Honoring the ACerS Awards Class of 2022

Over its long history, The American Ceramic Society has established a tradition of awards to recognize its members' outstanding contributions and accomplishments and to create career benchmarks for aspiring young scientists, engineers, and business leaders.

The most prestigious of ACerS awards is Distinguished Life Member designation, a recognition bestowed upon only two or three members each year. In 2022, three individuals will receive DLM honors: Sylvia M. Johnson, Tatsuki Ohji, and Kent Weisenstein.

The Society will elevate 19 members to Fellow and recognize many more outstanding members with various Society, Division, and Class awards during the ACerS Annual Honor and Awards Banquet Reception on Oct. 10, 2022.

2022 DISTINGUISHED LIFE MEMBERS

Sylvia M. Johnson

Vision and ambition are key qualities to have in a leader, and ones that Sylvia M. Johnson nurtured since an early age.

During her final two years at Willoughby Girls' High School in Sydney, Australia, Johnson was the only student to register for advanced chemistry. The administration told Johnson the class would be canceled unless she found more students to take it—a challenge she accepted and accomplished.

Following graduation, Johnson attended the University of New South Wales, where she became the first woman to enroll full time in ceramic engineering at UNSW. Johnson earned a first-class honors degree, the highest distinction, and then went on to pursue an M.S. and Ph.D. in materials science and engineering at the University of California, Berkeley.

After graduation, Johnson joined SRI International where, in addition to her research, she rose through the ranks to become director of the Ceramic and Chemical Product Development Laboratory. In 2000, she moved to NASA Ames Research Center as chief of the Thermal Protection Materials and Systems Branch of the Space Technology Division and later became chief materials technologist in the Entry Systems and Technology Division.

Johnson's contributions to the development and application of new and improved thermal protection materials for space and planetary missions are widely recognized. She received the James I. Mueller Award (2011) and Edward Orton Jr. Lecture Award (2015), as well as various NASA awards, including being featured on the women of NASA webpage. She is the author of eight U.S. patents, numerous disclosures, about 60 published papers, and is the editor of two proceedings and one book.

Johnson joined ACerS as a graduate student and found the meetings and networking events to be most valuable. "When I first started coming to the Annual Meeting, everybody was very friendly. You met all these people who were leaders in their field, and they were so welcoming. Also, they remembered your name!" she says.

Johnson has served the Society in a variety of roles, including as a member of the Board of Directors, program chair for the Pacific Coast Regional Meeting, former chair and current counselor of the Northern California Section, general chair for PACRIM-5, and several Society committees. In 2018–2019, she served as ACerS president, a role in which she helped organize greater coordination with the European Ceramic Society, resulting in the formation of a joint award, symposia, and planning meetings. Most recently, she was co-chair of the inaugural Pan American Ceramics Congress, held in Panama City, Panama, July 2022.

Johnson retired from NASA Ames Research Center in 2016 but is still very much involved in ceramics through the Society and other organizations. She is an Honorary Professor at the University of Birmingham (U.K.), president-elect of the International Ceramic Federation, and became an Honorary Fellow of the European Ceramic Society in 2022.

Regarding her recent designation as DLM, Johnson says, "I am deeply appreciative of being a recipient of this honor. It has been a pleasure to work with the Society and so many members over the years and to see the rewards of that work in disseminating knowledge about ceramic technology and science as well as helping to make sure that our field is welcoming to all. I look forward to continuing to contribute to the Society and ceramics field as they both evolve even further than they have in my 45 years of being a member."

Tatsuki Ohji

Finding your dream job can take years of searching. Sometimes, however, it finds you right away.

"When I was a graduate student of mechanical engineering, I took a civil service examination of the Japanese government, and I luckily passed it. I was given a list of positions which the government was filling, and one of them was a researcher position on 'mechanical property characterization of advanced ceramics' in the National Institute of Advanced Industrial Science and Technology [AIST]. It looked very interesting to me because advanced ceramics were called 'new dream materials' at that time, so I took it," says Tatsuki Ohji.

During his more than two-decade career at AIST, Ohji's research made great impacts in the areas of high-temperature strength properties of ceramics in uniaxial tension, strengthening and toughening behavior of advanced ceramics and composites, ultrahigh-temperature composites, and freeze-dry processing approach for making porous ceramics, among others. He authored or coauthored more than 360 peer-reviewed papers and 20 book chapters, as well as edited more than 40 books and conference volumes.

Ohji's relationship with ACerS started more than 30 years ago, when he submitted a paper to *Journal of the American Ceramic Society*.

"When I received the review, I was so amazed and moved to see a lot of valuable, informative, and suggestive comments on my work, and I truly appreciated the kind help of an unknown reviewer, who shared their precious time for an unknown young person outside of the United States like me. I strongly hoped that I would become such a person," he says.

Since then, Ohji served the Society in a variety of roles, including as ACerS president (2019–20), member of the Board of Directors, chair and trustee of the Engineering Ceramics Division, and chair and member of various Society-level committees. He received the W. David Kingery Award (2021), Samuel Geijsbeek PACRIM International Award (2017), John Jeppson Award (2016), and ECD Bridge Building Award (2013).

Ohji is the first Board member and first president who resided on the Asian continent at the time of his ACerS service. During his tenure as president, he focused on fostering and fortifying solidarity and friendship with other ceramic communities worldwide, as well as supporting diversity and inclusion in ACerS leadership.

"Through these many volunteering activities, I was able to make many good friends worldwide. And because we did not anticipate any personal profit for these works, we have created strong heart-to-heart human network, which is now my most important and invaluable treasure," Ohji says.

Regarding his recent designation as DLM, Ohji says, "I felt very humbled and honored when I learned that I was designated a 2022 Distinguished Life Member. With profound gratitude and great humility, I would like to accept this honor. Thank you all very much."

Kent Weisenstein

Kent Weisenstein, an avid baseball and corkball player and lefty pitcher, credits his high school baseball coach, who was also a school counselor, for suggesting ceramic engineering to him. His coach shared some information with him from Missouri School of Mines (now Missouri University of Science and Technology), saying, "You're left-handed. For guys like you that are different, it's better to be a big fish in a little pond than a little fish in a big pond. Have a look at ceramic engineering."

Following his coach's advice, he visited campus, met eminent professors such as Ted Planje and Delbert Day, liked what he saw, enrolled, and graduated in less than four years. He focused on refractories because, he says, "Rolla was known for refractories."

Weisenstein joined the Society in 1960 during his senior year of university. After graduating, he worked as an engineer at H.K. Porter Refractories before cofounding the Missouri Refractories Company in 1973. He served as owner and president of MORCO until it was sold to RHI Magnesita in 2020.

Weisenstein was instrumental in forming the ACerS St. Louis Section in 1964, and in 1965 he led organization of the first annual St. Louis Section Refractories Symposium. His objective for the symposium was to foster interaction between industry and academia, a theme which continues to this day. "We needed to bring industry and universities together—the theory and the practical," he says.

Weisenstein was symposium chair through the 1980s and was celebrated at the symposium's 50th anniversary in 2014 for having attended 50 consecutive symposia. The symposium is now hosted jointly by the St. Louis Section and Refractory Ceramics Division and has become a preeminent international meeting for the refractories community.

"The St. Louis Section having those symposia really tied things together worldwide. Where else can you go in one place and meet 200 people all involved in everything you do?" he says.

In 2000, the St. Louis Section recognized him with its Theodore J. Planje Award, and he has served as counselor for the Section since 1990.

Weisenstein has given back generously to the profession that has given so much to him. He donates generously to the ceramic engineering department at Missouri S&T to support student scholarships, tuition assistance, travel grants, lab fees, and book purchases. He assists many graduate students with funding needed to complete their degrees and organizes plant tours to introduce students to the manufacturing, practical application, and critical importance of ceramics, and refractories in particular.

Being elevated to ACerS Distinguished Life Member is especially meaningful to him. "I was shocked that they picked a left-hander from a small company! I can't thank Rolla and ACerS enough for what they've done for me," he says. ■

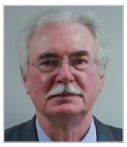
The 2022 Class of Fellows

Kristin Breder is senior principal scientist with Saint-Gobain Research North America. She received an M.S. in physics engineering at the Norwegian Institute of Technology and a Ph.D. in mechanical engineering at University of Massachusetts Amherst. Breder belongs to the Engineering Ceramics and Basic Science Divisions. She currently is on the Board of Directors and previously chaired the Membership Services Committee. She was associate editor of *International Journal of Applied Ceramic Technology* (2004–2006), and she reviews for both *IJACT* and *JACerS*.

Janet Callahan is dean of the College of Engineering and professor of materials science and engineering at Michigan Technological University. She obtained a Ph.D. in materials science from University of Connecticut. Callahan has volunteered extensively for ACerS and ABET, the accreditation board for engineering education.

Shen J. Dillon is professor of materials science and engineering at University of California, Irvine. He received a B.S. and Ph.D. in materials science and engineering from Lehigh University. Dillon belongs to the Basic Science Division. He received the 2015 Robert L. Coble Award for Young Scholars.

Olivier Guillon is director of the Institute of Energy and Climate Research: Materials Synthesis and Processing at Forschungszentrum Jülich, Germany, and professor at RWTH Aachen, Germany. After an engineering degree at the Alès School of Mines in France, Guillon completed his Ph.D. on the nonlinear behavior of ferroelectric ceramics at University of Franche-Comté, France. Guillon belongs to the Engineering Ceramics, Basic Science, and Energy Materials and Systems Divisions. His numerous recognitions include the R.L. Coble Award for Young Scholars.



Joseph Homeny is technical director of the Edward Orton Jr. Ceramic Foundation. He received his Ph.D. in materials science and engineering at The Pennsylvania State University, and a B.S. in ceramic engineering and an M.S. in ceramic science from Rutgers University. Homeny belongs to the Refractory Ceramics Division. He has been on the Ceramic Manufacturing Council and on the leadership team of the Central Ohio Section. Homeny teaches or prepares 15 online courses on glass and refractory technologies in conjunction with ACerS.

Juejun Hu is professor of materials science and engineering at the Massachusetts Institute of Technology. He holds a Ph.D. from MIT and B.S. from Tsinghua University, China, both in materials science and engineering. Hu belongs to the Glass & Optical Materials Division. He served as program chair for the GOMD annual meeting in 2012 and has been an active symposium organizer on multiple ACerS conferences including GOMD, ICC, ICACC, and PACRIM. He has received the Robert L. Coble Award for Young Scholars.

Yuji Iwamoto is professor and vice-president of Nagoya Institute of Technology, Nagoya, Japan. He received a B.S. and M.S. in organic chemistry from Pharmaceutical Sciences of Nagoya City University, Japan, and a Ph.D. in materials science from The University of Tokyo, Japan. Iwamoto belongs to the Engineering Ceramics, Basic Science, and Glass & Optical Materials Divisions. He has received the Richard M. Fulrath Award.

Soshu Kirihara is professor in the Joining and Welding Research Institute at Osaka University, Japan. His work on sustainable geoengineering involves fabricating ceramic and metal components with smart additive manufacturing, design, and evaluation using high-power ultraviolet laser lithography. Kirihara established a start-up company "SK-Fine" through academic-industrial collaboration. He belongs to the Engineering Ceramics and Basic Science Divisions.

Barbara Malič is scientific councilor and head of the Electronic Ceramics Department at Jožef Stefan Institute, Slovenia, as well as head of the doctoral study program "Sensor Technologies" at Jožef Stefan International Postgraduate School. Malič belongs to the Electronics Division.

Lane W. Martin is Chancellor's Professor and chair of the Department of Materials Science and Engineering at University of California, Berkeley and a faculty senior scientist in the Materials Sciences Division at Lawrence Berkeley National Laboratory. He received a B.S. from Carnegie Mellon University and an M.S. and Ph.D. in materials science and engineering from UCB. Martin belongs to the Electronics and Basic Science Divisions. He serves on the Jeppson Award Committee and has received the Robert L. Coble Award for Young Scholars.

The 2022 Class of Fellows (continued)

Blythe McCarthy serves as the Andrew W. Mellon Senior Scientist at the Freer Gallery of Art and Arthur M. Sackler Gallery, which together comprise the National Museum of Asian Art of the Smithsonian Institution in Washington, D.C. McCarthy holds a Ph.D. in materials science and engineering from The Johns Hopkins University and B.S. and M.S. degrees from Massachusetts Institute of Technology. McCarthy belongs to the Art, Archaeology & Conservation Science; Basic Science; and Glass & Optical Materials Divisions. She is past chair of AACSD.

Doris Möncke is associate professor of glass science and engineering at Alfred University. She earned a Ph.D. in glass-chemistry from Friedrich-Schiller-University Jena, Germany. Möncke belongs to the Glass & Optical Materials and Art, Archaeology & Conservation Science Divisions. She was program co-chair of GOMD/PACRIM2021 and for the GOMD Symposium at MS&T 2022. She serves on the Meetings and Kreidl Committees, the Board of Trustees of CGIF, and as GOMD-ICG liaison. She is associate editor of *Journal of the American Ceramic Society* (2020–2022).

Irene Peterson is principal research scientist in the Process Research Directorate at Corning Research & Development Corporation. She received a Ph.D. in materials science and engineering from University of Michigan–Ann Arbor. Peterson belongs to the Glass & Optical Materials and Manufacturing Divisions. She is vice chair of GOMD, and a member of the Manufacturing Division Programming Committee and ACerS Industry Advisory Group.

Joseph V. Ryan is senior materials scientist with the Radiological Materials Group at Pacific Northwest National Laboratory. He received a B.A. in physics from Alfred University and an M.S. and Ph.D. in materials science from The Pennsylvania State University. Ryan belongs to the Glass & Optical Materials; Art, Archaeology & Conservation Science; and Energy Materials and Systems Divisions. He currently serves as vice-chair of GOMD.

Gaurav Sant is professor and Pritzker Endowed Chair in Sustainability in the Samueli School of Engineering at University of California, Los Angeles. He earned a B.S., M.S., and Ph.D. from Purdue University. He belongs to the Cements and Basic Science Divisions.

Alp Sehirlioglu is associate professor of materials science and engineering at Case Western Reserve University. He received a B.S. in materials science and metallurgical engineering from Middle East Technical University, Turkey; M.S. in ceramic engineering from Alfred University; and Ph.D. in materials science and engineering from University of Illinois at Urbana-Champaign. Sehirlioglu belongs to the Electronics Division, where he currently serves as the Nominations Committee chair. He served five years in the officer chain of EDiv (2017–2021). He is associate editor for *Journal of the American Ceramic Society*. He was a founding member and the first co-chair of the Young Professionals Network.

Richard Todd is professor of materials at the University of Oxford, U.K. He studied natural science at Cambridge University, U.K., before spending a few years in the electronics industry; he later returned to school to receive a Ph.D. at Oxford. Todd belongs to the Engineering Ceramics and Basic Science Divisions.

Eric J. Wuchina is senior materials research engineer at the Naval Surface Warfare Center, Carderock Division and is on detail as program officer to the Office of Naval Research, where he manages the Materials for Chemical and Thermal Extremes portfolio. He earned a B.S. in materials engineering and Ph.D. in materials engineering science from Virginia Tech, and an M.S. in engineering materials from University of Maryland. Wuchina belongs to the Engineering Ceramics and Basic Science Divisions.

Yanwen Zhang is Distinguished R&D Staff at Oak Ridge National Laboratory with a joint faculty appointment in the Department of Materials Science and Engineering at University of Tennessee. She received a B.S. and M.S. in solid state physics at Beijing Normal University, China; a Ph.D. in nuclear physics from Lund University, Sweden; and a Ph.D. in science from Beijing Normal University, China. Zhang belongs to the Engineering Ceramics and Basic Science Divisions. She has organized symposia and given numerous invited talks at different ACerS sponsored meetings.

Visit https://ceramics.org/awards/society-fellows to learn more about the 2022 Fellows.

Society Awards

W. DAVID KINGERY AWARD recognizes distinguished lifelong achievements involving multidisciplinary and global contributions to ceramic technology, science, education, and art.

Stuart Hampshire, FACerS, is professor emeritus of Materials Science at University of Limerick, Ireland. Following graduation from the University of Sheffield in ceramics technology, he worked in industry on nitride-bonded refractories before undertaking a Ph.D. at the University of Newcastle on sintering of nitride ceramics and post-doctoral research on oxynitride glasses.

Hampshire developed the first degree program in materials science at the University of Limerick and established a research group on ceramic and glass materials. In 1999 as a founding member of the Materials and Surface Science Institute (now the Bernal Institute) Hampshire successfully led a bid for €16 million for state-of-the-art laboratories and analytical facilities. He received the University of Limerick's Award for Excellence in Research in 2007 and was conferred with an Honorary Doctorate from the University of Limoges, France, in 2009.

JOHN JEPPSON AWARD recognizes distinguished scientific, technical, or engineering achievements.

Young-Wook Kim, FACerS, is professor of materials science and engineering at University of Seoul, South Korea. Kim earned a B.S. in ceramic engineering from Yonsei University and M.S. and Ph.D. in materials science and engineering from the Korea Advanced Institute of Science and Technology.

Kim's research interests include the mechanical, electrical, and thermal properties of dense and porous silicon carbide ceramics and the processing of fully ceramic microencapsulated nuclear fuels. He is editor-in-chief of *International Journal of Applied Ceramic Technology* and currently vice chair of ACerS Engineering Ceramics Division.

ROBERT L. COBLE AWARD FOR YOUNG SCHOLARS recognizes an outstanding scientist conducting research in academia, industry, or at a government-funded laboratory.

Jiamian Hu is assistant professor in materials science and engineering at University of Wisconsin-Madison. He received a B.S. in materials physics from Sichuan University and a Ph.D. in materials science and engineering from Tsinghua University.

Hu's current research focuses on mesoscale modeling of ferroic (magnetic, ferroelectric, and multiferroic) materials and devices as well as microstructure informatics.

ROSS COFFIN PURDY AWARD recognizes authors who made the most valuable contribution to ceramic technical literature in 2020.

3D printing of high-purity silicon carbide

Published in *Journal of the American Ceramic Society* 2020, 103(3): 1575–1581.

Kurt Terrani, Ultra Safe Nuclear Corporation

Brian Jolly, Ultra Safe Nuclear Corporation

Michael Trammell, Ultra Safe Nuclear Corporation

RICHARD AND PATRICIA SPRIGGS PHASE EQUILIBRIA AWARD honors authors who made the most valuable contribution to phase stability relationships in ceramic-based systems literature in 2021.

Phase equilibria in the La_2O_3–Y_2O_3–Nd_2O_3 system at 1,500°C.

Published in *Journal of the European Ceramic Society* 2021, **41**(13): 6606–6616.

O.V. Chudinovych, Frantsevich Institute for Materials Science Problems NASU, Kyiv, Ukraine. National Technical University of Ukraine and Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine.

O.R. Andrievskaya, Frantsevich Institute for Materials Science Problems NASU, Kyiv, Ukraine. National Technical University of Ukraine and Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine.

J.D. Bogatyryova, Physics and Technology Institute for Metals and Alloys NASU, Kyiv, Ukraine.

V.V. Kovylyaev Frantsevich, Institute for Materials Science Problems NASU, Kyiv, Ukraine.

O. I. Bykov Frantsevich, Institute for Materials Science Problems NASU, Kyiv, Ukraine.

Society Awards (continued)

MORGAN MEDAL AND GLOBAL DISTINGUISHED DOCTORAL DISSERTATION AWARD recognizes a distinguished doctoral dissertation in the ceramics and glass discipline.

Yifei Zhang is optical engineer at Microsoft Hololens in Redmond, Washington. He completed his Ph.D. in materials science and engineering at Massachusetts Institute of Technology. His dissertation focused on developing new optical phase change materials and exploring their applications in integrated photonics and metasurface devices. Currently at Microsoft Hololens, Zhang specializes in bringing new optical materials and device concepts into the world of mixed reality.

MEDAL FOR LEADERSHIP IN THE ADVANCEMENT OF CERAMIC TECHNOLOGY recognizes individuals who have made substantial contributions to the success of their organization and expanded the frontiers of the ceramics industry through leadership.

Abhijit Gurav is vice president of ceramic technology at KEMET Electronics Corporation, a YAGEO company, in Simpsonville, South Carolina. He holds a B.S. and M.S. in metallurgical engineering and materials science from the Indian Institute of Technology, India, and a Ph.D. in chemical engineering from the University of New Mexico.

Gurav's current areas of research include electronic properties and behaviors of materials and components, design, processing, reliability testing and modeling of ceramic capacitors for high reliability, dielectric formulations, electrode and end-termination materials, ceramic tape (foil) development, and lamination and sintering of multilayer structures, such as ceramic capacitors.

DU-CO CERAMICS YOUNG PROFESSIONAL AWARD recognizes a young professional member of ACerS who demonstrates exceptional leadership and service to ACerS.

Kathleen Cissel is principal investigator in the Microelectronics and Systems Assurance Lab at the Air Force Research Laboratory in Dayton, Ohio, working for Battelle Memorial Institute. She received a B.S. in physics and classical civilizations from University of Mary Washington, and a M.S. in engineering physics and a Ph.D. in materials science and engineering from the University of Virginia. Cissel is currently president of the Keramos National Board and president of the Microscopy Society of the Ohio River Valley.

RISHI RAJ MEDAL FOR INNOVATION AND COMMERCIALIZATION recognizes an individual whose innovation lies at the cusp of commercialization in a field related, at least in part, to ceramics and glass.

Santokh Badesha is corporate fellow and manager of open innovation at Xerox. He received B.S. and M.S. degrees with honors in chemistry from Punjab University, India. He received his first Ph.D. from the Punjab Agricultural University and a second Ph.D. from the University of East Anglia, U.K. Badesha currently is record holder for issued U.S patents at Xerox, with 262 issued and an additional 55 at different stages of the patenting process. ■

Corporate Technical Achievement Award

The Corporate Technical Achievement award recognizes a single outstanding technical achievement made by an ACerS Corporate Partner in the field of ceramics.

The award recognizes Mo-Sci Corporation for the commercialization of MIRRAGEN® Advanced Wound Matrix.

MIRRAGEN is based on a first-of-its-kind borate technology that is gradually absorbed by the body. This innovative material can be processed into a fiber or particulate form and can help heal a variety of hard-to-heal wounds, including diabetic ulcers, pressure ulcers, venous ulcers, burns, and surgical incisions prone to scarring.

Mo-Sci is headquartered in Rolla, Mo., where the idea for Mo-Sci originated in 1985 with company founder Delbert Day, Curators Professor Emeritus in Materials Science and Engineering at Missouri University of Science and Technology. Mo-Sci was acquired in 2021 and is now part of the Heraeus Group, a FORTUNE Global 500 listed family-owned portfolio company. ■

ECERS-ACERS JOINT AWARD recognizes individuals who foster international cooperation between The American Ceramic Society and the European Ceramic Society, in demonstration of both organizations' commitment to work together to better serve the international ceramics community.

Gary L. Messing, FACerS, DLM, is Distinguished Professor Emeritus of Ceramic Science and Engineering at The Pennsylvania State University and was founding director of the NSF Industry/University Cooperative Research Center on Particulate Materials at Penn State. Messing's lab studies the improvement of ceramic materials for optical, piezoelectric, and structural applications by regulating microstructure evolution using innovative approaches. ■

Richard M. Fulrath Symposium and Awards

Promote technical and personal friendships between Japanese and American ceramic engineers and scientists.

Japanese Industrial
Shoichiro Suzuki

Material development for high performance and miniaturization of multilayer ceramic capacitors by using Sn

Suzuki is manager of the Materials and Technology Development Department in the Technology Development Group of the Capacitor Division at Murata Manufacturing Co., Ltd., Japan. He researches dielectric ceramic materials design and processing, and nickel inner electrode for monolithic ceramic capacitors.

Japanese Industrial
Masatake Takahashi

Development of ultrathin piezoelectric type loudspeaker for mobile phones

Takahashi is director of the artificial intelligence and sensing technology development teams at NEC Corp., Japan. He researches the fusion of physical sensing and data analysis to create deeper insights for more efficient city infrastructure operations and maintenance.

American Industrial
Tobias A. Schaedler, FACerS

Additive manufacturing of ceramics using preceramic polymers

Schaedler is manager of the Architected Materials and Structures Department at HRL Laboratories, LLC in Malibu, California. He received a Ph.D. in materials from University of California, Santa Barbara following undergraduate studies in the same field at University of Bayreuth, Germany. Schaedler's service to ACerS includes helping to revive the Southern California Section as chair in 2021; organizing a new symposium on Additive Manufacturing of Glass, Ceramics, and Composites at the 2019 MS&T conference; and coorganizing the Symposium on Additive Manufacturing at the ICACC conference in 2020 and 2021.

American Academic
Jacob Jones, FACerS

Advancing solid state reaction science through in situ X-ray diffraction and processing control

Jones is Kobe Steel Distinguished Professor of Materials Science and Engineering at North Carolina State University, director of the Science and Technologies for Phosphorus Sustainability Center, and director of the Research Triangle Nanotechnology Network. Since 2012, he has been a Senior Visiting Fellow at University of New South Wales, Australia. Jones participates in ACerS Basic Science and Electronics Divisions, and he founded and chairs the Carolinas Section.

Japanese Academic
Takuya Hoshina

Elucidation of dielectric polarization mechanism using THz spectroscopy

Hoshina is associate professor in materials and chemical technology at Tokyo Institute of Technology, Japan. He received a B.S., M.S., and Ph.D. in engineering from Tokyo Tech. Hoshina has studied the structure and properties of dielectric and ferroelectric materials for more than 20 years. ■

Check matscitech.org for latest updates.

Class Awards

EPDC OUTSTANDING EDUCATOR AWARD recognizes outstanding work and creativity in teaching, directing student research, or the general educational process.

Jeffrey D. Smith, FACerS, is professor of ceramic engineering in materials science and engineering at Missouri University of Science and Technology. He joined the faculty at Missouri S&T after completing a B.S. in ceramic engineering at Iowa State University and M.S. and Ph.D. degrees in ceramic engineering from the University of Missouri-Rolla. Smith has received more than 30 university teaching awards that are based, in part, upon student input. ■

ENERGY MATERIALS AND SYSTEMS DIVISION D.T. RANKIN AWARD in memory of Tom Rankin, recognizes a member of the former Nuclear & Environmental Technology Division who has demonstrated exemplary service to the Division

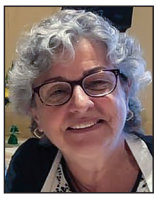
Armin Feldhoff is Extraordinary Professor at Leibniz University Hannover, Germany. He is past chair of the Energy Materials and Systems Division and served as lead organizer for several energy-focused symposia and sessions at various ACerS meetings. His research interests are in physical chemistry of materials with focus on thermo-iono-electric materials for energy conversion and separation technologies. ■

ART, ARCHEOLOGY & CONSERVATION SCIENCE DIVISION ANNA O. SHEPARD AWARD recognizes an individual who has made outstanding contributions to materials science applied to art, archaeology, architecture, or cultural heritage.

Pamela Vandiver, FACerS, is professor of materials science and engineering and adjunct professor in anthropology at University of Arizona. She is also codirector of the Program in Heritage Conservation Science and head of the Laboratory for Cultural Materials. Vandiver's research spans historical ceramics located in countries around the world, including France, China, Korea, Japan, Ukraine, Pakistan, Turkey, Egypt, and more. ■

ACerS Award Lectures

ACerS/EPDC ARTHUR L. FRIEDBERG CERAMIC ENGINEERING TUTORIAL AND LECTURE



Lisa C. Klein, FACerS
Chair, Department of Materials Science and Engineering, Rutgers, The State University of New Jersey
From moon rocks to melting gels
Klein's research focuses on sol-gel science and engineering, particularly sol-gel for electrolytes, electrochromics, membranes, and nanocomposites. More recently, she has focused on sol-gel processing of organic-inorganic hybrids.

EDWARD ORTON JR. MEMORIAL LECTURE

Sanjay Mathur, FACerS
Director of the Institute of Inorganic and Materials Chemistry, University of Cologne, Germany
Visiting professorships at Central South University (China) and National Institute of Science Education and Research (India)
Ceramic particles for precision drug delivery
Mathur's research focuses on application of nanomaterials and advanced ceramics for energy technologies.

ACerS FRONTIERS OF SCIENCE AND SOCIETY RUSTUM ROY LECTURE

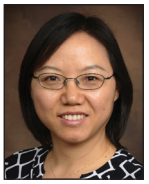
Yury Gogotsi, FACerS
Distinguished University Professor and Charles T. and Ruth M. Bach Professor of Materials Science and Engineering
Drexel University, Philadelphia, Penn.
Director of the A.J. Drexel Nanomaterials Institute
Ceramics in flatlands or how to build new materials and devices using nanoscale bricks
Gogotsi's research group works on 2D carbides and nitrides (MXenes), nanostructured carbons, and other nanomaterials for energy, water, and biomedical applications.

BASIC SCIENCE DIVISION ROBERT B. SOSMAN AWARD AND LECTURE

William G. Fahrenholtz, FACerS
Curators' Distinguished Professor of Ceramic Engineering, Department of Materials Science and Engineering, Missouri University of Science and Technology
Ultrahigh-temperature ceramics research at Missouri S&T
Fahrenholtz's research focuses on the processing and characterization of boride and carbide ceramics.

GLASS & OPTICAL MATERIALS DIVISION ALFRED R. COOPER AWARD SESSION

COOPER DISTINGUISHED LECTURE PRESENTATION



Liping Huang, FACerS
Professor of materials science and engineering and associate dean for research and graduate programs, Rensselaer Polytechnic Institute, N.Y.
Uncovering hidden glasses

2022 ALFRED R. COOPER YOUNG SCHOLAR AWARD

Jessica J. Sly
Washington State University
Lithium–iron silicate glasses as simulations of high-Fe nuclear waste glass

Ian Slagle
Coe College, Iowa
Multispectroscopic study of lead borate glasses

William Guthrie
Coe College, Iowa
Utilizing electrical impedance spectroscopy to observe in-situ phase changes In lithium diborate glass undergoing thermal relaxation

Presley Philipp
Iowa State University
The structure–property relationship in mixed oxysulfide glassy solid electrolyte material: 0.58Li_2S + 0.42 [(1–y)SiS_2 + y$LiPO_3$]

Check www.matscitech.org for latest updates.