Spring 2000 Prizes and Awards

APS Announces Spring 2000 Prize and Award Recipients

Twenty-nine APS prizes and awards will be presented during special sessions at three spring meetings of the Society: the 2000 March Meeting, March 20-24, in Minneapolis, MN; the 2000 April Meeting, April 29 - May 2, in Long Beach, CA; and the spring meeting of the APS Division of Atomic, Molecular and Optical Physics, June 14 - 17, in Storrs, CT. Citations and biographical information for each recipient follow. Additional biographical information and appropriate Web links can be found at the APS Web site (http://www.aps.org). Nominations for most of next year's prizes and awards are now being accepted. For details, see pages 7 and 8 of this insert.

PRIZES

2000 WILL ALLIS PRIZE

John Francis Waymouth
Retired

Citation: "For his important contributions to the quantitative understanding and development of gas discharge light sources and for his leadership at the interface between the basic science and the industrial applications of plasmas."

Waymouth received a PhD degree in physics from MIT in 1950, and immediately joined the Lighting Division Laboratories of Sylvania Electric Products, Inc. He remained in this organization for the balance of his working career, although it experienced numerous changes of corporate identity. His early career was spent as an individual investigator studying the physics and chemistry of electric discharge lamps. He also made major contributions to the development of metal halide arch lamps, and holds many important patents on these devices. In 1969 he was promoted to be Director of R&D for the Lighting Group, a position he held until his retirement from GTE in 1988. He is presently active as a consultant in the area of discharge lamps.

2000 BIOLOGICAL PHYSICS PRIZE

Paul K. Hansma
University of California, Santa Barbara

Citation: "For pioneering contributions to the development of biological scanning probe microscopy and for the molecular resolution imaging of biological molecules in aqueous solutions."

Hansma received his PhD in physics from the University of California at Berkeley. He then became an Assistant Professor, to the University of California at Santa Barbara, where his research evolved through inelastic electron tunneling and Scanning Tunneling Microscopes to Atomic Force Microscopes (AFMs) for applications in biology and medicine. He collaborates with many biologists, especially his wife of 30 years, Helen, a biochemist. His group now has prototypes for a new generation of AFMs that can use cantilevers on order of magnitude smaller than used in current commercial AFMs.

2000 OLIVER E. BUCKLEY PRIZE

Gerald J. Dolan
Private Consultant

Theodore A. Fulton
Lucent Technologies

Marc A. Kastner
Massachusetts Institute of Technology

Citation: "For pioneering contributions to single electron effects in mesoscopic systems."

Dolan received his PhD in physics from Cornell University in 1973. He undertook a post-doctoral position at SUNY, Stony Brook, NY in 1973 and then moved to AT&T Bell Laboratories, where he worked until 1987. He then worked at the IBM T. J. Watson Research Center for two years, after which he moved on to the University of Pennsylvania. Currently, Dolan is working as a consultant for Immunicon Corporation in Pennsylvania. This recent work involves physics for medical improvements, although his primary work in physics has been on low temperature physics and electron beam lithography and microscopy.

Fulton received his PhD in experimental physics from Cornell University in 1966. Hen then joined Bell Laboratories where he ultimately became a Distinguished Member of the Technical Staff. There he has worked closely with many valued colleagues, at first on Josephson-junctions and recently on single-electron phenomena. He retired from Bell Laboratories in 1996, but has remained involved there as a consultant. Currently he is a part of an ongoing collaboration that employs a scanning electrometer based on the single-electron transistor to obtain sub-micron images of surface electric fields.

Kastner received his PhD in physics in 1972 from the University of Chicago. He joined the MIT Department of Physics in 1973, and became Donner Professor in 1989. Kastner currently studies semiconductor nanostructures and the magnetic and electronic properties of high temperature superconductors. Using nanostructures, with colleagues at IBM, the Weizmann Institute and MIT, he has shown that a droplet of electrons confined in a small region behaves like an artificial atom, in that both the charge and energy are quantized. A transistor containing such a droplet turns on and off every time an electron is added and is therefore called a single electron transistor (SET). In 1995 he received the APS David Adler Lectureship Award.

2000 DAVISSON-GERMER PRIZE IN ATOMIC OR SURFACE PHYSICS

William Happer
Princeton University

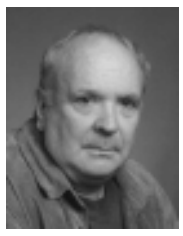
Citation: "For his research leading to fundamental understanding and applications of atomic processes on spin or excitation transfer through atomic collisions."

Happer received his PhD degree in physics from Princeton University in 1964. He was a member of the Physics Department of Columbia University from 1964 until 1980, when he joined the faculty at Princeton University. From 1991 until 1993 he served as Director of Energy Research in the Department of Energy, where he oversaw a basic research budget of some $3 billion. He returned to Princeton University in 1993, and was awarded the APS Herbert P. Broida Prize in 1997. His current research interests are focused on how on various gas-phase collisional interactions and wall interactions limit the large spin polarization produced by optical pumping of the magnetic resonance imaging isotopes, 3He and 129Xe. Happer's group at Princeton has designed and built MRI equipment using hyperpolarized gases.

2000 HIGH POLYMER PHYSICS PRIZE

Lewis J. Fetters
Exxon Research and Engineering Company

Citation: "For transforming the art of anionic polymerization into a powerful tool of polymer physics, creating and using polymers with precisely defined molecular architectures to advance our understanding of entanglement, miscibility, and microphase separation."



Fetters received his PhD in Chemistry from the University of Akron in 1962. He then completed a postdoctoral program at the Polymer Division of the National Bureau of Standards (now NIST) from 1963 to 1965. From 1965 to 1967, he worked as a chemist in the same division at the National Bureau of Standards. In 1967 he joined the faculty at the University of Akron, Department of Polymer Science as a Professor where he remained until 1983 when he became associated with the Exxon Research and Engineering Company. He has made many technological and scientific contributions to the study of polymer science.

2000 FRANK ISAKSON PRIZE

Paul Linford Richards
University of California, Berkeley

Citation: "For his development of innovative infrared techniques and pioneering research in far-infrared spectroscopy."

Richards received his PhD from the University of California at Berkeley in 1960, was a postdoctoral fellow at Cambridge University (England) in 1959-60, joined the technical staff of the Bell Telephone Laboratories in 1960, and the physics faculty at Berkeley in 1966. He has been a visiting scientist at Cambridge University, the Max Planck Institutes for Solid State Physics at Stuttgart and Radio Astronomy at Bonn, the Ecole Normale Superieure in Paris, the Paris Observatory, and the University of Rome. With students and collaborators, he has published more than 300 papers on far infrared and millimeter wave physics, including the development of measurement techniques.

2000 LILIENFELD PRIZE

Robert J. Birgeneau
Massachusetts Institute of Technology

Citation: "For using neutron and x-ray scattering to elucidate the structure, phase transitions, and excitations of materials that are paradigms of important statistical mechanical models, and for his ability to convey the excitement of physics to a broad range of audiences."

Birgeneau received his PhD in physics from Yale University in 1966. He was on the faculty of Yale for one year and then spent one year at Oxford University. He was at Bell Laboratories from 1968 to 1975 and then came to MIT in September 1975 as Professor of Physics. He has been at MIT since then. In 1988 he became head of the department and in 1991 became Dean of Science. Prof. Birgeneau's research is primarily concerned with the phases and phase transition behavior of novel states of matter. Birgeneau has also been honored by the APS Oliver E. Buckley Prize.

2000 JAMES C. MCGRODDY PRIZE

M. Brian Maple
University of California, San Diego

Citation: "For the synthesis of novel d and f electron materials and for the study of their physics."

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Maple is the Bernd T. Matthias Professor of Physics at the University of California, San Diego (UCSD). He received a PhD in physics from UCSD in 1969. His research interests include superconductivity, magnetism, strongly correlated electron phenomena, high pressure physics, and surface science. Maple served as chairman of the APS Division of Condensed Matter Physics in 1987, and presided over the celebrated high T_c superconductivity session (the "Woodstock of Physics") during the 1987 APS March meeting. Maple's honors and awards include the 1996 APS David Adler Lectureship Award.

2000 LARS ONSAGER PRIZE

J. Michael Kosterlitz
Brown University

Citation: "For the introduction with David J. Thouless of the theory of topological phase transitions, as well as his subsequent quantitative predictions by means of early and ingenious applications of the renormalization group."

Kosterlitz is a native of Aberdeen, Scotland and received a D. Phil. from Oxford University in 1969 in high energy physics. Following postdoctoral work at Torino University in Italy and Birmingham University, in 1971, he changed fields and collaborated with David Thouless on phase transitions driven by topological defects. In 1973, he went to Cornell as a postdoc and collaborated with Michael Fisher on more conventional phase transitions in magnetic systems. He returned to Birmingham in 1974 as a lecturer and worked on critical phenomena in two and higher dimensions. In 1982 he became Professor of Physics at Brown University. Most recently, he has worked on disordered systems such as spin and gauge glasses and also on the growth of eutectics.

David J. Thouless
University of Washington

Thouless was born in Bearsden, Scotland, in 1934, and received the BA degree from Cambridge University in 1955. He worked under Hans Bethe on nuclear matter, and received a PhD from Cornell University in 1958. He did postdoctoral work in Berkeley and in Birmingham. After four years at Cambridge, he was Professor of Mathematical Physics at Birmingham University from 1965 to 1978 where he collaborated with Michael Kosterlitz. Since 1980, he has been Professor of Physics at the University of Washington in Seattle, where his main interests have been in the Quantum Hall effect, in vortices in superfluids, and in other problems related to topological quantum numbers.

2000 GEORGE E. PAKE PRIZE

Chauncey Starr
Electric Power Research Institute

Citation: "For visionary leadership and physics contributing to the establishment of a worldwide nuclear power industry for peaceful purposes."

Starr was the founding President, and later Vice Chairman of the Electric Power Research Institute. After serving for more than a decade, he was appointed President Emeritus, the position he currently holds. From 1967 to 1973 he was Dean of the UCLA School of Engineering and Applied Science, following a 20-year industrial career, during which he served as Vice President of Rockwell International and President of its Atomics International Division. Starr received a PhD in physics in 1935 from Rensselaer Polytechnic Institute in Troy, New York. He then became a research fellow in physics at Harvard University. From 1938 to 1941, Starr was a Research Associate in cryogenics at the Bitter Magnet Laboratory of the Massachusetts Institute of Technology. In November 1990, Starr was awarded The U.S. National Medal of Technology for his outstanding career in industry and education, including his founding and leadership of EPRI, and major contributions in nuclear power, risk assessment, and energy studies.

2000 EARL K. PLYLER PRIZE

Michael D. Fayer
Stanford University

Citation: "For the development of optical and infrared ultrafast spectroscopic methods, and especially for experiments using these methods to measure dynamical processes in condensed phase systems."

Fayer received his PhD in chemistry in 1974. He then joined the faculty of the Department of Chemistry at Stanford University. Fayer's areas of research involve the development and application of ultrafast non-linear optical and infrared methods for the study of complex molecular condensed matter systems. Most recently, he has used ultrafast infrared pulses from a free electron laser and from optical parametric amplifier systems to perform vibrational echo studies of dynamics in liquids, glasses and proteins.

2000 HANS A. BETHE PRIZE

Igal Talmi
Weizmann Institute of Science

Citation: "For pioneering work on the shell model of the nucleus that laid the foundation of much of what we know about nuclear structure."

Talmi received his M.Sc from Hebrew University in Jerusalem, Israel in 1947. He subsequently served in the military for two years after which he attended the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland from 1949 to 1951 where he received his Dr. Sc. Nat. in 1952. From 1952 to 1954 he was a visiting Fellow at Princeton University, Princeton, NJ. In 1954 he joined the faculty at Weizmann Institute of Science where he has been associated ever since. He became a Professor of Physics in 1958, was Head of the Department of Nuclear Physics from 1967 to 1976, Dean of Physics from 1972 to 1984 and became Professor Emeritus in 1995.

2000 TOM W. BONNER PRIZE

Raymond G. Arnold
Stanford Linear Accelerator Center

Citation: "For his leadership in pioneering measurements of the electromagnetic properties of nuclei and nucleons at short distance scales that addressed the fundamental connection of nuclear physics to Quantum Chromodynamics and motivated new experimental programs."

Arnold received his PhD in physics from Boston University in 1972. He accepted a post-doctoral position in 1972 to work with Benson Chertok of American University on a series of experiments using the high energy electron beam at the Stanford Linear Accelerator Center to measure the structure of the deuteron, He, and various heavier nuclei. Throughout the 1980's and the 1990's, Arnold participated as group leader or spokesman in more than a dozen experiments measuring elastic and inelastic electron scattering at high energy to determine quark structure of the proton, neutron and various nuclei.

2000 DANNIE HEINEMAN PRIZE

Sidney Coleman
Harvard University

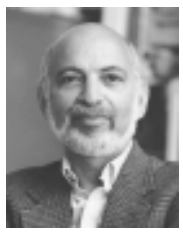
Citation: "For incisive contributions to the development and understanding of modern theories of elementary particles. Of particular note are his contributions to symmetry breaking and the roles played by internal and space-time symmetries as well as the structure of solutions to an important model in quantum field theory."

Coleman was born in Chicago in 1937. He received his PhD from Caltech in 1962. In 1961 he joined the staff of the Harvard Physics Department, where he remains today as Donner Professor of Science. The bulk of his research has been in theoretical high-energy physics, in particular in quantum field theory. He has contributed to the theories of strong-interaction symmetries, of spontaneous symmetry breakdown, of duality in two-dimensional field theories, of solitons and instantons, of the cosmological constant, and of quantum effects in black-hole dynamics. He is currently again working on black holes.

2000 W. K. H. PANOFSKY PRIZE

Martin Breidenbach
Stanford Linear Accelerator Center

Citation: "For his many contributions to e+e- physics, especially with the SLD detector at the Stanford Linear Collider. His deep involvement in all aspects of the project led to important advances both in the measurement of electroweak parameters and in accelerator technology."



Breidenbach received his PhD from MIT in 1970. His thesis work was the first deep inelastic electron proton scattering experiment at SLAC. He spent a year at CERN working with the Split Field Magnet group at the ISR. In 1972, he returned to SLAC to join the SLAC-LBL Magnetic Detector effort at SPEAR that discovered the Y and Y' in 1974. He continued on the Mark II detector at SPEAR and at PEP, until the SLC project started in 1980. He led the effort to build the SLC control system and began the conceptual design of the SLD detector. In 1984, he and Charles Baltay became co-spokesmen of SLD. The SLD and SLC made the world's most precise measurements of key electroweak parameters before the program was terminated in 1998. He is now involved in NLC and its detectors.

2000 ANEESUR RAHMAN PRIZE

Michael J. Creutz
Brookhaven National Laboratory

Citation: "For first demonstrating that properties of QCD could be computed numerically on the lattice through Monte Carlo methods, and for numerous contributions to the field thereafter."

Creutz received his PhD in physics from Stanford University in 1970. He worked as a Fellow of the Center for Theoretical Physics at the University of Maryland in 1970 and joined the staff at Brookhaven National Laboratory in 1972, where he is currently employed. His present field of research includes theoretical particle physics, numerical simulations of quantum field theory, and computational physics. Creutz serves on the editorial board of several technical publications. He chaired the APS Division of Computational Physics from 1994 - 1995. He also was a member of the APS Division of Particles and Fields Executive Committee from 1986 - 1988.

2000 PRIZE FOR RESEARCH IN AN UNDERGRADUATE INSTITUTION

Donald T. Jacobs
College of Wooster

Citation: "For his research contributions to critical phenomena in binary fluids, and for his sustained excellence and enthusiasm in promoting undergraduate research, both within and beyond his laboratory."

Jacobs is the Victor J. Andrew Professor of Physics at The College of Wooster at Wooster, Ohio. He completed his PhD at the University of Colorado, Boulder, in 1976 and immediately joined the faculty at Wooster. Jacobs has established a research program at Wooster that has experimentally investigated critical phenomena in a variety of liquid-liquid mixtures and analogous systems. Incorporating undergraduates in research projects has been an essential part of his student's education. He has directly supervised 78 students from seven different colleges or universities in extended research projects with 13 former students receiving their PhD. Many of his students have presented papers at regional and national conferences and 28 have been co-authors on research publications.

2000 J. J. SAKURAI PRIZE

Curtis G. Callan, Jr.
Princeton University

Citation: "For his classic formulation of the renormalization group, his contributions to instanton physics and to the theory of monopoles and strings."

Callan received his PhD in physics from Princeton in 1964. He was an assistant professor in the Harvard Physics Department and then a long-term member at the Institute for Advanced Study. In 1972, he returned to Princeton and has remained there ever since. His research has covered a wide range of topics, including soft-pion theorems for K-meson decays, the physics of magnetic monopoles, the formulation of string theory in curved spacetime and, most recently, the use of string theory to understand black hole entropy. He has also become very interested in the opportunities for physics and physicists to contribute to post-genomic biology.

2000 ROBERT R. WILSON PRIZE

Maury Tigner
Cornell University

Citation: "For notable contributions to the accelerator field as an inventor, designer, builder, and leader, including early pioneering developments in superconducting radio-frequency systems, inspiration and intellectual leadership for the construction of CESR, and leadership of the SSC Central Design Group."

Tigner obtained his PhD under Robert R. Wilson at Cornell University in 1962, and remained at Cornell for most of his career. His primary activities have been the support of particle physics through work on advancing the art and science of accelerators. Retiring from Cornell in 1994 as the Hans A. Bethe Professor of Physics, Tigner's post retirement activities have centered on the Institute for High Energy Physics in Beijing. This has involved working with colleagues there to strengthen connections with scientists abroad and to improve the capabilities of the BEPC collider and BES detectors and to collaborate in formulation of plans for the future of accelerator based particle physics in China.

AWARDS

2000 EDWARD A. BOUCHET AWARD

Philip W. Phillips
University of Illinois

Citation: "For opening new vistas in the study of disordered and strongly correlated condensed matter physics, including the random dimer model and the size dependence of the Kondo effect."

A native of Scarborough, Tobago, West Indies, Phillips received his PhD in physical chemistry from the University of Washington in 1982 and spent the next two years as a Miller Fellow at the University of California, Berkeley. In 1984 he joined the chemistry department at MIT, moving to the University of Illinois in 1993. His research in theoretical condensed matter physics confronts experimental observations that challenge the standard paradigms of transport and magnetism in disordered and correlated electron systems. Much of his recent work has been devoted to explaining the origin of the new conducting phase found in dilute, two-dimensional electron gas.

2000 JOSEPH KEITHLEY AWARD

Calvin F. Quate
Stanford University

H. Kumar Wickramasinghe
IBM

Citation: "For pioneering contributions to nanoscale measurement science through their leadership in the development of a range of nanoscale force microscopes that have had major impact in many areas of physics."

Quate received his PhD in 1950 from Stanford. From 1949 to 1958 he worked at Bell Laboratories and from 1959 to 1961 he was employed by the Sandia Corporation. In 1961 he joined the faculty of Stanford University. He was a Senior Research Fellow of the Xerox Palo Alto Research Center from 1983 to 1994. At Stanford, Quate is the Leland T. Edwards Professor (Research) of Electrical Engineering and Professor (Research) of Applied Physics by Courtesy. His research interests are centered on the scanning probe microscopes.

Wickramasinghe received his PhD degree in Electrical Engineering in 1974 from the University of London. After a post-doctoral appointment in the Applied Physics Department at Stanford University, he joined the Electrical Engineering Department, at University College, London, in 1978. In 1984, he joined IBM, T. J. Watson Research Center, where he is currently Manager of Imaging Science and Measurement Technology in the Physical Sciences Department. His research interests are focused on novel Scanning Probe Microscopes, near-field optics including its application to storage and in-situ measurements that improve the yield and/or throughput of manufacturing lines. He was chosen as a Centennial Lecturer for the APS in 1999.

2000 MARIA GOEPPERT-MAYER AWARD

Sharon C. Glotzer
National Institute of Standards & Technology

Citation: "For her ingenious use of computational physics to probe a wide range of novel materials under different conditions, and for demonstrating the existence and nature of spatially-correlated dynamic heterogeneities in glass-forming liquids."

Glotzer is a physicist in the Polymers Division of the Materials Science and Engineering Laboratory at NIST, and the co-founder and director of the NIST Center for Theoretical and Computational Materials Science. She received a PhD in physics from Boston University in 1993 and joined NIST that same year. Glotzer's research focuses on the theoretical and computational study of the structure and dynamics of soft materials, including polymers, dense liquids, glasses, colloids, liquid crystals and granular materials. Current interests include characterization of emergent spatial patterns in slow dynamics of disordered structures; filled polymers and nanocomposites; controlling fabrication and processing of mesoscale structure in blends; and the emergence of nanoscale structure and self-assembly in soft materials.

2000 JOSEPH A. BURTON FORUM AWARD

Steve Fetter
University of Maryland

Citation: "For developing the technical basis for diverse new initiatives in nuclear-arms control and nonproliferation policy and for communicating the relevant scientific results and their context effectively to policy makers and the public."

Fetter is an associate professor in the School of Public Affairs at the University of Maryland. He received a PhD in energy and resources from the University of California, Berkeley in 1985. Fetter serves on the Executive Committee of the APS Forum on Physics and Society, and on the National Academy of Sciences' Committee on International Security and Arms Control, and the National Council of the Federation of American Scientists. He has been a visiting fellow at the State Department, Stanford's Center for International Security and Arms Control, Harvard's Center for Science and International Affairs, MIT's Plasma Fusion Center, and Lawrence Livermore National Laboratory. He has published articles in *Science, Nature, Scientific American*, and *Arms Control Today*.

LECTURESHIPS

2000 DAVID ADLER LECTURESHIP AWARD

Bertram Batlogg
Lucent Technologies

Citation: "For his contributions to materials physics, including superconductivity, colossal magnetoresistance, heavy fermions and organic semiconductors, and his excellence in lecturing on materials science and industrial research to both scientific and lay audiences."

Batlogg is a native of Austria and received his higher education at ETH in Zurich, Switzerland, where he earned the Doctorate in Natural Sciences in 1979. He then joined AT&T Bell Laboratories to work on materials-based condensed matter physics. Since 1986 he has been head of the Materials Physics Research department. Batlogg's research has been focused mainly on highly correlated electron systems. Recently, he began studies of organic molecular crystals, with particular emphasis on the nature of charge transport in organic semiconductors.

2000 LEO SZILARD LECTURESHIP AWARDS

Jeremiah D. Sullivan
University of Illinois

Citation: "For leadership in addressing technically complex and often controversial national security issues, such as anti-ballistic missiles, stockpile stewardship, and a comprehensive test ban; and for setting a high standard for applying the rigorous methods of physics to the challenging problems of integrating advanced technology with sound policy in a democratic society."

Sullivan received a PhD in physics from Princeton University in 1964. After a postdoctoral appointment at the Stanford Linear Accelerator Center, he joined the faculty of the University of Illinois at Urbana-Champaign in 1967. The first two decades of his professional career were devoted primarily to teaching and research on the fundamental interactions of subatomic particles. Since that time, his research and professional interests have concentrated on security, arms control, and public policy. Sullivan has served on the APS Panel on Public Affairs and was a member of the APS Study Group on the Science and Technology of Directed Energy Weapons. He has been a consultant to the U.S. Government on science and technology issues via the JASON group since 1974. Sullivan is currently Chair of the DOE Nonproliferation and National Security Advisory Committee.

MEDALS

2000 JOHN H. DILLON MEDAL

Wesley Roth Burghardt
Northwestern University

Citation: "For important discoveries in the structure and flow properties of complex polymeric materials and pioneering experimental methods to study them."

Burghardt is an associate professor of Chemical Engineering at Northwestern University. He joined Northwestern in 1990, with a PhD from Stanford. Burghardt studies the dynamics of complex polymeric fluids, using *in situ* techniques to monitor flow-induced structural changes. His group has developed several novel applications of flow birefringence to study both isotropic and liquid crystalline polymers. More recently his focus has shifted to x-ray scattering methods. He is on academic leave at the University of Minnesota in the Chemical Engineering and Materials Science Department.

1999 NICHOLSON MEDAL

Mildred S. Dresselhaus
Massachusetts Institute of Technology

Fay Ajzenberg-Selove
University of Pennsylvania

Citation: "For being a compassionate mentor and lifelong friend to young scientists; for setting high standards as researchers, teachers and citizens; and for promoting international ties in science."

Dresselhaus has an A.B. from Hunter College, 1951, a PhD degree from the University of Chicago (1958), was an NSF postdoctoral fellow (1958-60), and has been at MIT since 1960, beginning as a staff member at Lincoln Laboratory. She joined the MIT faculty in the Department of Electrical Engineering & Computer Science in 1967, the Department of Physics in 1983, and became an Institute Professor in 1985. She has been active in research across broad areas of solid state physics, especially in carbon science. Her present research activities focus on carbon nanotubes, bismuth nanowires, low dimensional thermoelectricity, and novel forms of carbon. Dresselhaus is a former APS President (1984), and the recipient of the National Medal of Science.

Ajzenberg-Selove earned her PhD in physics from the University of Wisconsin in 1952 and spent a year as a lecturer at Smith College before joining the faculty of Boston University. In 1957 she moved to Haverford College, twice chairing the Department of Physics. In 1973 she became a professor of physics at the University of Pennsylvania. From 1971 to 1989 she was a visiting staff member at Los Alamos National Laboratory, and she has held numerous other research fellowships over the course of her career. She served as chair and organizer of a panel on women in physics at the February 1971 APS meeting, and as also served as chair of the Division of Nuclear Physics and on the APS Panel on Public Affairs. She is the author of *A Matter of Choices: Memoirs of a Female Physicist*, published in 1994.

DISSERTATIONS

2000 DISSERTATION IN BEAM PHYSICS AWARD

Mei Bai
Indiana University

Citation: "For her work in the theory, experimental demonstration, and clear explanation of a method using an RF dipole for overcoming intrinsic spin resonances in polarized proton acceleration"

Mei Bai received her BE in engineering from University of Electronic Science & Technology of China in 1989. She earned her MS in accelerator physics from the University of Science & Technology of China in 1992. For the next two years, she worked for National Synchrotron Radiation Laboratory, a 800 MeV electron storage ring facility. In 1994, she came to the U.S. to pursue a PhD at Indiana University. Two years later, she went to Brookhaven National Laboratory to work on her PhD thesis at the Alternating Gradient Synchrotron, completing her PhD in 1999. Her thesis, entitled "Overcoming Spin Intrinsic Resonance By Using an RF Dipole," centered on an novel method of avoiding depolarization due to intrinsic spin resonance by adiabatically exciting a large coherent motion. Currently, she is a research associate at BNL, using an RF dipole for linear & non-linear beam dynamics studies and spin manipulation at the Relativistic Heavy Ion Collider.

2000 NICHOLAS METROPOLIS AWARD

Michael Lawrence Falk
University of California, Santa Barbara

Citation: "For developing novel computational diagnostics to visualize the microscopic processes controlling deformation and fracture in simulated amorphous solids, and for using the insights obtained from the simulations to develop a dynamical theory of low-temperature shear deformation in those materials."

Falk received his BA in physics (1990) and MSE in computer science (1991) at the Johns Hopkins University, where he engaged in computational physics research regarding screening in colloidal system. In 1991 he was awarded the Luce Scholarship for travel to East Asia, and spent a year in Taejeon, South Korea at the Systems Engineering Research Institute of the Korean Institute of Science and Technology, investigating localization in quantum wells and wires. Upon returning to the U.S. in 1992, Falk began his graduate studies in physics at the University of California at Santa Barbara. He completed his PhD research in 1998, and accepted a postdoctoral position at Harvard University in the Division of Engineering and Applied Sciences working on problems of crack branching and crack front waves. His research currently focuses on microscopic theories of plasticity, nonequilibrium phenomena in materials and the dynamics of fracture.

2000 DISSERTATION AWARD IN NUCLEAR PHYSICS

John Arrington
Caltech

Citation: "For his significant contributions to the preparation, execution and analysis of measurements of inclusive high-energy electron scattering from nuclei. Observations of scaling phenomena observed in these cross sections provide insight into the role of nucleonic and subnucleonic degrees-of-freedom in the short-range structure of nuclei."

John Arrington graduated from the University of Wisconsin in 1990 with a BS in applied mathematics, engineering, and physics. He attended graduate school at the California Institute of Technology, with Brad Filippone as his thesis advisor. After working on experiments at SLAC and MIT-Bates, he spent three years at CEBAF (now Jefferson Lab), working on the setup of the detectors, electronics, and software in Hall C and participating in the first experiments run in the Hall. His thesis experiment was a measurement of inclusive electron scattering from nuclei to study the nuclear distributions of quarks and nucleons, with particular emphasis on the short range structure of nuclei. He received his PhD in 1998, and is currently a postdoctoral appointee in the Medium Energy Physics group at Argonne National Laboratory. He is a member of the HERM

Editor's Note: The 2000 Apker Award winners were announced in the January 2000 issue of APS News.

APS Council Announces 1999 APS Fellows

The APS Council elected 209 Members as Fellows of the Society at its November 1999 meeting. The names and citations of the new APS fellows are listed below. Nominations for fellowship are received by the APS headquarters throughout the year, and are forwarded for review to the appropriate division or topical group fellowship committees. These in turn forward their recommendations to the APS Fellowship Committee, chaired in 1999 by APS Vice President George Trilling (University of California, Berkeley/ Lawrence Berkeley National Laboratory).

Fellowship nomination forms may be obtained by writing to the APS Fellowship Office, One Physics Ellipse, College Park, MD, 20740-3844, by accessing the APS URL (http://www.aps.org), or by sending an email message to honors@aps.org. Deadlines for fellowship nominations in 2000 can be found on page 7 of the February 2000 *APS News*.

Abraham-Shrauner, Barbara
Washington University
Plasma Physics
For important theoretical contributions to a broad range of plasma topics, including: space plasmas, nonlinear dynamics, and plasma processing.

Alexander, James Paul
Cornell University
Particles & Fields
For leadership in the design and construction of the CLEO II silicon vertex detector and outstanding contributions to the discovery and study of charmless hadronic decays of B mesons.

Aprahamian, Ani
University of Notre Dame
Nuclear Physics
For showing the existence of multiphonon vibrational excitations in the low-energy spectra of both spherical and deformed nuclei.

Apruzese, John Patrick
Naval Research Laboratory
Plasma Physics
For significant and original studies of radiation in dense plasmas and the theory of plasma x-ray lasers.

Banks, Thomas
Rutgers University
Particles & Fields
For many important contributions to our understanding of confinement and chiral symmetry breaking in Quantum Field Theory, and for many contributions to String Theory, including Matrix Theory, the first nonperturbative formulation.

Barber, Herbert Bradford
University of Arizona
Biological Physics
For pioneering contributions to the development of semiconductor detector arrays for application to biomedical research and clinical nuclear medicine.

Bartelt, Norman Charles
Sandia National Laboratories
Materials Physics
For his pioneering work on the theory of thermal fluctuations and dynamic surface structure.

Bellettini, Giorgio
University of Pisa
Particles & Fields
For his leading role in the early design and construction of the CDF detector and as CDF co-spokesperson during the time the top quark discovery was being established.

Bennett, Charles L.
NASA/ Goddard Space Flight Center
Astrophysics
For leading the team that discovered the primordial anisotropy of the cosmic microwave background radiation with COBE data and for being the Principal Investigator for its successor, the Microwave Anisotropy Probe.

Bernatowicz, Thomas James
Washington University
Astrophysics
For measurements of the double beta decay of 128Te and 130Te and consequent limits of <1.5 ev on the Majorana mass of the neutrino, and for key contributions to the discovery and laboratory study of ancient stardust providing new insights into grain growth in stellar outflows.

Berrah, Nora
Western Michigan University
DAMOP (Atomic, Molecular, Optical)
For high-resolution work on few and many electron systems using lasers and synchrotron radiation leading to a better understanding of the interaction of light with matter.

Blatter, Johann (Gianni)W.
ETH Hönggerberg
DCMP (Condensed Matter)
For contributions to the theoretical understanding of macroscopic quantum phenomena of vortices in superconductors.

Brandenberger, John Russell
Lawrence University
Forum on Education
For stimulating incorporation of laser physics in undergraduate curricula, for advocacy of undergraduate research, and for creative leadership in building an exemplary undergraduate physics program.

Brau, Charles A.
Vanderbilt University
Physics of Beams
For his contributions to the development of free-electron lasers, and his discovery of the rare-gas halide excimer lasers.

Bray, Igor
Flinders University of South Australia
DAMOP (Atomic, Molecular, Optical)
For the codevelopment of the Convergent Close-Coupling theory which has unified the theoretical treatment of electron-atom collisions at all energies, for both excitation and ionization processes.

Brecher, Aviva
Volpe National Transportation Sys. Ctr
Forum on Physics & Society
For her many contributions to society in the areas of transportation research, environmental mitigation and strategic arms control.

Breckenridge, William Howard
University of Utah
Laser Science
For his pioneering contributions to state-to-state dynamics using laser pump-probe "bulb" methods, to half collision van der Waals methods in dynamics, and to laser spectroscopic characterization of bonding in metal/ rare-gas diatomic molecules.

Brock, Raymond
Michigan State University
Particles & Fields
For many contributions to experimental high energy physics and the D0 detector which have helped to establish the future direction of physics at FERMILAB.

Brooks, James Stephen
Florida State University
DCMP (Condensed Matter)
For experiments measuring magneto-transport properties in organic conductors..

Brown, Robert William
Case Western Reserve University
Forum on Industrial and Applied Physics
For industrial research and development advancing the performance of the magnetic-field system in magnetic resonance imaging, and for contributions to the knowledge, applications and teaching of MRI.

Canavan, Gregory Harger
Los Alamos National Laboratory
Forum on Physics & Society
For contributions leading to the improvement of military science and technology, and for his farsighted leadership in the transfer of developments in remote sensing and communications to the scientific, civilian, and commercial sectors.

Champagne, Arthur E.
University of North Carolina
Nuclear Physics
For his pioneering work in nuclear astrophysics in developing a quantitative connection between stable-beam spectroscopy measurements and direct radioactive-beam experiments.

Chen, Hudong
Exa Corporation
Computational Physics
For contributions to fundamental fluid and magnetohydrodynamic turbulence theory, pioneering work in discrete many-body systems and Lattice Boltzmann representations, and industrial applications and practical numerical methods based upon these ideas.

Cheng, David C.
IBM Almaden Research Center
Forum on Industrial and Applied Physics
For outstanding contributions to optical and magnetic recording technologies, producing broad impacts in the data storage industry, especially in the frontiers of high data rate and high density recording.

Coalson, Rob Duncan
University of Pittsburgh
Chemical Physics
For novel contributions to the theory of condensed phase quantum dynamics, including computational methodology and applications to optical spectroscopy and electron transfer; and for theoretical insights into macroion electrostatics, with applications to colloidal suspensions and crystals.

Coffey, William Thomas
Trinity College
Chemical Physics
For development of new methods for the solution of the nonlinear Langevin equation without the use of the Fokker-Planck equation, allowing the exact calculation of correlation times and mean first passage times.

Cohen, Robert S.
Boston University
Forum on History of Physics
For his scholarship and leadership in providing critical assessments of the advances made in modern physics and of the structure of the scientific community.

Collings, Peter John
Swarthmore College
Materials Physics
For his fundamental work in liquid crystal research particularly the optical properties of chiral liquid crystals and his leadership in the area of undergraduate education.

Collins, James Joseph
Boston University
Biological Physics
For the development of novel applications of nonlinear dynamics and statistical physics in biology and medicine.

Crawford, Roy Kent
Argonne National Laboratory
DCMP (Condensed Matter)
For the development of neutron scattering instruments and of data acquisition systems for pulsed neutron sources.

Deeney, Christopher
Sandia National Laboratories
Plasma Physics
For a series of contributions that coupled theory and experiments to increase the understanding of z-pinch physics, resulting in increased x-ray energy and power.

Dermer, Charles Dennison
Naval Research Laboratory
Astrophysics
For original contributions to gamma-ray astronomy and the theory of astrophysical radiation processes, and for the development of models of radiation from gamma-ray bursts, blazars, black holes, neutron stars, and the Sun.

Diehl, Renee
Pennsylvania State University
DCMP (Condensed Matter)
For structural studies of weakly-adsorbed species on surfaces.

DiVincenzo, David P.
IBM T. J. Watson Research Center
DCMP (Condensed Matter)
For contributions to the theory of quasicrystals, and to the theory of quantum information.

Downer, Michael C.
University of Texas
Laser Science
For fundamental contributions to nonlinear and ultrafast laser spectroscopy of solids and surfaces near the melting threshold and of gases and underdense plasmas near the thresholds of ionization and wakefield generation.

Duncan, James Henry
University of Maryland
Fluid Dynamics
For his meticulous investigations, using experiments and computations, of interfacial phenomena including breaking waves, cavitation bubbles and compliant surfaces.

Eides, Michael I.
Pennsylvania State University
Fundamental Const. Topical Group
For outstanding contribution in the development of the theory of high order corrections in QED bound states; for improvement of the accuracy of theoretical predictions for muonium hyperfine splitting and hydrogen Lamb shift by one-two orders of magnitude.

Elghobashi, Said E.
University of California, Irvine
Fluid Dynamics
For his many important contributions to fluid mechanics by application of direct numerical simulation to complex flows - including flows containing variations of density and heat release, and flows containing particles.

Endoh, Yasuo
Tohoku University
DCMP (Condensed Matter)
For neutron scattering experiments on one- and two-dimensional quantum magnets in high-temperature superconductors and their precursors.

Folkins, Jeffrey J.
Xerox Corporation
Forum on Industrial and Applied Physics
For applications of physics to electrophotography resulting in major innovations in the design of development subsystems and in color Xerographic marking systems.

Friedman, John L.
University of Wisconsin - Milwaukee
Gravitational Topical Group
For fundamental contributions to the theory of rotating stars, to topological aspects of general relativity, and to quantum gravity.

Fruchtman, Amnon
Cntr for Tech. Education, Holon
Plasma Physics
For original theoretical contributions to the phenomenon of fast magnetic field penetration into plasmas due to the Hall field, and to the theory of free electron lasers.

Fuoss, Paul Henry
AT&T Laboratories
Materials Physics
For pioneering contributions to the science of x-ray scattering, including anomalous scattering for amorphous materials, grazing incident scattering to study monolayers on surfaces and in-situ scattering during chemical vapor deposition.

Galison, Peter Louis
Harvard University
Forum on History of Physics
For his numerous and valuable contributions to the history and theory of the working of modern, large-scale physics.

Galvin, Mary E.
University of Deleware
Polymer Physics
For her contributions to the synthesis, structural understanding, and property optimization of electroluminescent polymers.

Garg, Umesh
University of Notre Dame
Forum on International Physics
For his pioneering studies of giant resonances and his nuclear structure investigations using gamma ray spectroscopic methods with large gamma ray detection arrays.

Garrett, Bruce C.
Pacific Northwest Laboratories
Chemical Physics
For contributions to the development of rate theories for polyatomic reactions in the gas-phase and the study of the kinetics of important environmental processes.

Gerber, Christoph Emanuel
IBM Research, Rüschlikon
Inst. & Measurements Topical Group
For his outstanding original contributions to the breakthrough of STM and AFM technology and his continuing support of the science community, which led to the tremendous advancement of the technique.

Gladding, Gary Earle
University of Illinois
Forum on Education
For leadership, pedagogical insights and creativity in adapting best-practice physics pedagogy to produce an innovative, integrated curriculum for calculus-based introductory physics courses appropriate for large research universities.

Glass, Leon
McGill University
Biological Physics
For development and application of methods of nonlinear dynamics to study physiological dynamics.

Glasser, Alan Herbert
Los Alamos National Laboratory
Plasma Physics
For contributions to the theory of toroidal ideal and resistive magnetohydrodynamic instabilities and their applications to plasma confinement for magnetic fusion energy research.

Gleiser, Marcelo
Dartmouth College
Astrophysics
In recognition of his contributions to early universe cosmology.

Goldberg Marvin
National Science Foundation
Particles & Fields
For his distinguished career in elementary particle research, including the discovery of the Omega Minus baryon, and other discoveries in meson spectroscopy, science education, and service to the community.

Goldman, Alan Ira
Iowa State University
DCMP (Condensed Matter)
For X-ray diffraction measurements elucidating the nature of quasicrystals, and for advances in magnetic X-ray scattering.

Goldman, Jack Terrance
Los Alamos National Laboratory
Nuclear Physics
For his many noteworthy contributions to our understanding of the structure and interactions of hadrons, and particularly for his work on the charge dependence of nuclear forces.

Greenberger, Daniel M.
City College of New York
APS
For his contributions to the foundations of quantum mechanics, particularly by proposing and explaining novel experiments in neutron interferometry and multi-particle quantum entanglement.

Groeneveld, Karl Ontjes
Wolfgang Goethe Universität
Forum on International Physics
For ingenious, inventive, pioneering, and creative exploration of several previously non-existent interfaces among atomic collisions in dilute gases vis-à-vis solids surfaces, and superconductors consistently generated over more than two decades.

Groom, Donald E.
Lawrence Berkeley National Laboratory
Particles & Fields
For original contributions to the study of cosmic rays, hadronic cascades, radiation at the SSC, CCD's for astronomical imaging, and to the Review of Particle Physics.

Gunnarsson, Olle R. L.
Max-Planck-Insititut
DCMP (Condensed Matter)
For work on the theory of photoemission spectroscopy.

Gurney, Bruce Alvin
IBM Almaden Research Center
Magnetism & Its Application
For leadership in the invention, implementation, and investigation of spin valve and giant magnetoresistive materials for recording sensors, and innovations in spin dependent transport and other phenomena in ferromagnetic layered structures.

Hagopian, Sharon Lee
Florida State University
Particles & Fields
For contributions to large collider experiments, developing and using graphical on-line displays and for searches of new states of matter linking quarks and leptons.

Hass, Michael
Weizmann Institute of Science
Nuclear Physics
For innovative experiments on parity violation in nuclear electromagnetic decay and on measurements of electromagnetic moments of short lived nuclear states via the development of transient hyperfine magnetic field and tilted foil techniques essential to align and polarize nuclei.

Haynes, William M.
N. I. S. T.
Inst. & Measurements Topical Group
In recognition of his technical contributions and exceptional leadership in the development of one of the world's pre-eminent research programs on the properties of fluids and fluid mixtures.

Heath, James Richard
U.C.L.A.
Chemical Physics
For the development of synthetic and characterization techniques for fabricating and assembling nanoscale materials, including size and shape control of Group IV quantum structures and metal insulator transitions in quantum dot artificial solids.

Heinzen, Daniel J.
The University of Texas, Austin
DAMOP (Atomic, Molecular, Optical)
For outstanding and groundbreaking work on cold-atom photoassociation spectroscopy.

Hepburn, John William
University of Waterloo
Laser Science
For important contributions to laser chemistry and laser spectroscopy, particularly in the area of applications of coherent vacuum ultraviolet radiation to threshold photoionization spectroscopy.

Herbst, Eric
The Ohio State University
Chemical Physics
For his fundamental paper with W. Klemperer which initiated the field of astrochemistry and for his continued extensive contribution which led to the current understanding of interstellar chemistry.

Hill, III, Wendell Talbot
University of Maryland
DAMOP (Atomic, Molecular, Optical)
For significant experimental contributions to our understanding of multiphoton dissociation and ionization of small molecules.

Hirshman, Steven Paul
Oak Ridge National Laboratory
Plasma Physics
For fundamental contributions to the theory of neoclassical transport in toroidal plasmas, theory and computation of two-dimensional and three-dimensional MHD equilibrium, and for analysis and optimization of three-dimensional toroidal systems.

Ho, Tin-Lun
The Ohio State University
DCMP (Condensed Matter)
For contributions to the understanding of superfluids.

Hofmann, Ingo
GSI, Darmstadt, Germany
Physics of Beams
For his pioneering research of collective instabilities in nonstationary high-current beams and for his scientific leadership role in developing accelerator systems for heavy ion inertial fusion.

Hughes, Richard J.
Los Alamos National Laboratory
DAMOP (Atomic, Molecular, Optical)
For work in the application of fundamental quantum mechanical principles to practical problems, including quantum computation and quantum cryptography, and for the development of experimental techniques in this regard.

Hunt, Earle R.
Ohio University
Statistical and Nonlinear Physics
For significant contributions in early NMR studies of matter, and pioneering experimental work on chaos control and stochastic resonance in spatio-temporal model systems.

Ice, Gene Emery
Oak Ridge National Laboratory
Materials Physics
For advances in x-ray resonant scattering techniques to study the many body problems of atomic electron rearrangements, local atomic disorder and magnetism, and for innovations in synchrotron x-ray optics.

Jacoboni, Carlo
Modena University
Computational Physics
For outstanding research and leadership in computational analysis of transport phenomena in solids.

Jena, Purusottam
Virginia Commonwealth University
Materials Physics
For his pioneering contributions to the understanding of electronic structure, equilibrium geometries, stability, electronic & magnetic properties of Atomic Clusters

Johnson, Mark A.
Yale University
Laser Science
For developing controlled sources of cold cluster anions and using infrared dissociation to elucidate the structure of water networks around anions.

Jones, Michael E.
Los Alamos National Laboratory
Plasma Physics
For the development of novel particle-in-cell simulation methods and their use in the study of the generation, transport, and stability of intense charged particle beams and plasmas.

Keiter, Hellmut
Universität Dortmund
DCMP (Condensed Matter)
For developing tools in the many-body theory of strongly-correlated electron systems.

Kerschen, Edward J.
University of Arizona
Fluid Dynamics
For fundamental contributions to the theoretical foundations of boundary-layer stability and transition to turbulence.

Kessler, Ernest G.
National Institute for Standards & Techn
Fundamental Const. Topical Group
For his numerous contributions to highest-accuracy measurements of constants of physics including x-ray wavelengths.

Key, Michael Hannam
Lawrence Livermore National Laboratory
Plasma Physics
For experimental work in laser plasma inertial confinement fusion including x-ray laser backlighting and x-ray lasers.

Kimura, Yoshitaka
High Energy Accelerator Res. Org.
Forum on International Physics
For the design, construction, and operation of the TRISTAN storage ring; and for his leadership role in accelerator science research in Japan.

Kirkpatrick, Larry Dale
Montana State University
Forum on Education
For exceptional contributions to physics education as textbook author, editor/columnist for Quantum magazine, and as coach of the US Physics Olympics Team.

Kogan, Vladimir G.
Iowa State University
DCMP (Condensed Matter)
For theoretical studies of magnetic properties of anisotropic type-II superconductors.

Kornfield, Julia A.
California Institute of Technology
Polymer Physics
For outstanding investigations of the order and dynamics of copolymers, liquid-crystalline polymers, blends, and thin films.

Kouveliotou, Chryssa
NASA/Marshall Space Flight Center
Astrophysics
For outstanding discoveries and significant advances in observational high-energy astrophysics, especially in the fields of gamma-ray bursts and magnetars.

Krasheninnikov, Sergei I.
Massachusetts Institute of Technology
Plasma Physics
For his contributions to the understanding of tokamak edge plasmas and atomic physics effects, long mean free path electron transports, and the influence of sheared electric fields on particle orbits.

Krim, Jacqueline
North Carolina State Universtiy
Materials Physics
For her pioneering contributions to surface science and nanotribology, especially studies of kinetic roughening and the development of quartz crystal microbalance as a major tool for probing atomic-scale friction.

Kung, Andrew H. C.
Academia Sinica
Chemical Physics
For significant contributions to the development of techniques for generating high resolution tunable vuv and xuv radiation and state-specific studies of chemical reaction dynamics using state of the art lasers.

Kurths, Juergen
University of Potsdam
Biological Physics
For the development of stochastic synchronization analyses applied to recordings from biological systems and for fundamental contributions to understanding nonlinear dynamical systems.

Kwok, Wai-Kwong
Argonne National Laboratory
DCMP (Condensed Matter)
For pioneering studies of the statics and dynamics of the vortex state in superconductors.

Lackner, Karl
Max-Planck-Institut für Plasmaphysik
Forum on International Physics
For his fundamental contributions to tokamak equilibrium, boundary layer and divertor physics and his leadership in international fusion research.

Lai, Ying-Cheng
University of Kansas
Statistical and Nonlinear Physics
For his many contributions to the fundamentals of nonlinear dynamics and chaos.

Leburton, Jean-Pierre
University of Illinois
DCMP (Condensed Matter)
For development of methods for solving the electronic structure of quantum dots.

Lee, Yuan-Pern
National Tsing-Hua University
Chemical Physics
For developing and applying novel spectroscopic techniques for characterizing radical species, particularly their kinetics and unstable structures.

Levi, Michael Edward
Lawrence Berkeley National Laboratory
Particles & Fields
For his contributions to techniques for high-precision beam energy determination at the SLC, and his leadership in the design of sophisticated electronics for colliding-beam detectors.

Libby, Stephen Bernard
Lawrence Livermore National Laboratory
APS
For the application of quantum field theory to diverse systems including perturbative quantum chromodynamics and transport in the quantum Hall effect, as well as inventing computational algorithms for radiation driven kinetics in plasmas, and the invention of novel short wavelength laser applications.

Liss, Tony Michael
University of Illinois
Particles & Fields
For playing a leading role in the discovery of the top quark, and for the construction of the central muon upgrade of the CDF detector, which helped make the discovery possible.

Lister, Christopher J.
Argonne National Laboratory
Nuclear Physics
For pioneering work in developing techniques for and studying the structure of nuclei far from stability.

Loong, Chun-Keung
Argonne National Laboratory
Materials Physics
For pioneering work in the development of chopper spectrometers at spallation neutron sources and their exploitation for important problems in materials physics and applied materials science.

Lopez, Ramon E.
University of Maryland
Forum on Education
For leadership of the Teacher-Scientist Alliance, for formalizing high-school teacher days at APS meetings, and for numerous other improvements to physics education at all levels.

Love, Sherwin T.
Purdue University
Particles & Fields
For the introduction and calculation of electron-positron annihilation energy-energy correlations in quantum chromodynamics and for contributions to the study of dynamical symmetry breaking in quantum field theory.

Lukens, James E.
SUNY Stony Brook
DCMP (Condensed Matter)
For the application of the Josephson effect to the study of fundamental physical problems and the development of advanced electronic devices.

Lykken, Joseph David
Fermilab
Particles & Fields
For his contributions to both the formal and phenomenological aspects of string theory and his work in string model building and the physical implications of supersymmetry.

Lyneis, Claude M.
Lawrence Berkeley National Laboratory
Nuclear Physics
For his fundamental contributions and recognized leadership in the development of ion source technology (especially ECR sources) which enabled new and exciting cutting-edge science to be carried out.

Malmuth, Norman David
Rockwell Science Center
Fluid Dynamics
For his fundamental contributions in nonlinear gasdynamics involving application of combined asymptotic and numerical methods to the understanding of transonic, hypersonic and plasma aerodynamics as well as industrial flows.

Marchetti, Alfred Paul
Eastman Kodak Co.
Forum on Industrial and Applied Physics
For creative and highly significant research on low-temperature photophysics of silver halide crystals; elucidating interactions among photoelectrons, holes, excitons, phonons, dopants, photographically important adsorbates, lattice defects, and surfaces.

Martin, Jr. Richard F.
Illinois State University
Forum on Education
For his pioneering role in establishing computational physics as an academic discipline and for developing innovative undergraduate computational physics curricula being implemented nation wide.

Matsuzawa, Michio
The University of Electro-Communications
Forum on International Physics
For original contributions to theoretical methods in both static and dynamic few body systems.

Mehl, Michael John
Naval Research Laboratory
Computational Physics
For outstanding contributions to the development of density functional theory and to its applications using the LAPW method, tight-binding Hamiltonians and methods based on localized charge densities.

Mickens, Ronald Elbert
Clark Atlanta University
APS
For his sustained service to the physics community and his original contributions on the applications of mathematics to the study of physical systems.

Migliori, Albert
Los Alamos National Laboratory
Forum on Industrial and Applied Physics
For the development of resonant ultrasound spectroscopy and its application in materials physics and technology.

Miksis, Michael J.
Northwestern University
Fluid Dynamics
For pioneering work on problems in multiphase flows including dynamics of contact-line motion, interfacial instabilities and effective media theory in bubbly fluids.

Miller, Robert Lynn
General Atomics
Plasma Physics
For original studies in optimizing magnetic configurations to improve plasma performance covering many advanced fusion devices including the discovery of a high beta noncircular tokamak with large indentation.

Millis, Andrew J.
Rutgers University
DCMP (Condensed Matter)
For contributions to the theory of strongly-correlated electron systems.

Mirau, Peter A.
Bell Laboratories, Lucent Technologies
Polymer Physics
For application of two- and three-dimensional NMR techniques to the determination of the structure and interactions of polymers in blends.

Mitchel, William Charles
Air Force Research Lab., Materials Dir.
Forum on Industrial and Applied Physics
In recognition of significant research in the study of defects in gallium arsenide, silicon carbide and other semiconductors.

Molinari, Elisa
University of Modena and INFM, Italy
Forum on International Physics
For her contribution to the theory of semiconductors and their interfaces, in particular, her fundamental work on electron-electron and electron-phonon interaction in nanostructures; and for her involvement in the training of young theorists from many countries and the organization of international conferences.

Msezane, Alfred Z.
Clark Atlanta University
DAMOP (Atomic, Molecular, Optical)
For continuing outstanding contributions to theoretical atomic physics, particularly the elucidation of small angle electron scattering through innovative theoretical approaches.

Müller, Alfred
University of Giessen
Forum on International Physics
For fundamental experimental studies of charge-changing collisions of highly charged ions, and for leadership in the application of heavy-ion storage rings to such studies.

Nagashima, Yorikiyo
Osaka University
Particles & Fields
For his contributions to our understanding of electroweak interactions through experimentation with leptons especially with neutrino beams and electron-positron collisions.

Neuffer, David Vincent
Fermilab
Physics of Beams
For his many important contributions over the past two decades to advancing the concept of a muon

Newman, Riley D.
University of California - Irvine
Gravitational Topical Group
For highly accurate tests of the fundamental laws of gravitational physics, and the development of improved precision measurement methods.

Niu, Qian
University of Texas, Austin
DCMP (Condensed Matter)
For contributions to the theories of quantum transport.

Norman, Eric B.
Lawrence Berkeley National Laboratory
Nuclear Physics
For experimental studies of the influence of astronomical environments on nuclear decay rates and their implications for nucleosynthesis.

Nozik, Arthur Jack
National Renewable Energy Laboratory
Chemical Physics
For his leadership role in the basic science of semiconductor-molecule interfaces, quantization effects in semiconductors, and applications of these interdisciplinary sciences to photon conversion.

Obregon, Octavio Jose
University of Guanajuato
Forum on International Physics
For his contributions to gravitation and mathematical physics, particularly the proposal and development of supersymmetric quantum cosmology and the promotion of science in Mexico, Central America and the Caribbean.

Ocko, Benjamin Mark
Brookhaven National Laboratory
DCMP (Condensed Matter)
For studies of the structure and phase behavior of liquid interfaces.

Oosterhuis, William T.
U. S. Dept. of Energy
Materials Physics
For his steady support of Materials-Condensed Matter Physics and large national user facilities.

Orozco, Luis A.
SUNY Stony Brook
DAMOP (Atomic, Molecular, Optical)
For vital contributions to measuring the antipositron mass, trapping and spectroscopy of Francium, and the quantum nature of the interactions of atoms and light.

Owens, Frank James
Army Armament Research & Development
Forum on Industrial and Applied Physics
For developing EPR as a tool to study phase transitions in solids, for developing methods to predict the stability of energetic materials and work on magnetic field induced electromagnetic absorption in superconductors.

Panarella, Emilo
Advanced Laser and Fusion Tech., Inc.
Forum on Industrial and Applied Physics
For pioneering theoretical and experimental contributions to the two-stage spherical pinch and it's commercialization as an industrial pulsed x-ray source.

Pederson, Mark R.
Naval Research Laboratory
Computational Physics
For significantly enhancing the density-functional-based predictive capabilities in molecular and cluster physics by unique developments, implementations and applications of novel computational algorithms.

Penttila, Seppo Ilmari
Los Alamos National Laboratory
Nuclear Physics
For his work on the development of polarized targets and beams leading to understanding of the nucleon-nucleon interaction at medium energies, nuclear structure, and parity violation in compound-nuclear states.

Perry, Robert James
The Ohio State University
Nuclear Physics
For the development of renormalization group coupling coherence and the identification of a simple confinement mechanism, which led to a constituent picture in light-front QCD.

Pfeifer, Peter M.
University of Missouri
DCMP (Condensed Matter)
For studies of strongly-disordered surfaces and for fundamental work in molecular superselection rules.

Pillet, Pierre
Laboratoire Ame Cotton
DAMOP (Atomic, Molecular, Optical)
For fundamental work in adiabatic population transfer, many body interactions in a frozen Rydberg gas, and the formation of cold molecules.

Pokrovsky, Valery
Texas A&M University
DCMP (Condensed Matter)
For contributions to the scaling theory of phase transitions and the commensurate-incommensurate phase transition.

Ram-Mohan, L. Ramdas
Worcester Polytechnic Institute
Computational Physics
For his development of powerful analytic and computational methods for the investigation of the properties of novel semiconductor heterostructures.

Randrup, Jørgen
Lawrence Berkeley National Laboratory
Nuclear Physics
For significant theoretical contributions towards the treatment and understanding of the dynamics of nuclear systems over a wide range of energies with particular attention to its basic quantal nature.

Ratchford, J. Thomas
George Mason University
APS
In recognition of his distinguished research on global science and technology policy and his dedication to the advancement of physics through administration and public service both nationally and internationally.

Redner, Sidney
Boston University
Statistical and Nonlinear Physics
For contributions to statistical physics as applied to reaction kinetics, transport in random media and polymers.

Reed, Kennedy J.
Lawrence Livermore National Laboratory
Forum on International Physics
For his tireless efforts to promote collaboration in atomic, molecular and optical physics among US, European and African laboratories and for his success in organizing international workshops to showcase these collaborations.

Riordan, Michael
Stanford Linear Accelerator Center
Forum on History of Physics
For his contributions to particle physics, the history of particle physics and solid state physics and his outstanding science writing.

Robbins, Mark Owen
Johns Hopkins University
Computational Physics
For his contributions to our understanding of the molecular origins of friction, lubrication, spreading and adhesion.

Rollins, Roger W.
Ohio University
APS
For his excellent reseach in chaos, superconductivity and his outstanding contributions to educational and research software, and dedication and service to the APS through the Ohio Section

Rosenberg, Leslie J.
M. I. T.
Particles & Fields
For his leadership role in beautiful and technically demanding experiments sensitive to dark matter axions, which could account for most of the mass in our galaxy.

Rosenthal, Michael D.
Arms Control & Disarmament Agency
Forum on Physics & Society
For leadership in the control of the spread of nuclear weapons, combining technical analysis with diplomatic expertise to help the United States achieve the extension of the Nuclear Non-Proliferation Treaty.

Roukes, Michael Lee
Caltech
DCMP (Condensed Matter)
For studies at low temperature of electronic, mechanical, and thermal phenomena on the nanometer scale.

Rubin, David L.
Cornell University
Physics of Beams
For sustained guidance and leadership of the accelerator group at CESR, the Cornell Electron Storage Ring, and in achieving world record luminosities in a colliding beam machine.

Safko, John Loren
University of South Carolina
Forum on Education
For leadership in teaching physics and astronomy to students from kindergarten through graduate school and K-12 teachers, using self-paced, distance-learning, and traditional approaches.

Schellman, Heidi Marie
Northwestern University
Particles & Fields
For her leadership in QCD physics and as spokesperson of E-665, the Tevatron muon scattering experiment.

Schissel, David Paul
General Atomics
Forum on Education
For developing innovative video and web-based K-12 resources for plasma physics and for providing student access to experimental facilities at the cutting edge of plasma physics research.

Schleich, Wolfgang Peter
Universität Ulm
Laser Science
For outstanding work on the correlated emission laser, interference in phase space, and quantum state holography.

Shayegan, Mansour
Princeton University
DCMP (Condensed Matter)
For the growth of novel advanced semiconductor materials and experimental studies of their properties.

Sher, Marc Taylor
College of William and Mary
Particles & Fields
For outstanding contributions to the study of Higgs bosons, particularly for the mass bounds following from vacuum stability.

Shimizu, Fujio
University of Electro-Communications
DAMOP (Atomic, Molecular, Optical)
For outstanding contribution to laser spectroscopy, laser cooling and atom optics.

Skiff, Frederick N.
The University of Iowa
Plasma Physics
For fundamental experiments on wave-particle interactions and the development of experimental techniques using laser-induced florescence.

Skrinsky, Alexander N.
The G. I. Brudker Institute
Forum on International Physics
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Slaughter, Milton Dean
University of New Orleans
Forum on Education
For creating effective programs that attract and educate minority and female physics students and involve historically black colleges and universities in forefront research.

Smith, Todd I.
Stanford University
Physics of Beams
For pioneering contributions in the development of the science and technology of superconducting radio frequency accelerators, free-electron lasers and their applications in various sciences.

Solomon, Paul M.
IBM T. J. Watson Research Center
Forum on Industrial and Applied Physics
For work on the limits of small semiconductor devices.

Sorkin, Rafael Dolnick
Syracuse University
Gravitational Topical Group
For his original contributions to quantum gravity based on partially ordered or casual sets of discrete spacetime; also for his idea of the role of quantum mechanical entanglement in understanding black hole entropy.

Starrfield, Sumner Grosby
Arizona State University
Astrophysics
For fundamental contributions to our understanding of the cause and evolution of the nova outburst involving forefront observational and theoretical studies of these explosions.

Stegeman, George I.
University of Central Florida
Laser Science
For pioneering contributions to nonlinear optics and optoelectronics, especially the study of nonlinear guided wave optics.

Stein, Daniel L.
University of Arizona
DCMP (Condensed Matter)
For contributions to the theory of disordered systems, and the stochastic dynamics of noisy nonequilibrium systems.

Stern, David P.
NASA/Goddard Space Flight Center
Forum on History of Physics
For his stimulating efforts over many years to develop the history of physics, especially geomagnetism, space physics and geophysics and for his work in encouraging historical preservation and library conservation.

Stubbs, Christopher
University of Washington
Astrophysics
For the detection of gravitational microlensing in the galactic halo and for his searches for new long-range forces.

Succi Sauro, Fausto
IAC-CNR
Computational Physics
For development and application of lattice Boltzmann and other computational methods that successfully marry continuum and statistical mechanical approaches to complex physics problems.

Taborek, Peter
University of California, Irvine
DCMP (Condensed Matter)
For experiments on the thermodynamics and kinetics of wetting.

Taylor, Beverly
Miami University
Forum on Education
For designing educational materials used effectively by K-12 science teachers, and particularly for developing and publicizing the physics of toys.

Thiel, Patricia A.
Iowa State University
Chemical Physics
For pioneering work on the surface structures, stabilities, and other properties of metal films and quasicrystals; also for elucidation of surface structure and chemistry of water on metals.

Tobochnik, Jan
Kalamazoo College
Forum on Education
For advancing and disseminating the methodology of computational physics and textbooks targeting undergraduate and graduate students.

Tonomura, Akira
Hitachi, Ltd.
APS
For observing the Aharonov-Bohm effect and also vortices and their motion in superconductors; and for developing the high-brightness field-emission electron beam and the high-resolution electron holography interference microscope.

Torkelson, John M.
Northwestern University
Polymer Physics
For imaginative and successful applications of flourescence spectroscopy to polymer physics issues ranging from free volume to free radical polymerization.

Trommsdorff, Hans Peter
Universite Joseph Fournier
Chemical Physics
For his fundamental contributions to proton and deuteron tunneling dynamics, quantum effects of protons in condensed phase molecular systems and the development of relevant spectroscopic techniques including holeburning and neutron scattering.

Uemura, Yasutomo J.
Columbia University
DCMP (Condensed Matter)
For innovative experimental measurements using muon spin relaxations in superconductivity and

Uzer, Turgay
Georgia Institute of Technology
DAMOP (Atomic, Molecular, Optical)
For original and creative insights into the dynamics of electrons and the relationships between classical and quantum mechanics.

van Dover, Robert Bruce
Bell Labs
Forum on Industrial and Applied Physics
For contributions to the understanding of magnetic materials and superconductors, particularly high-temperature superconductors.

Van Heuvelen, Alan
The Ohio State University
Forum on Education
For numerous diverse contributions and leadership in physics pedagogy, conceptual development, and problem-solving skills, for example the development of Active Learning Problem Sheets (ALPS) kits.

Vashishta, Priya
Louisiana State University
Computational Physics
For contributions in computational quantum, classical and statistical mechanical physics.

Viña, Luis
Universidad Autónoma de Madrid
Forum on International Physics
For his contributions to the understanding of optical properties of semiconductors and for his intense international collaborations and the development of new solid state spectroscopies in Spain.

Vinegar, Harold J.
Shell Development Company
Forum on Industrial and Applied Physics
For contributions to the science and technology of oil exploration and environmental remediation, particularly thermal methods for extracting hydrocarbons from the ground and for applications of NMR methods to well logging.

Walker, Arthur B.C.
Stanford University
Astrophysics
For pioneering contributions to x-ray spectroscopy and imaging of the solar corona including the analysis of atomic processes in high temperature plasmas and analysis of energy balance in the transition region and corona.

Walker, Thad Gilbert
University of Wisconsin
DAMOP (Atomic, Molecular, Optical)
For pioneering research in spin exchange, optical pumping, ultracold collisions, spin polarized beams and targets, laser cooling, and electron scattering.

Walls, Fred L.
N. I. S. T.
Inst. & Measurements Topical Group
For sensitive electronic detection techniques of stored ions and for the development and characterization of high-spectral-purity oscillators for atomic spectroscopy and atomic clocks.

Warhaft, Zellman
Cornell University
Fluid Dynamics
For substantial contributions to the understanding of transport and mixing in turbulence obtained through imaginative and careful experimental investigations.

Wei, Su-Huai
National Renewal Energy Laboratory
Computational Physics
For contributions to the understanding of electronic structures and stabilities of compounds, alloys, interfaces, superlattices and impurities using first-principles calculations and for development of the methods for such calculations.

Weidman, Patrick Dan
University of Colorado
Fluid Dynamics
For contributions toward the understanding of diverse fluid physics phenomena using a balance of theory and experiment.

Westfall, Gary D.
Michigan State University
Nuclear Physics
For his original and ground breaking contributions to both nuclear structure and heavy ion collision physics, and for his exceptional training of graduate students and contributions to undergraduate education.

Wheelon, Albert Dewell
Retired
Forum on Physics & Society
For a career devoted to national defense and space communication, and especially for scientific contributions to developing national technical means of verification, which have greatly furthered strategic arms control, national security, and global peace.

Whittum, David H.
Stanford Linear Accelerator Center
Physics of Beams
For experimental and theoretical contributions to the understanding of electron beam interactions with microwave structures and plasmas.

Wiff, Donald Ray
Kent State University
Forum on Industrial and Applied Physics
For research in solving mathematically ill-posed problems in polymer molecular weight and mechanical relaxation time distribution functions, and in developing molecular, insitu molecular and nanocomposite polymer concepts for high performance materials and micoelectromechanical system devices.

Willett, Robert L.
Bell Laboratories, Lucent Technologies
DCMP (Condensed Matter)
For the discovery of new phenomena in half-filled Landau levels.

Wilson, Kent R.
University of California, San Diego
Laser Science
For his development of photofragment spectroscopy, his pioneering work on the dynamics of chemical reactions in solution, and his recent innovations in ultrafast x-ray diffraction and absorption and quantum control.

Wiringa, Robert B.
Argonne National Laboratory
Nuclear Physics
For the development of realistic models of nuclear forces and their use in studies of the structure of nuclei and neutron stars with variational methods.

Wood, Colin E. C.
Office of Naval Research
Materials Physics
For pioneering and original contributions to the crystal growth of III-V materials by Molecular Beam Epitaxy, including the discovery of RHEED oscillation, delta-doping and low temperature GaAs.

Wootters, William Kent
Williams College
DAMOP (Atomic, Molecular, Optical)
For contributions on the foundations of quantum mechanics and groundbreaking work in quantum information and communications theory.

Wu, Chi
Chinese University of Hong Kong
Polymer Physics
For his light scattering study on coil-globule transition of single homopolymer chains, including first observation of the molten globule state.

Yelon, William B.
University of Missouri
Magnetism & Its Application
For his extensive and detailed studies of rare-earth transition metal materials using neutron scattering and in recognition of his position as a leading international authority in the field of neutron scattering.

Young, Peter Eric
Lawrence Livermore National Laboratory
Plasma Physics
For his experimental work on filamentation and channel formation of intense laser beams in laser-produced plasmas.

Young, Linda
Argonne National Laboratory
DAMOP (Atomic, Molecular, Optical)
For precision measurements in atomic structure and the development of laser-driven polarized hydrogen and deuterium sources.

Young, Kenneth
The Chinese University of Hong Kong
Forum on International Physics
For his seminal theory of optical resonances in microdroplet cavities and quainormal modes, and contributions to the organization and promotion of international physical societies throughout Southeast Asia.

Zamolodchikov, Alexander B.
Rutgers University
APS
For fundamental results in conformal and integrable quantum field theory.

Zeppenfeld, Dieter
University of Wisconsin
Particles & Fields
For pioneering contributions to the theoretical formulation of effective electroweak gauge boson interactions in a model-independent way and in the linear-sigma model, which initiated phenomenological and experimental studies of gauge boson anomalous couplings.

Zettl, Alex
University of California, Berkeley
DCMP (Condensed Matter)
For studies of electronic materials in reduced dimensions.

Zhang, Fu Chun
University of Cincinnati
DCMP (Condensed Matter)
For contributions to the theory of strongly-correlated electron systems.

Zunger, Alex
National Renewable Energy Laboratory
Materials Physics
For his work on the theoretical basis for first-principles electronic structure theory of materials, and for its imaginative use in the advancement of our knowledge of alloys, nanostructures and prediction of new materials.

Nomination Announcements

Call for Nominations for 2001 APS Prizes and Award

The following prizes and awards will be bestowed by the Society in 2001. Members are invited to nominate candidates to the respective committees charged with recommending the recipients. A brief description of each prize and award is given below, along with the addresses of the selection committee chairs to whom nominations should be sent. Please refer to the APS Membership Directory, pages A21-A40, for complete information regarding rules and eligibility requirements for individual prizes and awards, or visit the Prize and Awards page on the APS Web site at http://www.aps.org.

NOMINATION DEADLINE IS JULY 3, 2000, UNLESS OTHERWISE INDICATED.

PRIZES

HERBERT P. BROIDA PRIZE

Endowed by friends & family of Herbert P. Broida

Purpose: To recognize and enhance outstanding experimental advancements in the fields of atomic and molecular spectroscopy or chemical physics.

Send name of proposed candidate and supporting information to: W E Moerner; Dept of Chem & Biochem MC 0340; University of California, San Diego; 9500 Gilman Dr; La Jolla CA 92093-0340; Phone: (619) 822-0453; Fax: (619) 534-7244; Email: wmoerner@ucsd.edu

HANS A. BETHE PRIZE

Endowed by contributions from the Division of Astrophysics, the Division of Nuclear Physics and friends of Hans Bethe.

Purpose: To recognize outstanding work in theory, experiment or observation in the areas of astrophysics, nuclear physics, nuclear astrophysics, or closely related fields.

Send name of proposed candidate and supporting information to: Robert V Wagoner; Dept of Physics; Stanford Univ; Stanford CA 94305-4060; Phone: (650) 723-4561; Fax: (650) 723-4840; Email: Wagoner@leland.standford.edu

TOM W. BONNER PRIZE IN NUCLEAR PHYSICS

Endowed by friends of Tom W. Bonner.

Purpose: To recognize and encourage outstanding experimental research in nuclear physics, including the development of a method, technique, or device that significantly contributes in a general way to nuclear physics research.

Send name of proposed candidate and supporting information to: Barry R Holstein; Dept of Phys & Astron; Univ of Massachusetts; Amherst MA 01003; Phone: (413) 545-0320; Fax: (413) 545-0648; Email: HOLSTEIN@PHAST.UMASS.EDU

OLIVER E. BUCKLEY CONDENSED MATTER PHYSICS PRIZE

Endowed by AT&T Bell Laboratories.

Purpose: To recognize and encourage outstanding theoretical or experimental contributions to condensed matter physics.

Send name of proposed candidate and supporting information to: Sankar Das Sarma; Dept of Phys; Univ of Maryland; College Park MD 20742-4111; Phone: (301) 405-6145; Fax: (301) 314-9465; Email: sd5@umail.umd.edu

DAVISSON-GERMER PRIZE IN ATOMIC OR SURFACE PHYSICS

Established by AT&T Bell Laboratories (now Lucent Technologies).

Purpose: To recognize and encourage outstanding work in atomic physics or surface physics.

Send name of proposed candidate and supporting information to: Galen Fisher; Phys.&Physical Chem. Dept.; GM Research & Dev. Ctr.; MC 480-106-185; 30500 Mound Rd.; Warren, MI 48090; Phone: (810) 986-1312; Fax: (810) 986-8697; Email: gfisher@notes.gmr.com

DANNIE HEINEMAN PRIZE FOR MATHEMATICAL PHYSICS

Sponsored by the Heineman Foundation for Research, Educational, Charitable and Scientific Puruposes, Inc.

Purpose: To recognize outstanding publications in the field of mathematical physics.

Send name of proposed candidate and supporting information to: Barry Simon; Dept of Math 253-37; Caltech; 1201 E California Blvd; Pasadena CA 91125; Phone: (626) 395-4330; Fax: (626) 585-1728; Email: bsimon@caltech.edu

HIGH POLYMER PHYSICS PRIZE

Sponsored by the Ford Motor Company.

Purpose: To recognize outstanding accomplishment and excellence of contributions in high polymer physics research.

Send name of proposed candidate and supporting information to: Kenneth Steven Schweizer; Dept of Mater Sci & Engr; University of Illinois - Urbana; 1304 W Green St; Urbana IL 61801; Phone: (217) 333-6440; Fax: (217) 333-2736; Email: kschweiz@ux1.cso.uiuc.edu

IRVING LANGMUIR PRIZE

Established in 1964 by the General Electric Foundation.

Purpose: To recognize and encourage outstanding interdisciplinary research in chemistry and physics, in the spirit of Irving Langmuir.

Send name of proposed candidate and supporting information to: John C Tully; Dept of Chemistry; Yale University; 225 Prospect Street; New Haven, CT 06520; Phone: (203) 432-3934; Fax: (203) 432-6144; Email: tully@onsager.chem.yale.edu

JULIUS EDGAR LILIENFELD PRIZE

Sponsored by the Lilienfeld Trust.

Purpose: To recognize a most outstanding contribution to physics by a single individual who also has exceptional skills in lecturing to diverse audiences.

Send name of proposed candidate and supporting information to: William C Lineberger; JILA; Univ of Colorado; CB 440; Boulder CO 80309-0440; Phone: (303) 492-7834; Fax: (303) 492-8994; Email: WCL@JILA.colorado.edu

JAMES C. MCGRODDY PRIZE FOR NEW MATERIALS

Endowed by IBM.

Purpose: To recognize and encourage outstanding achievement in the science and application of new materials.

Send name of proposed candidate and supporting information to: Alan B Fowler; IBM T J Watson Res Ctr; PO Box 218; Yorktown Heights NY 10598; Phone: (914) 945-2105; Fax: (914) 945-4482; Email: Fowler@Watson.IBM.COM

LARS ONSAGER PRIZE

Endowed by Russell and Marion Donnelly.

Purpose: To recognize outstanding research in theoretical statistical physics including the quantum fluids.

Send name of proposed candidate and supporting information to: David Michael Jasnow; Dept of Phys; Univ of Pittsburgh; Pittsburgh PA 15260; Phone: (412) 624-9029; Fax: (412) 624-9163; Email: jasnow+@pitt.edu

GEORGE E. PAKE PRIZE

Endowed by the Xerox Corporation.

Purpose: To recognize and encourage outstanding work by physicists combining original research accomplishments with leadership in the management of research or development in industry.

Send name of proposed candidate and supporting information to: Hans J Coufal; K18/D1; IBM Almaden Res Ctr; 650 Harry Rd.; San Jose, CA 95120-6099; Phone: (408) 927-2441; Email: coufal@almaden.ibm.com

W.K.H. PANOFSKY PRIZE IN EXPERIMENTAL PARTICLE PHYSICS

Endowed by the friends of W.K.H. Panofsky and the Division of Particles and Fields.

Purpose: To recognize and encourage outstanding achievements in Experimental Particle Physics.

Send name of proposed candidate and supporting information to: Hendrik Weerts; Dept of Phys & Astron; Michigan State Univ; East Lansing MI 48824; Phone: (517) 355-7507; Fax: (517) 355-6661; Email: WEERTS@PA.MSU.EDU

EARLE K. PLYLER PRIZE FOR MOLECULAR SPECTROSCOPY

Sponsored by the George E. Crouch Foundation.

Purpose: To recognize and encourage notable contributions to the field of molecular spectroscopy.

Send name of proposed candidate and supporting information to: George W Flynn; Dept of Chem; Columbia University; 3000 Broadway MC 3109; New York, NY 10027; Phone: (212) 854-4162; Fax: (212) 932-1289; Email: flynn@chem.columbia.edu

I. I. RABI PRIZE IN ATOMIC, MOLECULAR AND OPTICAL PHYSICS

Endowed by family, friends and colleagues of I.I. Rabi.

Purpose: To recognize and encourage outstanding research in Atomic, Molecular and Optical Physics.

Send name of proposed candidate and supporting information to: Chris H Greene; JILA; Univ of Colorado; CB 440; Boulder CO 80309-0440; Phone: (303) 492-4770; Fax: (303) 492-5235; Email: CHG@JILACG.COLORADO.EDU

ANEESUR RAHMAN PRIZE FOR COMPUTATIONAL PHYSICS

Sponsored by the IBM Corporation and Argonne National Laboratory.

Purpose: To recognize and encourage outstanding achievement in computational physics research.

Send name of proposed candidate and supporting information to: Robert L Sugar; Phys Dept; University of California, Santa Barbara; Santa Barbara CA 93106; Phone: (805) 893-3469; Fax: (805) 893-2902; Email: SUGAR@PHYSICS.UCSB.EDU

J. J. SAKURAI PRIZE FOR THEORETICAL PARTICLE PHYSICS

Endowed by the family and friends of J.J. Sakurai.

Purpose: To recognize and encourage outstanding achievement in particle theory.

Send name of proposed candidate and supporting information to: Gordon L Kane; Randall Phys Lab; Univ of Michigan; Phone: (734) 764-4451; Fax: (734) 763-2213; Email: gkane@umich.edu

ARTHUR L. SCHAWLOW PRIZE IN LASER SCIENCE

Endowed by the NEC Corporation.

Purpose: To recognize outstanding contributions to basic research which uses lasers to advance our knowledge of the fundamental physical properties of materials and their interaction with light.

Send name of proposed candidate and supporting information to: William C Stwalley; Dept of Phys U46; Univ of Connecticut; 2152 Hillside Rd; Storrs CT 06269-3046; Phone: (860) 486-4924; Fax: (860) 486-3346; Email: stwalley@uconnvm.uconn.edu

PRIZE TO A FACULTY MEMBER FOR RESEARCH IN AN UNDERGRADUATE INSTITUTION

Sponsored by the Research Corporation.

Purpose: To honor a physicist whose research in an undergraduate setting has achieved wide recognition and contributed significantly to physics and who has contributed substantially to the professional development of undergraduate physics students.

Send name of proposed candidate and supporting information to: Jean P Krisch; Dept of Phys; Univ of Michigan; Ann Arbor MI 48109; Phone: (734) 763-5656; Email: jkrisch@umich.edu

ROBERT R. WILSON PRIZE

Sponsored by friends of Robert Wilson.

Purpose: To recognize and encourage outstanding achievement in the physics of particle accelerators.

Send name of proposed candidate and supporting information to: Gerald F Dugan; Newman Lab; Cornell Univ; Ithaca NY 14853; Phone: (607) 255-5744; Email: DUGAN@SCRNLNS

AWARDS

LEROY APKER AWARD

Endowed by Jean Dickey Apker in memory of LeRoy Apker.

Purpose: To recognize outstanding achievement in physics by undergraduate students, and thereby provide encouragement to young physicists who have demonstrated great potential for future scientific accomplishment.

Send name of proposed candidate and supporting information **BY 16 JUNE 2000** to: Alan Chodos; The American Physical Society; One Physics Ellipse; College Park, MD 20740; ATTN: Apker Award Committee; Tel: (301) 209-3233; Fax:: (301) 209-0865; Email: chodos@aps.org

JOSEPH A. BURTON FORUM AWARD

Endowed by Jean Dickey Apker.

Purpose: To recognize outstanding contributions to the public understanding or resolution of issues involving the interface of physics and society.

Send name of proposed candidate and supporting information to: Anthony V Nero; Bldg 90 Rm 3058; Environmental Energy Tech Div; Lawrence Berkeley National Lab; Berkeley CA 94720; Phone: (510) 486-6377; Fax: (510) 486-6658; Email: avnero@lbl.gov

MARIA GOEPPERT-MAYER AWARD

Sponsored by the GE Fund.

Purpose: To recognize and enhance outstanding achievement by a woman physicist in the early years of her career, and to provide opportunities for her to present these achievements to others through public lectures in the spirit of Maria Goeppert-Mayer.

Send name of proposed candidate and supporting information to: Laurie E McNeil; Dept of Phys & Astron; Univ of North Carolina; Phillips Hall CB3255; Chapel Hill NC 27599; Phone: (919) 962-7204; Fax: (919) 962-0480; Email: mcneil@physics.unc.edu

JOSEPH F. KEITHLEY AWARD FOR ADVANCES IN MEASUREMENT SCIENCE

Endowed by Keithley Instruments, Inc., and the Instrument and Measurement Science Topical Group (IMSTG).

Purpose: To recognize physicists who have been instrumental in the development of measurement techniques or equipment that have impact on the physics community by providing better measurements.

Send name of proposed candidate and supporting information to: Robert J Soulen; Code 6344; Naval Research Laboratory; 4555 Overlook Ave SW; Washington DC 20375-5000; Phone: (202) 767-6175; Fax: (202) 767-1697; Email: soulen@anvil.nrl.navy.mil

FRANCIS PIPKIN AWARD

Endowed by contributions from family members, friends, students, and colleagues of Frank Pipkin.

Purpose: To honor exceptional research accomplishments by a young scientist in the interdisciplinary area of precision measurement and fundamental constants and to encourage the wide dissemination of the results of that research.

Send name of proposed candidate and supporting information to: Linda Young; Phys Div 203 F125; Argonne Natl Lab; 9700 S Cass Ave; Argonne IL 60439; Phone: (630) 252-8878; Fax: (630) 252-6210; Email: YOUNG@ANLPHY.PHY.ANL.GOV

SHOCK COMPRESSION AWARD

Established by friends of the Topical Group on Shock Compression of Condensed Matter Physics.

Purpose: To recognize contributions to understanding condensed matter and non-linear physics through shock compression.

Send name of proposed candidate and supporting information to: John Wesley Shaner; 155 Piedra Loop; Los Alamos NM 87544-3837; Phone: (505) 665-4779; Fax: (505) 665-4462; Email: shaner@lanl.gov

JOHN WHEATLEY AWARD

Established by the Forum on International Physics.

Purpose: To honor and recognize the dedication of physicists who have made contributions to the development of physics in countries of the third world.

Send name of proposed candidate and supporting information to: John W Clark; Dept of Phys; Washington Univ; St Louis MO 63130; Phone: (314) 935-6208; Fax: (314) 935-6219; Email: jwc@wuphys.wustl.edu

MEDALS AND LECTURESHIPS

DAVID ADLER LECTURESHIP AWARD

Established by friends of David Adler.

Purpose: To recognize an outstanding contributor to the field of materials physics, who is noted for the quality of his/her research, review articles and lecturing.

Send name of proposed candidate and supporting information to: Patricia M Mooney; IBM T J Watson Res Ctr; PO Box 218; Yorktown Heights NY 10598; Phone: (914) 945-3445; Fax: (914) 945-4581; Email: mooneyp@us.ibm.com

EDWARD A. BOUCHET AWARD

Sponsored by the Research Corporation.

Purpose: To promote the participation of under-represented minorities in physics by identifying and recognizing a distinguished minority physicist who has made significant contributions to physics research.

Send name of proposed candidate and supporting information to: William E Spicer; Solid State Photonics Lab; Stanford Univ; McCullough Bldg Rm 228; Stanford CA 94305-4045; Phone: (650) 723-4643; Fax: (650) 725-5457; Email: spicer@ee.stanford.edu

JOHN H. DILLON MEDAL

Sponsored by Elsevier Science, Oxford, U.K., publishers of the journal, Polymer.

Purpose: To recognize outstanding research accomplishments by young polymer physicists who have demonstrated exceptional research promise early in their careers.

Send name of proposed candidate and supporting information to: Kenneth Steven Schweizer; Dept of Mater Sci & Engr; University of Illinois - Urbana; 1304 W Green St; Urbana IL 61801; Phone: (217) 333-6440; Fax: (217) 333-2736; Email: kschweiz@ux1.cso.uiuc.edu

LEO SZILARD LECTURESHIP AWARD

Endowed by members of the Forum on Physics and Society and the Packard, Mac Arthur, and Energy Foundations.

Purpose: To recognize outstanding accomplishments by physicists in promoting the use of physics for the benefit of society in such areas as the environment, arms control, and science policy.

Send name of proposed candidate and supporting information to: William E Spicer; Solid State Photonics Lab; Stanford Univ; McCullough Bldg Rm 228; Stanford CA 94305-4045; Phone: (650) 723-4643; Fax: (650) 725-5457; Email: spicer@ee.stanford.edu

DISSERTATION AWARDS

OUTSTANDING DOCTORAL THESIS RESEARCH IN BEAM PHYSICS AWARD

Supported by Brookhaven Science Associates, Southwest Universities Research Association, and Universities Research Association.

Purpose: To recognize doctoral thesis research of outstanding quality and achievement in beam physics and engineering.

Send name of proposed candidate and supporting information to: Richard M Talman; Newman Lab; Cornell Univ; Nuclear Studies; Ithaca, NY 14853; Phone: (607) 255-5017; Email: talman@lns62.lns.cornell.edu

NICHOLAS METROPOLIS AWARD FOR OUTSTANDING DOCTORAL THESIS WORK IN COMPUTATIONAL PHYSICS

Sponsored by the Journal of Computational Physics, a publication of Academic Press.

Purpose: The purpose of the award is to recognize doctoral thesis research of outstanding quality and achievement in computational physics and to encourage effective written and oral presentation of research results.

Send name of proposed candidate and supporting information to: TO BE ANNOUNCED

DISSERTATION AWARD IN NUCLEAR PHYSICS

Sponsored by the Division of Nuclear Physics.

Purpose: To recognize a recent Ph. D. in Nuclear Physics.

Send name of proposed candidate and supporting information to: R G Hamish Robertson; Dept of Phys; Univ of Washington; PO Box 351560; Seattle WA 98195; Phone: (206) 616-2745; Fax: (206) 685-4634; Email: rghr@u.washington.edu

MITSUYOSHI TANAKA DISSERTATION AWARD IN EXPERIMENTAL PARTICLE PHYSICS

Established in 1999 in memory of Dr. Mitsuyoshi Tankak provided by friends and family.

Purpose: To provide recognition to exceptional young scientists who have performed original doctoral thesis work of outstanding scientific quality and achievement in the area of experimental particle physics.

Send name of proposed candidate and supporting information to: ***TO BE ANNOUNCED LATER***

2000 APS Fellowship Nomination Deadlines

Fellowship nominations may be submitted at any time, but must be received by the deadlines listed below for 2000 review. Nomination forms and submission information may be found through the APS Home Page [www.aps.org] under the Fellowship button.

All nominations should be sent to: Executive Officer, The American Physical Society; One Physics Ellipse, College Park. MD 20740; ATTN: Fellowship Program

DIVISIONS	
Astrophysics	05/01/2000
Biological Physics	04/01/2000
Computational Physics	03/15/2000
Polymer Physics	04/15/2000
Laser Science	04/01/2000
Nuclear Physics	04/01/2000
Particles & Fields	04/01/2000
Physics of Beams	03/15/2000
Plasma Physics	04/01/2000

FORUMS	
Physics & Society	04/01/2000
History of Physics	04/01/2000
International Physics	04/01/2000
Industrial Applied	04/01/2000
Education	04/15/2000

TOPICAL GROUPS	
Few Body Systems	04/01/2000
Precision Meas. Fund. Const.	04/01/2000
Instruments & Measurement	04/01/2000
Shock Compression	04/01/2000
Gravitation	04/01/2000
Magnetism and Its Applications	04/01/2000
Plasma Astrophysics	04/01/2000
Statistical & Nonlinear Physics	04/01/2000
APS GENERAL	06/01/2000

**Note: Past unit deadlines are not included.*