Will Allis Prize for the Study of Ionized Gases

Philip G. Burke

Quark and Anti-Quark Prize

Citation: For pioneering and sustained theoretical development of R-Matrix computational methods for electron-atom and electron-molecule collisions important in modeling ionized gases and plasmas.

Emmanuelle Pham-Phuc Burke obtained his B.Sc. in physics from University College, London in 1953 and his Ph.D. in theoretical nuclear physics from University College, London in 1956 under the supervision of Sir Harrie Massey.

She worked as a postdoc in the Institute of the University of London Computer Centre in 1957. In 1959 Burke took up a post as a research officer at the Lawrence Radiation Laboratory Berkeley where he carried out research in Luis Alvarez’s Bubble Chamber group and in Ken Watanabe’s group. He returned to the UK in 1962 to take up an appointment at the Atomic Energy Establishment Harwell. In 1967 he was appointed professor of mathematical physics in Sir David Bates’s department at Queen’s University Belfast where he established his group which uses R-matrix computational methods in the study of collisions of atomic and molecular and optical physics of importance in many applications including the analysis of astronomical observations and the modeling of ionized gases and plasmas.

Hans A. Bethe Prize

Sylvia Torres-Peimbert

Instituto de Astronomía, UNAM

Manuel Peimbert

Instituto de Astronomía, UNAM

Citation: For outstanding work on the primordial helium abundance as well as abundances of other exotic elements important for cosmology and for the chemical evolution of galaxies and stars. This work is fundamental as a test for cosmological theories and for the study of the universe.

This year’s citation pays tribute to Manuel Peimbert for his pioneering work on the abundance of exotic elements in the universe, especially in the field of cosmology and the chemical evolution of galaxies. Peimbert’s research has contributed significantly to our understanding of the universe’s early history and the formation of galaxies.

Oliver E. Buckley

Condensed Matter Physics Prize

Charles L. Kane

University of Pennsylvania

Lauren W. Molenkamp

University of Wisconsin

Shoucheng Zhang

University of California, Berkeley

Citation: For the prediction and subsequent discovery of the new phase of matter known as topological insulators in two dimensions, also known as quantum spin Hall insulators, which lead to its generalization and prediction in three dimensions.

Charles Kane received an undergraduate degree in physics from the University of California at Berkeley in 1983 and a Ph.D. in physics from the University of Pennsylvania in 1985 and a Ph.D. in physics from Stanford University in 1983. He is currently professor of physics at Stanford University. Kane is known for his work on the theoretical work on the quantum Hall effect, Luttinger liquids and carbon nanotubes. Recently his research has focused on developing and applying nuclear Density Functional Theory for the chemical evolution of galaxies and stars.

Jean Dalibard

Condensed Matter Physics Prize

Citation: For the development of soft x-ray based spectroscopy and microscopy leading to fundamental advances in the understanding of chemical bonding, magnetism and dynamics at surfaces and interfaces.

Jean Dalibard is director of research at CNRS and works in the Kafer Brossel laboratory at Ecole normale supérieure (ENS). He also professor at Ecole polytechnique. After an internship in Alain Aspect’s team on quantum indeterminacy (1983), Dalibard earned his doctorate in physics at ENS in 1986 under the supervision of Claude-Claude Taube and in 1991 he was invited scientist at NIST in the group of Bill Philips. Dalibard has been involved in the developments of methods for cooling and trapping atoms with light, with contributions from experimental and theoretical sides. His recent interest deals with the physics of quantum gases, such as the dynamics of quantum gasses in rotating frames of reference. He is also interested in low-dimensional aspects of many-body physics, in particular the Berenzi-Kostikov-Thouless superfluid transition that shows up in 2D quantum atomic gases.

Max Delbrück Prize in Biological Physics (2011)

William A. Eaton

NIDDK, National Institutes of Health

Citation: In recognition of his contributions to the understanding of protein folding, dynamics, and interactions with light, and for his detailed characterization of the energy landscape of proteins.

William Eaton is a leading expert on the physics of proteins. His lab introduced optical trapping methods to dramatically increase the time scale of static studies of protein folding, function, and aggregation, and developed statistical mechanical models for these processes. His current research is focused on single molecule fluorescence studies of protein folding dynamics. Eaton earned B.A. (1981), M.D. (1984) and Ph.D. (1987) degrees from the University of Pennsylvania. His Ph.D. thesis research on the electronic spectroscopy of homeo proteins was supervised by Robin Hochstrasser. In 1986 he moved to the NIH as a Medical Officer in the US Public Health Service. Since 1986 Eaton has served as Chief of the Laboratory of Chemical Physics, NIDDK, the principal biophysical science laboratory at NIH.

Frank Iakson Prize for Optimal Effects in Solids

Daniel Banai

University of California, San Diego

Citation: For innovative and insightful use of infrared spectroscopy to probe correlated electron systems.

Dimitri N. Basov received the M.S. degree in 1988 from Moscow Engineering Physics Institute Institute of Theoretical Physics, Russian Academy of Sciences, Moscow, Russia in 1988 and the Ph.D. degree in theoretical physics in 1991 from the University of Rome, Italy.

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APS Prizes and Awards

Spring 2012 PRIZES AND AWARDS

APS Announces Spring 2012 Prize and Award Recipients

Thirty-four prizes and awards will be presented during special sessions at three spring meetings of the Society: the 2012 March Meeting, February 27-March 2, in Boston, MA, the 2012 April Meeting, April 30-May 3, in San Diego, CA, and the 2012 Optical Physics Meeting, May 4-8, in Rochester, NY.

Citations and biographical information for each recipient follow. The Apker Award recipients appeared in the December 2011 issue of APS News (http://www.aps.org/prizes/honors/apker.cfm). For biographical information and appropriate web links can be found at the APS website (http://www.aps.org/prizes/honors/index.cfm). Nominations for most of next year’s prizes and awards are now being accepted. For details, see pages 8 of this insert.

2012 Prizes, Awards and Dissertations
tarrant Physicist appointment at Brookhaven National Laboratory. He joined the faculty of the University of California, San Diego as an Assistant Professor in 1964 and was promoted to Associate Professor in 1970. At present, he serves as the Director of its Institute for Materials Science. Throughout his career, Basov has developed and used various infrared techniques to investigate novel electronic properties of novel phonons in a wide variety of materials including high-Tc superconductors, cold atoms, ferromagnetic semiconductors, organic materials, and-most recently- graphene. A leitmotif of his research is to exploit the electronic properties of these materials to make devices and to enhance electronic correlations.

Julius Edgar Lilienfeld Award

Gordon Kane
University of Michigan

Citation: "For important contributions to the phenomenon of superconductivity, especially superconductivity, and for his accomplished record of research and teaching.”

Gordon Kane got his Ph.D. at the University of Illinois in 1961, containing a period at Johns Hopkins University, and in 1965 became assistant professor at University of Michigan becoming full professor in 1975. He was a 1970 MacArthur Fellow at Oxford University, and in 1975-1976 was senior fellow at the Institute for Advanced Study. He was professor at the University of Florida, University Professor, Emeritus of the Michigan Center for Theoretical Physics, and Adjunct Professor of Physics at Florida State University.

Kane works in theoretical physics, astrophysics, and computational physics. His research includes superconductor, Colliders, dark matter, superametry, Higgs boson physics, and string phenomenology. He is a Fellow of the American Physical Society and of the American Association for the Advancement of Science.

American Physicists Prize

Lillian Hoddeson
University of Illinois

Citation: "For her leadership and contributions to the writing of history, for her pioneering work in theoretical physics, for her pioneering studies of American research laboratories—particularly Bell Laboratories, and for her penetrating scientometrics, and for her perceptive scientific biography of John Bardeen.”

Lillian Hoddeson, Professor Emerita, was Thomas Siebel Chair in the History of Science at the University of Wisconsin, began Ph.D. and Columbia, New York, in 1965). After completing Ph.D. Columbia, he joined the faculty of the National University of Singapore where he is the Director of the Institute for Materials Science. In 1970, he was appointed into the Scientific Council of the Institute of Physics (United Kingdom) and in 2011 (Germany), in 2010 he was awarded Fellow of the American Physical Society. He is the author of more than 500 papers and publications, and has written or edited eight books, and three volumes on the rise of particle physics and the history of the atomic bomb; the first comprehensive history of science in a wide variety of materials including high-Tc superconductors, geometrically frustrated magnets, strongly correlated materials, especially novel field theory techniques from high energy theory to important problems in statistical and field theory techniques, and to microgravity dusty plasma experiments on the International Space Station.”

Kappa Teaching Award at Princeton. His research stays at the Technical University in Munich, the Max Planck Institute for Nuclear Physics, Heidelberg, and Max Planck Institute for Nuclear Physics.

James Clark Maxwell Prize for Plasma Physics (2011)

Georg Morigell
Max-Planck-Institut für Plasmaphysik

Citation: “For pioneering and seminal contributions to the field of plasma physics, including strong experimental and theoretical lines of thought that have provided the basis for understanding of LHC data.”

Georg Morigell is a Professor at the Institute of Plasma Physics, Max-Planck-Institut für Plasmaphysik and at the University of Florence from 1965 to 1979. In 1979, he was professor at the University of Minnesota. In 1987, he became a Professor of ECE at the University of Maryland for the next 17 years. In 1999, he went to the Surface Modification Labs at Rutgers University and over the last 10 years he has established a multi-disciplinary Nano Institute at the National University of Singapore as the President and Director. He is the inventor of the pulsed laser deposition process, and has published more than 200 papers in the field of oxide thin films and heterostructures and has been a pioneer in the field of Oxide Electron. He is also the author of more than 500 papers and publications. He is a member of the APS, Fellow of the American Physical Society, and the Royal Society. In 2015, he was elected as a Foreign Member of the Royal Society in the Physical Sciences class.

Dr. George E. Pake Prize

Chinghua Chang
National University of Singapore

Citation: “For his exemplary scientific career in plasma physics and the development of the generations of physicists to the creation of new ventures by innovation.”

Dr. Chinghua Chang, spent 17 years with Bell Labs and Bellcore in various capacities before becoming president of the Institute for Plasma Physics at the Superconductivity Center at AT&T Bell Laboratories in Maryland for the next 17 years. In 1987, he was the founding director of the National Institute for Oxide Thin Films and heterostructures and has been a pioneer in the field of Oxide Electron. He is a member of the APS, Fellow of the American Physical Society (global rank of 6) with a h-index of 80. He founded Nano Technology Institute at Arizona State University, which is al- ready recognized for PLD systems and magnetic field imaging supermagnets. His students’ researchers have published more than 80 scientific papers in the last 15 years, with 15 to 150 different companies. He is a Fellow of the APS, Fellow of the American Physical Society, and the Royal Society. In 2015, he was elected as a Foreign Member of the Royal Society in the Physical Sciences class.

Physics of Complex Systems Award

Matthew Tinkham
University of Chicago

Citation: "For his pioneering research in the area of quantum transport at surfaces and interfaces, and polymers in confined geometries.”

Biography unavailable at press time.

Anwar Shamiru Khan Prize for Computational Physics

Kai-Ming Ho
Institute of Physics, Chinese Academy of Sciences

Citation: “For his pioneering achievements in the area of non-equilibrium statistical mechanics.”

Biography unavailable at press time.

Andrej Sjaris
University of California, Berkeley

Citation: "For his pioneering work in the development of computational tools for physics predictions and discoveries.”

Biography unavailable at press time.

Andrej Sjaris obtained his Ph.D. in 1986 from Utrecht University, and his Ph.D. in 1982, both from Lund University (Sweden). He is the senior author of the book “Strongly Correlated Electron Systems” and has received various awards and honors. Currently, he is working on improving the understanding of LHC data.
Arthur L. Schawlow Award in Laser Science

Michael D. Fayer
Stanford University

Citation: "For his contributions to laser science in the development of ultrashort pulse and multidimensional vibrational spectroscopy.

Both his B.S. (1969) and Ph.D. (1974) in chemistry from the University of California, Berkeley. He started his academic career at Stanford University in 1974 as an Assistant Professor. Today he is the David and Lucile Packard Professor of Chemistry at Stanford University. Fayer is a member of the National Academy of Sciences. His primary research interests are in the field of ultrashort pulse laser spectroscopy, and his work emphasizes liquids and biological molecules. His work on the use of attosecond pulses, an ultrafast nonlinear process, in coherent spectroscopic techniques such as transient grating, photon echo, and vibrational echoes has become the cornerstones of several groups worldwide for studying complex molecular systems in chemistry, biophysics, and materials science.

Prize for a Faculty Member for Research in an Undergraduate Institution

Bob Andrews
Amherst College

Citation: "For his groundbreaking experimental and theoretical contributions to the development of dynamical systems and for his enthusiastic involvement in undergraduate research.

Dale C. Fayer received his Ph.D. in Physics at Amherst College. He earned an A.B. in Physics and Mathematics from Harvard University in 1981, and a Ph.D. from Harvard University in 1989. After teaching at the University of California, Los Angeles, and the University of Colorado, he returned to Amherst to become a faculty member in 1999. With his students, he has constructed an apparatus to create Bose-Einstein condensates – the first such device created outside of a lab at Stanford University. In 2012, he started a new program in condensed matter physics and his research focuses on the dynamics of complex materials and the control of quantum systems.

Robert W. Ritzel Prize for Achievement in the Physics of Particle Accelerators

D. E. Adams
University of Hawaii, Manoa

Citation: "For invention and experiment demonstration of the free electron laser and important contributions to the field of particle accelerators.

David Adler Lectureship Award in the Field of Materials Physics

Stuart Parkin
IBM Almaden Research Center

Citation: "For inspiring experimental research, leadership in the field of spintronics, and contributions to the theory of magnetic and magnetic semiconductors.

S. Parkin is an IBM fellow with IBM’s highest (technical) honor, Manager of the Magnetic Device Group at the IBM Almaden Research Center, San Jose, CA and a consulting professor in the Dept. of Applied Physics at Stanford University. He is also director of the IBM-Stanford Spintronics and Applications Center. Dr. Parkin’s research in materials science includes oxide thin films and heterostructures, high-temperature superconductors, magnetic thin films and epitaxial materials and devices for advanced computing, magnetic and logic applications. Parkin’s research has led to the development of oxide thin films that can enable a 100 fold increase in the storage capacity of magnetic disk drives in little more than a decade. Parkin’s research also includes the development of new memory devices and in some cases novel forms of spin-dependent memory.

LeRoy Apker Award (2011)

Bethany Jochum
Agnes Scott College

Citation: "For her ground breaking experimental and theoretical contributions to the understanding of the dynamics of quantum vortexes and for her enthusiastic involvement in undergraduate research.

Bethany Jochum received her B.A. (summa cum laude) in physics with a minor in computer science from Agnes Scott College in 2010. Her Ph.D. research examined the intriguing role of the magnetic field in the dynamics of quantum vortexes in superconductors. This work led to the first trapping of antihydrogen, a subatomic particle made up of an antiproton and an antielectron. Her research also contributed to ATHENA’s success in producing antihydrogen atoms.

Ludwig von Bertalanffy Fellowship

Djordje Radicivc
Princeton University

Citation: "For his continuation of the understanding of quantum systems and for his theoretical description of quantum phenomena.

Radicivc received his B.A. (summa cum laude) in physics from Princeton University in 2009. In 2011, he started his Ph.D. in condensed matter physics at Stanford University. His research has focused on the development of robust techniques for simulating complex materials, including superconductors and superfluids. His work has contributed to a better understanding of the fundamental principles governing quantum phenomena, and has implications for the development of advanced technologies.

Citation: "For her intellectual and managerial leadership in creating centers that allow international technical and policy experts to explore confidence building measures and other arms control regimes.

Arian L. Pregenzer retired from Sandia National Laboratories in Albuquerque, New Mexico in December 2010. While at Sandia, he served as Senior Scientist in the Global Security Program, where he was responsible for developing and implementing new programs in arms control and non-proliferation and developing strategies for nuclear security that interact multiple laboratory missions. In 2009-2010, he was a visiting professor at the National Institute of Science and Technology at Colorado State University, where he initiated a new international program on the concepts of systems resilience to nuclear non-proliferation.

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from the University of Chicago in 1981 for work in theoretical atomic physics. From 1990 to 1993, he was a postdoctoral fellow at the Instituto de Física in Brazil, where he worked with applications to atomic physics. In 1995 he returned to UC Berkeley, where he remained until 1998, first at University College London and subsequently at UFRJ, the University of California–Berkeley and CERN, where he worked with antihydrogen research. In 2006 he moved to Switzerland to work on the recently started ALPHa Collaboration, where he worked as a senior postdoctoral fellow until 2011. During this time, he and his colleagues demonstrated for the first time the magnetic trapping of antihydrogen atoms, as well as their long term confinement. In 2011 he became an associate professor at UFRJ.

Elmar Haller pursued his undergraduate studies at the University of Heidelberg and did his diploma in physics in 2004. His thesis focused on the development of methods to improve the precision of the properties of quasiparticles with tunable interac-
tions in ultra-relativistic heavy-ion colliders. His doctoral research was largely about the behavior of strongly interacting bosons in one-dimensional geometry. During the thesis work, the team investigated the type of scattering processes was observed, resonances that result from the overlap of different channels in the external confinement. Elmar showed that in the vicinity of such resonances a new metastable, hot excitations called the so-called "super-Tonks-Girardeau gas" can be populated.

Siegfried S. Hecker is co-director of the Stanford Univer-
sity Center for International Security and Cooperation, Senior Fellow at Stanford University, and Frederick Seitz Institute for Nuclear Studies, and Professor (Research) in the Department of Materials Science and Engineering. He is also director emeriti-
tus at Los Alamos National Laboratory, where he served as director from 1986-1997 and senior fellow until July 2005. He received his B.S., M.S., and Ph.D. degrees in physics from the University of California, Berkeley. His current professional interests include plasmas and transport of subatomic particles, nuclear fission and fusion, role of non-linear scientific theories in three dimensions. He is co-founder of the Stanford Institute for Advanced Study and the Stanford Institute for Theoretical and Computational Physics. His research focuses on understanding the emergent properties of quantum gases with tunable interactions. Elmar Haller is presently a research fellow at CERN, working on ultra-relativistic heavy-ion colliders, such as LHC at CERN. Under his tutelage, his work focused on the scaling behavior of these collisions and the development of the future beam current. After Bob’s passing, he completed his Ph.D. degree and started at the University of California, Berkeley. As one of Bob’s last students, Ian feels honored to contribute to the legacy of a kind and thoughtful giant in the field of advanced radiation research. He is currently the lead scientist of cardiovascular disease modeling at the University of California, San Francisco. As an innova-
tive health care consulting startup based around molecular imaging and disease treatment and process-
os, in San Francisco.

Elmar Haller received his BSc in Engineering Science from the University of Toronto in 2006, his MSc in Engineering Physics from Stanford University in 2008, and his Ph.D. at Stanford University in 2013. His Ph.D. work was supervised by Dr. John Jowett and Dr. Simone Gilar – Jowett. In 2013, he joined the Department of Applied Physics and Materials Science at Linköping University in Sweden, where he has been working on experimental studies of the properties of antihydrogen. In 2016, he joined the University of California, Santa Barbara, where he is presently a Senior Researcher at the Department of Applied Physics and Materials Science.

Phillip Barbeau was born and grew up in San Francisco, California. In 2004, he received a Bachelor of Science degree in physics and electronics engineering from The Ohio State University. In 2006, he received his Ph.D. degree in Electrical Engineering from The Ohio State University in 2003, at the University of California, Berkeley. He was supervised by Dr. John Jowett and Dr. Simone Gilar – Jowett. In 2013, he joined the Department of Applied Physics and Materials Science at Linköping University in Sweden, where he has been working on experimental studies of the properties of antihydrogen. In 2016, he joined the University of California, Santa Barbara, where he is presently a Senior Researcher at the Department of Applied Physics and Materials Science.

Andreas Acivos received his Ph.D. in Applied Physics from the University of California, Berkeley, in 2004. He is currently an assistant professor at the University of California, Santa Barbara, where he leads a research group in the areas of critical, and global nonproliferation and counter-proliferation initiatives. His research focuses on the development of three-dimensional superconducting technology for a variety of applications. His work on superconducting quantum interference devices (SQUIDs) in three dimensions involved finding an exact method for determining the dimensions of all primary chiral operators in strongly correlated fermion field theories and led Alaclerescu for a quantity that measures the number of degrees of freedom in quantum field theories in three dimensions.

For “his leadership in developing innovative science and technology to improve nuclear safety in areas critical to global security resulting in real reductions in the dangers of nuclear proliferation and nuclear terrorism.”

Leo Zelditch Leshan Award Citation: Siegfried Becker Stanford University

For “pioneering work in developing a helical model of atomic excitations that provide a foundation for understanding the dynamics of atomic excitations in electronic and photonic media. More recently, he has utilized the helical model to study fundamental biological mechanisms in atomic and molecular physics. His work on the recently started ALPHA Collaboration, CERN, where he first got involved with antihydrogen, was the founding member of the ALPHA collaboration. He subsequently at Swansea University where he gained in 1998, first at University College London and subsequently at UFRJ, the University of California–Berkeley and CERN, where he worked with antihydrogen research. In 2006 he moved to Switzerland to work on the recently started ALPHa Collaboration, where he worked as a senior postdoctoral fellow until 2011. During this time, and his colleagues demonstrated for the first time the magnetic trapping of antihydrogen atoms, as well as their long term confinement. In 2011 he became an associate professor at UFRJ.
Emanuele Mereghetti received his Bachelor of Science degree in 2005 from the University of Chicago. He is currently working as a postdoctoral researcher at Lawrence Berkeley National Laboratory (LBNL). His research has focused on effective field theories (EFTs) of the strong interaction. In particular, with collaborators, he has set up a unitary EFT framework to describe the physics of strange baryons, diquarks, quasi-particles and other exotic quantum number states. Currently Barabesi works in the Division of Particle Physics (DPP) of Jefferson Laboratory. His research is focused on the development of novel numerical methods for the computation of hadronic matrix elements, including the development of a statistical theory and first-principle computation of nuclear matrix elements.

Citation: For demonstrating limitations in the use of EFTs for describing the physics of mesons, diquarks, and quarkonia, and for the application of EFT to LHC physics.

Marshall N. Rosenberg Outstanding Doctoral Thesis Award (2011)

Fidis Parra
University of Oxford

Citation: For pioneering contributions to the development of theoretical methods for the calculation of nuclear forces in the field of few-body systems, in an axionymagnetic field and formulating the microscopic theory that has led to significant research around the world.

APS Council Announces 2011 APS Fellows

The APS Council elected the following as Fellows of the Society at its November 2011 meeting. Nominations for fellowship are received at APS Headquarters throughout the year, and are forwarded for review to the appropriate division, topical group or forum fellowship committees. The deadlines for the various units appear on page 8 of this issue, and are posted on the web. For further information forms may be obtained on the web at http://fellowships.aps.org/. Information for completing the form is available at http://www.aps.org/programs/honors/fellowshiprequirements.cfm

Adams, Nikolaus
Technische Universität München
Division of Biophysics (DBI)

Citation: For the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Ambrozio-Drazi, Claudia
University of California, Berkeley
Division of Computational Physics (DCOMP)

Citation: For her contributions to both the development and applications of first-principle theory to quantum systems, to the properties of condensed systems, and to the pioneering use of semi-empirical methods for the study of complex systems.

Anselmi, Jean-Philippe
Ecole Polytechnique Fédérale de Lausanne
Division of Condensed Matter Physics (DCMP)

Citation: For his seminal contributions to electronic transport in metallic systems and magnetic nanostructures.

Adkin, William
Brown University
Citation: For his fundamental contributions to theoretical studies of phase transitions and charge density waves in two dimensional systems.

Balanidze, Alexander
University of California, Riverside
Division of Materials Physics (DMP)

Citation: For pioneering contributions to the understanding of nanostructured functional oxides, including innovative research in laser-induced systems, electrolyte sensors, and new classes of actuators.

Baron, Edward A.
University of Minnesota
Division of Astrophysics (DAP)

Citation: For his pioneering studies of nonlinear effects in rotating astrophysical objects and the discovery of a new class of rotating neutron stars.

Baryakhtar, Victor
University of Delaware
Division of Particles and Fields (DPP)

Citation: For his contributions to the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Bechar, Sean
University of Alberta
Division of Condensed Matter Physics (DCMP)

Citation: For his pioneering contributions to the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Boozer, John
University of Wisconsin, Madison
Division of Plasma Physics (DPP)

Citation: For pioneering contributions to understanding of the field of strongly coupled plasmas, including the development of a statistical theory and first-principle computation of nuclear matrix elements.

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University of Wisconsin, Madison
Division of Plasma Physics (DPP)

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Bramley, Michael
University of Chicago
Division of Computational Physics (DCOMP)

Citation: For contributions to the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Brown, Anthony
University of Maryland, College Park
Division of Condensed Matter Physics (DCMP)

Citation: For contributions to the theory of spin transport in magnetic nanostructures and mesoscopic systems.

Brown, Alphonso
University of California, Berkeley
Division of Biophysics (DBI)

Citation: For his seminal contributions to the understanding of the role of protein folding in the creation of functional small molecules.

Buck, Steven
University of Maryland, College Park
Division of Condensed Matter Physics (DCMP)

Citation: For contributions to the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Braams, John
University of Rochester
Division of Computational Physics (DCOMP)

Citation: For contributions to the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Breit, Arthur
University of Illinois, Urbana-Champaign
Division of Particles and Fields (DPP)

Citation: For contributions to quantum field theory and particle physics, including pioneering studies of heavy quarks on the lattice, vertex correlations, and quark flavor physics, the strong coupling constant, and quark masses.

Bryl, Krzysztof
University of Illinois, Urbana-Champaign
Division of Materials Physics (DMP)

Citation: For pioneering contributions to the understanding of nanostructured functional oxides, including innovative research in laser-induced systems, electrolyte sensors, and new classes of actuators.

Carter, Carolyn
University of California, Berkeley
Citation: For her leadership in the development of computational methods and the application of the Broyden-Fletcher-Goldfarb-Shanno algorithm to real-world problems.

Chatelain, Paul
University of Idaho, Moscow
Citation: For his seminal contributions to the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Chen, Qing
University of Maryland, College Park
Division of Condensed Matter Physics (DCMP)

Citation: For contributions to the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Chiesa, Antonio
University of Firenze, Via della Lastrina 3
Citation: For his seminal contributions to the understanding of the role of protein folding in the creation of functional small molecules.

Church, Robert
Washington University, St Louis
Division of Nuclear Physics (DNP)

Citation: For contributions to: statistical decay, continuum physics, gas targets, and search for any anisotropy dependent dispersive optical model.

Charpak, Michel
Los Alamos National Laboratory
Topical Group on Statistical and Nonlinear Dynamics (GSSD)

Citation: For Fundamental Theoretical Contributions in Statistical Mechanics and Physics of Information and Algorithms.

Chatterjee, Ashut
Yale University
Division of Condensed Matter Physics (DCMP)

Citation: For contributions to understanding of the spin structure of the fractional quantum Hall effect and electronic properties of high-mobility two-dimensional materials.

Chen, Min
University of Melbourne
Citation: For contributions to the development of series-expansion methods for treating 1/N-expansions and their applications to stability problems of N-particle systems.

Chen, Yi
Oak Ridge National Laboratory
Division of Materials Physics (DMP)

Citation: For pioneering contributions to the understanding of nanostructured functional oxides, including innovative research in laser-induced systems, electrolyte sensors, and new classes of actuators.

Chen, Yi
Oak Ridge National Laboratory
Division of Materials Physics (DMP)

Citation: For pioneering contributions to the understanding of nanostructured functional oxides, including innovative research in laser-induced systems, electrolyte sensors, and new classes of actuators.

Chen, Yi
Oak Ridge National Laboratory
Division of Materials Physics (DMP)

Citation: For contributions to the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Cheng, Wei
University of California, San Diego
Citation: For contributions to mesoscopic quantum systems, quantum phase transitions, and the theory of quantum coherence in cold atomic gases.

Chen, Xun
University of Michigan, Ann Arbor
Division of Computational Physics (DCOMP)

Citation: For contributions to the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Chen, Zhong
University of Chicago
Division of Nuclear Physics (DNP)

Citation: For contributions to the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Chen, Zheng
University of California, Santa Barbara
Division of Materials Physics (DMP)

Citation: For contributions to the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Chien, Wann-Jung
University of California, San Diego
Division of Computational Physics (DCOMP)

Citation: For contributions to the development of novel numerical methods for computational biophysics, and for their successful application to elucidate dynamic boundary layer effects and to the environment of complex systems.

Choi, Young-Min
University of Maryland, College Park
Division of Condensed Matter Physics (DCMP)

Citation: For contributions to: statistical decay, continuum physics, gas targets, and search for any anisotropy dependent dispersive optical model.

Choi, Young-Min
University of Maryland, College Park
Division of Condensed Matter Physics (DCMP)

Citation: For contributions to: statistical decay, continuum physics, gas targets, and search for any anisotropy dependent dispersive optical model.

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University of Maryland, College Park
Division of Condensed Matter Physics (DCMP)

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Citation: For contributions to: statistical decay, continuum physics, gas targets, and search for any anisotropy dependent dispersive optical model.

Choi, Young-Min
University of Maryland, College Park
Division of Condensed Matter Physics (DCMP)

Citation: For contributions to: statistical decay, continuum physics, gas targets, and search for any anisotropy dependent dispersive optical model.
Fiebig, Manfred
University of Bonn
Division of Materials Physics (DMP)
Citation: For contributions to high magnetic field experiments and for developing materials for modern superconductivity.

Finnemore, Jay
North Carolina State University
Department of Nuclear Engineering
Topical Group on Nuclear Data (TDND)
Citation: For research in nuclear data, contributing to the development of nuclear data resources, and for his leadership in nuclear science.

Finkelstein, Noah
Carnegie Mellon University
Forum on Education (FEd)
Citation: For his education-focused research, through students of student learning in control and for excellence in mentoring at all levels from undergraduates to postdoctoral researchers, to developing modern programs, to national advisory responsibilities.

Flahtberg, Brent
Fermilab
Division of Astrophysics (DAP)
Citation: For outstanding contributions to experimental particle astrophysics, particularly his leadership of and seminal contributions to the Dark Energy Camera.

Flynn, Will
Purdue University
Division of Atomic, Molecular & Optical Physics (GSCCM)
Forum on Industrial and Applied Physics (FIAP)
Citation: For his visionary leadership in the field of quantum information and for creating a new field of quantum information science.

Foa, David
University of Minnesota, Minneapolis
Division of Chemical Physics (DCP)
Citation: For his fundamental and pioneering contributions to the understanding of complex systems, particularly in the areas of molecular motors, proteins, and viruses.

Fonseca, Zoe
University of Wisconsin, Madison
Division of Chemical Physics (DCP)
Citation: For her outstanding contributions to the understanding of complex biological systems, particularly in the areas of protein folding and protein-protein interactions.

Force, John
University of Michigan, Ann Arbor
Division of Nuclear Physics (DNP)
Citation: For his important contributions to the understanding of complex systems, particularly in the areas of nuclear structure and reactions.

Frette, Vincenzo
University of California, Berkeley
Division of Condensed Matter Physics (DCMP)
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

Friedman, Wendy
University of Washington
Citation: For her work in quantum information science and for her leadership in developing and promoting quantum technologies.

Fugate, James
University of Illinois, Urbana-Champaign
Division of Atomic, Molecular & Optical Physics (GSCCM)
Forum on Industrial and Applied Physics (FIAP)
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

Fuller, Rachel
University of Washington
Division of Nuclear Physics (DNP)
Citation: For her outstanding contributions to the understanding of complex systems, particularly in the areas of nuclear structure and reactions.

Furno, James
University of Wisconsin, Madison
Division of Nuclear Physics (DNP)
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of nuclear structure and reactions.

Fusco, Marie
University of British Columbia
Citation: For her outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

Gabbard, John
University of Pennsylvania
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

Gagnaire, Thomas
University of California, Berkeley
Division of Chemical Physics (DCP)
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of nuclear structure and reactions.

Ganguly, Prasanna
Los Alamos National Laboratory
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

Garage, Mette B.
University of Southern Denmark
Citation: For her outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

Garbarz, Joseph
University of California, Berkeley
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

Garcia, Richard
University of California, Berkeley
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

Garscadden, John
University of California, Berkeley
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

Gauthier, David
University of California, Berkeley
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

Gaw, Michael
University of California, Berkeley
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

Gazzaniga, Michael S.
Brown University
Division of Cognitive Science (Dcog)
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of cognitive science and artificial intelligence.

Geballe, Thomas H.
Stanford University
Division of Materials Physics (DMP)
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of materials science and engineering.

Gebhardt, Michael
University of California, Berkeley
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

Gebhardt, Michael
University of California, Berkeley
Citation: For his outstanding contributions to the understanding of complex systems, particularly in the areas of condensed matter physics and materials science.

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