mean estimates for a class of subharmonic functions of finite order in space*
- Long, Yiming
(Rabinowitz) *Periodic solutions of perturbed superquadratic Hamiltonian systems*
- Markel, Scott A.
(Turner) *Solitary and periodic waves in swirling flows of plasmas*
- Prescott, Richard W.
(Nagel) *A necessary condition for supporting sets of measures with Cauchy integral in $H^2(B_n)$*
- Ramsay, John R.
(Fadell) *Extensions of Ljusternik-Schnirelmann category theory to relative, equivariant and isovariant theories*
- Santos, Antonio Z.
(Wainger) *Homeomorphisms of the Circle and Fourier series*

- Santos, Josenildo dos
(Fadell) *Some algebraic topological concepts in critical point theory*
- Schroeder, Gary H.
(Crandall) *$L^p(\mathbb{R}^n)$ bounds ($1 < p < \infty$) on solutions of $u_r^{**}(u) = f$ set in $L^1(\mathbb{R}^n)$*
- Schweiter, Gail Ann
(Millar) *The r.e. wtt-structure of certain Turing degrees*
- Shen, Shanpu
(Shen) *Contributions to the theory of waves on currents of ideal fluids*
- Stockbridge, Richard H.
(Kurtz) *Time-average control of Martingale problems*
- Svobodny, Thomas P.
(Russell) *State estimation and observation of nonlinear oscillations*
- Wade, Bruce A.
(Strikwerda) *Stability and sharp convergence estimates for symmetrizable difference operators*
- Watson, David K.
(Nagel) *Smoothness in parameter and singular integrals with mixed homogeneity*
- 1988 Bak, Jong-Guk
(Wainger) *Restrictions of Fourier transforms to flat curves and surfaces*
- Chen, Chao-Nien
(Rabinowitz) *Multiple solutions and bifurcation for a class of nonlinear Sturm-Liouville eigenvalue problems on an unbounded domain*
- Chisholm, John A.
(Millar) *Effective model theory vs. recursive model theory*
- Cho, Han Hyuk
(Brualdi) *Semigroups of Boolean matrices*
- Choe, Boo Rim
(W. Rudin) *Composition with bounded holomorphic functions on the ball*
- Fares, Jean Selim
(Husseini) *The generalized local Lefschetz number*
- Fisch, Robert D.
(Griffeath) *One-dimensional cyclic cellular automata*
- Goggin, Eimear Mary
(Kurtz) *Weak convergence of conditional probabilities*
- Goldsmith, Judith A.
(Joseph) *Polynomial isomorphisms and near-testable sets*
- Goldstein, Steven Jay
(Ney) *Multitype branching processes: limit theorems for critical decomposable processes and calculations for a model of cancer tumor growth*
- Graves, Alan S.
(Husseini) *The splitting of the equivariant J-homomorphism for linear circle actions*
- Hansen, Scott W.
(Russell) *Frequency-proportional damping models for the Euler-Bernoulli beam*
- Jiang, Shouli
(M. Rudin) *The strict p -space problem and generalized metric spaces as images of metric spaces*
- McMichael, John David
(Nagel) *A covering lemma for surfaces of infinite type*
- Michael, T. S.
(Brualdi) *The structure matrix of the class of 4-multigraphs with a prescribed degree sequence*
- Newcomb, Richard T. II
(Crandall) *Existence and correspondence of value functions and viscosity solutions of Hamilton-Jacobi equations*

- Ng, Siu-Ah
(Keisler) *A nonstandard approach to the theory of forcing*
- Odenthal, Charles J.
(Levy) *Presentations over HNP rings with enough invertible ideals and torsion free cancellation over neoclassical orders*
- Sardis, Robert M.
(Russell) *Robotic singularities and control*
- Silva, Elvies Alves de Barros e
(Rabinowitz) *Critical point theorems and applications to differential equations*
- Tang, Dalin
(Shen) *Peristaltic transport of a heat-conducting fluid, existence, uniqueness, stability, asymptotic expansion and numerical results*
- Theron, D. Peter
(Bauman) *An extension of the concept of graphically regular representations*
- Wong, Peter N-S
(Fadell) *Equivariant Nielsen fixed point theory for G-maps*
- Yoo, Yoon Jae
(Ahern) *On singular area integrals*
- 1989 Felmer, Patricio Luis
(Rabinowitz) *Applications of variational methods to Hamiltonian systems*
- Fischer, Ismor
(Askey) *Discrete orthogonal polynomials*
- Huan, Zhongdan
(Crandall) *Generalized porous medium equations with force term*
- Jafari, Farhad
(W. Rudin) *Composition operators in polydiscs*
- Jeske, Clement T.
(Passman) *Groups with character degrees dividing p^2*
- Kang, Hyeonbae
(Nagel) *Tangential Cauchy Riemann equations on certain unbounded weakly pseudoconvex domains*
- Kavanagh, James P.
(Schneider) *Splittings of M-matrices*
- McDougal, Kevin
(Brualdi) *Some combinatorial properties of $(0,1)$ -matrices*
- 1990 Calbeck, William S.
(Rosay) *L^p decomposition of functions defined on $C^{(\infty)}$ totally real sub-manifolds of C^n into boundary values of functions holomorphic in wedges*
- Fan, Haitao
(Slemrod) *The existence, uniqueness and stability of the Riemann problem of a system of conservation laws of mixed type*
- Gwanyama, Philip Wagala
(Harvey) *A model of human mathematics problem-resolution in analysis*
- Katzenberger, Gary Shon
(Kurtz) *Solutions of a stochastic differential equation forced onto a manifold by a large drift*
- Landver, Avner
(Kunen) *Singular Baire numbers and related topics*
- Shader, Bryan L.
(Brualdi) *Biclique partitions and tournaments*
- Shaw, Kari E.
(Ahern) *Boundary behavior of Besov functions*
- Siegel, Eli A.
(Solomon) *The representations of Hecke algebra of the affine group over a finite field*

- Sun, Shu Ming
(Shen) *Theory of surface waves in the presence of surface tension*
- Welsh, Charles C.
(Passman) *Some results in crossed products and Lie algebra smash products*
- Wright, James R.
(Wainger) *L^p estimates for operators associated to oscillating plane curves*
- Wu, Xuezheng
(Robbin) *Smooth linearization near a hyperbolic fixed point*
- Ye, Zaifei
(Rosay) *Holomorphic extension and decomposition from a totally real manifold*
- Zhang, Bingyu
(Russell) *Some results for nonlinear dispersive wave equations with applications to control*
- Zhong, Ning
(M. Rudin) *Generalized metric spaces and products*
- 1991 Arvola, William A.
(Orlik) *The fundamental group of the complement of an arrangement of complex hyperplanes*
- Chavey, Keith L.
(Brualdi) *Combinatorial methods in the study of matrices and matrix spaces*
- Choi, Jeongwhan
(Shen) *Contribution to the theory of capillary-gravity internal waves in a two layer fluid over an obstruction*
- Cholak, Peter Abe
(Millar) *Automorphism of the lattice of recursively enumerable sets*
- Daniel, Timothy Lee
(M. Rudin) *Normality in box products and (Sigma)-products*
- Gravner, Janko
(Griffeath) *Mathematical aspects of excitable media*
- Hart, Evelyn L.
(Fadell) *An algebraic study of Nielsen fixed point theory*
- Iltis, Michael G.
(Ney) *Asymptotics of large deviations for I.I.D. and Markov-additive random variables in \mathbb{R}^d*
- Jung, Hyung Chan
(Brualdi) *Some contributions to the combinatorial theory of partially ordered sets*
- Kaptanoglu, H. Turgay
(W. Rudin) *Mobius-invariant spaces and algebras in polydiscs*
- Keppelmann, Edward C.
(Fadell) *Periodic points on nilmanifolds and solvmanifolds*
- Kim, Weonja
(Wainger) *L^p bounds for Hilbert transforms along convex surfaces*
- Kunkle, Thomas J.
(de Boor) *A multivariate interpolant with n th derivatives not much larger than necessary*
- Lewis, Thomas M.
(Kuelbs) *A law of the iterated logarithm for random walk in random scenery*
- Linton, Thomas J.
(Miller) *Partial isomorphisms and continuous reductions with games*
- Mekias, Hocine
(Vanden-Broeck) *Flow due to a singularity beneath a free surface*
- Muchlis, Ahmad
(Schneider) *Some combinatorial properties of polytopes of symmetric, nonnegative matrices with prescribed line-sums*

- Norton-Odenthal, Brigitte
(Husseini) *A product formula of generalized Lefschetz number*
- Schuette, Paul H.
(Ney) *Large deviations for trajectories of sums of random variables*
- Son, Geum Sug (Hwang)
(Brualdi) *Contributions to combinatorial matrix theory and coding*
- Stroomer, Jeffrey D.
(Benkart) *Combinatorics and the representation theory of $GL(r, C)$ and $Sp(2r, C)$*
- Tuckey, Curtis D.
(Keisler) *Nonstandard methods in the calculus of variations*
- Yung, Siu Pang
(Turner) *Results on infinite dimensional Hamilton-Jacobi equations*
- Zrotowski, Roman J.
(Kunen) *Indescribability properties of large cardinals*
- 1992 Brandt, Keith A.
(Terao) *A combinatorial study of the module of derivations of an arrangement of hyperplanes*
- Fishback, Paul E.
(Forelli) *Holomorphic functions that map continuous nonanalytic functions into the disc algebra, and nicely placed sub-sets of the real line*
- Haloupek, William J.
(Beck) *Differentiation and analytic continuation of functions defined on arbitrary sets in the plane*
- Jarvis, Peter M.
(Wainger) *The effects of quadratic maps of R^2 on the uniform invertibility of the Fourier transform of functions initially in $A(R^2)$*
- Jin, Renling
(Keisler) *Independence relative to nonstandard analysis*
- Kaddah, Deborah S.
(Lempp) *Uniformity in the recursively enumerable degrees and infima in the degrees of the differences of recursively enumerable sets*
- Lamb, David A.
(Kunen) *Pseudocompact and densely compact spaces in products*
- Lazarevic, Zorana
(M. Rudin) *Some shrinking spaces*
- Lee, Chanyoung
(Benkart) *Stability in modules for classical Lie superalgebras*
- Li, Wenbo
(Kuelbs) *Small ball estimates for Gaussian measures with applications to strong limit theorems*
- Maia, Liliane de Almeida
(Turner) *Problems on waves in stratified fluids*
- Peters, Karl M.
(Benkart) *Non-restricted representations of classical Lie algebras*
- Reisewitz, Tammo M.
(Millar) *Hyperarithmetical relations and existentially decidable models in recursive model theory*
- Shin, Dongho
(Strikwerda) *Fast solvers for finite difference approximations for the Stokes and Navier-Stokes equations*
- Tan, Chik How
(Brualdi) *Codes in affine matrix schemes*
- Tao, Jinhua
(Ney) *Multi-type branching random walk*

- Turbek, Peter S.
(Gunji) *On compact Riemann surfaces with a maximal number of automorphisms*
- Wang, Qing
(Benkart) *On the tori and Cartan subalgebras of Lie algebras of Cartan type*
- Williams, John C.
(Isaacs) *Character correspondences in finite groups*
- Wong, Sze-Ping
(Parter) *Preconditioning of nonconforming finite element methods for second-order elliptic boundary value problems*
- Zhang, Ende
(Brauer) *Functional differential equation models in epidemiology with theoretical and numerical studies*
- 1993 Asavanant, Jack
(Vanden-Broeck) *Two-dimensional free-surface flows past a surface piercing object*
- Benedikt, Michael A.
(Keisler) *Nonstandard analysis and special ultrafilters*
- Chandarana, Sharad
(Wainger) *L_p -bounds for hypersingular integrals along curves*
- Ding, Kequan
(Solomon) *Rook placements and cellular decomposition of partition varieties*
- Dzamonja, Mirna
(Kunen) *A set-theoretic approach to some problems in measure theory*
- Halverson, Thomas M.
(Benkart) *Characters of the centralizer algebras for mixed tensor representations of the general linear group and its q -deformation*
- Huang, Guangping
(Brauer) *Models for communicable diseases with partial removal and partial recovery with immunity*
- Ikle, Matthew O.
(Slemrod) *Exact solutions to a discrete velocity model for coagulation-fragmentation*
- Ingenoso, Marc J.
(Kurtz) *Stability analysis for certain queuing systems and multi-access communication channels*
- Izmirlan, Grant Jr.
(Ney) *Large deviations for additive functionals of a Markov exchangeable sequence*
- Jahn, Michael A.
(Lempp) *The index set of the cuppable sets*
- Jewell, Kenneth M.
(Orlik) *The generalized Mayer-Vietoris spectral sequence of sphere and subspace arrangements*
- Johnson, Warren P.
(Askey) *Some problems in combinatorial analysis*
- Kim, Sang Dong
(Parter) *Preconditioning collocation method by finite element method*
- Koo, Hyungwoon
(Nagel) *Boundary behavior of holomorphic functions on domains of finite type*
- Marshall, James P.
(Wainger) *Fractional integrals of imaginary order supported on convex curves*
- Marshall, Mary K.
(Isaacs) *Derived lengths of solvable groups with Abelian Sylow subgroups*
- Massey, Jennifer Quinn
(Brualdi) *Colorings and cycle packings in graphs and digraphs*
- Mathews, Hans V.
(Husseini) *Cellular twisted products*

- McDonald, Judith J.
(Schneider) *Combinatorial spectral theory of M-matrices*
- Mohammed, Seid
(Shea) *Regularity theorems for some function theoretic extremal problems*
- Mueller, Carl D.
(Rosay) *On the polynomial hulls of the unions of convex sets in C^n*
- Newman, William G.
(Dickey) *Nonlinear string and beam equations*
- Wingers, Louis
(Kunen) *Countable box products*
- Zhao, Kang
(de Boor) *Density of the dilates of a shift-invariant subspace*
- 1994 Cerne, Miran
(Forstneric) *Analytic discs with boundaries in a generating CR-manifold*
- Cho, Nhansook
(Kurtz) *Weak convergence of stochastic integrals and stochastic differential equations driven by martingale measure and its applications.*
- Deckelman, Steven M.
(Ahern) *Studies of holomorphic functions having absolutely continuous boundary values on curves in the unit ball of C^n*
- Dougherty, Anne
(Kurtz) *Averaging and diffusion approximations for stochastic network models*
- Galminas, Lisa
(Lempp) *Lattices of enumerable algebraic structures*
- Guo, Likang
(Nagel) *The peak-interpolation sets in product domains*
- Johnson, Kurt N.
(Dickey) *Circularly symmetric deformation of shallow elastic membrane caps*
- Johnson, Mark J.
(Miller) *Techniques in iterated forcing*
- Juan-Pineda, Daniel
(Adem) *Cohomology and K-theory of discrete groups*
- Lanning, Scott E.
(Passman) *The maximal symmetric ring of quotients*
- Leduc, Robert E.
(Benkart) *A two-parameter version of the centralizer algebra of the mixed tensor representations of the general linear group and quantum general linear group*
- Lee, Jongwoo
(Vanden-Broeck) *Gravity-capillary two-dimensional free surface flows in the presence of rigid walls*
- Leonhardi, Steven D.
(Lempp) *Generalized nonsplitting in the recursively enumerable degrees*
- Letarte, Alan L.
(Keisler) *Covering properties on the hyperfinite time line*
- Martin, Paul A.
(Strikwerda) *Uniqueness of finite difference approximations to elliptic systems of partial differential equations.*
- Maxwell, Thomas O.
(Rabinowitz) *Periodic and connecting orbits of Hamiltonian systems*
- Mellendorf, Stephen P.
(Brualdi) *Hamilton decompositions of Cartesian products of multicycles*
- Sellami, Hichem
(Robinson) *A nonsmooth continuation method*

- Spasojevic, Zoran
(Kunen) *Gaps, trees and iterated forcing*
- Strobel, Kevin H.
(Rabinowitz) *Multi-bump orbits for a class of periodic Hamiltonian systems.*
- Temple, William V.
(Passman.) *Finite representation degree groups*
- 1995 Akgul, Nilgun Atiye
(Slemrod) *Coagulation-diffusion systems*
- Choi, Youngwoo
(Wainger) *L^p - L^q mapping properties of convolution operators with affine arclength measures on curves in \mathbb{R}^n*
- Cooper, Shaun
(Askey) *On the Macdonald identities, a conjecture of Forrester and a functional equation*
- Dickie, Garth A.
(Terwilliger) *Q -polynomial structures for association schemes and distance-regular graphs*
- Dolinak II, Joseph
(Assadi) *Homotopy operations in Tate cohomology*
- Forsythe, Robert C.
(Robbin) *Dynamical systems and temporal-modal logic*
- Ghazel, Moncef
(Adem) *The relative loop space*
- Johnson, Michael James
(Ron) *Approximation in $L_p(\mathbb{R}^d)$ from principal shift-invariant spaces*
- Koepp, Warren P.
(Osborn) *Simple homogeneous subalgebras of generalized Witt algebras of finite rank*
- Lawrence, Kenneth Mark
(Brualdi) *Combinatorial bounds and constructions in the theory of uniform point distribution in unit cubes, connections with orthogonal arrays and a poset generalization of a related problem in coding theory*
- Lee, Chang-Ock
(Parter) *Multigrid methods and parallel computations for elliptic problems, with an emphasis on linear elasticity*
- Lee, Ki-Suk
(Terao) *On logarithmic forms and arrangements of hyperplanes*
- Lewis, Mark L.
(Isaacs) *A new character correspondence in solvable groups*
- Ozturk, Semra
(Assadi) *Local to global invariants for G -modules, and G -spaces*
- Pires, Gabriel E.
(Souganidis) *Threshold growth dynamics: A PDE approach*
- Pritchard, Geoffrey
(Kuelbs) *Random samples, series and sets*
- Pruim, Randall James
(Joseph) *Weakly hard languages and Kuratowski-Ulam theorems in resource bounded category*
- Raw, Matthew J.
(Millar) *Complexity of automorphisms of recursive linear orders*
- Sha, Huyun
(VandenBroeck) *Solitary waves at the interface between two fluids and related surface flows*
- Spradlin Gregory S.
(Rabinowitz) *Multibump solutions to a class of semilinear elliptic partial differential equations*

- Szydlik, Jennifer Earles
(Harvey) *University calculus students' conceptual understanding of the limit of a function*
- Thandi, Neeza
(Rabinowitz) *On the existence of infinite bump solutions of nonlinear Schrodinger equations with periodic potentials*
- Waldron, Shayne F.
(de Boor) *L_p -error bounds for multivariate polynomial interpolation schemes*
- Weng, Chih-wen
(Terwilliger) *D-bounded distance-regular graphs*
- Wilson, Mark Curtis
(Passman) *Primeness of enveloping algebras*
- Yi, Jeong Seon
(Ahern) *A characterization of the functions fixed by a class of integral operators*
- Zakeri, Golbon
(Meyer) *Multi-coordination methods in parallel solution of block-angular programs*
- 1996 Berkove, Ethan J.
(Adem) *Cohomology of the Bianchi groups*
- Chen, Hsing-Hsia
(Strikwerda) *Preconditioning for regular elliptic systems*
- Collamore, Jeffrey F.
(Ney) *Large deviation techniques for the study of hitting probabilities of rare sets*
- Collins, Benjamin V. C.
(Terwilliger) *Some problems in the theory of distance-regular graphs*
- Curtin, Brian W.
(Terwilliger) *Bipartite distance-regular graphs*
- Doree, Suzanne I.
(Isaacs) *Subgroups with the character restriction property and normal complements*
- Eng, Oliver D.
(Benkart) *Fixed points of involutions on Littelmann's path basis, cosets, and tableaux*
- Ettinger, John Mark
(Keisler) *Topics in combinatorial games*
- Evans, Kellie M.
(Griffeath) *Larger than life; it's so nonlinear*
- Godbey, Kevin S.
(Shea) *Some results in function theory*
- Guner, Necdet
(Husseini) *Borsuk-Ulam type theorems for Heisenberg Lie group action*
- Hart, Joan E.
(Kunen) *Some results in set theory*
- Hogan, Thomas A.
(Ron) *Characterizing stable and independent shifts of refinable functions*
- Kim, Yong Cheol
(Seeger) *On the maximal Bochner-Riesz operator*
- Lee, Jaesung
(Ahern) *An invariant volume mean operator and its iteration in the bidisc*
- Shayya, Bassam H.
(Wainger) *A class of strongly singular integral operators*
- Villaveces, Andres
(Kunen) *Extensions of models of set theory: height and large cardinals*

- Yoo, Jaechul
(Parter) *Numerical solvers for the Galerkin least squares methods*
- 1997 Alrefaei, Mahmoud
(Andradottir) *Discrete stochastic optimization using random search (degree joint w/Industrial Engr.)*
- Arratia-Quesada, Argimiro A.
(Joseph) *On the existence of normal forms for logics that capture complexity classes*
- Catoiu, Stefan
(Passman) *Ideals in enveloping algebras of Lie algebras*
- Chen, Ming-Li
(Assadi) *Cohomology representations*
- Eisen, Nicolas
(Rosay) *Holomorphic sections of an orientable vector bundle*
- Franklin, Bradbury
(Kurtz) *The limit of the normalized error in the numerical solution of SDE's and SPDE's*
- Hermann, Paul D.
(Dickey) *Symmetric and unsymmetric buckling of circular arches*
- Huang, Wenchao
(Schneider) *On the theory of inertia and stability of polytopes and cones of matrices*
- Kersey, Scott Nelson
(de Boor) *Near-interpolating spline curves*
- Kribs, Christopher
(Brauer) *Core recruitment effects in modeling a sexually transmitted disease*
- Lewis, Heather
(Terwilliger) *Homotopy and distance-regular graphs*
- Lindhurst, Scott
(Bach) *Computing roots in finite fields and groups, with a jaunt through sums of digits of numbers in arithmetic sequences*
- Logan, Mark
(Solomon) *Homology and invariants of reflection groups and Lie algebras*
- Mazaheri, Mohsen
(Zariphopoulou) *Optimization models with stochastic volatility*
- Milinkovic, Darko
(Oh) *Floer homology and stable Morse homology in symplectic geometry*
- Ortiz, Carlos
(Keisler) *Truth and approximate truth in metric spaces*
- Rho, Yoomi
(Brualdi) *Progress on three problems in graph theory*
- Skarabot, Jure
(Seeger) *Bounds for the Besicovitch type maximal operator*
- Sneyd, Elizabeth
(Brualdi) *Tolerance graphs and pseudo-interval graphs*
- Strom, Jeffrey A.
(Husseini) *Category weight and essential category weight*
- Szydluk, Stephen D.
(Orlik) *Milnor fiber complexes for rank 2 Shephard groups and a note on the Poincare polynomials of an arrangement*
- Uen, Wu-Nan
(Harvey) *A descriptive study on the mathematical teaching styles of junior high mathematics teachers in Taiwan*
- Varolin, Dror
(Forstneric) *The density property*
- Yeh, Chien-Ning
(Keisler) *O-minimal expansions of ordered sets with unary functions*

Honorary Degrees

Conferred by the University of Wisconsin-Madison to Mathematicians

- 1884 Emory McClintock, Ph.D.
- 1904 Eliakim H. Moore, LL.D.
- 1913 Florian Cajori, Sc.D.
- 1926 Max Mason, LL.D.
- 1926 Alfred N. Whitehead, Sc.D.
- 1927 George D. Birkhoff, Sc.D.
- 1948 Warren Weaver, LL.D.
- 1973 Paul Erdős, Sc.D.
- 1973 Mark Hoyt Ingraham, L.H.D.
- 1978 Stanislaw Marcin Ulam, Sc.D.
- 1996 Etta Zuber Falconer, Sc.D.

1896-1897 Faculty

Professors

Charles A. Van Velzer
Charles S. Slichter

Assistant Professors

Ernest B. Skinner

Instructors

Linnaeus W. Dowling

Assistant

J.M. Howie

Courses of instruction for graduates listed in the 1896-97 catalogue:

Differential equations

Analytic Geometry of two dimensions (advanced course)

Analytic geometry of three dimensions

Theory of substitutions

Partial differential equations of mathematics physics

Theoretical hydrodynamics

Quaternions

Elliptic functions

Advanced calculus

Higher trigonometry

Other courses listed but not offered in 1896-97:

Theoretical mechanics

Newtonian potential functions

Projective geometry

Theory of functions

Modern algebra

1996-1997 Faculty

Professors

Alejandro Adem	I. Martin Isaacs	Daniel Rider
Patrick Ahern	Arnold Johnson	Joel Robbin
Sigurd Angenent	H. Jerome Keisler	Jean-Pierre Rosay
Richard Askey	Jim Kuelbs	Andreas Seeger
Amir Assadi	Kenneth Kunen	Daniel Shea
Steven Bauman	Thomas Kurtz	Marshall Slemrod
Anatole Beck	Steffen Lempp	Rod Smart
Georgia Benkart	Lawrence Levy	Panagiotis Souganidis
Carl de Boer	D. Russell McMillan	Hiroaki Terao
Maury Bramson	Phil Miles	Paul Terwilliger
Richard Brualdi	Terry Millar	Robert Turner
R. Wayne Dickey	Arnold Miller	Athanasios Tzavaras
Franc Forstneric	Alexander Nagel	Dietrich Uhlenbrock
David Griffen	Peter Orlik	Jean-Marc Vanden-Broeck
Hiroshi Gunji	J. Marshall Osborn	Stephen Wainger
John Harvey	Donald Passman	Robert Wilson
Sufian Hussein	Paul Rabinowitz	

Associate Professors

Claudia Neuhauser
Robin Pemantle
Yongbin Ruan
Thaleia Zariphopoulou

Assistant Professors

Paul Milewski
Young-Geun Oh

Van Vleck Visiting Assistant Professors

Mirna Dzamonja
Dikran Karagueuzian
Gloria Mari-Beffa
David Moulton
Jiye Yu

Research Associates

Mariko Arisawa
Tom Roby

Emeriti Professors

Fred Brauer	Millard Johnson	Mary Ellen Rudin
Michael Bleicher	Jacob Levin	Walter Rudin
R. Creighton Buck	Richard Meyer	Hans Schneider
Joshua Chover	Peter Ney	Mei-Chang Shen
Howard Connor	Benjamin Noble	Louis Solomon
Donald Crowe	John Nohel	Michael Voichick
Edward Fadell	Seymour Parter	Laurence C. Young
Simon Hellerstein	Louis Rall	

Affiliates

Eric Bach - Computer Science	Vladimir Lumelsky - Mechanical Engineering
James Bucklew - Electrical & Computer Engr	Amos Ron - Computer Science
Deborah Joseph - Computer Science	John C. Strikwerda - Computer Science

Academic Staff

Melinda Certain - WES Coordinator
Yvonne Nagel - Senior IPC
Kay Strangman - Lecturer

Tutorial Program

Claire Rider - Director
Dorothy Churchwell
Lee Cooper
Diane Rivard

Support Staff

Michelle Albrecht - Payroll/Benefits	Donna Meerdink - Undergraduate Secretary
Ann Caruso - Receptionist	Gen Novara - Department Administrator
Cindy Dunne - Timetable/Registration	Diane Reppert - Technical Typist
Larry Farnsworth - Grants/Proposals	Linda Rice - Machine Operator
Dee Frana - Technical Typist	Betty Schwartz - Copy Center Supervisor
Sherry Lange - Graduate Secretary	Deanna Zarecki - Chair's Secretary
Vicki Leatherberry - Payroll/Benefits	

1997

$$\int_{1897}^{\text{Math PhD}} dt = 900 \pm \epsilon$$

1897

UNIVERSITY OF
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