

Biography

Barry I. Schneider

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1 Education

- Brooklyn College BS/Chemistry, 1962; Cum Laude; Honors in chemistry
- Yale University, MS/Chemistry, 1964
- The University of Chicago, Ph.D, Theoretical Chemistry, 1968
Thesis Advisor: Professor R. Stephen Berry
- The University of Southern California, Postdoctoral Fellow
Post-doctoral Advisor: Professor Howard S. Taylor

2 Employment

- General Telephone and Electronics Laboratory, 1969-1972
 - Research in Atomic and Molecular Physics related to advanced lighting sources
 - Technological Forecasting
- Theoretical Division, Los Alamos National Laboratory, 1972 - 1991
 - Theoretical Chemistry and Physics
 - Quantum Chemistry
 - Atomic and Molecular scattering processes
 - Numerical Methods

- Computational Physics
- Physics Division, National Science Foundation, 1991 - 2009
 - Program Director, Theoretical Atomic, Molecular, and Optical Physics, Budget of \$4.4M/Yr
 - Program Director, Physics at the Information Frontier, Budget of \$9.5M/Yr
 - Program Director, Plasma Physics. Budget of \$6.0M/Yr
 - Office of Cyberinfrastructure, National Science Foundation, 2009 - 2014
 - Project Director, eXtreme Science and Engineering Discovery Environment (XSEDE), Budget of \$30M/Yr
- Division of Applied and Computational Mathematics National Institute of Standards and Technology, 2014 - present

3 Visiting Positions

- NIST, Guest Research Scientist, 2000-2001
- Poste Rouge, CNRS, Observatoire de Paris, France, 1980
- Alexander von Humboldt Award, University of Kaiserslautern, 1987

4 Honors and Awards

- Fellow of American Physical Society, 1983. Cited for seminal research in applications of many-body theory to atomic and molecular collisions
- Alexander von Humboldt Prize of German Government, 1987-1988. In recognition of theoretical and computational research in electron- molecule collisions
- Poste Rouge, CNRS, 1979-1980. Research in electron-molecule collisions
- NSF Directors Award for Collaborative Integration, 1997-1998

5 Professional Interests

- Theoretical Chemistry and Physics
- Molecular Physics
- Theory of scattering processes
- Photoionization
- Interaction of strong, short pulse radiation with atoms and molecules
- Applications of many-body theory to atomic and molecular systems
- Quantum Chemistry
- Calculation of the potential curves of ground and excited states of diatomic molecules
- Electron correlation
- Electron affinities of molecular ions
- Molecular polarizabilities
- Applications of Pseudo-Potentials to molecular systems
- Applications of large-scale computers to physics and chemistry
- Development of computer codes adapted to vector and parallel Processors
- Numerical Analysis
 - Solution of integral equations
 - Iterative methods for linear systems
 - Eigenvalue problems item Special functions item Time-dependent propagation methods

6 Professional Experience

- Co-organizer of West Coast Theoretical Chemistry Conference, 1975
- Instructor, Los Alamos Summer School For Atomic Physics, 1989-97
- High Performance Computing and Communications Coordinator, Physics Division - National Science Foundation, 1993
- Grand Challenge Coordinator MPS Directorate - National Science Foundation, 1993
- Review Board-Cornell Supercomputer Center, 1992-1997
- Proposal Processing Committee for MPS Directorate - National Science Foundation, 1994
- MPS Committee to investigate Basic Assumptions of NSF/Researcher/University/Congressional Interactions -National Science Foundation, 1994
- Chairman, Interagency Committee for Atomic, Molecular and Optical Science, 1993-1994
- Grand Challenge Coordinator for Interdisciplinary Activities - MPS Directorate - National Science Foundation, 1995.
- Optical Science and Engineering Working Group - National Science Foundation, 1996
- Chairman, National Science Foundation Plasma Science and Engineering Working Group, 1996-97
- Chairman, NSF/DoE Partnership in Basic Plasma Science and Engineering, 1997-1998
- APS Davisson-Germer Prize Selection Committee, 1998
- Vice-Chair and Chair-Elect APS Few-Body Topical Group, 1997-1999
- Chair, APS Few-Body Topical Group, 2000
- Visiting Scientist, National Institute of Standards and Technology, 1995-present

- Visiting Scientist, Theoretical Division, Los Alamos National Laboratory, 1991-present
- Organizer of workshop, Computational Methods for Few-Body Dynamical Problems, NIST, 2000
- Chairman, MPS Directorate, Information Technology Working Group, 2001-2002
- Chairman, Scientific Frontiers Working Group for Information Technology Initiative, 2001-2002
- Chairman, NSF/DoE Partnership in Basic Plasma Science and Engineering, 2001-2002
- Organizer, NSF workshop, Computation as a Tool for Discovery in Physics, 2001
- Reviewer of Computational Science Division, Daresbury Laboratory for EPSRC, 2002 and 2005
- MPS representative to NSF Cyberinfrastructure Working Group, 2003-2004
- Vice-Chair and Chair Elect, APS Division of Computational Physics, 2002-2003
- Chair, APS Division of Computational Physics, 2004-2005
- Program Chair, Conference in Computational Physics, 2005
- Internal Liaison, Grand Challenge Communities, 2009-2010
- Vice-Chair and Chair Elect, APS Division of Computational Physics, 2013-2015
- Editor, Computers in Science and Engineering, 2012-present
- Program Committee, Conference in Computational Physics, 2014

7 Postdoctoral Associates

- Professor Michael Morrison Department of Physics and Astronomy The University of Oklahoma Norman, Oklahoma
- Dr Diane Lynch Department of Chemistry and Biochemistry Kennesaw State University Kennesaw, GA
- Professor David Feder Department of Physics University of Calgary Calgary CA
- Professor Nicolai Nygaard DONG Energy, Skaeabaek, Denmark
- Dr Johannes Feist Departamento de Física Teórica de la Materia Condensada Universidad Autónoma de Madrid Madrid, Spain

8 Professional Societies

- American Physical Society
 - Division of Atomic, Molecular and Optical Physics
 - Division of Chemical Physics
 - Division of Computational Physics
 - Few Body Topical Group
- American Chemical Society