AWARDS

Fall 2022
The MRS Awards

Endowment Fund

In order to secure the future of an awards program of high caliber, and thereby maintain this valuable extra dimension of enrichment for the professional, educational, and general communities, the Materials Research Society requires a substantial Endowment Fund. The Society is deeply grateful to those individuals, and corporate and foundation donors who have already contributed to this Fund. In order to approach self-sufficiency, however, further donations are needed. MRS earnestly solicits consideration of this need by corporations, foundations, and individuals who share our vision of this program as an investment in the future.

For further information about the Awards Endowment Fund, please contact:
Materials Research Society Awards Program
awardsprogram@mrs.org
The MRS

Awards Program

The MRS Awards Program strives to acknowledge outstanding contributors to the progress of materials research, and to recognize their exciting and profound accomplishments. We seek to honor those whose work has already had a major impact in the field, those who have defined the frontiers of the field, those who are outstanding exponents of their science, and those young researchers whose work already leads to great expectations for future leadership. Not only do we honor the award recipients, we also believe that by highlighting these leaders in our field and their creative work, we will enrich the awareness of the progress and diversity of materials research, both within the materials community and in the wider community at large.

Nomination information, as well as, guidelines for proposing the creation of a new MRS award can be found by visiting mrs.org/awards

Table of Contents

2 MRS Fellow
4 Von Hippel Award
7 David Turnbull Lectureship
9 MRS Medal
12 Innovation in Materials Characterization Award
14 Materials Theory Award
15 Mid-Career Researcher Award
16 MRS Impact Award
17 The Kavli Foundation Early Career Lectureship in Materials Science
18 Outstanding Early-Career Investigator
20 MRS Nelson “Buck” Robinson Science & Technology Award for Renewable Energy
21 MRS Postdoctoral Awards
23 MRS Bulletin Postdoctoral Publication Prize
24 MRS Woody White Service Award
25 MRS Communications Lecture
26 Graduate Student Awards
MRS Fellow

Honoring outstanding members whose sustained and distinguished contributions to the advancement of materials research are internationally recognized. MRS Fellow is a lifetime honor. The honor is highly selective, with no more than 0.2% of the membership being honored each year.

The vitality, diversity, and opportunity of materials research are all epitomized in this group of Fellows, whose remarkable accomplishments are highlighted by their brief citations. We are confident that the examples of excellence, enterprise and dedication, displayed by this steadily growing community of MRS Fellows will serve to encourage and inspire all materials researchers, at all levels, and will also support and enhance the prestige and recognition of materials research in serving the broader community of the world.

mrs.org/fellows

2022 Recipients

Shefford P. Baker  
Cornell University  
For foundational understanding of the mechanics of metallic thin films and biominerals that improve reliability of everyday products, and leadership that maximizes MRS’ impact to the community

Peter K. Liaw  
University of Tennessee  
For seminal contributions to understanding fatigue and fracture of structural materials, pioneering work on bulk metallic glasses and high entropy alloys, and dedicated service to the materials community

Prashant V. Kamat  
University of Notre Dame  
For advancing the knowledge of materials chemistry through elucidation of the basic principles underlying light-induced charge transfer processes at heterogeneous interfaces, from quantum-confined semiconductors, to metallic nanoparticles, and to their hybrids.

Theodore D. Moustakas  
Boston University  
For pioneering research in GaN and other nitride semiconductors and the development of innovated growth methods for visible and UV LEDs, which have been adopted by industry

Karen L. Kavanagh  
Simon Fraser University  
For the formation and characterization of novel electronic materials and interfaces

Jagit Nanda  
Oak Ridge National Laboratory  
For pioneering development on multiscale and multimodal Raman, x-ray and neutron imaging and spectroscopic techniques leading to materials discovery and innovation in rechargeable batteries and energy conversion devices

Pooi See Lee  
Nanyang Technological University  
For her leading work in the frontier of advanced materials for soft electronics and energy devices in human-machine interface, and advocating innovation for all and promoting STEM through experiential learning

Roger Narayan  
North Carolina State University  
For pioneering use of laser thin film and additive manufacturing methods to develop novel micro- and nano-structured coatings and biomedical structures for tissue engineering scaffolds, drug delivery devices and sensors
Alberto Salleo  
Stanford University  
For fundamental studies in linking materials microstructure to electronic, optical and electrochemical properties for transistor, solar and bioelectronic sensor applications

Harry Tuller  
Massachusetts Institute of Technology  
For foundational work in the fields of solid-state chemistry and electrochemistry leading to the in-depth understanding of multiple key materials, systems, and mechanisms, and training new generations of scientists

Qihua Xiong  
Tsinghua University  
For outstanding contributions to semiconductor nanomaterials synthesis, fundamental understanding of light-matter interactions at nanoscale and devices for photonics, optoelectronics and polaritons

Guihua Yu  
University of Texas at Austin  
For seminal contributions to the synthesis and fundamental understanding of new multifunctional polymer nanomaterials with novel physical properties, and their significant applications in advancing energy, sustainability and environmental technologies

2021 Recipients

Andrea Alù  
The City University of New York

Guillermo A. Ameer  
Northwestern University

Irene J. Beyerlein  
University of California, Santa Barbara

Alexandra Boltasseva  
Purdue University

Carol Handwerker  
Purdue University

Liangbing Hu  
University of Maryland

Andreas Lendlein  
Helmholtz-Zentrum Hereon

Jörg F. Löffler  
ETH Zürich

David C. Martin  
University of Delaware

Ying Shirley Meng  
University of California, San Diego

Paolo Samori  
Université de Strasbourg

Franky So  
North Carolina State University

Eric A. Stach  
University of Pennsylvania

Shu Yang  
University of Pennsylvania

Haimei Zheng  
Lawrence Berkeley National Laboratory

Andrea Alù  
The City University of New York

Guillermo A. Ameer  
Northwestern University

Irene J. Beyerlein  
University of California, Santa Barbara

Alexandra Boltasseva  
Purdue University

Carol Handwerker  
Purdue University

Liangbing Hu  
University of Maryland

Andreas Lendlein  
Helmholtz-Zentrum Hereon

Jörg F. Löffler  
ETH Zürich

David C. Martin  
University of Delaware

Ying Shirley Meng  
University of California, San Diego

Paolo Samori  
Université de Strasbourg

Franky So  
North Carolina State University

Eric A. Stach  
University of Pennsylvania

Shu Yang  
University of Pennsylvania

Haimei Zheng  
Lawrence Berkeley National Laboratory
The Von Hippel Award recognizes those qualities most prized by materials scientists and engineers—brilliance and originality of intellect—combined with vision that transcends the boundaries of conventional scientific disciplines. The award bears the name of its inaugural recipient, whose interdisciplinary and pioneering research typified the spirit of the award. Nominations of candidates from all areas of materials research are encouraged.

Von Hippel Award

The Von Hippel Award recognizes those qualities most prized by materials scientists and engineers—brilliance and originality of intellect—combined with vision that transcends the boundaries of conventional scientific disciplines. The award bears the name of its inaugural recipient, whose interdisciplinary and pioneering research typified the spirit of the award. Nominations of candidates from all areas of materials research are encouraged.

Recipients

Arthur von Hippel 1976 Massachusetts Institute of Technology
In whose honor the premier award of the Materials Research Society is named, a pioneer in the study of dielectrics, semiconductors, ferromagnetics, and ferroelectrics. He was an early advocate of the interdisciplinary approach to materials research, and his example substantially furthered the science of materials.

William O. Baker 1978 Bell Laboratories
Led research into solid state materials and macromolecules, dielectric properties and dynamic mechanical properties of crystals and glasses, information processing technology, and plastics, fibers, and natural and synthetic rubbers. He nurtured and oversaw the development of one of the world’s preeminent laboratories.

David Turnbull 1979 Harvard University
Has distinguished himself in many areas of materials research, including kinetics to crystal nucleation and growth, diffusion in metals, and glass formation.

W. Conyers Herring 1980 Stanford University
Demonstrated that whiskers of high crystalline perfection would exhibit extraordinary mechanical properties. He is also held in esteem for his theoretical contributions to the understanding of surfaces and surface tension.

James W. Mayer 1981 Cornell University
Carried out research on implantation that identified the damage and the epitaxial regrowth phenomena crucial to the semiconductor industry, and pioneered the use of ion beam techniques for materials analysis.

Clarence M. Zener 1982 Carnegie Mellon University
Performed the definitive work on internal friction in solids. His influence is most visibly expressed in the line of research that resulted in the invention of the Zener diode and laid the foundation for the development of semiconductors.

Sir Peter B. Hirsch 1983 University of Oxford
Is universally known for his research with the electron microscope into imperfection in the crystalline structure of materials and the relationship between structural defects and mechanical properties.

Walter L. Brown 1984 AT&T Bell Laboratories
Pioneered studies on semiconductor surface states, semiconductor radiation detectors, and the application of particle/solid interactions to the study of materials.

John W. Cahn 1985 National Bureau of Standards
Is today’s foremost scientist in the thermodynamics of phase equilibrium. He has made major contributions in solidification, crystal growth, glass formation, and the thermodynamics of surfaces and interfaces.

Minko Balkanski 1986 Université Pierre et Marie Curie
Has made major contributions to the understanding of semiconductors and other materials, particularly through his development and use of optical spectroscopies which led to an understanding of elementary excitations and band structures in these materials.
boundary structure and energetics in metals and recovery of radiation damage, grain climb, solid-state diffusion, the production sintering, Kirkendall phenomena, dislocation understanding of the atomic mechanisms of contributions have clarified our fundamental Massachusetts Institute of Technology Robert W. Balluffi of the science and solid state chemistry. conquest of wide-range fundamental topics. have consistently drawn together the basic insights, ideas, knowledge, and research the field of solid state sciences, where his John B. Goodenough and quantum theory of solids, materials science have profoundly influenced, theoretically and metallurgy to chemistry. He is noted for major contributions to the understanding of dislocations and strength of materials, electron theory of metals, and the properties of alloys. John B. Goodenough 1989 The University of Texas, Austin Has made distinguished contributions to the field of solid state sciences, where his insights, ideas, knowledge, and research have consistently drawn together the basic concepts of physics and chemistry in the conquest of wide-range fundamental topics. Through the years, his work can be said to have built the principal conceptual foundations of the science and solid state chemistry. Robert W. Balluffi 1990 Massachusetts Institute of Technology Whose seminal experimental and analytical contributions have clarified our fundamental understanding of the atomic mechanisms of sintering, Kirkendall phenomena, dislocation climb, solid-state diffusion, the production and recovery of radiation damage, grain boundary structure and energetics in metals and ceramics. Theodore H. Geballe 1991 Stanford University Has made ingenious use of chemical principles to synthesize novel materials of technological importance, has executed careful experiments on a wide range of materials to illuminate fundamental materials properties and behavior, and has provided leadership in helping to formulate the modern concepts of interdisciplinarity as a scientist, teacher, and administrator. Michael F. Ashby 1992 University of Cambridge Has made seminal contributions to subjects as diverse as dispersion hardening, grain boundary sliding, creep, fracture, sintering, cellular materials, ice mechanics, and wear. Frederick Seitz 1993 The Rockefeller University Has played a seminal role in establishing the modern fields of solid-state physics and materials science through his many basic books and research papers, and for his leadership as a teacher and administrator in encouraging the growth of these disciplines. Alfred Y. Cho 1994 AT&T Bell Laboratories Pioneered the development of molecular beam epitaxy (MBE) and its application to new devices based on quantum wells and artificially structured materials. William W. Mullins 1995 Carnegie Mellon University Has made profound contributions to the understanding of grain boundary motion, morphological stability, the structure of surfaces and interfaces, and flow and diffusion as stochastic phenomena. Sir Alan H. Cotrell 1996 University of Cambridge Converted crystal dislocations from a hand waving hypothesis to a rigorous discipline, transformed the understanding of brittle fracture, made varied and crucial advances in the theory of radiation damage, and transformed the teaching of materials science throughout the academic world through his pioneering textbooks. Gabor A. Somorjai 1997 University of California, Berkeley Has made extraordinary multidisciplinary contributions to the atomic-level understanding of materials surfaces and surface processes with technological importance in heterogeneous catalysis, corrosion, and tribology. Somorjai’s ideas and his vision for the future as well as his promotion of the field of and of his colleagues’ work have had a major impact in stimulating support and raising the visibility of surface science when the field was young. Larry L. Hench 1998 Imperial College of Science, Technology and Medicine For pioneering accomplishments in the field of glass and ceramics including the demonstration of the first bioactive glass called Bioglass® and subsequent expansion of the field, demonstration of the feasibility of encapsulating nuclear waste products in glass/ceramic matrices, and development of sol-gel processing to produce ultra-high-purity optical and dielectric materials with controlled microstructures. Richard S. Stein 1999 University of Massachusetts, Amherst In recognition of his seminal work in the development of rheo-optical techniques for polymer characterization and property assessment, his profound contributions leading to a fundamental understanding of how polymeric materials respond to deformation in the melt and solid states, and his pioneering role in the development of graduate education in polymer materials. George M. Whitesides 2000 Harvard University For bringing fundamental concepts of organic chemistry and biology into materials science and engineering, through his pioneering research on surface modification, self-assembly and soft lithography. Simon C. Moss 2001 University of Houston For consistently timely and essential contributions to identifying and understanding the atomic-level structure of almost every new type of materials discovered in the last thirty years. Howard K. Birnbam 2002 University of Illinois For seminal contributions to our understanding of intrinsic point defects, hydrogen in metals, and grain boundary segregation, especially as these effects relate to mechanical properties; for the innovative use of a wide range of novel experimental tools; and for stimulating, directing, and influencing interdisciplinary research throughout the materials community. Julia R. Weertman 2003 Northwestern University For her life-long exceptional contributions to understanding the basic deformation processes and failure mechanisms in a wide class of materials, from nanocrystalline metals to high-temperature structural alloys, and for her inspiring role as an educator in materials science. Nick Holonyak, Jr. 2004 University of Illinois For his many contributions to research and development in the field of semiconductors, not least for the first development of semiconductor lasers in the useful visible portion of the optical spectrum. Robert S. Langer 2005 Massachusetts Institute of Technology For pioneering accomplishments in the science and application of biomaterials in drug delivery and tissue engineering, particularly in inventing the use of materials for protein and DNA delivery, and for his achievements in interdisciplinary research which have generated new medical products, created new fields of biomaterials science, and inspired research programs throughout the world. Knut Wolf Urban 2008 Forschungszentrum Jülich GmbH For sustained contributions to the development and use of electron microscopy, and for major discoveries in the defect physics of quasicrystals and high-temperature superconductors. William Nix 2007 Stanford University For his original contributions on the deformation and failure of materials, particularly in the areas of thin films, small volumes, and high-temperature alloys; for pioneering mechanical test methods; and for educating and mentoring future generations of materials scientists. Herbert Gleiter 2008 Forschungszentrum Karlsruhe For his imaginative experiments on the role of defects that have led to new insights into the importance of length-scale in materials and have resulted in many new applications. Tobin J. Marks 2009 Northwestern University For consistently discovering and applying new scientific principles, and for advancing materials science across a spectrum from self-assembly to crystal growth, encompassing organic electronic, photonic, and photovoltaic materials, and oxide dielectrics, conductors, and superconductors. L. Eric Cross 2010 The Pennsylvania State University For his imposing leadership in the science and applications of ferroelectric materials. A. Paul Alivisatos 2011 Lawrence Berkeley National Laboratory For the development of the fundamental scientific basis for growing and utilizing defect-free colloidal semiconductor nanoparticles, providing the basis for biological imaging, solid state lighting, and the capture and conversion of solar energy to electricity.
Samuel I. Stupp 2022  
Northwestern University
For pioneering contributions to the development and understanding of a broad range of molecularly designed supramolecular soft materials that function as bioactive scaffolds in regenerative medicine, matrices for photocatalytic activity, and stimuli-responsive robotic structures.

C.N.R. Rao 2017  
Jawaharlal Nehru Centre for Advanced Scientific Research
For his immense interdisciplinary contributions to the development of novel functional materials, including magnetic and electronic properties of transition metal oxides, nanomaterials such as fullerenes, graphene and 2-D inorganic solids, superconductivity and colossal magnetoresistance in rare-earth cuprates and manganates.

Mildred S. Dresselhaus 2013  
Massachusetts Institute of Technology
For her pioneering contributions to the fundamental science of carbon-based and other low electron density materials, her leadership in energy and science policy, and her exemplary mentoring of young scientists.

Marvin L. Cohen 2014  
University of California, Berkeley
For explaining and predicting properties of materials and for successfully predicting new materials using microscopic quantum theory.

Sir Richard H. Friend 2015  
University of Cambridge
For pioneering research on highly original materials phenomena and device concepts, enabled by polymeric semiconducting materials, and imprinting an indelible influence on contemporary materials science and the new field of plastic electronics.

Cato T. Laurencin 2020  
University of Connecticut
For pioneering work in engineering of musculoskeletal tissues, for extraordinary work guiding technology and science policy, and for promoting ethnic diversity and excellence in science.

Harry Atwater 2021  
California Institute of Technology
For fundamental research in light-matter interactions—particularly nanophotonics, plasmonics, photonic metamaterials, and solar energy conversion—and numerous applications of photon control of materials illustrating the value of fundamental research to technologies that improve the quality of life.
The David Turnbull Lectureship is awarded to recognize the career contribution of a scientist to fundamental understanding of the science of materials through experimental and/or theoretical research. In the spirit of the life work of David Turnbull, writing and lecturing also can be factors in the selection process.

**Recipients**

**Thomas R. Anthony** 1992
*General Electric Company*
For outstanding contributions to the understanding of diffusion, thermomigration, and the synthesis of diamond.

**Morris Cohen** 1993
*Massachusetts Institute of Technology*
For his contributions to the development of physical metalurgy, especially in the mechanism and kinetics of martensitic transformation, and for his leadership in establishing the broader discipline of materials science and engineering.

**Arthur S. Nowick** 1994
*Columbia University*
For his pioneering work in anelastic and dielectric behavior, in fast ion conductors, and in amorphous alloys, and for his excellence in teaching and writing.

**Didier R. de Fontaine** 1995
*University of California, Berkeley*
In recognition of fundamental contributions and insights in the fields of order/disorder phenomena in materials and computational techniques for phase diagrams.

**Robert E. Newnham** 1996
*Pennsylvania State University*
For pioneering the field of ceramic composites for electronic and optical applications, and in recognition of a distinguished career of guiding students, lecturing, and writing.

**Merton C. Flemings** 1997
*Massachusetts Institute of Technology*
For contributing to the foundations and technology of solidification processing and for educating a generation of materials engineers.

**H. Eugene Stanley** 1998
*Boston University*
For his insights into the statistical aspects of materials phenomena including phase transitions, pattern formation, and disordered, granular, and soft materials, and for his outstanding lecturing and writing on these topics.

**Joseph E. Greene** 1999
*University of Illinois*
For contributions to the use of non-thermal methods in the growth of thin films and the engineering of their phase, composition, and microstructure; and for excellence in teaching and writing.

**Anthony G. Evans** 2000
*Princeton University*
For outstanding contributions and leadership in bringing fundamental insights in mechanical behavior to materials engineering through research, teaching, mentoring, writing, and lecturing.

**James R. Chelikowsky** 2001
*University of Minnesota*
For his contributions to the fundamental understanding of electronic, optical, mechanical, surface and interface properties of bulk and nanostructured semiconductors, ceramics, and metals through ab initio calculations; and for excellence in teaching, lecturing, and writing.

**Robert W. Cahn** 2002
*University of Cambridge*
For service to the materials science community through writing, editing, mentoring, and fostering of international understanding, as well as for outstanding contributions to the development of physical metallurgy through research on recovery and recrystallization, rapid solidification, and intermetallic compounds.
Ellen D. Williams 2003
University of Maryland
For groundbreaking research on the atomic-scale science of surfaces and for leadership, writing, teaching, and outreach that conveys her deep understanding of and enthusiasm for materials research.

Frank S. Bates 2004
University of Minnesota
For pioneering contributions to the fundamental understanding of structure and properties of complex polymeric materials, particularly block copolymers and polymeric vesicles, coupled with outstanding lecturing, writing, teaching, and educational leadership.

Eugene E. Haller 2005
University of California, Berkeley
For pioneering achievements and leadership in establishing the field of isotopically engineered semiconductors, for outstanding contributions to materials growth, doping and diffusion, and for excellence in lecturing, writing, and fostering international collaborations.

Austin Angell 2006
Arizona State University
For pioneering contributions to the fundamental understanding of the formation, dynamics, and properties of glasses, and particularly his development of fragility as an essential tool for characterizing glass forming materials, coupled with a comprehensive understanding of the field effectively communicated through lectures and publications.

Ramamorthy Ramesh 2007
University of California, Berkeley
For his pioneering contributions to the materials science of complex oxide heterostructures and nanostructures, including multiferroics, ferroelectrics, and magnetoresistive oxides; and for his enthusiasm and leadership in conveying the excitement of this field to a broad audience.

David N. Seidman 2008
Northwestern University
For research that has made major contributions to our understanding of point defects and the role they play in radiation damage, and phase transformations; unique studies of interfacial segregation; and especially for the development and fruitful use of atom-probe spectrometry; for numerous seminal publications, and excellence in education/training students and colleagues in the laboratory, classroom, and conferences.

Edward J. Kramer 2009
University of California, Santa Barbara
For outstanding contributions in bringing insights and understanding to flux pinning in superconductors and to the fundamentals of fracture, diffusions, interface phenomena in complex polymeric materials through research, teaching, mentoring, writing, and lecturing.

David D. Awschalom 2010
University of California, Santa Barbara
For pioneering achievements and leadership in establishing the field of semiconductor spintronics, including fundamental discoveries of spin transport and coherence in the solid state, developing new experimental techniques and materials engineering for spin-based quantum information science, and for excellence in communication through lecturing and writing.

Phaedon Avouris 2011
IBM T. J. Watson Research Center
For his development of nanoscience and nanotechnology through research, publications, lecturing and mentoring: in particular, for his work on carbon nanotubes, graphene and semiconductor surfaces, imaging and measuring their electronic structure and properties; modifying them chemically and physically using scanning probe techniques; and incorporating them into advanced electronic and photonic devices.

Robert Sinclair 2012
Stanford University
For his original contributions to the understanding of atomic arrangements in solids and their relationship to diverse materials phenomena including martensitic transformations, dislocation interactions with interfaces, phase equilibria in complex thin-film systems, and nanoscale interactions in soft matter, for seminal contributions to in situ and high-resolution transmission electron microscopy, development of their combined use, and for passionate and dedicated teaching, advising, and academic leadership.

Robert O. Ritchie 2013
University of California, Berkeley
For pioneering contributions to, and teaching us all how to think about, the mechanistic role of microstructure in governing fatigue and fracture in a variety of materials systems, and communicating his scientific insights to the world audience through eloquent lectures and seminal publications.

Rodney S. Ruoff 2014
Ulsan National Institute of Science and Technology
For pioneering discoveries related to carbon materials and their innovative preparation, characterization, and mechanics.

Jacob Klein 2015
Weizmann Institute of Science
For discoveries which transformed our understanding of soft matter and interfaces, through sustained research, inspirational lecturing and academic leadership.

James De Yoreo 2016
Pacific Northwest National Laboratory
For discoveries that have shaped our understanding of crystalization science.

Sigurd Wagner 2017
Princeton University
For groundbreaking contributions to the science and technology of thin film photovoltaics, amorphous silicon and flexible large-area electronics.

M. Stanley Whittingham 2018
Binghamton University (SUNY)
For fundamental contributions to solid state ionics including the discovery of the key role of intercalation mechanisms, and the development and commercialization of rechargeable Li-ion batteries.

Paula T. Hammond 2019
Massachusetts Institute of Technology
For her contributions to the science, engineering and applications of self-assembled macromolecular systems.

Sossina M. Haile 2020
Northwestern University
For fundamental contributions to the electrochemical and thermochemical materials science that advance sustainable energy, for her commitment to the broader international materials community and for being an inspiring colleague and passionate mentor.

Nicholas A. Kotov 2021
University of Michigan
For foundational discoveries in interface-based engineering of self-organizing materials.

Chang-Beom Eom 2022
University of Wisconsin-Madison
For pioneering research and insightful lectures on epitaxy of oxide materials and its impact on applications in electronics.
MRS Medal

The MRS Medal recognizes an exceptional achievement in materials research in the past ten years. A Medal will be awarded for a major advance, or cluster of closely related advances, in any materials-related field of research. The impact of this research on the progress of the relevant materials field will be a primary consideration in making the award.

MRS acknowledges the generosity of Professors Gwo-Ching Wang and Toh-Ming Lu for endowing this award.

mrs.org/medal

Recipients

Arthur J. Freeman 1990
Northwestern University
In recognition of his pioneering achievements in the field of monolayer and low dimensional magnetism.

Duward F. Shriver 1990
Northwestern University
In recognition of his seminal work in the synthesis, characterization, understanding and application of polymer based solid electrolyte materials.

Bernard S. Meyerson 1991
IBM T.J. Watson Research Center
In recognition of his dynamic research leading to the fabrication of high speed heterojunction bipolar transistors.

Shigeyuki Somiya 1991
Nishi Tokyo University
In recognition of his innovation and energy in pioneering the field of hydro-thermal synthesis of ceramic materials.

L. Eric Cross 1992
Pennsylvania State University
In recognition of his leadership and vision in the atomic scale engineering of relaxor ferroelectric materials as the prototype of self-assembling nano-composites.

Stephen J. Pennycook 1992
Oak Ridge National Laboratory
For the development and application of incoherent (Z contrast) imaging in the scanning transmission electron microscope for direct determination of the atomic scale structure and chemistry of materials and interfaces.

Donald R. Huffman 1993
University of Arizona
and
Wolfgang Krätschmer 1993
Max-Planck Institute for Kernphysik
For the discovery of a method to produce macroscopic quantities of fullerenes, and for elucidating their properties.

Max G. Legally 1994
University of Wisconsin, Madison
For innovative development of STM as a quantitative probe of the microscopic mechanisms of crystal growth and ordering at surfaces.

Kenneth S. Suslick 1994
University of Illinois, Urbana—Champaign
For incisive studies of chemical effects of ultrasound and the use of sonochemistry in synthesis of unusual inorganic materials.

Federico Capasso 1995
AT&T Bell Laboratories
For seminal contributions to compositionally graded materials, using bandgap engineering, and their innovative applications in electronics and optoelectronics.

Rudolf M. Tromp 1995
IBM T.J. Watson Research Center
For pioneering experiments on the role of atomic structure, surface stress, and surfactants in heteroepitaxial growth.

Jerry D. Tersoff 1996
IBM T.J. Watson Research Center
For seminal contributions to the theory of strain relaxation in thin films.
Shuji Nakamura 1997
Nichia Chemical Industries Ltd.
For the development of lattice-mismatched GaN-based heteroepitaxy and its application to the creation of blue and green light-emitting diodes and short wavelength laser diodes.

William L. Johnson 1998
California Institute of Technology
For the development and fundamental understanding of bulk metallic glass forming alloys.

M. George Craford 1999
Hewlett Packard
For pioneering contributions and leadership in the development of visible-spectrum light-emitting diode materials and devices.

Stephen Forrest 1999
Princeton University
For pioneering contributions to the growth and optoelectronic applications of organic semiconductor thin films.

Dieter M. Gruen 2000
Argonne National Laboratory
For the low-pressure synthesis of nanocrystalline diamond films from fullerene precursors.

Samuel I. Stupp 2000
Northwestern University
For seminal contributions to the development of supramolecular materials that exhibit unique properties resulting from their hierarchical organization in the condensed state.

Norman C. Bartelt 2001
Sandia National Laboratories
For contributions to the statistical mechanics of materials surfaces.

Mathew Mate 2001
IBM Almaden Research Center
For pioneering studies of friction at the atomic and molecular level.

Uzi Landman 2002
Georgia Institute of Technology
For molecular dynamics simulations elucidating the microscopic behavior of solid and liquid interfacial junctions and atomistic processes of tribology.

Charles M. Lieber 2002
Harvard University
For controlled synthesis of nanowire and nanotube materials.

C. Jeffrey Brinker 2003
Sandia National Laboratories
For his pioneering application of principles of sol-gel chemistry to the self-assembly of functional nanoscale materials.

Ivan K. Schuller 2003
University of California, San Diego
For his innovative studies of exchange bias in magnetic heterostructures and nanostuctures.

Jacob N. Israelachvili 2004
University of California, Santa Barbara
For his work on adhesion and friction, which has revolutionized the understanding of molecular mechanisms responsible for these technologically vital phenomena.

Toh-Ming Lu 2004
Rensselaer Polytechnic Institute and
Sunil K. Sinha 2004
University of California, San Diego/ Los Alamos National Laboratory
For seminal contributions to understanding mechanisms of thin-film surface and interface morphology evolution and establishing the foundations of diffraction and scattering methods for its quantitative analysis.

Reshef Tenne 2005
Weizmann Institute
For realizing that nanoclusters of layered compound materials (e.g., MoS2 WS2) can be made to fold into hollow cage structures, analogous to graphitic carbon. These structures, known as ‘Inorganic Fullerenes,’ constitute a materials class with exciting new properties.

Pulickel Ajayan 2006
Rensselaer Polytechnic Institute and
Won Bong Choi 2006
Florida International University
For important developments in the material science and applications of carbon nanotubes.

Mark Thompson 2006
University of Southern California
For development of highly efficient heavy metal phosphor complexes.

Omar M. Yaghi 2007
University of California-Los Angeles
For his pioneering work on the synthesis, structure, and theory of metal organic frameworks.

Darrell G. Schrom 2008
Cornell University and
James F. Scott 2008
Cambridge University
For fundamental contributions to the materials science of oxides underlying current and future electronic devices.

Gerbrand Ceder 2009
Massachusetts Institute of Technology
For pioneering the high-impact field of first-principles thermodynamics of batteries materials and for the development of high power density Li battery compounds.

Walter A. de Heer 2010
Georgia Institute of Technology
For his pioneering contributions to the science and technology of epitaxial graphene.

Peidong Yang 2011
University of California, Berkeley
For outstanding contributions in the creative synthesis and assembly of semiconductor nanowires and their heterostructures, and innovations in nanowire-based photonics, thermoelectrics, solar energy conversion and nanofluidic applications.

Georgia Institute of Technology
For seminal contributions in the discovery, controlled synthesis, and fundamental understanding of ZnO nanowires and nanobelts, and the design and fabrication of novel, nanowire-based nanosensors, piezotronic devices, and nanogenerators.

Jennifer A. Lewis 2012
University of Illinois at Urbana-Champaign
For pioneering contributions in the design of viscoelastic inks composed of colloidal, polymeric, and organometallic building blocks and their directed assembly into planar and 3D functional architectures.

Miguel Salmeron 2012
Lawrence Berkeley National Laboratory
For his contribution to the molecular level understanding of material surfaces under ambient conditions of gas pressure and temperature made possible by the development and application of Ambient Pressure Photo-Electron Spectroscopy (AP-PhotoES), which revealed the chemical structure of liquids, catalysts surfaces and nanoparticles during environmental reaction conditions.

Alexander A. Balandin 2013
University of California, Riverside
For discovery of the extraordinary high intrinsic thermal conductivity of graphene, development of an original optothermal measurement technique for investigation of thermal properties of graphene, and theoretical explanation of the unique features of the phonon transport in graphene.

Mercouri G. Kanatzidis 2014
Northwestern University and Argonne National Laboratory
For the discovery and development of nanostructured thermoelectric materials.
Sharon C. Glotzer 2014  
University of Michigan  
and  
Nicholas A. Kotov 2014  
University of Michigan  
For foundational work elucidating processes of nanoparticle self-assembly.

Richard B. Kaner 2015  
University of California, Los Angeles  
For the discovery of efficient methods to synthesize water dispersible conducting polymer nanofibers and their applications in sensors, actuators, molecular memory devices, catalysis, and the novel process of flash welding.

Robert J. Cava 2016  
Princeton University  
For pioneering contributions in the discovery of new classes of 3D Topological Insulators.

Joanna Aizenberg 2017  
Harvard University  
For developing new synthesis routes inspired by biological principles for the fabrication of advanced complex multifunctional materials and devices.

Younan Xia 2017  
Georgia Institute of Technology  
For seminal contributions to shape-controlled synthesis of metal nanocrystals with major impact on catalysis, plasmonics and biomedicine.

John Rogers 2019  
Northwestern University  
For pioneering contributions to materials for diverse classes of bio-integrated electronic systems.

Catherine J. Murphy 2019  
University of Illinois at Urbana-Champaign  
and  
Haimei Zheng 2019  
Lawrence Berkeley National Laboratory  
For outstanding contributions on the study of anisotropic nanoscale materials, transformation and application.

Yi Cui 2020  
Stanford University  
and  
Linda Nazar 2020  
University of Waterloo  
For outstanding contributions to advanced materials design, synthesis and characterization for energy storage, particularly Li battery technologies.

Yury Gogotsi 2021  
Drexel University  
For contributions to advancing the understanding of processing, structure, and properties of two-dimensional carbides and nitrides (MXenes) for energy storage applications.

Chad A. Mirkin 2022  
Northwestern University  
For the invention and implementation of nanoparticle mega-libraries for materials discovery.
Innovation in Materials Characterization Award

To honor an outstanding advance in materials characterization that notably increases the knowledge of the structure, composition, in situ behavior under outside stimulus, electronic, mechanical, or chemical behavior, or other characterization feature, of materials. It is not limited to the method of characterization or the class of material observed. Impact of the advance on materials research will be the primary consideration in making the award. Nominations for this award may be made for scientists and engineers in all areas of materials research.

MRS acknowledges the generosity of Professors Gwo-Ching Wang and Toh-Ming Lu for endowing this award.

mrs.org/imca

Recipients

Warren C. Oliver 2010 Nanomechanics, Inc.
and
George M. Pharr 2010 Oak Ridge National Laboratory
For seminal contributions to the development of the instrumentation and analysis methods of nanoindentation for characterizing the mechanical properties of materials at the micro- and nanometer-length scales. Their work on nanoindentation has profoundly impacted all fields of materials research where mechanical behavior is important.

Tye T. Gribb 2011 DTE Research & Design LLC
and
Thomas F. Kelly 2011 Cameca Instruments, Inc.
and
David J. Larson 2011 Cameca Instruments, Inc.
For the highly successful conception, design, fabrication, and commercialization of an ergonomic three-dimensional local-electrode atom probe (LEAP) tomograph that enables the determination of the local composition information, on an atom-by-atom basis, of metallic, semiconducting, ceramic and organic materials, on a subnanometer scale, in direct space, with high mass resolving power and signal-to-noise ratio, permitting the determination of small concentrations of all elements.

Stephen J. Pennycook 2012 Oak Ridge National Laboratory
For his pioneering use of aberration-corrected Z-contrast scanning transmission electron microscopy in the characterization of materials at the atomic scale.

D. Bruce Chase 2013 University of Delaware
and
John F. Rabolt 2013 University of Delaware
For the development of Fourier Transform Raman Spectroscopy and the demonstration of its utility for examining the chemical structure and properties of organic molecules and polymers in solids, thin films and solutions.

Albert Polman 2014 University of Amsterdam, FOM Institute AMOLF, The Netherlands
For the development, application and commercialization of Angle-Resolved Cathodoluminescence Imaging Spectroscopy (ARCIS) as a new tool for optical imaging at the nanoscale, with applications in nanophotonics and materials science in general.

John M. Carpenter 2015 Argonne National Laboratory
For innovations in neutron sources that have fundamentally changed their performance and enabled opportunities for further advancement of materials that improve the quality of life.
Annamaria Petrozza 2022
Italian Institute of Technology
For the development and innovative use of time-resolved carrier dynamics measurements, from sub-picoseconds to milliseconds, to fundamentally advance our understanding of the photo-physics of metal-halide perovskites, leading to materials and devices of improved stability.

Stig Helvec 2019
Haldor Topsoe
For pioneering atomic-scale transmission electron microscopy under reactive gas environments, leading to groundbreaking insights in catalysis, crystal growth and corrosion.

Joost W.M. Frenken 2017
Advanced Research Center for Nanolithography (ARCNL)
For the development, application and commercialization of high-speed, temperature-controlled, in situ scanning probe microscopy, leading to key insights in the structure, dynamics and chemistry of surfaces and interfaces.

David G. Cahill 2018
University of Illinois at Urbana-Champaign
For developing transformative methods for characterizing the thermal transport properties of materials and their interfaces using time-domain thermoreflectance (TDTR) and related approaches.

Stig Helvec 2019
Niels de Jonge 2016
INM–Leibniz Institute for New Materials and
Frances M. Ross 2016
IBM T.J. Watson Research Center and
Chongmin Wang 2016
Pacific Northwest National Laboratory
For seminal contributions to the imaging of specimens in liquids using transmission electron microscopy, revolutionizing the direct observation of materials processes, batteries during operation and biological structures.

Jinghui Guo 2020
Lawrence Berkeley National Laboratory
For pioneering in situ/operando soft x-ray spectroscopy characterization of interfacial phenomena in energy, catalysis and chemical materials science.

Jianwei (John) Miao 2021
University of California, Los Angeles
For pioneering coherent diffractive imaging for a wide range of material systems and atomic electron tomography for determining atomic positions without assuming crystallinity.

Annamaria Petrozza 2022
INM–Leibniz Institute for New Materials and
Frances M. Ross 2016
IBM T.J. Watson Research Center and
Chongmin Wang 2016
Pacific Northwest National Laboratory
For seminal contributions to the imaging of specimens in liquids using transmission electron microscopy, revolutionizing the direct observation of materials processes, batteries during operation and biological structures.

Joost W.M. Frenken 2017
Advanced Research Center for Nanolithography (ARCNL)
For the development, application and commercialization of high-speed, temperature-controlled, in situ scanning probe microscopy, leading to key insights in the structure, dynamics and chemistry of surfaces and interfaces.

David G. Cahill 2018
University of Illinois at Urbana-Champaign
For developing transformative methods for characterizing the thermal transport properties of materials and their interfaces using time-domain thermoreflectance (TDTR) and related approaches.
Materials Theory Award

The Materials Theory Award recognizes exceptional advances made by materials theory to the fundamental understanding of the structure and behavior of materials. This award is intended to honor both those who have pioneered the development of a new theoretical approach and those who have used existing approaches to provide significant new insight into materials behavior.

MRS acknowledges the generosity of Professors Gwo-Ching Wang and Toh-Ming Lu for endowing this award.
The Mid-Career Researcher Award recognizes exceptional achievements in materials research made by mid-career professionals. It is intended to honor an individual who is between the ages of 40 and 52 at the time of nomination. Exceptions may be made for an interruption in career progression due to family or military service. The award recipient must also demonstrate notable leadership in the materials area.

The Mid-Career Researcher Award is made possible through an endowment established by Millipore Sigma.

Recipients

**Kristi S. Anseth** 2012
University of Colorado, Boulder
Exceptional achievement at the interface of materials and biology enabling new, functional biomaterials that answer fundamental questions in biology and yield advances in regenerative medicine, stem-cell differentiation, and cancer treatment.

**John A. Rogers** 2013
University of Illinois at Urbana-Champaign
For fundamental and applied contributions to materials, mechanics designs, and assembly techniques for stretchable/flexible electronic systems.

**Lei Jiang** 2014
Chinese Academy of Sciences, China
For establishing fundamental understanding of the interfacial properties of biological systems and transforming that insight into commercialized bioinspired materials with properties better than those of natural systems.

**Seth R. Marder** 2015
Georgia Institute of Technology
For establishing fundamental relationships between the chemical structure of organic molecules and their optical and electronic properties, thereby profoundly impacting how the scientific community designs optimized molecular structures for use in nonlinear optical applications.

**Hongjie Dai** 2016
Stanford University
For seminal contributions to carbon-based nanoscience and applications in nanoelectronics, renewable energy, and biological systems.

**Nicola Spaldin** 2017
ETH Zürich
For creating a new theoretical framework describing multiferroics and for service to the materials community.

**David Mooney** 2018
Harvard University
For pioneering contributions to the field of biomaterials, especially in the incorporation of biological design principles into materials and the use of biomaterials in mechanobiology, tissue engineering and therapeutics.

**Hongyou Fan** 2019
Sandia National Laboratories and The University of New Mexico
For outstanding contributions in nanoparticle self-assembly of functional nanomaterials and for leadership within the materials community.

**Xiangfeng Duan** 2020
University of California, Los Angeles
For contributions to rational design and assembly of layered materials for electronic, photonic and energy devices.

**Zhenan Bao** 2021
Stanford University
For pioneering contributions and conceptual developments to organic electronics and skin-inspired electronics.

**Molly Stevens** 2022
Imperial College London
For innovative biosensing nanomaterials technologies for point-of-care disease diagnostics.
MRS Impact Award

The MRS Impact Award honors outstanding individuals who have displayed excellence in areas of science communication, education, advancing diversity, mentoring, or community engagement, which reflect the Society’s pursuit to advance materials science and technology to improve the quality of life.

mrs.org/mrs-impact-award

Recipient

Lynnette D. Madsen 2017
National Science Foundation
In recognition of her effectiveness in exemplifying technical leadership, advancing diversity, fostering mentoring and communicating persuasively to influence both large and small institutions.

Michael Falk 2018
Johns Hopkins University
For broadened participation in STEM education in Baltimore elementary schools; for bringing attention to professional and educational climate issues faced by LGBTQ students and researchers; and for pioneered research-based methodologies for integrating computation into the Materials Science and Engineering curriculum.

Meyya Meyyappan 2019
NASA Ames Research Center
For his lifelong dedication toward creating significant and outstanding impact to understanding nanotechnology through global outreach initiatives and for unwavering mentorship.

Takiya J. Ahmed Foskey 2020
DuPont
For leadership, mentoring and substantive contributions toward creating and organizing educational opportunities to prepare the next generation, in particular underrepresented and economically disadvantaged youth, to strive for STEM education and careers and be role models in the future.

Amy J. Moll 2021
Boise State University
For sustained leadership and impact in materials outreach and education, including founding the department at Boise State University, fostering excellent materials science pedagogy, and engaging the public through museum exhibits and television documentaries.

Kwadwo Osseo-Asare 2022
The Pennsylvania State University
For sustained contributions to building a global materials science and engineering community that spans continents from Africa to the Americas.
The Kavli Foundation is dedicated to advancing science for the benefit of humanity, promoting public understanding of scientific research and supporting scientists and their work.

mrs.org/kavli-early-career
The MRS Outstanding Early-Career Investigator Award is intended to recognize outstanding, interdisciplinary scientific work in materials research by a young scientist or engineer. The award recipient must also show exceptional promise as a developing leader in the materials area.

Recipients

Stuart S.P. Parkin 1991
IBM Almadin Research Center
Recognizing enterprise in new materials, high Tc superconductors, and magnetic multilayers displaying oscillatory exchange coupling.

David D. Awschalom 1992
University of California, Santa Barbara
Recognizing enterprise in the field of nanostructured materials.

Charles M. Lieber 1993
Harvard University
Pioneering contributions to the understanding of novel materials through synthesis and elegant determination of complex local structure and electronic properties.

David J. Eaglesham 1994
AT&T Bell Laboratories
Creativity, leadership and experimental ingenuity in discovering an understanding of fundamental interface, surface and defect phenomena in semiconductor crystal growth.

A. Paul Alivisatos 1995
University of California, Berkeley
Leadership in materials research, notably in the field of nanocrystals.

Antonios G. Mikos 1996
Rice University
For the synthesis and processing of new biomaterials for tissue engineering, supports for cells, tissue-growth conduits, targeted cell-adhesion substrates, and cellular-response stimulants.

Christopher N. Bowman 1997
University of Colorado
For seminal contributions to the field of highly crosslinked polymers, information storage materials and computational methods in polymerization engineering.

Anne M. Mayes 1998
Massachusetts Institute of Technology
For incisive theoretical and experimental investigations of macromolecules at and near surfaces and interfaces leading to tailorable surface properties, especially novel bio-compatible substrates.

Chad A. Mirkin 1999
Northwestern University
Pioneering and leadership role in developing a new interdisciplinary field in which complex biological macromolecules are used to assemble inorganic nanoparticle building blocks into functional meso- and macroscopic structures.

Frances M. Ross 2000
IBM T.J. Watson Research Center
For innovative and powerful experimental studies, based upon development of novel in situ electron microscopy techniques, that have provided fundamental new understanding of nucleation, growth, oxidation and etching processes in a wide range of materials systems.

Kristi S. Anseth 2001
University of Colorado
For innovative work in polymeric biomaterials for drug delivery, bone and cartilage repair, and tissue engineering, and for outstanding leadership potential in this interdisciplinary field of materials research.

Timothy J. Deming 2003
University of California, Santa Barbara
For his discovery of synthetic methods to produce polypeptide homopolymers and block copolymers with exquisite control of block length, sequence and secondary structure and the interdisciplinary exploitation of these materials to yield unique hydrogels and inorganic materials.
Peidong Yang 2004
University of California, Berkeley
For innovative synthesis of a broad range of nanowire and nanowire heterostructure materials, and the discovery of optically-induced lasing in individual nanowire devices.
Harold Y. Hwang 2005
University of Tokyo
For innovative work on the materials physics of transition metal oxides and the atomicscale synthesis of complex oxide heterostructures.
Ju Li 2006
The Ohio State University
For innovative work on the atomicistic and first-principles modeling of nanoindentation and ideal strength in revealing the genesis of materials deformation and fracture.
Michael D. McGehee 2007
Stanford University
For innovation and application of organic semiconductors in lasers, light-emitting diodes, transistors and solar cells.
Michael S. Strano 2008
Massachusetts Institute of Technology
For innovative work on single walled carbon nanotube chemical modifications, both fundamental and applied, and for pioneering a new class of near infrared sensor architectures based upon chemically-induced optical modulation of carbon nanotubes.
Teri Odom 2009
Northwestern University
For the development and characterization of nanoparticles and nanostructured arrays designed to filter and propagate plasmonic excitations with unprecedented control and sensitivity.
Mark C. Hersam 2010
Northwestern University
For pioneering research on the physics, chemistry, and engineering of nanoelectronic materials and devices, including solution-phase techniques for sorting carbon nanotubes and graphene, and for organic functionalization and nanopatterning of semiconductor surfaces.
Dmitri V. Talapin 2011
University of Chicago
For methodological developments of synthesis and self-assembly of inorganic nanocrystals and for fundamental studies transforming colloidal nanostructures into electronic and optoelectronic materials.
Markus J. Buehler 2012
Massachusetts Institute of Technology
For highly innovative and creative work in computational modeling of biological, bio-inspired, and synthetic materials, revealing how weakness is turned into strength through hierarchical material design.
Alexandra Boltasseva 2013
Purdue University & Technical University of Denmark
For pioneering research to develop novel materials for advanced plasmonic, metamaterial and transformation optics devices with potential applications in future nanoscale photonic technologies.
Henry J. Snaith 2014
University of Oxford, United Kingdom
For innovation and development of solid state dye sensitized solar cells and for his groundbreaking work in perovskite hybrid solar cells.
Karena W. Chapman 2015
Argonne National Laboratory
For contributions to understanding the coupled structure and reactivity of energy-relevant systems and for developing the incisive experimental and analytical tools needed to interrogate these complex materials systems.
Ali Javey 2015
University of California, Berkeley
For innovative contributions in integrating nanomaterials into device applications.
Dino Di Carlo 2016
University of California, Los Angeles
For pioneering methods to manufacture, measure, and manipulate microstructured materials and applying these innovations to biomedical problems.
Timothy J. White 2016
Air Force Research Laboratory
For innovations in the preparation and applications of photo-responsive materials.
Jennifer A. Dionne 2017
Stanford University
For advanced plasmonics research and development of innovative transmission electron microscopy imaging methodologies for advancing energy storage and conversion materials.
James M. Rondinelli 2017
Northwestern University
For pioneering advances in the theoretical understanding of atomic structure-electronic property relations of complex inorganic oxides in bulk, thin film, and superlattice geometries.
Prineha Narang 2018
Harvard University
For critical advances in the understanding of materials physics, optical sciences, and topology for the prediction and design of quantum materials.
William Chueh 2018
Stanford University
For groundbreaking research on ionic and electronic charge transport and interface chemistry relevant to electrochemical devices.
Vanessa Wood 2018
ETH Zürich
For innovative work in visualizing, quantifying and explaining transport processes in material and devices.
Sheng Xu 2019
University of California, San Diego
For materials and device designs in biointegrated electronics and stretchable energy systems.
Jonathan Rivnay 2020
Northwestern University
For innovative research on an organic semiconductor microstructure and charge transport for electronics and bioelectronics.
Huolin Xin 2021
University of California, Irvine
For development of innovative transmission electron microscopy imaging methodologies for advancing energy storage and conversion materials.
Prineha Narang 2022
Harvard University
For critical advances in the understanding of materials physics, optical sciences, and topology for the prediction and design of quantum materials.
MRS Nelson “Buck” Robinson Science & Technology Award for Renewable Energy

The newest MRS award, the MRS Nelson “Buck” Robinson Science and Technology Award for Renewable Energy, recognizes an individual for the development of novel sustainable solutions for the realization of renewable sources of energy.

MRS acknowledges the generosity of Sophie Robinson for endowing this award in memory of her father, Nelson “Buck” Robinson.

mrs.org/nelson-buck-robinson-science-and-technology-award
MRS Postdoctoral Awards

The MRS Postdoctoral Awards recognize postdoctoral scholars who are showing exceptional promise that may include, for example, excellence in scientific research, leadership, advocacy, outreach, or teaching, during their postdoc assignment.

MRS acknowledges the Jiang Family Foundation and MTI Corporation for their generous contribution to support this award.

Recipients

Jonathan Rivnay  Fall 2014
École Nationale Supérieure
des Mines de Saint-Étienne
For the development of state-of-the-art organic electronic devices for interfacing with biology, through the elucidation of structure versus electrical properties relationships.

Chao Wang  Fall 2014
Stanford University
For innovative research developing self-healing electronic materials and utilizing the self-healing concept to achieve high-performance, long lifetime electronic and energy storage devices.

Dustin W. Janes  Spring 2015
The University of Texas at Austin
For outstanding theoretical and experimental contributions to understanding transport in polymer films and membranes and novel nano- and micro-patterning methodologies, and his dedicated mentorship of graduate and undergraduate student researchers.

Yuan Yang  Spring 2015
Massachusetts Institute of Technology
For innovative research on electrochemical materials and systems to convert low-grade waste heat into electricity and exploration of new applications of batteries.

Jiamian Hu  Fall 2015
The Pennsylvania State University
For pioneering contributions to the theoretical understanding of strain-mediated electric-field-induced magnetization switching in magnetoelectric nanostuctures and for designing prototypes of magnetoelectric devices.

Beata Layla Mehdi  Fall 2015
Pacific Northwest National Laboratory
For advances in in situ transmission electron microscopy instrumentation for electrochemical studies and quantitative understanding of nanoscale processes taking place in energy storage systems.

Babak Anasori  Spring 2016
Drexel University
For innovative research on 2D materials, creative and artistic ways of presenting science, dedication to and love of teaching, and student mentoring.

Shinbuhm Lee  Spring 2016
Oak Ridge National Laboratory
For the innovative development of multifunctional ionic devices via vertically aligned heterostructures, and outstanding contributions for theoretical and experimental understanding of them.

Qi Li  Fall 2016
The Pennsylvania State University
For advancing the field of polymer nanocomposites for electrical energy storage and conversion.

Yongming Sun  Fall 2016
Stanford University
For advancing the development of high-capacity battery materials.

Bert Conings  Spring 2017
Hasselt University
For innovation in hybrid perovskite photovoltaics, addressing fabrication, lifetime, and toxicity issues.

Yunlong Zi  Spring 2017
Georgia Institute of Technology
For pioneering research to improve the efficiency and wider applicability of mechanical energy harvesting systems.

mrs.org/postdoctoral
Liang Feng  Fall 2022  Northwestern University  For the discovery of mechanisorption, a fundamentally new mode of adsorption.

Kenji Yasuda  Fall 2022  Massachusetts Institute of Technology  For the discovery of atomically-thin interfacial ferroelectricity in van der Waals heterostructures.

Nicholas Jackson  Spring 2019  Argonne National Laboratory  For foundational theoretical and computational contributions to the study of structure and transport in charged polymers and organic semiconductors.

Rachel E. Carter  Fall 2019  U.S. Naval Research Laboratory  For contributions to the design of safe battery materials and systems, leadership of students and advocacy for women scientists and engineers.

Yasutaka Nagaoka  Fall 2019  Brown University  For contributions to the assembly of nanocrystal superstructures.

Tian Li  Spring 2020  University of Maryland  For the innovative and pioneering research in wood nanotechnology and nanocellulose toward energy, water and sustainability.

Xianwen Mao  Spring 2020  Cornell University  For developing fabrication strategies and operando imaging techniques for nanoscale electrochemical materials systems important for environmental and energy applications.

Xiaowen Mao  Spring 2020  Cornell University  For developing fabrication strategies and operando imaging techniques for nanoscale electrochemical materials systems important for environmental and energy applications.

Edward Baldini  Fall 2020  Massachusetts Institute of Technology  For implementing novel laser techniques to identify and control collective excitations in quantum materials leading to major advances in the field of excitonic and phononic.

Yang Liu  Spring 2021  The Pennsylvania State University  For the pioneering research in ferroelectric polymers to achieve high piezoelectric responses, and outstanding contributions to understanding of relaxor ferroelectricity in polymers.

Yu Jun Tan  Spring 2021  National University of Singapore  For developing stretchable, self-healing materials for smart electronics.

Zhijie Chen  Fall 2021  Northwestern University  For his outstanding contributions to the fields of porous materials, nanochemistry, and supramolecular assembly.

Dasha Nelidova  Fall 2021  Institute of Molecular and Clinical Ophthalmology Basel  For creating tunable nanogenetic near-infrared light sensors to restore vision.

Mattia Biesuz  Spring 2022  University of Trento  For fundamental contribution to the knowledge and development of flash sintering phenomena and processes in ceramics.

Aditya Sood  Spring 2022  Stanford University  For pioneering correlated dynamic structure and transport studies, and the discovery of a new electrically-triggered metastable phase in an operating device.
MRS Bulletin Postdoctoral Publication Prize

MRS is pleased to present the inaugural MRS Bulletin Postdoctoral Publication Prize!

The MRS Bulletin Postdoctoral Publication Prize recognizes postdoctoral researchers for their intellectual merit and the impact of their research and scholarship. Candidates should have an interest in scientific publications and/or science writing and communications, and show promise for future scientific contributions in the broad materials field.

MRS Bulletin acknowledges the Jiang Family Foundation and MTI Corporation for their generous contribution to support this award.

mrs.org/bulletin-prize

Recipients

Andy Tay Kah Ping 2017
Stanford University
For his combination of outstanding academic credentials, scientific publications and science communication efforts.

Hortense Le Ferrand 2018
of Nanyang Technological University
For her excellent academic credentials, high-quality scientific publications, science writing and science communications efforts, and potential for future scientific leadership in the materials field.

Ognjen Ilic 2019
University of Minnesota
For his outstanding academic achievements, high quality of scientific publications, demonstrated passion for science communication, science outreach efforts to the general public, and clear potential to become a leader in the field of materials research.

Ritu Raman 2020
Massachusetts Institute of Technology (MIT)
For her diverse research experience, outstanding academic achievements, high quality of scientific publications, extensive outreach efforts, and dedication to mentorship and professional service.

Tedrick Thomas Salim Lew 2021
Institute of Materials Research and Engineering in Singapore
For his excellent academic achievements, passion for his chosen area of research, interest in communicating his research and science to nonscientists, and significant leadership potential in the field of multidisciplinary materials science.

Liang Feng 2022
Northwestern University
For his excellent academic achievements, passion for his chosen area of research, interest in communicating his research and science to nonscientists, and significant leadership potential in the field of multidisciplinary materials science.
MRS Woody White Service Award

MRS is pleased to present the inaugural Woody White Service Award!

The MRS Woody White Service Award honors outstanding individuals who have embodied the MRS Mission, Vision and Values for an egalitarian interdisciplinary community advancing materials science and technology to improve the quality of life. It may be given in recognition of long-term, impactful service to the Society, as well as for special projects/programs that significantly impacted the Society.

Recipient

Monica Jung de Andrade 2017
The University of Texas at Dallas
For her eager willingness to assume multiple leadership roles, her work in engaging international students and postdocs, and her numerous activities with The University of Texas at Dallas University Chapter. These contributions have impacted and engaged multiple communities within the Society including students, international members, under-represented members, industrial members and the MRS Membership at large.

Ashley White 2018
Lawrence Berkeley National Laboratory
For her work in cultivating sustainable development as a core MRS activity embodied by the Focus on Sustainability Subcommittee, and tireless advocacy through the Government Affairs Committee and the MRS Congressional Fellowship. White has written numerous articles for MRS Bulletin and Meeting Scene, and she continues to promote MRS values, namely interdisciplinarity and quality of life, through her extensive community efforts.

Terry Aselage 2019
Sandia National Laboratories (retired)
For his focused leadership and vision at the helm of the Meetings Committee, moving the Society toward a more agile, responsive and inclusive community. Aselage also worked to create a stronger partnership between Meetings and Publications, driving the Society forward with more consistent, yet fresh approaches.

Eric Stach 2020
The Pennsylvania State University
For exemplary service to the MRS in our quest to improve the impact of our programs and to hold us accountable for professionalism aligned with our values.

Sanjay Mathur 2021
University of Cologne
For his passion and creativity in intensifying student engagement by creating micro-volunteering opportunities for younger scientists and serving a global scientific community through extraordinary contributions for the advancement of materials research and innovation.

Shefford P. Baker 2022
Cornell University
For his long-term, impactful service to the Society and unwavering dedication to the betterment of the field and MRS.

Shefford P. Baker
2022 MRS Woody White Service Award Recipient

mrs.org/woody-white
The MRS Communications Lecture recognizes excellence in the field of materials research through work published in MRS Communications. It is intended to honor the authors of an outstanding paper published in the journal during the award year.

mrs.org/mrc-lecture

Recipient

David C. Martin 2016
University of Delaware
“Molecular design, synthesis, and characterization of conjugated polymers for interfacing electronic biomedical devices with living tissue”
Published April 15, 2015
MRS Communications Volume 5, Issue 2

Sharon C. Glotzer 2017
University of Michigan
“Rational design of nanomaterials from assembly and reconfigurability of polymer-tethered nanoparticles” with Ryan L. Marson and Trung Dac Nguyen
Published July 23, 2015
MRS Communications Volume 5, Issue 3

Clara Santato 2018
Polytechnique Montréal
“Natural melanin pigments and their interfaces with metal ions and oxides: emerging concepts and technologies” with Eduardo Di Mauro, Ri Xu, and Guido Soliveri
Published May 11, 2017
MRS Communications Volume 7, Issue 2

Timothy J. Bunning 2019
Air Force Research Laboratory
“Dynamic Optical Properties of Gold Nanoparticles/Diolesteric Liquid-Crystal Arrays”
Published April 26, 2018
MRS Communications Volume 8, Issue 2

Grace X. Gu 2020
University of California, Berkeley
“Artificial Intelligence for Materials Design and Additive Manufacturing”
Published March 27, 2019
MRS Communications Volume 9, Issue 2

Andreas Lendlein 2021
University of Potsdam
“Bio-inspired and computer-supported design of modulated shape changes in polymer materials”
Published July 20, 2021
MRS Communications Volume 11, Issue 4

Sossina M. Haile 2021
University of California, Berkeley
“Insensitivity of the extent of surface reduction of ceria on termination: Comparison of (001), (110), and (111) faces” with Weizi Yuan
Published September 30, 2020
MRS Communications Volume 10, Issue 4

Andreas Lendlein 2022
University of Potsdam
“Bio-inspired and computer-supported design of modulated shape changes in polymer materials”
Published July 20, 2021
MRS Communications Volume 11, Issue 4
MRS Gold and Silver Awards are intended to honor and encourage graduate students whose academic achievements and current materials research display a high level of excellence and distinction. MRS seeks to recognize students of exceptional ability showing promise for significant future achievement in materials research.

Arthur Nowick Graduate Student Award
This award honors the late Dr. Arthur Nowick and his lifelong commitment to teaching and mentoring students in materials science. The award will be presented to a GSA finalist who shows particular promise as a future teacher and mentor at each Meeting.

MRS acknowledges the generous contribution for the Nowick Award to the MRS Foundation from Joan Nowick in memory of her husband Dr. Arthur Nowick.

mrs.org/gsa