



Trolier-McKinstry leads MRS Board of Directors for 2017

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On January 1, **Susan Trolier-McKinstry** (The Pennsylvania State University) assumed the presidency of the Materials Research Society (MRS) for 2017, after serving as vice president/president-elect for 2016. She succeeded **Kristi S. Anseth** (University of Colorado Boulder), who now serves MRS as immediate past president.

In last fall's annual election of officers and directors, **Sean J. Hearne** (Sandia National Laboratories) was elected vice president/president-elect, and **Eric A. Stach** (Brookhaven National Laboratory) was elected as secretary. **David J. Parrillo** (The Dow Chemical Company) continues his term as MRS treasurer. MRS Executive Director **Todd M. Osman** serves as an ex-officio member of the MRS Board of Directors and is the chief staff officer.

Newly elected members to the MRS Board of Directors—**Li-Chyong Chen**, National Taiwan University; **Dawnielle Farrar-Gaines**, Johns Hopkins University; **Claudia Gutierrez-Wing**, Instituto Nacional de Investigaciones Nucleares; **Lincoln J. Lauhon**, Northwestern University; and **Molly Stevens**, Imperial College London—join continuing Board members **Charles T. Black**, Brookhaven National Laboratory; **Matt Copel**, IBM Research Division; **Paul S. Drzaic**, Apple, Inc.; **Yury Gogotsi**, Drexel University; **Young-Chang Joo**, Seoul National University; **Karen L. Kavanagh**, Simon Fraser University; **Christine Ortiz**, Massachusetts Institute of Technology; **Sabrina Sartori**, University of Oslo; **Magaly Spector**, The University of Texas at Dallas; and **Anke Weidenkaff**, University of Stuttgart.

Susan Trolier-McKinstry President



Susan Trolier-McKinstry is a professor of ceramic science and engineering and professor of electric engineering at The Pennsylvania State University (Penn State). She is also director of the nanofabrication facility and co-director of the Center for Dielectric and Piezoelectric Studies. She received her PhD degree in ceramic science from Penn State in 1992 and has been a member of the faculty since then. She greatly enjoys working with students and has mentored more than 50 graduate students. Her research group has authored more than 350 papers and holds numerous patents. Group research spans probing the fundamental mechanisms that contribute to the dielectric and piezoelectric properties of thin films, to processing studies on the deposition and patterning of complex oxides, to integration of functional films into micro-electromechanical systems. She is an associate editor of *Applied Physics Letters*; a Fellow of MRS, IEEE, and The American Ceramic Society; and an academician in the World Academy of Ceramics. She has previously served as the president of the IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society, as well as Keramos and the Ceramic Education Council. Trolier-McKinstry has actively

participated in MRS since graduate school. She has organized numerous symposia, and served as a Meeting Chair for the 2003 MRS Fall Meeting. Subsequently, she served on the Program Development Subcommittee until serving a term on the MRS Board of Directors. At that point, she served as the chair of the Strategic Planning Committee.

Sean J. Hearne Vice President/President-Elect



Sean J. Hearne is interim co-director at the US Department of Energy's Center for Integrated Nanotechnologies (CINT) located at Sandia National Laboratories, where he works closely with partners from Los Alamos National Laboratory to ensure CINT has a vibrant international user program that advances the understanding of the fundamental science behind integrating nanocomponents into systems that impact the macroscopic world. He received his PhD degree in solid-state physics from Arizona State University in 2000. He worked from 2000 to 2001 at Intel Corporation, where he was a senior process engineer in the Components Research Group. Since 2001, Hearne has worked for Sandia National Laboratories in the Physical, Chemical, and Nano Sciences Center, where he has continued his research in the mechanical properties of materials, materials processing, electrical energy storage, and nanotechnology. His research has primarily focused on the sources of intrinsic stress creation and evolution during thin-film deposition, and has been well cited in the area of metal-organic chemical vapor deposition growth of GaN and in the fundamental mechanisms inducing stress during Volmer-Weber

thin-film growth. This work led him into other research topics, including micro- and nanofabrication and nano-enabled devices for electrical energy storage. Hearne has been active in the MRS community since attending his first MRS Meeting in 1995 as a graduate student. Over the years, he has presented, organized symposia, and served on a number of committees and task forces. From 2007 to 2010, he chaired the MRS Information Services Committee, which oversaw all MRS publications. He was secretary on the MRS Board of Directors from 2011 to 2016.

Kristi S. Anseth *Immediate Past President*



Kristi S. Anseth is a Howard Hughes Medical Institute Investigator and Distinguished Professor of Chemical and Biological Engineering at the University of Colorado Boulder. She earned her BS degree from Purdue University in 1992 and her PhD degree from the University of Colorado in 1994. She then conducted postdoctoral research at the Massachusetts Institute of Technology as a National Institutes of Health (NIH) Fellow and subsequently joined the Department of Chemical and Biological Engineering at the University of Colorado Boulder as an assistant professor in 1996. Her research interests lie at the interface between biology and engineering, where she designs new biomaterials for applications in drug delivery and regenerative medicine. She is an elected member of the US National Academy of Engineering (NAE) (2009), the Institute of Medicine (2009), and the National Academy of Sciences (2013). She is also a Fellow of the American

Association for the Advancement of Science, the American Institute for Medical and Biological Engineering, the American Institute of Chemical Engineers, and MRS. Anseth serves as an associate editor for the journals *Biomacromolecules*, *Progress in Materials Science*, and *Biotechnology and Bioengineering*, as well as on the Board of Governors for *Acta Materialia, Inc.* She serves on the Advisory Council for the National Institute of Biomedical Imaging and Bioengineering of the NIH, and is the chair of the US NAE Frontiers of Engineering Program. She has been an organizer of MRS symposia and served as a Meeting Chair for the 2009 MRS Fall Meeting. She was elected to the MRS Board of Directors in 2003, where she also served as chair of the Strategic Planning Committee. She is recipient of the MRS Outstanding Young Investigator Award (2001) and the inaugural Mid-Career Researcher Award (2012).

Eric A. Stach *Secretary*



Eric A. Stach is the group leader for the Electron Microscopy Group at the Brookhaven National Laboratory's Center for Functional Nanomaterials. In this role, he both leads a research effort focused on understanding structure/processing property relationships in energy nanomaterials, and helps a diverse user base to exploit electron microscopy for their own research efforts. He is also the Chief Technology Officer for Hummingbird Scientific, which he co-founded in 2004. He received his PhD degree in materials science and engineering from the University of Virginia in 1998. He then joined the National Center

for Electron Microscopy at the Lawrence Berkeley National Laboratory as a staff scientist and became the program leader for the metals program in 2003. In 2004, he joined the School of Materials Engineering at Purdue University as an associate professor and as scientific director for the Birck Nanotechnology Center's electron microscopy lab. At Purdue, he was recognized with undergraduate teaching and early career research excellence awards, by appointment as a university faculty scholar, and promotion to full professor in 2010. Stach's research efforts focus on the development and application of electron microscopy techniques in a broad class of materials research, with the common approach being the exploitation of real-time imaging methods to provide quantitative data regarding materials phenomena. He has attended nearly every MRS Meeting since the 1996 MRS Fall Meeting. He has organized a number of different symposia and served as a Meeting Chair for the 2012 MRS Fall Meeting. He was a guest editor for *MRS Bulletin's* February 2008 issue and served on the MRS Board of Directors from 2013 to 2015.

David J. Parrillo *Treasurer*



David J. Parrillo is the Global Research and Development Director for Dow Packaging and Specialty Plastics at The Dow Chemical Company. He has experience in materials science research and development, application development, new business development, and adhesives. He holds a BS degree in chemical engineering from the University of Rhode Island and a PhD



degree in chemical engineering from the University of Pennsylvania. Previously, he held positions at General Electric (Silicone & Plastic Business Units) and Air Products and Chemicals. He joined Dow in 2007 and held leadership positions in Dow's Technology Licensing & Catalyst business, Dow's Ventures & Business Development business, and Dow's Solar Solutions business. Over the last four years, he has led the team to innovate with product launches focused on providing business value through sustainable solutions. He is a member of the External Advisory Board at the University of California, Santa Barbara, for chemical engineering; the Board of Directors for the West Midland Family Center; and the Leadership Council of Manufacturing Foresight. He holds 14 US patents and has authored or co-authored 20 publications. He served as a 2014 MRS Spring Meeting Chair and was a featured speaker at both the 2010 and 2011 MRS Technology Innovation Forums.

Todd M. Osman Executive Director



Todd M. Osman became Executive Director of MRS in September 2008. During his tenure, MRS has launched the Materials Research Society Foundation, expanded its communications and meetings portfolio, and broadened its outreach and engagement programs. Prior to joining MRS, Osman co-founded The Pennsylvania NanoMaterials Commercialization Center. He also spent 11 years at the US Steel Corporation, where he received peer and corporate recognition for his research and coordinated cooperative R&D programs in North

America, Europe, and Asia. He received his PhD degree in materials science and engineering from Case Western Reserve University and has authored numerous articles. Osman is a member of the Board of Directors of the Lighthouse Foundation, a nonprofit charitable organization, and a member of the MRS Board of Directors.

Board of Directors

Charles T. Black (2017)

Black is a senior scientist director of the Center for Functional Nanomaterials (CFN), a US Department of Energy User Facility at Brookhaven National Laboratory. Each year, CFN supports more than 500 users from research groups around the world. His research interests include using nanostructured materials and self-assembly approaches to improve the performance of solar devices. His involvement with MRS started in 1997, and he served as a Meeting Chair for the 2013 MRS Fall Meeting.

Li-Chyong Chen (2019)

Chen is the director of the Center for Condensed Matter Sciences at National Taiwan University (NTU). She also leads NTU's Advanced Materials Laboratory, where her program focuses on low-dimensional nanomaterials and related hybrids. She served as a symposium chair for the 2008 MRS Spring Meeting and the International Materials Research Congress/China-MRS 2008. She was a 2009 MRS Fall Meeting Chair. From 2010 to 2011, Chen chaired the Pacific Rim Subcommittee under the MRS International Relations Committee. She was recognized as a MRS Fellow in 2010.

Matt Copel (2018)

Copel is a research staff member at the IBM Research Division. He has made contributions to areas where electronic materials are critical to industrial applications, using expertise in structural characterization to guide development. He co-invented the technique of surfactant mediated epitaxy. He currently serves on the Penn State Materials Research Institute Industrial Advisory Board. He is a Fellow of the American Physical Society. He has served on the MRS New Publications Products

Subcommittee (2011–2014) and has participated in several MRS task forces.

Paul S. Drzaic (2018)

Drzaic is senior manager for emerging display technology for Apple, Inc., where he and his group are responsible for the evaluation, development, and implementation of new display technologies. A common research and development theme across Drzaic's career has been flexible displays and electronics and novel electro-optical effects. He served as a volume organizer for *MRS Bulletin* in 2004 and has served as chair of *MRS Bulletin*'s Editorial Board from 2005 to 2015. He was a symposium organizer for the first MRS symposium on flexible electronics in 2002 and served as a Meeting Chair for the 2006 MRS Spring Meeting. He was awarded the MRS Woody Award in 2009.

Dawnielle Farrar-Gaines (2019)

Farrar-Gaines is a senior electrical and materials engineer at the Johns Hopkins University (JHU) Applied Physics Laboratory and a professor in the JHU School of Engineering. She is responsible for providing creative solutions to problems across disciplines, including micro- and nanomaterials, piezoelectric and multifunctional materials, sensors, microscopy, microelectronics, and packaging. Her research interests include micro/nano systems, polymer materials, metamaterials, and transducers. She was chair of the MRS Women in Materials Science and Engineering Committee.

Yury Gogotsi (2018)

Gogotsi is a distinguished university professor and trustee chair in the Department of Materials Science and Engineering at Drexel University. He also holds courtesy appointments in the Departments of Chemistry and Mechanical Engineering and Mechanics at Drexel University. He is the founding director of the A.J. Drexel Nanomaterials Institute. His current research interests focus on the chemistry of nanostructured carbons and carbides. He was a part of the team that discovered a new family of 2D carbides, nitrides, and carbonitrides of transition metals (MXenes). He has been active in MRS for more than 20 years.

He has organized various MRS symposia and was selected for the Fred Kavli Distinguished Lectureship in Nanoscience in 2014. He was the founding advisor of the MRS Student Chapter at Drexel and served as chair of the MRS Student Chapters Subcommittee (2011–2015).

Claudia Gutiérrez-Wing (2019)

Gutiérrez-Wing is a researcher in the Department of Materials Technology at the Instituto Nacional de Investigaciones Nucleares (National Institute for Nuclear Research) in Mexico, where she founded a laboratory for the synthesis of nanomaterials in 1996. Her research is focused on the synthesis, characterization, and applications of nanomaterials. Of particular interest is the design of metallic nanoparticles and self-assembling processes, metallic nanowires, and nanocomposites for different applications under conventional and radiation exposed environments. Gutiérrez-Wing was a 2013 International Materials Research Congress co-chair, organizer of several symposia, and an editor for its proceedings. She served as the treasurer of the Sociedad Mexicana de Materiales from 2011 to 2012 and as vice president from 2013 to 2016.

Young-Chang Joo (2018)

Joo is a professor in the Department of Materials Science and Engineering at Seoul National University in South Korea since 1999. His recent research focuses on developing new pathways for synthesis of materials for energy devices based on nanoscale metallurgy. He has been involved in MRS since his graduate studies and has organized three symposia at MRS Meetings. He served as a Meeting Chair for the 2008 MRS Fall Meeting and was a member of the MRS Program Development Subcommittee's tutorial review group.

Karen L. Kavanagh (2017)

Kavanagh is a professor of physics and an associate member of the Department of Chemistry and School of Engineering Science at Simon Fraser University, Canada. She also directs the 4D Labs Nanoimaging Facility. Her research is focused on atomic interfaces and nanostructures, with recent interest in nanocontacts,

spin transport at electrodeposited metal–semiconductor interfaces, dislocations in nanowire heterostructures, magnetic measurements using electron holography, fibbed nanohole arrays, and two-dimensional materials. She served on the MRS Membership Committee in 1993 and has co-chaired multiple MRS symposia.

Lincoln J. Lauhon (2019)

Lauhon is the associate chair and the director of graduate studies in the Department of Materials Science and Engineering at Northwestern University. His research interests include the physics, chemistry, and applications of nanostructured semiconducting materials and devices. He pioneered the use of atom probe tomography to analyze doping in semiconductor nanowires and probe the ultimate limits of composition control. He has been active in MRS for 20 years, beginning with the 1996 MRS Fall Meeting, and has organized several symposia. He has served on the MRS Program Development Subcommittee since 2011.

Christine Ortiz (2017)

Ortiz is the Morris Cohen Professor of Materials Science and Engineering and the Dean for Graduate Education at the Massachusetts Institute of Technology. Her research program focuses on the multiscale mechanics of musculoskeletal and exoskeletal structural biological materials, with the primary goal being to quantify and understand new mechanisms, phenomena, and design principles and how they determine function, quality, and pathology. Ortiz has been an active member of MRS throughout her professional career.

Sabrina Sartori (2017)

Sartori is an associate professor of physics at the University of Oslo, Norway. Her research interests cover the synthesis and characterization of materials for hydrogen storage and batteries, with a particular focus on nanoscale and porous materials investigated with small-angle neutron and x-ray scattering, *in situ* synchrotron radiation, and powder neutron diffraction. In her academic role, she is engaged in the science and technology of materials for renewable energy. She is a member of the *MRS Bulletin* Energy Quarterly Board.

Magaly Spector (2018)

Spector serves as the assistant to the president for strategic initiatives and professor in practice at The University of Texas at Dallas. She has pioneered a large number of new technologies and holds eight patents. In 2004, she was selected a Bell Labs Fellow for her contributions in solid-state physics, II–V material for semiconductor lasers, GaAs, ICs, and quality and reliability of products used in high-speed optical transport systems for next-generation high bandwidth communication. She received the MRS Woody Award in 2013. She has also served as the MRS Diversity Subcommittee chair.

Molly Stevens (2019)

Stevens is a professor in the Departments of Materials and Bioengineering and is a research director for biomedical materials science in the Institute of Biomedical Engineering at Imperial College London. Her research program aims to create biomaterials with impact on regenerative medicine, tissue engineering, and biosensing. She is also co-director of the UK Regenerative Medicine Platform Hub and co-director of the UK's Interdisciplinary Research Centre, i-sense. She has organized several MRS symposia in the area of self-assembly and nanomaterials and served as a Meeting Chair for the 2014 MRS Spring Meeting. She has served on the MRS Program Development Subcommittee.

Anke Weidenkaff (2017)

Weidenkaff has been a full professor and chair for materials chemistry at the University of Stuttgart since 2013. She is also director of the University of Stuttgart's Institute for Materials Science. Her research interests are in the field of materials research in energy conversion technologies. She is president of the European Thermoelectric Society. In 2011, she was the recipient of the Kavli Foundation Lecture Award. She has organized several MRS symposia and is a member of the *MRS Bulletin* Energy Quarterly Board. She is a member of the E-MRS Executive Committee and served as a Meeting Chair for the E-MRS Spring Meeting in 2013.