CURRICULUM VITAE

Name: GHEORGHE BENGA

Date and Place of Birth: January 26, 1944, Timisoara, Romania

Citizenship and Nationality: Romanian

Married with ILEANA BENGA (Professor of Pediatric Neurology, "Iuliu Haţieganu" Univ. of Medicine and Pharmacy, Cluj-Napoca, Chief of Pediatric Neurology Clinic, Cluj Children University Hospital). We have two children.

I. Education, Degrees, Titles

M.D. University of Medicine and Pharmacy (UMP) Cluj 1967;

B.Sc. (Chemistry) 1972, M.Sc. (Chemistry of Macromolecules and Surfaces), 1973,

"Babeş-Bolyai" University Cluj-Napoca

1973: Ph.D. (Medical Biochemistry), UMP Cluj

1974: accredited as Principal Specialist Physician (Clinical Laboratory)

1974-1975: One year postdoctoral work with Dennis Chapman, University of Sheffield and Chelsea College, University of London, UK

1993: Full Member of the Academy of Medical Sciences of Romania

1997: accredited as Medic Primar (the highest professional qualification of physicians in Romania) in Medical Genetics and Genetic Pathology

2001: Elected as Member of the ROMANIAN ACADEMY

2003: DOCTOR HONORIS CAUSA "Vasile Goldis" West University, Arad, Romania

2004: DOCTOR HONORIS CAUSA "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania (the first Romanian awarded with the title)

2004: DOCTOR HONORIS CAUSA "Grigore T. Popa" University of Medicine and Pharmacy, Iassy, Romania

2004: DOCTOR HONORIS CAUSA "Victor Babes" University of Medicine and Pharmacy, Timisoara, Romania

2004: HONORARY PROFESSOR University of Medicine and Pharmacy, Tg. Mures, Romania

II. Professional Positions

1966-1969: Rotating Intern in Laboratory Specialties (one year in each of Clinical Laboratory, Microbiology, Biochemistry)

1969-1972: Ph.D. Student in Medical Biochemistry (Professor Ion Manta, Dept. Biochem., UMP Cluj)

1972-1978: Lecturer, Department of Biochemistry, UMP Cluj-Napoca

1978-1991: Senior lecturer, then Reader and Chairman of the new Department of Cell & Molecular Biology, UMP Cluj-Napoca and of the Laboratory of Human Genetics, Cluj County Hospital (integrated in the Department)

1991-present: Professor and Chairman, Department of Cell and Molecular Biology, "Iuliu Hațieganu" University of Medicine and Pharmacy, Cluj-Napoca, and Chief of the Laboratory of Human Genetics, Cluj County University Hospital, Romania

III. Special Scientific Activities

1977; 1984: Visiting Scientist to the University of London (3 months), and respectively (1 month)

1981 (2 weeks): Visiting Scientist, Lab. Biochem. Genetics, Childrens Hospital, Utrecht, The Netherlands

1983: Visiting Professor of the University of Illinois at Urbana-Campaign

1991 (3 months): Visiting Scientist at the Department of Biochemistry, University of Sydney, Australia

1992: Visitor to Facultes Universitaires Notre Dame de la Paix, Namur, Belgium under a TEMPUS Programme (two weeks)

1992, 1993: (3 months each year) Visiting Research Professor, King's College London, U.K.

1994 (3 months): Visiting Research Professor, Royal Free Hospital School Med., Univ. of London, U.K.

1995 (2 months): Visiting Researcher, Dept. of Biochem., Univ. of Sydney, Australia

1999-2000 (7 months): Visiting Researcher (Senior Invitation Fellowship of The Japan Society for the Promotion of Science Senior Fellow), Institute of Applied Biochemistry, Mitake, Gifu, Japan

1998, 2001, 2002: Visiting Professor, Dept. of Biochemistry, University of Sydney, Australia

Since 2003 - 2006: Honorary Associate, School of Molecular and Microbial BioSciences, University of Sydney, Australia

January - June 2005: Visiting Professor, Dept. of Biochemistry, Graduate School of Medicine, University of Osaka, Japan

IV. Romanian Awards

1950-61: First prize in each grade of School, with Diploma for Special Merits

1959-61: Prizes in the Mathematics Olympics for School Students at the local, regional and national level

1961: Special Diploma for Outstanding School Students at Graduation of Lycee; First in the class

1964: Special Fellowship for Outstanding Students during medical studies

1964-1967: Several prizes at local and national Scientific Sessions of Student Research

1984: "Emil Racovită" Prize of the Academy of Romania for the work in the field of MEMBRANE MOLECULAR BIOLOGY WITH MEDICAL APPLICATIONS

1994: "Iuliu Moldovan" Prize of The "Iuliu Hațieganu" Univ. of Medicine and Pharmacy Cluj-Napoca for special merits in teaching and research

1994: Diploma of The "Iuliu Haţieganu" Univ. of Medicine and Pharmacy Cluj-Napoca for special contributions to the development of the Cluj school of medicine and pharmacy

1994: Medal of The "Iuliu Haţieganu" Univ. of Medicine and Pharmacy Cluj-Napoca "75 years of Romanian Medical and Pharmaceutical Higher Education in Transylvania"

1999: Diploma "80 years of Romanian Medical and Pharmaceutical Higher Education in Transylvania" of The "Iuliu Haţieganu" Univ. of Medicine and Pharmacy Cluj-Napoca for special merits in the development of the Romanian school of medicine and pharmacy

2002: Lions Club of Cluj-Napoca "Certificate of Appreciation for Invaluable Services Rendered for Medicine"

2002: "Grigore T. Popa" Medal of the University of Medicine and Pharmacy Iassy, Romania

2003: OPERA OMNIA Prize of the National Council for Higher Education Scientific Research ("for excellence in scientific research")

2003: Prize for Science of Cluj Prefecture and County Council

2003: Great Prize "Iuliu Hatieganu" of the "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca "for contributions to the discovery of aquaporins"

2003: Prize "Man of the Year 2003" of the daily newspaper "Adevărul de Cluj" for the world priority in the discovery of the first water channel protein in the human red blood cell membrane

2003: Prize "Laurels of Sciences" of Radio Romania

2003: Prize for science of Cluj mass-media

2004: Citizen of Honor of Cluj-Napoca Municipium "to recognize the remarkable activity in higher education and for the outstanding contribution in cell and molecular biology research lead that has to the increase in the prestige of Cluj scientific school at the national and international level"

2004: Diploma of Honor of the Romanian Association of Algaesiology

2004: Diploma of Honor of the Senate of the "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca "in appreciation and gratitude, on 60th birthday, for the whole activity dedicated to the glory of Romanian Science"

2004: Diploma of Excellency of The Academy of Scientists from Romania "for the discovery of the first water channel protein (aquaporin 1) in the human red blood cell"

2004: Great Prize "Iuliu Hatieganu" of the "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca "for the whole activity (research and teaching)"

2005: Diploma of excelency for 2004 awarded by the Romanian medical press

V. Romanian Recognition

1971 - 1982: Secretary of the Cluj-Napoca Biochemistry Section of The Union of Medical Sciences

1979 - 1984: Secretary of the Series of Lectures "Modern Methods and Techniques in Medical Research" resented every month by Faculty Members of "Iuliu Haţieganu" UMP Cluj-Napoca

1972 - 1989: Member in the Subcommission of Biochemistry, Cluj Section of Romanian Academy

1981 - present: President of Cluj-Napoca Section of the Romanian Society for Cell and Molecular Biology

1990 – present: Member in the Council of the Faculty of Medicine, UMP Cluj-Napoca

1990 - 1992; 2004 - present: Member in the Senate of the UMP Cluj-Napoca

1995- present: Founding Member and Vice-President of the Romanian Society for Medical Genetics

1995 - present: Expert Member of the Commission of Medicine, National Council for Higher Education Scientific Research, Ministry of Education and Research of Romania

1999 - present: Founding Editor and Director: "Bulletin of Molecular Medicine"

2001 - 2004: Director of the Sub-Program on Molecular and Cellular Medicine of the Romanian National Program of Medical Research VIASAN (Viața și Sănătatea - Life and Health)

1982 - 2004: Invited lecturer at several national congresses, symposia, lecture courses, invited professor at "Vasile Goldis" West University, Arad

2004 - present: Member in the Bureau of the Cluj Section of Romanian Academy

2004 – present: President, Romanian Society of Laboratory Medicine

2005 - present: Co-president, Commission of Laboratory Medicine of the Ministry of Health of Romania

VI. International Awards and Recognition

1984: Active Member of The New York Academy of Science (awarded without payment, in recognition of the volume 414 of Annals of N.Y Acad. Sci., BIOMEMBRANES AND CELL FUNCTION, F.A. Kummerow, <u>Gh. Benga</u>, R.P. Holmes (Eds.), the most successful of all volumes published in 1983.

1987: Laureate of The Annual Prize for scientific research awarded by The Balkan Medical Union

1987: Medal 50th Anniversary of the Balkan Medical Union Bucharest, Romania

2000: K. Miras Award (First Prize) of The Balkan Clinical Laboratory Association

2004: OUTNOBEL Laureate (2003 in Chemistry "for the discovery of water channels") of The OUTNOBEL Foundation

1987: Life Member of The American Association for the Promotion of Science

1996-1999: Member of the Steering Committee "European Union Action for Cystic Fibrosis Research and Therapy", invited to all Int. Symposia on Cystic Fibrosis

2000 - present: Member of the European Union Network on Cystic Fibrosis

2000: Founding Member and Vice-President of The Romanian - American Laboratory Medicine Assoc.

2002 (July): Member of the UNESCO Expert Panel in Medical Genetics assembled in Rome

1980; 1983; 1985; 1988; 1990; 1991; 1992; 1995; 1997, 1998, 2000, 2001, 2002, 2003, 2004, 2005: Invited Visiting Lecturer at several laboratories in Europe, USA, Australasia: The Rockefeller University New York, Columbia University New York, Mount Sinai School of Medicine New York, New York University Medical Center, Yale University New Haven, Harvard Medical School, University of Chicago, University of Illinois Urbana - Champaign, University of Farmington Conn., University of Wisconsin Madison, Michigan Molecular Institute, University of Ohio Columbus, Medical College of Minnesota Mineapolis, Research Triangle Park North Carolina, University of Utah Salt Lake City, University of California Berkeley, University of California San Francisco, Baylor College of Medicine Houston, Purdue University Lafayette IN, University of Virginia Charlottesville, Wright State University Dayton OH, Bowman Gray School of Medicine Winston Salem NC, Louisiana School of Medicine Shreveport, University of Osaka, Institute of Applied Biochemistry Mitake Gifu, Keio University Tokyo, Juntendo University Tokyo, University of Kobe, Tokyo Medical and Dental University, Hokkaido University Sapporo, Osaka Bioscience Institute, King's College University of London, University of Edinburgh, University of Newcastle UK, University of Amsterdam, University of Utrecht, Université Libre de Bruxelles, Facultees Universitaires de Namur, Max Planck Institut Frankfurt/Main, University of Köln, University of Leipzig, University of Hannover, ETH Zürich, University of Bologna, University of Sydney, Howard Florey Institute of Medical Research Melbourne, University of Prague, University of Belgrade, Nencki Institute Warszaw and many others.

1977-present: reviewer of manuscripts for international journals (Cell Mol. Biol., Biochim. Biophys. Acta, J. of Cell. Mol. Med., Eur. J. Biophysics), of grant proposals for National Science Foundation, for Gordon Conferences, for NATO grants etc

1986: Invited speaker at the 2nd European Congress of Cell Biology (Budapest) and lecturer at the Biological Research Center Szeged (Hungary)

1988: Invited speaker at the International Congress of Biochemistry and the Satellite Symposium on BIOMEMBRANES AND DISEASES (Prague - Czechoslovakia).

1989: Invited speaker at 4 International Symposia: Turku - Finland, Berlin - Germany, Bucharest and Târgu-Mureş, Romania

1991: Overseas invited speaker and representative of the American Association for the Advancement of Science at the Annual Meeting of the Australian Biophysics Society, Sydney, Australia

1994: Invited speaker, Symposium of Membrane Transport European Cell Biol. Congress, Prague, The Czech Republic

- 1995- European Society of Human Genetics
- 1995: Invited speaker, Symposium "Looking in cells with NMR" 7th Int. Congress of the Federation of Asian and Oceanian Biochemists and Molecular Biologists, Sydney, 25-29 sep.
- 2001: Invited speaker, 13th Meeting of the Eur. Assoc. for Red Cell Res., Barcelona, Spain
- 2002: Oral communication, 15th International Congress on Electron Microscopy, Durban, South Africa
- 2002: Invited speaker, Symposium on Aquaporins in the COMBIO 2002 Meeting, Sydney, Australia
- 2002: Invited speaker in the 6th Int. Cystic Fibrosis Symposium, Dubrovnik, Croația (November 1)
- 2002: Special Seminar "The Birth of Aquaporin" at Wayne State University, School of Medicine, Detroit
- 2003: Invited speaker 7th Int. Cystic Fibrosis Symposium, Bratislava, Slovakia
- 2003: Invited seminars: The Rockefeller University (NV) and (Farmington (CT) "From the discovery of the first red blood cells water channel protein in Cluj-Napoca, Romania in 1995 to the 2003 Nobel Prize in Chemistry"
- 2004: The 3rd Congress of The Academy of Scientists from Romania (Constantza, Romania, June 1-4)
- 2004: The 9th National Congress of The Romanian Society of Physiological Sciences (Timisoara, Romania, June 3-5)
- 2004: The 5th Congress of The National Therapeutical Farmacology and Clinical Toxicology (Calimanesti-Caciulata, Romania, June 9-12)
- 2004: Minisymposium: "Discovery of aquapoprins", at The 22nd Annual Scientific Session of The Romanian Society of Cell Biology (Sighisoara, Romania, June 10-13)
- 2004: Days of Cluj Branch of Romanian Academy (Cluj-Napoca, Romania, May 24 June 12)
- 2004: Bioinformatics and Genome Based Medicine (Cluj-Napoca, Romania, June 27 July 7)
- 2004: The 12th Meeting of Balkan Clinical Laboratory Federation (Neptun, Romania, September 15 17)
- 2004: 28^{eme} Semaine de l'Union Medicale Balkanique et 7^{eme} Congres de l'Entente Medicale Mediteranne (Oradea, Romania, September 16 19)
- 2004: Advanced Spectroscopies on Biomedical and Nanostructured Systems (Cluj-Napoca, Romania, September 19-22)
- 2004: The 14th National Conference of Hematology (Bucharest, Romania, September 23 24)
- 2004: The 6th Symposium on Metal Elements in Environment, Medicine and Biology (Timisoara, Romania, November 8 10)
- 2004: The 3rd National Congress of the Romanian Federation of Diabetes, Nutrition and Metabolic Diseases (Arad, Romania, November 10 12)
- 2004: Symposium of the Romanian Society of Laboratory Medicine (Cluj -Napoca, Romania, November, 18 21)
- 2004: The 1st OUTNOBEL SYMPOSIUM (Cluj-Napoca, Romania, December 10).
- 2005: Honorary President at The 9th World Multi-Conference on Systemics, Cybernetics and Informatics (Orlando, Florida, USA, July 10-13).

VII. Main Organizer of International Scientific Events

- 1980: Chairman of a session on membrane transport at the Frankfurt/Main Membrane Symposium (satellite to the 2nd International Congress of Cell Biology, Berlin, Fed. Rep. Germany)
- 1980, October 2 4: Romanian-British Workshop "Membrane processes: molecular biological aspects and medical applications", Cluj-Napoca
- 1981, May 19-24: Romanian-American Workshop (Cluj-Napoca), continued in 1982, August 4-6 (New York) "The role of biomembranes in the integrity and function of cells"
- 1986 (June): FEBS Course "BIOMEMBRANES AND DISEASES" (Cluj-Napoca)

- 1986 (June): Co-chairman of the IUB Symposium "MEMBRANE LIPIDS AND PROTEINS IN TRANSPORT AND ASSEMBLY PHENOMENA
- 1988: Co-Chairman of a Symposium on Membranes and Transport in the International Congress of Cell Biology (Montreal Canada)
- 1999 (July 19 30): organizer of the ICRO (International Cell Research Organization)/UNESCO
- Training Course on BIOMEMBRANES AND MOLECULAR MEDICINE
- 2001: 1st CLUJ-NAPOCA INTERNATIONAL SYMPOSIUM OF MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH on: "Air Pollution at Low Altitude and Cystic Fibrosis" (November 17-18)
- 2002: 2nd CLUJ-NAPOCA INTERNATIONAL SYMPOSIUM OF MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH on: Health Effects of Combustion Products from Natural Gas with Reference to "Appartment" Heating Appliances Installed in Building Blocks from Romania (February 9)
- 2002: 3rd CLUJ-NAPOCA INTERNATIONAL SYMPOSIUM OF MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH on: Molecular Genetics (March 16)
- 2002: 4th CLUJ-NAPOCA INTERNATIONAL SYMPOSIUM OF MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH on: Recent Progress In Pancreatology (December 5)
- 2003: 5th CLUJ-NAPOCA INTERNATIONAL SYMPOSIUM OF MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH on: NMR Spectroscopy: Principles and Biomedical Applications (March 11)
- 2003: 6th CLUJ-NAPOCA INTERNATIONAL SYMPOSIUM OF MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH on Glycobiology: from Basic Aspects to Clinical Applications (April 8)
- 2003: 7th CLUJ-NAPOCA INTERNATIONAL SYMPOSIUM OF MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH on: Landmarks in transport across cell membrane: a Symposium in the honor of Nobel Laureates George Emil Palade and Günter Blobel (May 27)
- 2003: 8th CLUJ-NAPOCA INTERNATIONAL SYMPOSIUM OF MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH on: Neuroimmunomodulation a Symposium dedicated to the pioneers of the field: Ion Baciu and Novera Herbert Spector (August 4)
- 2004: 9th CLUJ-NAPOCA INTERNATIONAL SYMPOSIUM OF MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH, Celebrating the 150th Anniversary of the Birth of VICTOR BABEŞ, the 25th Anniversary of the Department of Cell and Molecular Biology of the "Iuliu Haţieganu" University of Medicine and Pharmacy and of the Laboratory of Human Genetics of Cluj County University Hospital and the 60th Birthday of Professor GHEORGHE BENGA (April 23 24)
- 2004: 10th CLUJ-NAPOCA INTERNATIONAL SYMPOSIUM OF MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH, Celebrating Professor CLAUDE MATASA, DCE, DSc, DHC, (SUA) (May 24)
- 2004: Minisymposium: "Discovery of aquapoprins", at The 22nd Annual Scientific Session of The Romanian Society of Cell Biology (Sighisoara, Romania, June 10-13)
- 2004: The 1st OUTNOBEL SYMPOSIUM (Cluj-Napoca, Romania, December 10)
- 2005: 12th CLUJ-NAPOCA INTERNATIONAL SYMPOSIUM OF MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH on: Structure Physiology: a Symposium dedicated to Professor Yoshinori Fujiyoshi (Kyoto, Japan) (October 5).

VIII. Grants obtained as Principal Investigator

1978 - present: Several grants from the Academy of Medical Sciences and the National Council for Science and Technology of Romania

1981; 1984; 1987: Grants from The Wellcome Trust (U.K.) for a co-operative Research Programme with Chelsea (King's) College, University of London on "MEMBRANE STUDIES WITH MEDICAL APPLICATIONS"

1983-1986: Grant from the National Science Foundation (USA) for a Co-operative Research Programme with Burnsides Research Laboratory, Urbana, Illinois

1992-93: Grant from The Wellcome Trust (U.K.) to perform a research programme at King's College, Univ. of London, U.K.

1994: Grant from The Wellcome Trust (U.K.) to perform a research programme at Royal Free Hospital School of Medicine, Univ. of London, U.K.

1995: Grant of the Academy of Romania

1995-96: Grant of the Ministry of Teaching of Romania

1998-2000: Grant of The National Council for Education Scientific Research (NCHES) for a Major Research Programme on "Molecular Basis, Physiological Significance and Pathologic Implications of Water Permeability of Red Blood Cell Membrane"

2000-2002: Grant of The National Council for Higher Education Scientific Research (NCHES) for a "Post-Graduate Programme in the Field of Molecular Medicine and Neurosciences"

2004: Grant of The National Council for Higher Education Scientific Research (NCHES) for equipment

IX. Statements of Romanian Scientists and High Rank Officials (from the Guest Book of the Department)

"Laboratory of Cell Biology of the Faculty of Medicine in Cluj represents a true scientific achievement for which congratulations are deserved by both its author (Gheorghe Benga) and those who have understood and helped him in developing it. From here many important things for the Romanian science and for Science in general will be said. Grateful for the collaboration with the chief of this laboratory and his group."

16 Jan 1982, Dr. Caius Dragomir, Head of the Laboratory of Cell Biology, "Victor Babeş" Institute Bucharest

"I appreciate the organization and facilities of the laboratory. The research topics are in very hot fields. I wish full success in the activity of this group integrated in education and research."

Cluj, 2 VI 1983 G. Ciucu, Vice Minister of Education and Teaching

"I have visited with great interest and profound satisfaction the research laboratories organized by Gheorghe Benga. It is a proof of love for science, of passion for research and of strong wish for important achievements in the beloved fields. I cordially congratulate the young specialist Gheorghe Benga for his opus and wish him many and new successes in the serious activity that he is performing I am very glad that I have been here."

Clui, 29.11.1984

Acad. E. Macovschi

Director of the Institute of Biochemistry, Romanian Academy

"The impredictable is inevitable in our existence! I checked this on the occasion of participation in the "Cluj Academic Days" between 9-14 November 1987, by visiting and especially by "knowing" the personality of our coleague Dr. Gheorghe Benga. Everything was surprizing in the laboratories of the Department of Cell Biology, from the topics of research, accomplishments and equipment, but especially by the creative tonus of the leader. I admired the many publications, symposia and monographs. Everything confers the certitude of a valuable "construction" in biological sciences along the years. Let it be as I said and I wish, with affection and with due esteem"

10 Nov. 1987

Acad. Prof. Stefan Milcu

President of the Academy of Medical Sciences of Romania

"Having the opportunity to accompany the distinguished Acad. E. Macovschi in the visit to the Department of Cell and Molecular Biology I was extremely well impressed by the scientific achievements of the young and very valuable research group lead with a lot of passion and skilfullness by the renowned professor and scientist who is Dr. Gheorghe Benga. Sincere congratulations."

Cluj, 29.11.1984

Prof. Univ.Dr. C. Neamtu

Chairman of the Biochemistry Department, The Univ. of Agricultural Studies, Cluj-Napoca

"Impressed by the accomplishments of our coleague Dr. Benga, by his enthusiasm, by the organization of his laboratories, I congratulate him with sincere admiration and I wish him the deserved successes of which I am sure".

29 III 1991

Acad. Nicolae Cajal

President of the Section of Medicine, Romanian Academy Vice- President of Romanian Academy

X. Statements of foreign scientists (from the Guest Book of the Department, letters and conferences)

"To Gheorghe Benga and the Romanian Cluj membrane group: my thanks for both a profitable and memorable visit and interactions at both scientific and personal levels."

24 may 1981

Larry Berliner Ohio State University

"Although my visit was very brief and unexpected, I have been able to admire the modern equipment in this laboratory. I also recognize the dynamic spirit inspired by Prof. Benga to his collaborators. I have no doubt that this work will be appreciated the international scientific journals of the highest levels. With my thanks for interesting discussions we had about my own work."

May 28 1981

Frank Roels

Vrije Universiteit Brussels

"I am grateful for the hospitality I enjoyed here in Cluj. The efforts to establish a new Cell Biology Department impressed me deeply. The research efforts and teaching are as high as any Department I visited in USA. I wish good succes to everybody in this nice Department. Thank you."

June 15, 1984

Dr. Miklos Kellemeger University Medical School Pecs, Hungary "To Prof. Gheorghe Benga with much gratitude for his hospitality in Cluj-Napoca, with compliments for the organization of the beautiful FEBS Course I have enjoyed very much – with many wishes and hoping to come back soon in Cluj."

24 VI 1986 Prof. Giorgio Lenaz

Department of Biochemistry, Univ. of Bologna, Italia

"I appreciate being here and seeing the work of cell biologists which is quite impressive. Hope to develop collaborative project on Chromosome Registry. Thank you for having me as a guest of the Ministry-NIH-FIC Program."

September 28, 1988

Prof. W.H. Borgaonkar

Medical Research Center of Delaware, Newmark, Delaware

"A mon collégue et ami G. Benga, en souvenir des excellents moments passés en sa compagnie, dans son laboratoires et chez lui. J'ai été tout particulièrement impressionné par la qualité et l'abondance des recherches qu'il a pu réaliser ici, malgré toutes les difficultés qu'il a à faire de la recherche scientifique en Roumanie."

Cluj, April 11, 1991

Prof. Ernest Feythmans Fac. Univ. de Namur, Belgium

"Dr. Benga, I wish to congratulate you on your achievements, not only as a researcher, but also as a creative teacher. I hope that when I visit Cluj again, I will see your concepts in Molecular Biology well integrated into The Biochemistry and Diagnostics framework. I will be following your work with great interest – you are a model for the University!"

15.03.1994

Best wishes, Vinda L. Patel

Mc Gill University, Montreal, Canada

"It has been a great pleasure to be in Cluj-Napoca for the third time. I wish to thank professor Benga for his hospitality and for organizing, as always, a wonderful and very instructive course."

July 22, 1999

Prof. Giorgio Lenaz Prof. Oscar A. Candia

Univ. of Bologna, Italia Mount Sinai School of Medicine, New York

Prof. Zdenek Drahota Prof. Alan S. Verkman

Charles Univ., Prague Univ. of California, San Francisco

Prof. Lech Wojtczak Prof. Helga Stan-Lotter Nencki Institute Warsaw, Poland Univ. of Salzburg, Austria

"Dear Dr. Benga: I was pleased to receive your letter of December 10, 1977 in regard to our possible cooperative project under NSF sponsorship.I believe you are the only researcher on the European continent that could make some meaningful progress in this field....Your work with Chapman in Great Britain and your knowledge of the latest research on the European continent will allow you to make some real contributions to science in Romania"

Jan. 9, 1978

F.A. Kummerow, Director

Burnsides Research Laboratory, Univ. of Illinois at Urbana-Champaign

To: Aurel Sanislav, Head of the Office for Foreign Relations, Ministry of Education, Bucharest, Romania "Dear Dr. Sanislav:... I have over a period of twenty years visited every important laboratory in Japan, Mexico, Canada, the USA, Israel, and Eastern and Western Europe. It is my opinion that the staff members I met at Cluj are as competent as any I have met anywhere. They are dedicated scientists determined to bring Romania into the forefront of science. It is difficult to teach and at the same time do outstanding research such as Dr. Benga has been doing. However, he is so capable that he is an effective teacher as well. He can manage both teaching and cooperate in international research if he is allowed to do so."...

Nov. 14, 1979

F.A. Kummerow, Director

Burnsides Research Laboratory, Univ. of Illinois at Urbana-Champaign

ROMANIAN CONTRIBUTIONS TO INTERNATIONAL BIOMEDICAL RESEARCH

(Lecture of George E. Palade at the International Conference: Romania and Romanians in the Contemporary Science, Sinaia, 24-17 May, 1994)

"Regardless of the accomplishments of the diaspora, the researchers who came or stayed in Romania and have worked hard with some help from the government of Romanai, as the two Simionescus - or without any help, as Gheorghe Benga and others, deserve a special appreciation. They have maintained alive the spirit of the biomedical research in Romania."

LETTER OF George E. Palade to Professor Dr. Nicolae Oprean, July 7, 1993 "Dear Professor Oprean,

... I congratulate you for the initiative of going together with Professor Benga to President Iliescu to urge him in developing an institute of research at the Medical School of the University of Cluj-napoca. Dr. Benga is certainly the person qualified to organize and lead such an institute."

PUBLICATIONS (selected from over 450)

I. BOOKS AND MONOGRAPHS

- 1. METODE BIOCHIMICE ÎN LABORATORUL CLINIC, I. Manta, M. Cucuianu, <u>Gh. Benga</u>, Adriana Hodârnău, Editura Dacia, Cluj-Napoca, 1975.
- 2. BIOLOGIA MOLECULARĂ A MEMBRANELOR CU APLICAȚII MEDICALE, <u>Gh. Benga</u>, Editura Dacia, Cluj-Napoca, 1979.
- 3. MEMBRANE PROCESSES: MOLECULAR BIOLOGY AND MEDICAL APPLICATIONS, <u>Gh. Benga</u>, H. Baum, F.A. Kummerow, (Eds.), Springer Verlag, New York, 1984.
- 4. BIOMEMBRANES AND CELL FUNCTION, F.A. Kummerow, <u>Gh. Benga</u>, R.P. Holmes (Eds.), Annals of New York Academy of Sciences, vol. 414, New York, 1983.
- 5. BIOLOGIE CELULARĂ (MANUAL UNIC), I. Diculescu, D. Onicescu, <u>Gh. Benga</u>, L. Popescu, Editura Didactică și Pedagogică, București, 1983.
- 6. STRUCTURE AND PROPERTIES OF CELL MEMBRANES, <u>Gh. Benga</u>, (Ed.) CRC Press, Boca Raton, Florida, SUA, vol. I-III, 1985.
- 7. BIOLOGIE CELULARĂ ŞI MOLECULARĂ, Gh. Benga, Editura Dacia, Cluj-Napoca, 1985.

- 8. CĂLĂTORIE ÎN MICROUNIVERSUL CELULEI, <u>Gh. Benga</u>, Editura Științifică și Enciclopedică, București, 1986.
- 9. BIOMEMBRANES BASIC AND MEDICAL RESEARCH, <u>Gh. Benga</u>, J.M. Tager (Eds.), Springer Verlag, Berlin, 1988.
- 10. WATER TRANSPORT IN BIOLOGICAL MEMBRANES, <u>Gh. Benga</u>, (Ed.) CRC Press, Boca Raton, SUA, vol. I-II, 1989.
- 11. SERIES OF MONOGRAPHS "MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH". Vol. 1, MULTIPLE NEGATIVE EFFECTS OF REPLACING CENTRAL HEATING SYSTEMS OF BUILDING BLOCKS IN ROMANIA WITH INDIVIDUAL THERMAL APPLIANCES FUELLED WITH NATURAL GAS ("APARTMENT" HEATERS, CONVECTORS, ETC.), Gh. Benga, D. Fowler, I. Haiduc, I.M. Năstase (Eds.), "Iuliu Haţieganu" University Press, Cluj-Napoca, 2003.
- 12. SERIES OF MONOGRAPHS "MOLECULAR MEDICINE, SOCIETY AND PUBLIC HEALTH". Vol. 1, MULTIPLE NEGATIVE EFFECTS OF REPLACING CENTRAL HEATING SYSTEMS OF BUILDING BLOCKS IN ROMANIA WITH INDIVIDUAL THERMAL APPLIANCES FUELLED WITH NATURAL GAS ("APARTMENT" HEATERS, CONVECTORS, ETC.), Gh. Benga, D. Fowler, I. Haiduc, I.M. Năstase (Eds.), "Iuliu Hațieganu" University Press, Cluj-Napoca, 2nd Ed. (revised and enlarged), 2004.
- 13. INTRODUCERE IN BIOLOGIA CELULARA SI MOLECULARA, <u>Gh. Benga</u>, Editura Medicală Universitară Cluj-Napoca, 2005.

III. REVIEWS

- 1. STUDII DE REZONANȚĂ ELECTRONICĂ DE SPIN. MARKERI DE SPIN, P.T. Frangopol, M.S. Ionescu, Maria Frangopol, <u>Gh. Benga</u>, O. Popescu, V.I. Pop, În "Interacțiunea medicamentelor cu biomembranele", Centrala industrială de medicamente, iunie 1982, p.8-12.
- 2. SPIN LABELLING, <u>Gh. Benga</u>, in "Biochemical Research Techniques", J. Wrigglesworth (Ed.) , John Wiley & Sons, London, 1983, pp. 79-117.
- 3. MOLECULAR COMPOSITION AND FUNCTIONAL PROPERTIES OF HUMAN LIVER MITOCHONDRIA, Gh. Benga, in "Membrane Processes. Molecular Biology and Medical Applications" (Gh. Benga, H. Baum, F. A. Kummerow, Eds.), Springer Verlag, New York, 1984, pp. 65-91.
- 4. WATER DIFFUSION THROUGH ERYTHROCYTE MEMBRANES IN NORMAL AND PATHOLOGICAL SUBJECTS: NUCLEAR MAGNETIC RESONANCE INVESTIGATIONS, V.V. Morariu, <u>Gh. Benga</u>, in "Membrane Processes: Molecular Biology and Medical Applications" (<u>Gh. Benga</u>, H. Baum, F. A. Kummerow, Eds.), Springer Verlag, New York, 1984, pp. 121-139.
- 5. BIOMEMBRANE FLUIDITY. STUDIES OF MODEL AND NATURAL BIOMEMBRANES. D. Chapman, <u>Gh. Benga</u>, in "Biological Membranes. Physical Fact and Function", D. Chapman (Ed.), Vol. V, Academic Press, London, 1984, pp.1-56.
- 6. INTERACTIONS BETWEEN COMPONENTS IN BIOLOGICAL MEMBRANES AND THEIR IMPLICATIONS FOR MEMBRANE FUNCTION, <u>Gh. Benga</u>, R.P. Holmes, in "Progress in Biophysics and Molecular Biology", T.L. Blundell (Ed.), Pergamon Press, Oxford, 1984, <u>43</u>, 195-257.
- 7. ION MANTA, <u>Gh. Benga</u>, În "Figuri reprezentative ale medicinii şi farmaciei clujene", vol. II, Litografia IMF, Cluj-Napoca, 1983, p -147-158.
- 8. STUDII ASUPRA DIFUZIUNII APEI PRIN MEMBRANELE ERITROCITARE PURIFICATE (FANTOME ERITROCITARE) ÎN SCOPUL CARACTERIZĂRII MECANISMELOR MOLECULARE ALE TRANSPORTULUI, Gh. Benga, Victoria Borza, Octavian Popescu, V.I. Pop,

- Ana Mureşan, Adriana Hodârnău, În "Progrese În cercetarea biochimică", Academia RSR, Filiala Cluj-Napoca, 1986, p. 118-126.
- 9. PROTEIN-LIPID INTERACTIONS IN BIOLOGICAL MEMBRANES, <u>Gh. Benga</u>, in "Structure and Properties of Cell Membranes", <u>Gh. Benga</u> (Ed.), CRC Press, Boca Raton, vol. I, 1985, pp. 159-188.
- 10. ACTUALITĂŢI ÎN BIOCHIMIA ŞI BIOLOGIA MEMBRANELOR, <u>Gh. Benga</u>, În "Actualități în biochimie", Academia RSR Filiala Cluj-Napoca, 1985, pp. 117-124.
- 11. WATER TRANSPORT IN HUMAN RED BLOOD CELLS, <u>Gh. Benga</u>, Progress in Biophysics and Molecular Biology, <u>51</u>, 193-245, 1988.
- 12. MEMBRANE PROTEINS INVOLVED IN THE WATER PERMEABILITY OF HUMAN ERYTHROCYTES. <u>Gh. Benga</u>, in "Water transport in Biological Membranes". <u>Gh. Benga</u>, (Ed.), CRC Press, Boca Raton, 1989, Vol. II, 41-62.
- 13. WATER EXCHANGE THROUGH THE ERYTHROCYTES MEMBRANE, <u>Gh. Benga.</u> International Review of Cytology, <u>114</u>, 273-316, 1989.
- 14. MOLECULAR COMPOSITION, FLUIDITY OF MEMBRANES AND FUNCTIONAL PROPERTIES OF HUMAN LIVER MITOCHONDRIA AND MICROSOMES. <u>Gh. Benga</u>, in "Molecular Basis of Membrane-Associated Diseases: (ed. A. Azzi, Z. Drahota, S. Papa), Springer Verlag, Heidelberg-Berlin, 1989, pp. 285-302.
- 15. SPIN LABEL STUDIES OF ERYTHROCYTE MEMBRANES. <u>Gh. Benga</u>, in Highlights of Modern Biochemistry (ed. Kotyk, J. Skoda, V. Paces, V. Kostka), VSP International Science Publishers, Zeist, 1989, pp. 717-724.
- 16. PERMEABILITY THROUGH PORES AND HOLES. <u>Gh. Benga</u>, in Current Opinion in Cell Biology, 1, 771-774, 1989.
- 17. WATER CHANNELS IN MEMBRANES. Gh. Benga, Cell Biology International, 18, 829-833, 1994.
- 18. DEMERSURI PRACTICE IN DIAGNOSTICUL BOLILOR GENETICE NEUROMETABOLICE, Ileana Benga, <u>Gh. Benga</u>, in al II-lea Simpozion "Boli genetice, endocrine și de metabolism la copil" Cluj, 28-30 oct. (ed. Grigorescu-Sido Paula), Casa Cărții de Știință, 1998, pp. 29-38.
- 19. FROM BIOCHEMISTRY AND CELL BIOLOGY TO MOLECULAR MEDICINE IN CLUJ-NAPOCA: 20 YEARS OF ACTIVITY OF THE GROUP OF CELL & MOLECULAR BIOLOGY AND HUMAN GENETICS, Gh. Benga, in Bulletin of Molecular Medicine, Nos. 3-5, 1-17, 2000.
- 20. DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM VARIOUS VERTEBRATE SPECIES, Gh. Benga, in Bulletin of Molecular Medicine, Nos. 7-8, 27-42, 2001.
- 21. THE FIRST DISCOVERY OF THE FIRST WATER CHANNEL PROTEIN (LATER CALLED AQUAPORIN 1) IN THE RED BLOOD CELL MEMBRANE WAS PERFORMED IN 1985 IN CLUJ-NAPOCA, ROMANIA, BY THE USE OF A RADIOACTIVELY LABELED MERCURIAL SH REAGENT. Gh. Benga, in "Metal Elements in Environment, Medicine and Biology", (Gârban Z., Drăgan, P., Gârban Gabriela, Eds), Publishing House "Eurobit" Timişoara, 2002, Vol. V, pp. 43-52.
- 22. BIRTH OF WATER CHANNEL PROTEINS THE AQUAPORINS, <u>Gh. Benga</u>, Cell Biol. Int. <u>27</u>, 701-709, 2003.
- 23. POLUAREA PRIN PRODUSELE DE ARDERE A GAZULUI NATURAL, EFECTE ASUPRA SĂNĂTĂȚII CU REFERIRE LA MICROCENTRALELE TERMICE INDIVIDUALE (AŞA-ZISE "DE APARTAMENT") Partea I, Gh. Benga, Info Buletin PSP, octombrie, 22-27, 2002.
- 24. POLUAREA PRIN PRODUSELE DE ARDERE A GAZULUI NATURAL, EFECTE ASUPRA SĂNĂTĂȚII CU REFERIRE LA MICROCENTRALELE TERMICE INDIVIDUALE (AŞA-ZISE "DE APARTAMENT") Partea a II-a, <u>Gh. Benga</u>, Info Buletin PSP, noiembrie decembrie, 34-38, 2002.

- 25. ROMANIAN-AMERICAN OPINIONS ON THE LIFE THREATENING AND HEALTH EFFECTS PRODUCED BY INDIVIDUAL DOMESTIC HEATING APPLIANCES FUELED BY NATURAL GAS ("APARTMENT MICROHEATERS", CONVECTORS) IN BUILDING BLOCKS IN ROMANIA, Gh. Benga, D. Fowler, in MULTIPLE NEGATIVE EFFECTS OF REPLACING CENTRAL HEATING SYSTEMS OF BUILDING BLOCKS IN ROMANIA WITH INDIVIDUAL THERMAL APPLIANCES FUELLED WITH NATURAL GAS ("APARTMENT" HEATERS, CONVECTORS, ETC.), Gh. Benga, D. Fowler, I. Haiduc, I.M. Năstase (Eds.), "Iuliu Hațieganu" University Press, Cluj-Napoca, 2003, pp. 1-6; ibid. in 2nd Ed., 2004, pp.1-6.
- 26. POLUAREA PRIN GAZUL NATURAL ŞI PRODUŞII SĂI DE ARDERE. EFECTE ASUPRA SĂNĂTĂŢII CU REFERIRE ASUPRA DISPOZITIVELOR TERMICE INDIVIDUALE (MICROCENTRALE "DE APARTAMENT", CONVECTOARE CU GAZ). Gh Benga, in MULTIPLE NEGATIVE EFFECTS OF REPLACING CENTRAL HEATING SYSTEMS OF BUILDING BLOCKS IN ROMANIA WITH INDIVIDUAL THERMAL APPLIANCES FUELLED WITH NATURAL GAS ("APARTMENT" HEATERS, CONVECTORS, ETC.), Gh. Benga, D. Fowler, I. Haiduc, I.M. Năstase (Eds.), "Iuliu Hațieganu" University Press, Cluj-Napoca, 2003, pp. 83 108.
- 27. CANALELE PROTEICE PENTRU APA (AQUAPORINE) DIN MEMBRANELE CELULARE: DE LA DESCOPERIREA LOR LA CLUJ-NAPOCA IN 1985 LA PREMIUL NOBEL PENTRU CHIMIE 2003. *Craiova Medicala*, **6**, Suppl. 2: 201-203, 2004.
- 28. THE DISCOVERY OF THE FIRST WATER CHANNEL PROTEIN (LATER CALLED AQUAPORIN 1) IN THE HUMAN RED BLOOD CELL MEMBRANE IN 1985 IN CLUJNAPOCA, ROMANIA, A FEW YEARS BEFORE PETER AGRE (2003 NOBEL PRIZE IN CHEMISTRY) in "Metal Elements in Environment, Medicine and Biology", (Gârban Z., Drăgan, P., Gârban Gabriela, Eds), Publishing House "Eurobit" Timişoara, 2004, Vol. VI, pp. 61-74.
- 29. POLUANȚII GENOTOXICI, MUTAGENI ŞI CANCERIGENI SUNT PREZENȚI ÎN GAZUL NATURAL ȘI ÎN PRODUȘII SĂI DE ARDERE <u>Gh Benga</u>, in MULTIPLE NEGATIVE EFFECTS OF REPLACING CENTRAL HEATING SYSTEMS OF BUILDING BLOCKS IN ROMANIA WITH INDIVIDUAL THERMAL APPLIANCES FUELLED WITH NATURAL GAS ("APARTMENT" HEATERS, CONVECTORS, ETC.), <u>Gh. Benga</u>, D. Fowler, I. Haiduc, I.M. Năstase (Eds.), "Iuliu Hațieganu" University Press, Cluj-Napoca, 2nd Ed., 2004, pp. 125 130.
- 30. WATER CHANNEL PROTEINS (AQUAPORINS) FROM CELL MEMBRANES: FROM THEIR DISCOVERY IN CLUJ-NAPOCA IN 1985 TO THE 2003 NOBEL PRIZE IN CHEMISTRY AND THEIR MEDICAL IMPLICATIONS. Documenta haematologica, <u>13</u>, 13-19, 2004.
- 31. THE FIRST WATER CHANNEL PROTEIN (LATER CALLED AQUAPORIN1) WAS FIRST DISCOVERED IN CLUJ-NAPOCA, ROMANIA, <u>Gh. Benga,</u> Rom. J. Physiol, <u>41</u>, 3-20, 2004.

IV. ORIGINAL PAPERS PUBLISHED IN VOLUMES

- 1. STUDII DE REZONANȚĂ ELECTRONICĂ DE SPIN CU MARKERI SPECIFICI ASUPRA MEMBRANELOR ERITROCITARE DE LA PACIENȚI CU DISTROFII MUSCULARE PROGRESIVE ŞI ALTE BOLI GENETICE NEUROPSIHICE, E. Câmpeanu, O. Popescu, V. Pop, Adriana Hodârnău, C. Mărgineanu, Gh. Benga, În "Accidente vasculare cerebrale. Manifestări neurologice În diabetul zaharat și insuficientă hepatică", Oradea, mai, 1983, pp. 217-219.
- 2. DATE RECENTE PRIVIND MECANISMUL MOLECULAR AL DIFUZIUNII APEI PRIN MEMBRANA ERITROCITELOR UMANE STUDII PRIN RMN, Gh. Benga, O. Popescu, V.I. Pop,

- R.P. Holmes, Victoria Borza, Adriana Hodârnău, Al XVI-lea Simpozion Național de Biofizică, Iași 20-21 oct. 1983, pp.133-136.
- 3. MODIFICATIONS OF HUMAN ERYTHROCYTE MEMBRANES AND THEIR EFFECT ON WATER PERMEABILITY STUDIED BY A NUCLEAR MAGNETIC RESONANCE TECHNIQUE, <u>Gh. Benga</u>, O. Popescu, V.I. Pop, R.P. Holmes, T. Pavel, M. Ionescu, in "Water and Ions in Biological Systems", A. Pullman, V. Vasilescu, L. Packer (Eds.), Plenum Press, New York, 1985, 303-312.
- 4. STUDII BIOCHIMICE ȘI DE REZONANȚĂ MAGNETICĂ NUCLEARĂ PRIVIND EFECTELE INHIBITORII ALE REACTIVILOR PENTRU GRUPĂRI SH ASUPRA TRANSPORTULUI APEI PRIN MEMBRANA ERITROCITULUI UMAN. <u>Gh. Benga</u>, O. Popescu, Victoria Borza, V.I. Pop, A. Man, În "Contribuții ale concepțiilor și metodelor biochimice În progresul științei", Academia Română, Filiala Cluj-Napoca, 1988, pag.18-26.
- 5. RELATIONS BETWEEN MEMBRANE STRUCTURE AND WATER TRANSPORT IN ERYTHROCYTE MEMBRANES. <u>Gh. Benga</u>, in "WATER AND IONS IN BIOLOGICAL SYSTEMS", Proc. Natl. 4th Int. Conf. Bucharest, 1987, (eds. P. Laüger, L. Packer, V. Vasilescu), Birkhaüser Verlag, Basel-Oxford-Berlin, 1988, pp.137-141.
- 6. RECENT INVESTIGATION ON WATER PERMEABILITY OF ERYTHROCYTES IN NORMAL AND DUCHENNE MUSCULAR DYSTROPHY SUBJECTS, <u>Gh. Benga</u>, O. Popescu, V.I. Pop, Victoria Borza, Ana Mureşan, Adriana Hodârnău, Ileana Benga, I. Ionescu, in "Biomembranes. Basic and Medical Research", <u>Gh. Benga</u> and J.M. Tager (Eds.), Springer Verlag, Berlin, 1988, pp. 204-219.
- 7. DETERMINATIONS OF Mg, Cu AND Zn IN THE BLOOD AND CEREBROSPINAL FLUID OF EPILEPTIC CHILDREN, Ileana Benga, Gh. Benga, in "Metal Elements in Environmental Medicine and Biology", (Eds. P. Drăgan și Z. Garban), Mirton Publishing House, Timisoara 1995, pp. 23-26.
- 8. EFFECTS OF Hg ON THE WATER PERMEABILITY OF RED BLOOD CELL MEMBRANES, <u>Gh. Benga</u>, in "Metal Elements in Environment, Medicine and Biology" (Eds. Gârban, P. Drăgan), Publishing House "Eurobit", Timişoara, 1997, pp. 117-120.
- 9. ULTRASTRUCTURAL ASPECTS OF HUMAN LIVER SUBCELLULAR FRACTIONS, <u>Gh. Benga</u>, D. Poruţiu, Adriana Hodârnău, Rozalia Tilinca and Victoria Borza, in Electron Microscopy, IV: Biological Sciences, (Eds. H.A. Calderon, M.J. Yacaman), Institute of Physics Publishing, Bristol and Philadelphia, 1998, pp.717-718.
- 10. DETERMINAREA pH-ului ŞI A CONDUCTIVITĂŢII PROBELOR DE CONDENSAT AL GAZELOR DE ARDERE EMISE DE MICROCENTRALELE TERMICE "DE APARTAMENT" Livia Budişan, Ciprian Marchiş, Romana Vulturar, <u>Gh. Benga, in MULTIPLE NEGATIVE EFFECTS OF REPLACING CENTRAL HEATING SYSTEMS OF BUILDING BLOCKS IN ROMANIA WITH INDIVIDUAL THERMAL APPLIANCES FUELLED WITH NATURAL GAS ("APARTMENT" HEATERS, CONVECTORS, ETC.), <u>Gh. Benga</u>, D. Fowler, I. Haiduc, I.M. Năstase (Eds.), "Iuliu Haţieganu" University Press, Cluj-Napoca, 2nd Ed. 2004, pp. 130a,b.</u>
- 12. DETERMINAREA CANTITATIVĂ A SULFAȚILOR ŞI AZOTAȚILOR DIN CONDENSATUL GAZELOR DE ARDERE EMISE DE MICROCENTRALELE TERMICE "DE APARTAMENT" Ştefana Bâlici, Liviuța Budişan, <u>Gh. Benga</u>, in MULTIPLE NEGATIVE EFFECTS OF REPLACING CENTRAL HEATING SYSTEMS OF BUILDING BLOCKS IN ROMANIA WITH INDIVIDUAL THERMAL APPLIANCES FUELLED WITH NATURAL GAS ("APARTMENT" HEATERS, CONVECTORS, ETC.), <u>Gh. Benga</u>, D. Fowler, I. Haiduc, I.M. Năstase (Eds.), "Iuliu Hațieganu" University Press, Cluj-Napoca, 2nd Ed. 2004, pp.130c,d.

V. ORIGINAL PAPERS IN REFEREED SCIENTIFIC JOURNALS (Selected from over 350 papers)

- 1. L'ETUDE COMPARATIVE DES ACIDES AMINES LIBRES, SERIQUES ET BILIAIRES, DANS LES MALADIES DU FOIE, Adriana Popesco, <u>Gh. Benga</u>, D. Coman, V. Pop, Rev. Int. d'Hepatol., <u>16</u>, 1419- 1428, 1966.
- 2. ANALIZA CROMATOGRAFICĂ A AMINOACIZILOR LIBERI DIN BILĂ ÎN ATEROMATOZĂ, Gh. Benga, D. Coman, Spitalul, 15, 312-315, 1967.
- 3. MODIFICĂRILE ACIZILOR NUCLEICI ȘI ALE AMINOACIZILOR LIBERI ÎN MALFORMAȚIILE CONGENITALE, Adriana Hodârnău, Mirela Căprioară, D. Coman, <u>Gh. Benga</u>, V. Pop, Obstretica și Ginecologia, <u>17</u>, 193-198, 1969.
- 4. MODIFICĂRILE AMINOACIZILOR LIBERI SERICI ŞI URINARI ÎN INSUFICIENȚA RENALĂ ACUTĂ ŞI CRONICĂ, D. Coman, <u>Gh. Benga</u>, Mirela Căprioară, V. Pop, Medicina Internă, <u>10</u>, 108-117, 1969.
- 5. CERCETĂRI PRIVIND UNELE MODIFICĂRI ELECTROLITICE ÎN REUMATISMUL BOUILLAUD-SOKOLSKI ŞI ENDOCARDITELE RECIDIVANTE (Nota I), V. Gligore, Al. Duţu, Gh. Benga, G. Sopon, M. Schiau, Clujul Medical, 42, 481-488, 1969.
- 6. CERCETĂRI PRIVIND MODIFICĂRILE POTASIULUI ERITROCITAR ÎN REUMATISMUL BOUILLAUD-SOKOLSKI ȘI ENDOCARDITELE RECIDIVANTE (Nota II), Al. Duţu, <u>Gh. Benga</u>, E. Sopon, V. Gligore, Clujul Medical, 43, 153-157, 1970.
- 7. STABILITY AND ENZYMATIC PROPERTIES OF LIVER MITOCHONDRIA IN DILUTED SUSPENSIONS, O. Bârzu, <u>Gh. Benga</u>, L. Mureşan, Silvia Dancea, Rozalia Tilinca, Enzyme, <u>12</u>, 433-440, 1971.
- 8. INVOLVEMENT EXOGENOUS CYTOCHROME c IN THE OXIDATION OF THE ASCORBIC ACID IN THE TERMINAL SEGMENT OF THE RESPIRATORY CHAIN, O. Bârzu, Letitia Mureşan, Silvia Dancea, Cornelia Țărmure, Gh. Jebeleanu, Gh. Benga, Enzyme, 12, 626-634, 1971.
- 9. STUDY OF RESPIRATORY CHAIN IN SMALL AMOUNTS OF BIOLOGICAL MATERIALS. I STABILITY AND ENZYMATIC PROPERTIES OF LIVER MITOCHONDRIA IN DILUTED SUSPENSIONS, O. Bârzu, <u>Gh. Benga</u>, L. Mureşan, S. Dancea, R. Tilinca, Enzyme <u>12</u>, 433-448, 1971.
- 10. STUDY OF RESPIRATORY CHAIN IN SMALL AMOUNTS OF BIOLOGICAL MATERIALS. II INVOLVEMENT OF EXOGENOUS CYTOCHROME C IN THE OXIDATION OF ASCORBIC ACID IN THE TERMINAL SEGMENT OF THE RESPIRATORY CHAIN, O. Bârzu, L. Mureşan, S. Dancea, C. Ṭărmure, Gh. Jebeleanu, Gh. Benga, Enzyme 12, 626-634, 1971.
- 11. THE DETERMINATION OF PROTEINS IN LIPID RICH MITOCHONDRIAL SUSPENSIONS, Gh. Benga, Cornelia Țărmure, Adriana Hodârnău, Enzyme, 12, 574-577, 1971.
- 12. APLICAȚIILE ULTRAMICROANALIZEI ÎN LABORATORUL CLINIC, NOTA II. DOZAREA PROTEINELOR ȘI A TRANSAMINAZELOR SERICE, Ileana Benga, <u>Gh. Benga</u>, Pediatria, <u>20</u>, 371-376, 1971.
- 13. SPECTROPHOTOMETRIC METHOD FOR ASSAY OF OXYGEN UPTAKE, IV. STUDY OF THE RESPIRATORY CHAIN IN SMALL AMOUNTS OF BIOLOGICAL MATERIALS, O. Bârzu, Letitia Mureşan, Gh. Benga, Analitycal Biochem., 46, 374-387, 1972.

- 14. CONDITIONS FOR ISOLATION AND STUDY OF ENZYMIC PROPERTIES OF HUMAN LIVER MITOCHONDRIA, <u>Gh. Benga</u>, Letitia Mureşan, Adriana Hodârnău, Silvia Dancea, Biochem. Med., <u>6</u>, 508 521,1972.
- 15. SEMNIFICAȚIA BIOLOGICĂ ȘI CLINICĂ A LATENȚEI ENZIMELOR LIZOZOMIALE ȘI MITOCONDRIALE, O. Bârzu, Letitia Mureșan, Adriana Hodârnău, Cornelia Țărmure, Rozalia Tilinca, Gh. Benga, Clujul Medical, 45, 375-381, 1972.
- 16. APLICAȚIILE ULTRAMICROANALIZEI ÎN CERCETAREA BIOCHIMICĂ ȘI DE LABORATOR (Nota I), I. Manta, Gh. Benga, Medicina Internă, 25, 277-284, 1973.
- 17. CARACTERIZAREA IMUNOCHIMICĂ A MITOCONDRIILOR DIN FICATUL UMAN, <u>Gh. Benga</u>, St. Cerc. Biochim, <u>16</u>, 251-260, 1973.
- 18. ASPECTE BIOCHIMICE ÎN ARSURILE EXPERIMENTALE (gr. III cu NaOH), TRATATE (IEPURI), E. Bozac, Gh. Benga, Oftalmologia, 17, 229-238, 1973.
- 19. APLICAȚIILE ULTRAMICROANALIZEI ÎN LABORATORUL CLINIC. NOTA III. DETERMINAREA FOSFORULUI ANORGANIC SERIC ȘI A FOSFATAZELOR ALCALINĂ ȘI ACIDĂ, <u>Gh. Benga</u>, Ileana Benga, Pediatria, <u>23</u>, 465-472, 1974.
- 20. HUMAN LIVER MITOCHONDRIA. III. ATP-ase ACTIVITY AS AN INDEX OF MITOCHONDRIAL DAMAGE, Gh. Benga, Letitia Mureşan, Biochem. Med., 10, 131-145, 1974.
- 21. FRACȚIONAREA SUBCELULARĂ A ȚESUTULUI HEPATIC UMAN. I. IZOLAREA FRACȚIUNII MITOCONDRIALE, Gh. Benga, St. Cerc. Biochim., 17, 123-135, 1974.
- 22. FRACȚIONAREA SUBCELULARĂ A FICATULUI UMAN. II. CARACTERIZAREA MITOCONDRIILOR ÎN CONDIȚII PATOLOGICE, Gh. Benga, St. Cerc. Biochim., 18, 83-91, 1975.
- 23. DIFFERENCES IN REACTIVITY OF CYTOCHROME OXIDASE FROM HUMAN LIVER MITOCHONDRIA WITH HORSE AND HUMAN CYTOCHROME c, <u>Gh. Benga</u>, Victoria Borza, Arch.Biochem.Biophys., <u>169</u>, 354-357, 1975.
- 24. INTERPRETATION OF ESR SPECTRA OF NITROXIDE-MALEIMIDE-LABELLED PROTEINS AND THE USE OF THIS TECHNIQUE IN THE STUDY OF ALBUMIN AND BIOMEMBRANES, Gh. Benga, S. J. Strach, Biochim. Biophys. Acta, 400, 69-79, 1975.
- 25. FACTORS INFLUENCING THE ESTABLISHMENT OF THE NORMAL VALUES OF THE RESPIRATORY ACTIVITIES OF HUMAN LIVER MITOCHONDRIA, C. Toader, I. Acalovschi, I. Toader, I. Manta, Adriana Hodârnău, Gh. Benga, Enzyme, 21, 232-242, 1976.
- 26. PROTEIN-LIPID INTERACTIONS IN BIOMEMBRANES. I. ALBUMINE-LIPOSOME MODEL SYSTEM SPIN LABEL STUDIES, <u>Gh. Benga</u>, D. Chapman, Revue roumaine de Biochim., <u>13</u>, 251-261, 1976.
- 27. INCREASED CONTENT OF HYDROPHOBIC AMINO ACID RESIDUES IN LIPID-RICH MITOCHONDRIAL MEMBRANES: A COMPARISON OF RAT AND HUMAN LIVER MITOCHONDRIA, Gh. Benga, W. Ferdinand, International J.Biochem., 8, 17-20, 1977.
- 28. EVALUATION OF A NUCLEAR MAGNETIC RESONANCE TECHNIQUES FOR THE STUDY OF WATER EXCHANGE THROUGH ERYTHROCYTE MEMBRANES IN NORMAL AND PATHOLOGICAL SUBJECTS, V.V. Morariu, <u>Gh. Benga</u>, Biochim.Biophys.Acta, <u>469</u>, 301-310, 1977.
- 29. APLICAȚIILE ULTRAMICROANALIZEI ÎN LABORATORUL CLINIC. CALIBRAREA MICROPIPETELOR, Gh. Benga, Clujul Medical, 50, 59-64, 1977.
- 30. A MEMBRANE DEFECT AFFECTING WATER PERMEABILITY IN HUMAN EPILEPSY, <u>Gh. Benga</u>, V.V. Morariu, Nature, <u>265</u>, 636-638, 1977.

- 31. MODIFICĂRI HIDROELECTROLITICE ÎN EPILEPSIA INFANTILĂ. I. DETERMINAREA ELECTROLIȚILOR INTRAERITROCITARI, Ileana Benga, Valeria Băltescu, <u>Gh. Benga</u>, Clujul Medical, 50, 258-260, 1977.
- 32. FRACȚIONAREA SUBCELULARĂ A FICATULUI UMAN. DETERMINAREA ACTIVITĂȚII ADENILAT KINAZEI, <u>Gh. Benga</u>, Rozalia Tilinca, Adriana Hodârnău, Valeria Băltescu, Victoria Borza, I. Acalovschi, Clujul Medical, <u>51</u>, 41-46, 1978.
- 33. HUMAN LIVER MITOCHONDRIA: RELATION OF A PARTICULAR LIPID COMPOSITION TO THE MOBILITY OF SPIN-LABELLED LIPIDS, <u>Gh. Benga</u>, Adriana Hodârnău, B. Böhm, Victoria Borza, Rozalia Tilinca, Silvia Dancea, I. Petrescu, W. Ferdinand, European J.Biochem., <u>84</u>, 625-633, 1978.
- 34. EFECTUL HIPOXIEI HIPOBARE ASUPRA LIZOZOMILOR RENALI DE ŞOBOLAN, I. Baciu, Liana Ivanof, Adina Mureşan, T. Pavel, <u>Gh. Benga</u>, Clujul Medical, <u>51</u>, 248-253, 1978.
- 35. CORRELATION BETWEEN LACTATE DEHYDROGENASE ACTIVITY AND BREAST TUMOR MALIGNANCY, G. Simu, Monica Crişan, Carmen Stugren, Gh. Benga, D. Poruţiu, Cellular and Molecular Biology, 23, 145-154, 1978.
- 36. FRACTIONATION OF HUMAN LIVER MITOCHONDRIA. ENZYMIC AND MORPHOLOGICAL CHARACTERIZATION OF THE INNER AND OUTER MEMBRANES AS COMPARED TO RAT LIVER MITOCHONDRIA, <u>Gh. Benga</u>, Adriana Hodârnău, Rozalia Tilinca, D. Poruţiu, Silvia Dancea, V.I. Pop, J. Wrigglesworth, J. Cell Science, <u>35</u>, 417-429, 1979.
- 37. COMPARATIVE ELECTRON MICROSCOPIC ASPECTS OF HUMAN LIVER MITOCHONDRIA IN SITU AND ISOLATED IN SUSPENSIONS, <u>Gh. Benga</u>, Silvia Dancea, D. Porutiu, Morphol.Embryol., 25, 205-208, 1979.
- 38. DOZAREA FOSFATULUI DIN FOSFOLIPIDELE SEPARATE PRIN CROMATOGRAFIE ÎN STRAT SUBȚIRE PE SILICAGEL, V.I. Pop, D. Poruțiu, <u>Gh. Benga</u>, Stud. Cerc. Biochim., <u>22</u>, 55-58, 1979.
- 39. EVIDENCE FOR VARIOUS DEGREES OF MOTIONAL FREEDOM OF THE BOUNDARY" LIPID IN CYTOCHROME OXIDASE, <u>Gh. Benga</u>, T. Porumb, P.T. Frangopol, Cell Biology International Reports, <u>3</u>, 651-657, 1979.
- 40. PROTEIN-LIPID INTERACTIONS IN BIOLOGICAL MEMBRANES: CYTOCHROME OXIDASE-LIPID COMPLEX: SPIN LABEL STUDIES, <u>Gh. Benga</u>, O. Popescu, V. I. Pop, Rev. roum. biochim., <u>16</u>, 175-181, 1979.
- 41. MODIFICĂRI HIDROELECTROLITICE ÎN EPILEPSIE. II. STUDIUL ELECTROLIȚILOR SERICI. (Na, K, Cl), <u>Gh. Benga</u>, Valeria Băltescu, V.I. Pop, Rozalia Tilinca, Adriana Hodârnău, O. Pavel, V. Ghiran, Ileana Benga, D. Muschevici, Clujul Medical, 52, 328-333, 1979.
- 42. A. NEW SPIN LABEL FOR SH GROUPS IN PROTEINS: THE SYNTHESIS AND SOME APPLICATIONS IN LABELLING OF ALBUMIN AND ERYTHROCYTE MEMBRANES, V.D. Sholle, E.Sh. Kagan, V.J. Michailov, E.G. Rozantsev, P.T. Frangopol, Maria Frangopol, V.I. Pop, <u>Gh. Benga</u>, Rev. roum. biochim., <u>17</u>, 291-298, 1980.
- 43. SPECIES RELATED FUNCTIONAL PROPERTIES OF MITOCHONDRIA. COMPARISON BETWEEN RAT AND HUMAN LIVER MITOCHONDRIA, <u>Gh. Benga</u>, I. Petrescu, Cornelia Țărmure, V.I. Pop, Rev. Roum. Biol. Biol. Anim., <u>2</u>, 147-154, 1980.
- 44. STUDII DE REZONANȚĂ MAGNETICĂ NUCLEARĂ (RMN) ASUPRA DIVIZIUNII APEI PRIN MEMBRANELE ERITROCITARE LA COPIII EPILEPTICI, V.V. Morariu, Ileana Benga, <u>Gh. Benga</u>, Buletinul Academiei de Științe Medicale, nr.2/1980, p. 32-37.
- 45. MARKERI DE SPIN. APLICAȚII ÎN BIOLOGIE, P.T. Frangopol, Maria Frangopol, M.S. Ionescu, V.I. Pop, Gh. Benga, Reprint ICEFIZ RB-3, noiembrie, 1980.

- 46. FOLOSIREA SPECTROMETRULUI RES ART-6 IFIN ÎN STUDII CU MARKERI DE SPIN, M.S. Ionescu, V. Strujan, Maria Frangopol, M. Ciobanu, V.D. Sholle, <u>Gh. Benga</u>, P.T. Frangopol, Reprint ICEFIZ RB-4, iunie, 1981.
- 47. EFFECTS OF TEMPERATRURE AND pH ON THE WATER EXCHANGE THROUGH ERYTHROCYTE MEMBRANES: NUCLEAR MAGNETIC RESONANCE STUDIES, V.V. Morariu, V.I. Pop, O. Popescu, <u>Gh. Benga</u>, J. Membrane Biology, <u>62</u>, 1-5, 1981.
- 48. ESTIMATION OF LIPID REGIONS IN A CYTOCHROME OXIDASE-LIPID COMPLEX USING SPIN LABELLING ELECTRON SPIN RESONANCE: DISTRIBUTION EFFECTS ON THE SPIN LABEL, <u>Gh. Benga</u>, T. Porumb, J. M. Wrigglesworth, J. Bioenergetics Biomembranes, <u>13</u>, 269-283, 1981.
- 49. APLICAȚIILE MARKERILOR DE SPIN ÎN STUDIUL MEMBRANELOR BIOLOGICE, Petre T. Frangopol, <u>Gh. Benga</u>, M.S. Ionescu, Maria Frangopol, O. Popescu, V.I. Pop, Buletinul Academiei de Ştiinţe Medicale, nr.1, 1982, p39-49.
- 50. IRREVERSIBLE INHIBITION OF WATER TRANSPORT IN ERYTHROCYTES BY FLUORESCEINMERCURIC ACETATE, <u>Gh. Benga</u>, V.I. Pop, M. Ionescu, R. P. Holmes, O. Popescu, Cell Biology International Reports, <u>6</u>, 775-781, 1982.
- 51. COMPARISON OF HUMAN AND RAT LIVER MICROSOMES BY SPIN LABEL AND BIOCHEMICAL ANALYSES, <u>Gh. Benga</u>, V.I. Pop, M. Ionescu, Adriana Hodârnău, Rozalia Tilinca, Petre T. Frangopol, Biochim.Biophys.Acta, <u>750</u>, 194-199, 1983.
- 52. EFFECT OF CHLORPROMAZINE ON PROTEINS IN HUMAN ERYTHROCYTE MEMBRANES AS INFERRED FROM SPIN LABELING AND BIOCHEMICAL ANALYSES, <u>Gh. Benga</u>, M. Ionescu, O. Popescu, V. I. Pop, Molecular Pharmacology, 23, 771-778, 1983.
- 53. WATER EXCHANGE THROUGH ERYTHROCYTE MEMBRANES. V. INCUBATION WITH PAPAIN PREVENTS THE p-CHLORMERCURIBENZEN-SULFONATE INHIBITION OF WATER DIFFUSION STUDIED BY A NUCLEAR MAGNETIC RESONANCE TECHNIQUE, <u>Gh. Benga</u>, O. Popescu, V.I. Pop, Cell Biology International Reports, <u>7</u>, 807-818, 1983.
- 54. WATER EXCHANGE THROUGH ERYTHROCYTE MEMBRANES: NUCLEAR MAGNETIC RESONANCE STUDIES ON THE EFFECTS OF INHIBITORS AND OF CHEMICAL MODIFICATION OF HUMAN MEMBRANES, <u>Gh. Benga</u>, V.I. Pop, O. Popescu, M. Ionescu, V. Mihele, J.Membrane Biol., 76, 129-137, 1983.
- 55. NMR STUDIES ON THE MECHANISM OF WATER DIFFUSION THROUGH HUMAN ERYTHROCYTE MEMBRANES, <u>Gh. Benga</u>, O. Popescu, R.P. Holmes, V.I. Pop, Bulletin of Magnetic Resonance, <u>5</u>, 265, 1983.
- 56. MODIFICĂRI HIDROELECTROLITICE ÎN EPILEPSIA INFANTILĂ. III. STUDIUL CONCENTRAȚIEI CALCIULUI PLASMATIC ERITROCITAR ȘI DIN LCR, Ileana Benga, Valeria Băltescu, Gh. Benga, Clujul Medical, 56, 139-141, 1983.
- 57. DIRECȚII DE DEZVOLTARE A BIOLOGIEI CELULARE, Gh. Benga, Forum, 6, 57-60, 1984.
- 58. A COMPARISON OF THE EFFECTS OF CHOLESTEROL AND 25-HYDROXY-CHOLESTEROL ON EGG YOLK LECITHIN LIPOSOMES-SPIN LABEL STUDIES, <u>Gh. Benga</u>, Adriana Hodârnău, M. Ionescu, V.I. Pop, P.T. Frangopol, V. Strujan, R.P. Holmes, F.A. Kummerow, Ann.N.Y.Acad.Sci., 414, 140-152, 1983.
- 59. THE EFFECT OF THE SATURATION AND ISOMERIZATION OF DIETARY FATTY ACIDS ON THE OSMOTIC FRAGILITY AND WATER DIFFUSIONAL PERMEABILITY OF RAT ERYTHROCYTES, <u>Gh. Benga</u>, B. D. Travis, V.I. Pop, O. Popescu, S. Toader, R.P. Holmes, Biochim.Biophys. Acta, <u>775</u>, 255-259, 1984.

- 60. CARACTERIZAREA MOLECULARĂ A FRACȚIUNILOR SUBCELULARE IZOLATE DIN FICATUL UMAN. 1. COMPOZIȚIA ȘI FLUIDITATEA MEMBRANELOR MITOCONDRIALE. Gh. Benga, Clujul Medical, 57, 95-102, 1984.
- 61. INFLUIENȚA ANESTEZICELOR INHALATORII HALOGENATE ASUPRA FUNCȚIEI MITOCONDRIILOR HEPATICE LA OM, I. Acalovschi, Gh. Benga, Chirurgia, 33, 309-318, 1984.
- 62. PLASMA AND CEREBROSPINAL FLUID CONCENTRATIONS OF MAGNESIUM IN EPILEPTIC CHILDREN, Ileana Benga, Valeria Băltescu, Rozalia Tilinca, O. Pavel, V. Ghiran, D. Muschevici, Gh. Benga, J. Neurol. Sci., 67, 29-34, 1985.
- 63. COMPARISON OF LIPOSOME ENTRAPMENT PARAMETERS BY OPTICAL AND ATOMIC ABSORPTION SPECTROPHOTOMETRY, Norma L. Yoss, O. Popescu, V.I. Pop, D. Poruţiu, F.A. Kummerow, Gh. Benga, Bioscience Reports, 5, 1-5, 1985.
- 64. WATER EXCHANGE THROUGH ERYTHROCYTE MEMBRANES: p-CHLOROMERCURIBENZENE SULFONATE INHIBITION OF WATER DIFFUSION IN GHOSTS STUDIED BY A NUCLEAR MAGNETIC RESONANCE TECHNIQUE, <u>Gh. Benga</u>, O. Popescu, V.I. Pop, Bioscience Reports, <u>5</u>, 223-228, 1985.
- 65. HALOTHANE CONCENTRATION IN LIVER MITOCHONDRIA, I. Acalovschi, R. Ciupe, V.I. Pop, Gh. Benga, Clujul Medical, 58, 261-266, 1985.
- 66. ATP-ase ACTIVITY OF MITOCHONDRIA ISOLATED FROM NEEDLE-BIOPSY LIVER SAMPLES OF DIABETIC SUBJECTS, Al. Duţu, Victoria Borza, N. Mosora, M. Motocu, <u>Gh. Benga</u>, Rev. Roum. Med. Med. Int., <u>23</u>, 201-206, 1985.
- 67. DECREASED WATER PERMEABILITY OF ERYTHROCYTE MEMBRANES IN PATIENTS WITH DUCHENNE MUSCULAR DYSTROPHY, Ana-Maria Serbu, Alice Marian, O. Popescu, V.I. Pop, Victoria Borza, Ileana Benga, Gh. Benga, Muscle & Nerve, 9, 243-247, 1986.
- 68. p-CHLOROMERCURIBENZENE SULFONATE BINDING BY MEMBRANE PROTEINS AND THE INHIBITION OF WATER TRANSPORT IN HUMAN ERYTHROCYTES, <u>Gh. Benga</u>, O. Popescu, V.I. Pop, R.P. Holmes, Biochemistry, <u>25</u>, 1535-1538, 1986.
- 69. WATER EXCHANGE THROUGH ERYTHROCYTE MEMBRANES: NUCLEAR MAGNETIC RESONANCE STUDIES ON RESEALED GHOSTS COMPARED TO HUMAN ERYTHROCYTES, <u>Gh. Benga</u>, Victoria Borza, O. Popescu, V.I. Pop, Ana Mureşan, J. Membrane Biol., 89, 127-130, 1986.
- 70. STUDII ASUPRA MECANISMELOR MOLECULARE ALE DIFUZIUNII APEI PRIN MEMBRANA ERITROCITULUI. I. MARCAREA PROTEINELOR MEMBRANEI CU UN INHIBITOR RADIOACTIV, <u>Gh. Benga</u>, O. Popescu, V.I. Pop, Victoria Borza, Ildiko Mocsy, Ana Mureşan, Adriana Hodârnău, St. Cerc. Biochim., <u>29</u>, 28-34, 1986.
- 71. WATER PERMEABILITY OF HUMAN ERYTHROCYTES: IDENTIFICATION OF MEMBRANE PROTEINS INVOLVED IN WATER TRANSPORT, <u>Gh. Benga</u>, O. Popescu, Victoria Borza, Ana Mureşan, V.I. Pop, I. Mocsy, A. Brain, J. Wrigglesworth, Eur. J. Cell Biol., <u>41</u>, 252-262, 1986.
- 72. CARACTERIZAREA MOLECULARĂ A FRACȚIUNILOR SUBCELULARE IZOLATE DIN FICATUL UMAN. 2. ACTIVITĂȚI ENZIMATICE MITOCONDRIALE IMPLICAȚII ÎN PATOLOGIE, <u>Gh. Benga</u>, Clujul Medical, <u>58</u>, 221-229, 1985.
- 73. THE EFFECT OF DIETARY FATTY ACIDS ON RAT ERYTHROCYTE MEMBRANES. SPIN LABEL STUDIES. <u>Gh. Benga</u>, Adriana Hodârnău, O. Popescu, V.I. Pop, F.A. Kummerow, R.P. Holmes, Rev. Roum. Biochim. <u>23</u>, 257-263, 1986.

- 74. FREEZE-FRACTURE ELECTRON MICROSCOPIC OBSERVATIONS ON THE EFFECT OF SULPHYDRYL GROUP REAGENTS ON HUMAN ERYTHROCYTE MEMBRANES. <u>Gh. Benga</u>, A. Brain, V.I. Pop, Adriana Hodârnău, J.M. Wrigglesworth, Cell Biol. Int. Rep., <u>11</u>, 679-687, 1987.
- 75. EFFECTS OF TEMPERATURE ON WATER DIFFUSION IN HUMAN ERYTHROCYTE AND GHOSTS NUCLEAR MAGNETIC RESONANCE STUDIES. <u>Gh. Benga</u>, V.I. Pop, O. Popescu, Adriana Hodârnău, Victoria Borza, Elena Presecan, Biochim. Biophys. Acta, <u>905</u>, 339-348, 1987.
- 76. MODIFICĂRI HIDROELECTROLITICE ÎN EPILEPSIA INFANTILĂ. 6. DETERMINAREA Cu ŞI Zn ÎN PLASMĂ ŞI LCR. Ileana Benga, D.L. Dumitraşcu, <u>Gh. Benga</u>, Clujul Medical, <u>40</u>, 313-316, 1987.
- 77. PROTEIN-LIPID INTERACTIONS IN BIOLOGICAL MEMBRANES SPIN LABEL STUDIES AND PHYSIOLOGICAL IMPLICATIONS. <u>Gh. Benga</u>, Molec. Aspects Med. <u>10</u>, 201-222, 1988.
- 78. WATER EXCHANGE THROUGH ERYTHROCYTE MEMBRANES: BIOCHEMICAL AND NUCLEAR MAGNETIC RESONANCE STUDIES REEVALUATING THE EFFECTS OF SULFHYDRYL REAGENTS AND OF PROTEOLYTIC ENZYMES ON HUMAN MEMBRANES. Gh. Benga, O. Popescu, Victoria Borza, V.I. Pop, Adriana Hodârnău, J. Membrane Biol., 108, 105-113, 1989.
- 79. STUDIES ON WATER PERMEABILITY AND PROTEIN ERYTHROCYTE MEMBRANES IN PATIENTS WITH DUCHENNE MUSCULAR DYSTROPHY. <u>Gh. Benga</u>, O. Popescu, V.I. Pop, Victoria Borza, Adriana Hodârnău, M. Popescu, Ana Maria Serbu, Ileana Benga, Muscle & Nerve, 12, 294-301, 1989.
- 80. THE EFFECT OF DIETARY FATTY ACIDS ON ATPase ACTIVITIES AND FLUIDITY OF RAT ERYTHROCYTE MEMBRANES, Adriana Hodârnău, B.D. Travis, <u>Gh. Benga</u>, V.I. Pop, O. Popescu, R.P. Holmes, Revue Roumaine de biochimie <u>26</u>, 33-39, 1989.
- 81. THE PROTEINS INVOLVED IN WATER TRANSPORT IN HUMAN ERYTHROCYTES. <u>Gh. Benga</u>, O. Popescu, V.I. Pop, Studia biophysica, <u>134</u>, 139-142, 1989.
- 82. PAŞI SPRE TEHNOLOGIA ADN-ULUI RECOMBINAT APLICAT ÎN MEDICINĂ. PURIFICAREA ADN-ULUI LEUCOCITAR UMAN. M. Podar, Elena Presecan, O. Popescu, <u>Gh. Benga</u>, Clujul Medical, <u>62</u>, 332-335, 1989.
- 83. PURIFICAREA ȘI ANALIZA TIPURILOR CONFORMAȚIONALE ALE PLASMIDEI pBR 322, M. Podar, O. Popescu, <u>Gh. Benga</u>, St. cerc. biochim. <u>32</u>, 169-173, 1989.
- 84. WATER DIFFUSIONAL PERMEABILITY OF RAT ERYTHROCYTES IS NOT INFLUENCED BY THE DIETARY FATTY ACIDS, V.I. Pop, O. Popescu, T. Smith, F.A. Kummerow, R. Holmes, <u>Gh. Benga</u>, Rev. Roum. Biochim, <u>27</u>, 27-31, 1990.
- 85. STEPS TO RECOMBINANT DNA TECHNOLOGY APPLIED TO MEDICINE. 2. THE ACTION OF EcoRI RESTRICTION ENZYME ON HUMAN DNA AND ELECTROPHORETIC SEPARATION OF DNA FRAGMENTS. M. Podar, D. Poruţiu, Elena Presecan, O. Popescu, <u>Gh.</u> Benga, Clujul Medical, 63, 45-50, 1990.
- 86. WATER DIFFUSIONAL PERMEABILITY OF RAT ERYTHROCYTE IS NOT INFLUENCED BY THE DIETARY FATTY ACIDS, V.I. Pop, O. Popescu, Terrance Smith, Fred A. Kummerow, Ross Holmes, Gh. Benga, Rev. Roum. Biochim., 27, 27-31, 1990.
- 87. ON MEASURING THE DIFFUSIONAL WATER PERMEABILITY OF HUMAN RED BLOOD CELLS AND GHOSTS BY NUCLEAR MAGNETIC RESONANCE. <u>Gh. Benga</u>, V.I. Pop, O. Popescu, Victoria Borza, J. Biochem. Biophys. Methods, 21, 87-102, 1990.
- 88. WATER TRANSPORT IN HUMAN RED CELLS: EFFECTS OF NON-INHIBITORY SULFHYDRYL REAGENTS ON MEMBRANE PROTEINS AND WATER EXCHANGE. Gh.

- Benga, O. Popescu, Victoria Borza, V.I. Pop, J.M. Wrigglesworth, Rev. roum. Biochim., <u>27</u>, 189-199, 1990.
- 89. THE BASAL PERMEABILITY TO WATER OF HUMAN RED BLOOD CELLS EVALUATED BY A NUCLEAR MAGNETIC RESONANCE TECHNIQUE. <u>Gh. Benga</u>, V.I. Pop, O. Popescu, Victoria Borza, Bioscience Reports, <u>10</u>, 31-36, 1990.
- 90. WATER TRANSPORT IN HUMAN RED CELLS: EFFECTS OF 'NON-INHIBITORY' SULFHYDRYL REAGENTS, <u>Gh. Benga</u>, O. Popescu, Victoria Borza, Adriana Hodârnău, V.I. Pop, J. Wrigglesworth, Biochim. Biophys. Acta, <u>1061</u>, 309-312, 1991.
- 91. AMINO ACID COMPOSITION OF BAND 3 PROTEIN FROM RED BLOOD CELLS OF NORMAL AND EPILEPTIC CHILDREN, <u>Gh. Benga</u>, V.I. Pop, O. Popescu, Ileana Benga, W. Ferdinand, Bioscience Reports, 11, 53-57, 1991.
- 92. AMINO ACID COMPOSITION OF HUMAN LIVER MITOCHONDRIAL MEMBRANES IN NORMAL AND PATHOLOGICAL CONDITIONS, <u>Gh. Benga</u>, Adriana Hodârnău, Rozalia Tilinca, Victoria Borza, W. Ferdinand, Bioscience Reports, 11, 95-100, 1991.
- 93. EFFECTS ON WATER DIFFUSION OF INHIBITORY AFFECTING VARIOUS TRANSPORT PROCESSES IN HUMAN RED BLOOD CELLS, <u>Gh. Benga</u>, O. Popescu, V.I. Pop, P. Hodor, T. Borza, Eur. Jour. of Cell Biol. <u>59</u>, 219-223, 1992.
- 94. ULTRASTRUCTURAL ASPECTS AND AMINO ACID COMPOSITION OF THE PURIFIED INNER AND OUTER MEMBRANES OF HUMAN LIVER MITOCHONDRIA AS COMPARED TO RAT LIVER MITOCHONDRIA, <u>Gh. Benga</u>, D. Poruţiu, A. Hodârnău, W. Ferdinand, Comp. Biochem. Physiol., 102 B, 123-128, 1992.
- 95. SCANNING ELECTRON MICROSCOPY OF RED BLOOD CELLS FROM ELEVEN SPECIES OF MARSUPIALS, Gh. Benga, D. Poruţiu, I. Ghiran, P.W. Kuchel, C.H. Gallagher, G.C. Cox, Comp. Haematol. Int., 2, 227-230, 1992.
- 96. COMPARATIVE NUCLEAR MAGNETIC RESONANCE STUDIES ON WATER DIFFUSIONAL PERMEABILITY OF RED BLOOD CELLS FROM MICE AND RATS, <u>Gh. Benga</u>, H. Matei, T. Borza, D. Poruţiu, C. Lupşe, Comp. Biochem. Physiol. Vol. 104A, 491-495, 1993.
- 97. COMPARATIVE NUCLEAR MAGNETIC RESONANCE STUDIES OF DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM SHEEP AND COW, <u>Gh. Benga</u>, T. Borza, O. Popescu, D. Poruţiu, H. Matei, Comp. Biochem. Physiol., 104B, 589-594, 1993.
- 98. NMR STUDIES OF DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM MACROPODID MARSUPIALS (KANGAROOS AND WALLABIES), <u>Gh. Benga</u>, B. E. Chapman, C.H. Gallagher, D. Cooper, P.W. Kuchel, Comp. Biochem. Physiol., <u>104A</u>, 799-803, 1993.
- 99. COMPARATIVE NUCLEAR MAGNETIC RESONANCE STUDIES OF DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM DIFFERENT SPECIES. V. RABBIT (ORYCTOLAGUS CUNICULUS). <u>Gh. Benga</u>, H. Matei, T. Borza, D. Poruţiu, C. Lupşe, Comp. Biochem. Physiol., 106B, 281-285, 1993.
- 100. NMR STUDIES OF DIFFUSIONAL WATER PERMEABILITY OF ERYTROCYTES FROM EIGHT SPECIES OF MARSUPIALS. <u>Gh. Benga</u>, B.E. Chapman, C. Gallagher, N. S. Agar, P. W. Kuchel, Comp. Biochem. Physiol., <u>106A</u>, 515-518, 1993.
- 101. NMR STUDIES OF DIFFUSIONAL WATER PERMEABILITY FROM EIGHT SPECIES OF MARSUPIALS. <u>Gh. Benga</u>, B.E. Chapman, C. Gallagher, N. Agar, P. Kuchel, Comp. Biochem. Physiol., 106B, 573-590, 1993.
- 102. NMR STUDIES OF DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM THE ECHIDNA (TACHYGLOSSUS ACULEATUS). <u>Gh. Benga</u>, G.B. Ralston, T. Borza, B.E. Chapman, C.H. Gallagher, P. W. Kuchel, Comp. Biochem. Physiol., <u>107B</u>, 45-50, 1994.

- 103. COMPARATIVE NMR STUDIES OF DIFFUSIONAL WATER PERMEABILITY OF ERYTHROCYTES FROM SOME ANIMALS INTRODUCED TO AUSTRALIA: RAT, RABBIT AND SHEEP. Gh. Benga, B.E. Chapman, L.Hinds, P.W. Kuchel, Comp. Haematol. Int., 4, 232-235, 1994.
- 104. RELATIONSHIP BETWEEN THE GENETIC DEFECT AND ALTERATOINS OF ERYTHROCYTE MEMBRANES IN DUCHENNE MUSCULAR DYSTROPHY, Ileana Benga, Gh. Benga, Clujul Medical, 67, (3-4), 232-236, 1994
- 105. AMINO ACID COMPOSITION OF RAT AND HUMAN LIVER MICROSOMES IN NORMAL AND PATHOLOGICAL CONDITIONS, <u>Gh. Benga</u>, W. Ferdinand, Bioscience Reports <u>15</u>, 111-116, 1995
- 106. COMPARATIVE NUCLEAR MAGNETIC RESONANCE STUDIES OF DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM DIFFERENT SPECIES. VIII. ADULT AND FETAL GUINEA PIG (<u>CAVIA PROCELLUS</u>). <u>Gh. Benga</u>, T. Borza, H. Matei, P. Hodor, L. Frențescu, I. Ghiran, C. Lupșe, Comp. Haematol. Int., <u>5</u>, 106-111, 1995.
- 107. A FOURIER TRANSFORM INFRARED SPECTROSCOPIC INVESTIGATION OF THE HYDROGEN-DEUTERIUM EXCHANGE AND SECONDARY STRUCTURE OF THE 28-kDa CHANNEL-FORMING INTEGRAL MEMBRANE PROTEIN (CHIP28). P. I. Haris, D. Chapman, Gh. Benga, Eur. J. Biochem., 233, 659-664, 1995.
- 108. DIFFUSIONAL WATER PERMEABILITY OF MAMMALIAN RED BLOOD CELLS. <u>Gh. Benga</u>, T. Borza, Comp. Biochem. Physiol., <u>112B</u>, 653-659, 1995.
- 109. QUANTITATION OF THE WATER CHANNEL PROTEIN AQUAPORIN (CHIP28) FROM RED BLOOD CELLS BY DENSITOMETRY OF SIVER STAINED POLYACRYLAMIDE GELS, <u>Gh. Benga</u>, M. Banner, J.M. Wrigglesworth, Electrophoresis, <u>17</u>, 715-719, 1996.
- 110. COMPARATIVE NUCLEAR MAGNETIC RESONANCE STUDIES OF DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM DIFFERENT SPECIES. IX. AUSTRALIAN FERAL CHICKEN AND DOMESTIC CHICKEN (GALLUS DOMESTICUS). Gh. Benga, H. Matei, B.E. Chapman, B.T. Bulliman, C.H. Gallagher, N. S. Agar, P.W. Kuchel, Comp. Haematol. Int., 6, 92-95, 1996.
- 111. CORELAȚIE PARTICULARĂ GENOTIP-FENOTIP ÎNTR-UN CAZ DE FIBROZĂ CHISTICĂ CU MUTAȚIE ΔF-508, Mirela Filip, Paula Grigorescu-Sido, I. Frențescu, <u>Gh. Benga</u>, Clujul Medical, <u>71</u>, 247-250, 1997.
- 112. MODIFICĂRI ELECTRONOMICROSCOPICE TUBULARE ÎN RINICHIUL DE ŞOBOLAN WISTAR SUPUS SUCCESIV LIGATURII PARȚIALE UNILATERALE A ARTEREI RENALE ŞI IRADIERII, Adriana Olinic, Gh. Benga, D. Porutiu, M. Coca, Clujul Medical, 71, 217-221, 1997.
- 113. A SURVEY ON THE EFFECTS OF Hg ON THE WATER PERMEABILITY OF RED BLOOD FROM VARIOUS SPECIES, Gh. Benga, Metal Elements in Env. Med. and Biol., 57-60, 1998.
- 114. ACTUALITĂȚI ÎN DETERMINISMUL GENETIC, DIAGNOSTICUL ȘI TRATAMENTUL CISTINURIEI, Romana Vulturar, <u>Gh. Benga</u>, Clujul Medical, <u>71</u>, 307-310, 1998.
- 115. ETICA CERCETĂRII ȘTIINȚIFICE EXPERIMENTALE ȘI A INVESTIGAȚIILOR DE LABORATOR PE ȚESUTURI UMANE. <u>Gh. Benga</u>, În Vol. "Umanism și Deontologie Medicală", USSM Cluj, 33-38, 1989.
- 116. CISTINURIE CU HEMATURIE SEVERĂ ŞI INFECŢIE URINARĂ LA UN COPIL DE PATRU ANI, Romana Vulturar, A. Bizo, N. Miu, <u>Gh. Benga</u>, Clujul Medical, <u>71</u>, 387-389, 1998.
- 117. COMPARATIVE NMR STUDIES OF DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM DIFFERENT SPECIES. X. CAMEL (CAMELUS DROMEDARIUS) AND

- ALPACA (LAMA PACOS), <u>Gh. Benga</u>, S.M. Grieve, B.E. Chapman, C.H. Gallagher, P.W. Kuchel, Comp. Haematol. Int. 9, 43-48, 1999.
- 118. VALORIFICAREA CERCETĂRII ȘTIINȚIFICE, <u>Gh. Benga</u>, Raditer. Oncol. Med. <u>4</u> (3-4), 124-126, 1999.
- 119. COMPARATIVE CELL SHAPE AND DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM INDIAN ELEPHANT (ELEPHAS MAXIMUS) AND MAN (HOMO SAPIENS), <u>Gh. Benga</u>, P.W. Kuchel, B.E. Chapman, G.C. Cox, I. Ghiran, C.H. Gallagher, Comp. Haematol. Int. <u>10</u>, 1-8, 2000.
- 120. COMPARATIVE NUCLEAR MAGNETIC RESONANCE STUDIES OF DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM DIFFERENT SPECIES. XI. HORSES INTRODUCED TO AUSTRALIA AND EUROPEAN HORSES (EQUUS CABALLUS), Gh. Benga, H. Matei, L. Frentescu, B.E. Chapman, P.W. Kuchel, Comp. Haematol. Int. 10, 138-143, 2000.
- 121. COMPARATIVE STUDIES OF THE PROTEIN COMPOSITION OF RED BLOOD CELL MEMBRANES FROM EIGHT MAMMALIAN SPECIES, H. Matei, L. Frentescu, <u>Gh.Benga</u>, J.Cell. Mol. Med., <u>4</u>, 270-276, 2000.
- 122. PROBLEMS IN THE IDENTIFICATION BY IMMUNOBLOTING OF AQUAPORIN 1 IN THE HUMAN RED BLOOD CELL MEMBRANES, H, Matei, S. Smith Estabroek, <u>Gh. Benga</u>, Bull. Mol. Med., <u>3-5</u>, 51-55, 2000.
- 123. DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM VARIOUS VERTEBRATE SPECIES, Gh. Benga, Bull. Mol. Med, 7-8, 27-42, 2001.
- 124. COMPARATIVE NUCLEAR MAGNETIC RESONANCE STUDIES OF WATER PERMEABILITY OF RED BLOOD CELLS FROM THE MATERNAL VENOUS BLOOD AND THE NEWBORN UMBILICAL CORD BLOOD, <u>Gh Benga</u>, L. Frentescu, H. Matei, S. Tigan, Clin. Chem., Lab., Med. <u>39</u>, 606-611, 2001.
- 125. BASIC STUDIES ON GENE THERAPY OF HUMAN MALIGNANT MELANOMA BY USE OF THE HUMAN INTERFERON β GENE ENTRAPPED IN CATIONIC MULTILAMELLAR LIPOSOMES. MORPHOLOGY AND GROWTH RATE OF SIX MELANOMA CELL LINES USED IN TRANSFECTION EXPERIMENTS WITH THE HUMAN INTERFERON β GENE. Gh Benga, J. Cell. Mol. Med., 5, 402-408, 2001.
- 126. THE ANALYSIS FOR THE CYSTIC FIBROSIS MUTATION ΔF508 IN A GROUP OF PATIENTS FROM ROMANIA, L. Frențescu, Marina Nechyporenko, V. Pampuha, Emma Brownsell, Ludmila A. Livshits, M. Schwarz, L. Pop, Mirela Filip, E. Tomescu, I. Popa, <u>Gh. Benga</u>, Bul Mol. Med., <u>9-10</u>, 49-54, 2001.
- 127. THE ANALYSIS FOR THE BIG DELETION CFTRdele2,3 (21KB) IN A GROUP OF CYSTIC FIBROSIS PATIENTS FROM ROMANIA, L. Frențescu, Marina Nechyporenko, L. Pop, I. Popa, Ludmila A. Livshits, M. Schwarz, Gh. Benga, Bul Mol. Med., 9-10, 55-60, 2001.
- 128. COMPARATIVE NUCLEAR MAGNETIC RESONANCE STUDIES OF DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM DIFFERENT SPECIES. XIII. Dog (CANIS FAMILIARIS) and Cat (FELIS DOMESTICA), <u>Gh. Benga</u>, I. Ghiran, H. Matei, L. Frentescu, A. Florea, Comp. Clin. Path. <u>11</u>, 246-255, 2002.
- 129. EFFECTS OF p-CHLOROMERCURIBENZENE SULFONATE ON WATER TRANSPORT ACROSS THE MARSUPIAL ERYTHROCYTE MEMBRANE, <u>Gh. Benga</u>, B.E. Chapman, H.V. Matei, C. Gallagher, D. Blyde, P.W. Kuchel, J. Comp. Physiol., <u>172</u>, 513-518, 2002.
- 130. COMPARATIVE NMR STUDIES OF DIFFUSIONAL WATER PERMEABILITY OF RED BLOOD CELLS FROM DIFFERENT SPECIES: XIV. LITTLE PENGUIN, EUDYPTULA MINOR, Gh. Benga, BE Chapman, GC Cox, PW Kuchel, Cell Biol. Int. <u>27</u>, 921-928, 2003.

- 131. WHY IS THE TRANSMEMBRANE EXCHANGE OF WATER IN THE RED BLOOD CELL SO FAST? P.W. Kuchel and Gh. Benga, Bull. Mol. Med. Nos.15-17, 29-34, 2003.
- 132. COMPARISON OF THE PROTEIN COMPOSITION OF RED BLOOD CELL MEMBRANES FROM FOUR MARSUPIAL SPECIES AND A HUMAN, H. Matei, L. Frențescu, P.W. Kuchel, <u>Gh. Benga</u>, Bull. Mol. Med. No.22, 10-15, 2004