

# biochemistry international --- PhD Scientist Seeks American-German Career ---

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SUMMARY o

Directed multi-disciplinary scientific research in biomedicine, biochemistry, biology and scientific computing. o Received research awards from the National Institutes of Health and the German National Science Foundation (DFG). o Chosen to serve on the Editorial Board of Electrophoresis, an international scientific journal for electrophoretic applications in molecular biology and medicine. o Ph.D. in Biology, published 33 original research papers and 8 invited review articles in internationally recognized scientific journals. o Presented research papers at more than 15 major national and international scientific conferences. o Lectured at the National Institutes of Health in Bethesda, Maryland USA. Professor duties at the University of Hamburg in Germany. o Recognized by German Nobel laureate in chemistry for outstanding research. KEY TERMS o International Experience o Biomedicine o Bilingual (German & English) o Biology o Program Management o Biochemistry o Scientific Research & Development o Plant Physiology o Scientific Computing o Electrophoresis o Image Processing o Structural Analysis o Mathematical Modeling o Metabolism o Scientific Software o University Teaching o Mathematical Biology o US Green Card SIGNIFICANT EXPERIENCE SENIOR SCIENTIST Biostatistics, Justus-Liebig-University, Giessen, Germany o Secured a two-year Habilitation grant from the German National Science Foundation (DFG). Overall approval rate for such grants: 20 %. o Development of advanced computer-assisted procedures for capillary and conventional gel electrophoresis of DNA and proteins. Methods allow for the detection of peak/band inversion phenomena and the correct size determination of such anomalously migrating zones. o Collaboration with the Section on Macromolecular Analysis, LTPB, at the National Institutes of Health in Bethesda, Maryland, USA. o Plenary Lecture: Introduction to Mathematics. SENIOR SCIENTIST 1983-1993 Section on Macromolecular Analysis, Laboratory of Theoretical and Physical Biology (LTPB), NICHD, National Institutes of Health (NIH), Bethesda MD, USA o Published innovative 2-D electrophoretic procedures for the quality control of conjugated meningitis vaccines. Methods have also the potential of detecting DNA damaged by chemotherapeutic agents, evaluating the effectiveness of medical treatment. o Directed the development of image processing software for the evaluation of 2-D submarine-type agarose gels using non-denaturing conditions. o Developed mathematical-physical models for the characterization of DNA fragments (linear or circular) and proteins based on data obtained from capillary and conventional gel electrophoresis. o Incorporated computer modeling and data processing in user-friendly computer software (Macintosh and IBM desktop computers; Convex super-microcomputer (UNIX) and DEC-10 (Digital) mainframe computer). o Established methods of computer simulation and statistical analysis by using the programs MLAB (mathematical laboratory) and BRIGHT Stat-Pack. o Instituted detailed command procedures to be used with the IBM 3270 mainframe computer. o Collaborated in several projects with the National Center of Research Resources (NIH, Bethesda), the Division of Computer Research and Technology (NIH, Bethesda), the University of Texas Health Science Center (San Antonio, Texas), and the United States Department of Agriculture (Beltsville, Maryland). o Lectured Mathematical Biology at the Foundation for Advanced Education in the Sciences (Graduate School) at the NIH. ADDITIONAL EXPERIENCE UNIVERSITY LECTURER - University of Hamburg, Germany 1977-1983 o Professor duties at the University of Hamburg; coordinated and taught courses in physiology, anatomy and evolution for students in biology and medicine. o Analyzed and published the chemical structure of hormone metabolites using combined gas chromatography - mass spectrometry. o Conducted research in physiology within the framework of the scientific program Regulation of Development and Differentiation sponsored by the German National Science Foundation (DFG). o Organized the collaboration with the biochemistry and organic chemistry departments of the universities in Hamburg and Bremen, Germany. o Published scientific papers for the general public. MEMBERSHIPS AND HONORS 1995 - Society for Mathematical Biology 1995 - American Chemical Society 1995 - Canadian Society for Theoretical Biology 1994 - Editorial Board of Electrophoresis, an international scientific journal for electrophoretic applications in molecular biology, medicine and biochemistry 1985 - Federal European Society for Plant Physiology 1985 - Scandinavian Society for Plant Physiology 1984 - American Electrophoresis Society 1980 - Gesellschaft Deutscher Naturforscher und Aerzte o Peer reviewed scientific articles prior to publication. o Research Awards of the Fogarty International Center at the NIH. o Research and travel grants of the German Federation for Advancement in the Sciences (DFG). o Invited to author and co-author scientific review articles. o Chosen to substitute for a Professor while at the University of Hamburg. MEETINGS AND INVITED LECTURES 1995 The Third International Congress on Industrial and Applied Mathematics (ICIAM 95), Hamburg, Germany o Advanced computer-assisted gel electrophoretic applications. 1995 Electrophoresis'95, Rockville, Maryland: Advanced gel electrophoretic applications. 1994 Presentation at the Heinrich-Pette-Institute for Immunology and Virology (Prof. R. Dernick), University Hospital, Hamburg, Germany: Computer-assisted analysis of data derived from gel electrophoresis of DNA, viruses and vaccines. 1994 Tea seminar at Max-Planck-Institute for Biophysical Chemistry, Department of Biochemical Kinetics (Prof. Manfred Eigen), Goettingen-Nikolausberg, Germany: Computer-assisted gel electrophoretic analysis of DNA, intact viruses and conjugated vaccines based on a mathematical-physical model. 1993 Lecture at the Institute for Biochemistry, Justus-Liebig-University in Giessen, Germany: Characterization of DNA fragments, intact viruses and conjugated meningitis vaccines based on computer-assisted analysis of gel electrophoretic data. 1991 Lecture at the Barnett Institute in Boston (Prof. B. Karger), Massachusetts, USA: Automated evaluation of

electrophoretic data to provide information concerning molecular and gel fiber properties. 1991  
 Elektrophorese Forum '91, Technical University of Munich, Germany. 1990 Frontiers in Bioprocessing II,  
 Boulder, Colorado, USA. 1989 Electrophoresis Forum '89, Technical University of Munich, Germany. 1989  
 NIH/ADAMHA-Industry Collaboration Forum at the National Institutes of Health, Bethesda, Maryland, USA.  
 1989 Electrophoretic Techniques in Molecular Biology, American Electrophoresis Society Meeting, Washington  
 DC, USA. 1988 Meeting of the American Electrophoresis Society, Wild Dunes, Isle of Palms, South  
 Carolina, USA. 1988 Electrophoresis '88: 6th Meeting of the International Electrophoresis Society in  
 Copenhagen, Denmark. 1987 Annual Meeting of the American Electrophoresis Society in San Francisco,  
 California, USA. 1986 Lectures at the University of Giessen, Germany, and at the Max-Planck-Institute for  
 Experimental Medicine in Goettingen, Germany: Characterization of viruses and other subcellular particles  
 computer simulation of experimental data derived from agarose electro-phoresis. 1986 Electrophor  
 '86: 5th Meeting of the International Electrophoresis Society in London, UK. 1986 5th Congress of the  
 Federation of European Societies of Plant Physiology (FESPP) in Hamburg, Germany. 1986 Meeting of the  
 American Electrophoresis Society in Gaithersburg, Maryland, USA. 1986 17th Meeting of the Federation of  
 European Biochemical Societies (FEBS) in Berlin, Germany. 1985 Elektrophorese Forum '85, Technical  
 University of Munich, Germany. 1985 Lecture at the Heinrich-Pette-Institute for Immunology und Vir  
 in Hamburg, Germany: Computer-assisted agarose gel electrophoresis. 1984 Annual meeting of the American  
 Electrophoresis Society in Tucson, Arizona, USA. 1980 & 1982 Meetings of the 'Gesellschaft Deutscher  
 Naturforscher und Aerzte', Hamburg and Mannheim, Germany. 1979 & 1980 Annual Meetings of the 'Deutsche  
 Forschungsgemeinschaft' in the framework of the main program: Regulation of differentiation and  
 development of eucaryotes, 'Evangelische Akademie' in Tutzing, Germany. EDUCATIO  
 Ph.D. (Biology), University of Hamburg, Germany 1977 Diploma (Botany, Biochemistry, Microbiology), University of  
 Hamburg 1973 Pre-Diploma (Botany, Zoology, Chemistry, Physics), University of Hamburg PERSON  
 DATA VISA STATUS: US Permanent Resident (green card 06/92); German Citizen Bibliography and  
 references are available upon request

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