

Honoring the ACerS

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 2023, two individuals will receive DLM honors: Edwin R. Fuller and Curtis A. Johnson.

The Society will elevate 20 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. 2, 2023.

2023 DISTINGUISHED LIFE MEMBERS

Edwin R. Fuller



Sometimes it takes looking back to realize your dream career was staring you in the face all along, even if you did not realize it at the time.

"I went to graduate school at the University of Illinois Urbana-Champaign, and I used to study a lot over in the ceramics library, which was across the street from the building where I was, the Physics Building. And so I would go over

there to study because the library was so quiet. But I didn't think anything at all about ceramics. I would have never dreamt at that time that I would have ended up in ceramics; that it would be my home society," says Edwin "Ed" Fuller.

Fuller's path to materials research—and ceramics specifically—began after graduate school, when he joined the National Bureau of Standards, now the National Institute of Standards and Technology (NIST), as a National Research Council Postdoctoral Fellow. He initially planned to conduct research on traditional physics topics, in line with his education. But he became fascinated with the field of fracture mechanics after sharing an office with ACerS DLM Anthony "Tony" Evans.

Just into his second year as a postdoc, Fuller attended ACerS Annual Meeting to present his work with Evans on the fracture mechanics of ceramic and glass materials. That year, John B. Wachtman, Jr. gave the Sosman Award Lecture on the topic of fracture mechanics, which solidified Fuller's interest in the field.

With the advances of computers in the 1980s, Fuller became immersed in developing computer simulations to model micromechanical behavior of heterogeneous, stochastic microstructures. His seminal contributions to this field include leading development of the computer software pro-

gram Object-Oriented Finite Elements, or OOF, which was one of the earliest computational tools developed to predict material behavior by inputting either experimental and/or fundamental data.

Fuller's research on simulations has been widely recognized. He is a recipient of the ACerS Ross Coffin Purdy Award (1987), the NIST Jacob Rabinow Applied Research Award (2000), and the Basic Science Division Robert B. Sosman Award (2004). In 1999, he along with S. A. Langer, W. C. Carter, and A. R. Roosen were awarded one of *Industry Week's* Technology of the Year awards for developing OOF.

In addition to his involvement with ACerS Basic Science Division, Fuller gained many friends in the Refractory and Cements Divisions when he conducted research in those areas during the 1970s energy crisis. In the 2010s, he became involved in the Art, Archaeology & Conservation Science Division as a result of previously inviting a Smithsonian researcher to join his processing group and use some of their equipment.

Besides his expansive engagement across multiple ACerS Divisions, Fuller also was involved in the Baltimore-Washington Section (now the Washington DC/Maryland/Northern Virginia Section), where he served in all leadership positions. Today he is active in the recently formed Carolinas Section. He also served ACerS as chair of various committees, on the Board of Directors (2007-2011), and as ACerS president (2009-2010).

Fuller says he is honored to be recognized as a DLM in a society that, over the course of his career, became a "natural home" full of supportive mentors who aided his growth as a young professional. He specifically wants to acknowledge the mentorship of Shelly Wiederhorn, also a DLM, who became a mentor, then a colleague, and then a friend.

"I wouldn't be where I am today without the mentors that I've had," he says.

Awards Class of 2023

Curtis A. Johnson



A small town about 10 miles outside of Johnstown, Pa., with a population of roughly 600 people may have the largest number of ceramic engineers per-capita in the United States. Certainly, the town can boast the largest number of ACerS Distinguished Life Members per capita with the elevation of Curtis A. Johnson, whose brother David is also a DLM.

Johnson and his brother have the added distinction of being the Society's first sibling DLMs.

Johnson points to several factors that led him to his career in ceramic engineering.

"My father worked for Bethlehem Steel. It was a metals town. There were always metals and metallurgy around," he says. Additionally, "We grew up in a household that always challenged us to understand why things work."

Johnson found himself drawn to applied sciences more than the pure sciences, leading him to study metallurgy at The Pennsylvania State University, where he earned B.S. and Ph.D. degrees. His five-years-older brother David had studied ceramic science at Penn State, so metallurgy seemed like a good way to avoid "following his brother."

Fate had other plans. Just down the hall from the metallurgy program, Johnson got to know the students and professors working on ceramic engineering research projects. He came to the (natural) conclusion that "ceramics were more interesting than metals."

Johnson conducted his Ph.D. work under the guidance of DLM Richard Bradt on a project using metallurgical principles to understand creep in a ceramic material. He contemplated a career in academia, but he found himself drawn to a career in industrial research and its connection to products.

Upon completion of his Ph.D., Johnson joined General Electric's Corporate Research and Development Center (now called General Electric Global Research), where he rose

through the technical ranks to the role of principal scientist, the highest position afforded a bench scientist at GE.

"What really attracted me to GE were opportunities for diverse problems to get involved with," he says.

Johnson is widely recognized for his contributions in the areas of mechanics of materials, thermal barrier coatings, and environmental barrier coatings, all of which have played a critical role in aerospace and land-based turbine engines. His understanding of mechanics coupled with his expertise in ceramics provided important insight into the failure of brittle materials. Today, all major jet engine aircraft manufacturers apply TBCs to their engine components, which allows engines to run at temperatures near 2,400°F.

"Ultimately, when these coatings fail or a CMC fails, there is a mechanical aspect to it. My involvement generally gets back to that core: What is the final threat that it's going to fracture, delaminate, or spall?" he says.

His work on the development and deployment of a CMC shroud in GE's LEAP engine was a fulfilling highlight of his career.

"Composites were thought of at the time of my Ph.D., but it seemed overwhelming to make something structural out of ceramics. It's been very satisfying to see it go from something that people said would never happen to where we've had 25 million hours—not passenger hours—but aircraft hours," he says.

Johnson joined the Society as a graduate student, and he has found ACerS meetings to be invaluable sources of interaction, networking, and exchange of ideas. Being named a DLM was unexpected.

"It's overwhelming. I've been involved in a lot of ceramic things that are important to me, the company, and maybe to society. I was really, really surprised when I got the call," he says.

Of course, the most burning question is—do the Johnson brothers "talk shop" at Thanksgiving dinner? With a chuckle, Johnson admits, "We're allowed to talk about it on the side, but the rest of the table doesn't care!" ■

The 2023 Class of Fellows



Jake Amoroso is Fellow Engineer at Savannah River National Laboratory. Amoroso received a B.S. in glass engineering science and a Ph.D. in materials science and engineering from Alfred University. He has been an ACerS member since 2007 and is affiliated with the Energy Materials and Systems Division. He served as chair of the previous Nuclear and Environmental Technology Division and helped merge this Division into the newly formed EMSD. He has co-organized symposia at ICACC, PACRIM, MCARE, and MS&T, and he has served on the ACerS Book Publishing Committee for four years.



Katalin Balázs is head of the Thin Film Physics Department at the Institute for Technical Physics and Materials Science in the Hungarian Academy of Sciences Center for Energy Research. Balázs received a Ph.D. at Slovak University of Technology. She is a member of the Engineering Ceramics Division. She is a member of the John Jeppson Award Subcommittee (2019–2024) and has been a speaker, session chair, and co-organizer of some ACerS symposia. She received the Jubilee Global Diversity Award (2019) and was designated a Global Ambassador (2020).



Sung Choi is science and technology lead of materials engineering in the Naval Air Warfare Center-Aircraft Division at the Naval Air Systems Command. Choi received a B.E., M.S., and Ph.D. in mechanical engineering from Yonsei University (Republic of Korea), the University of Washington, and the University of Massachusetts-Amherst, respectively. He has been an ACerS member for 34 years and is affiliated with the Engineering Ceramics Division. He has served as session chair and invited speaker at numerous ACerS meetings, and he has served as a co-organizer of the International Symposium on Ceramic Matrix Composites at ACerS Annual Meeting for the past 15 years.



Keith DeCarlo is vice president of technology at Blasch Precision Ceramics. DeCarlo received a B.S., M.S., and Ph.D. in ceramic engineering from Alfred University and an M.B.A. from SUNY Albany Finance. He is a member of the Manufacturing Division and Western New York Section. He currently volunteers on the Publications Committee, the Corporate Environmental Achievement Award Subcommittee, and the Manufacturing Division Executive Committee in an advisory role.



Mari-Ann Einarsrud is professor of materials science and engineering at Norwegian University of Science and Technology. Einarsrud received a Ph.D. from Norwegian Institute of Technology. She is a member of the Basic Science and Energy Materials and Systems Divisions, and she has been an organizer of several ACerS symposia.



Manabu Fukushima is group leader in the Multi-Materials Research Institute at the National Institute of Advanced Industrial Science and Technology, Japan. Fukushima received a Ph.D. degree from Tokyo Institute of Technology. Fukushima is a member of the Engineering Ceramics Division. He has served as chair (2018–2019) and parliamentarian (2020–2023) of ECD, as member (2017–2019) and chair (2018–2019) of the Award Committee, as member of the Strategic Planning for Emerging Opportunities Committee (2019–22), as member of the Nominating Committee (2020–2023), and as associate editor for *International Journal of Applied Ceramic Technology* (2020–present).



R. Edwin García is professor of materials engineering at Purdue University. García received an undergraduate degree in physics from the Universidad Nacional Autónoma de México, and both an M.S. in materials science and Ph.D. in materials science and engineering from Massachusetts Institute of Technology. He has been an ACerS member since 2000 and is the current vice-chair of the Basic Science Division.



Venkatraman Gopalan is professor of materials science and engineering at The Pennsylvania State University. Gopalan received a bachelor's of technology from the Indian Institute of Technology and a Ph.D. in materials science and engineering at Cornell University. He has been an ACerS member since 1995 and is a member of the Basic Science Division. He has organized or co-organized numerous ACerS meetings and has received the Robert R. Coble (2002) and Richard M. Fulrath (2009) awards.



Surojit Gupta is associate professor of mechanical engineering at the University of North Dakota. Gupta received a Ph.D. at Drexel University and received an MBA from the University of Massachusetts-Amherst. He has been an ACerS member since 2003. He has been active in numerous ACerS committees, including the Coble Awards Committee, ACerS Member Services Committee, Meetings Committee, Du Co Awards Committee, and Nominating Committee. He was chair of the Engineering Ceramics Division and was program chair for the ICACC conference.



Michael D. Hill works as a researcher on acoustic wave filters for Skyworks Solutions, focusing on materials selection and on developing new materials to support new acoustic filter products. Hill received a B.S. in materials engineering and an M.S. in materials science and engineering from Virginia Tech and a Ph.D. in materials science and engineering from the University of Maryland. Hill has been an ACerS member since 1990 and is a member of the Electronics and Art, Archaeology & Conservation Science Divisions. He is currently an associate editor for the ACerS–NIST Phase Equilibrium Diagram database.

The 2023 Class of Fellows (continued)



Dachamir Hotza is full professor in the Department of Chemical and Food Engineering and supervisor of the Laboratory of Ceramics Processing and the Laboratory for the Development of Nanostructures at Federal University of Santa Catarina, Brazil. Hotza received a bachelor's in chemical engineering and M.Sc. in mechanical engineering from Federal University of Santa Catarina and a Ph.D. in materials engineering from Hamburg University of Technology, Germany. He has been an ACerS member since 2002 and is affiliated with the Basic Science and Manufacturing Divisions. He is an associate editor of *International Journal of Ceramic Engineering & Science* and is a co-organizer of symposia at the Pan-American Ceramics Congress.



Stephen Houseman is president of Harrop Industries, Inc. Houseman received a B.S. in business administration from The Ohio State University. Houseman has been an ACerS member since 1991 and is affiliated with the Structural Clay Products and Manufacturing Divisions. He served as part of the executive leadership of the Central Ohio Section (1997–2002) and participated in the ACerS Environmental Achievement Award and Finance Committees for three years. Houseman served two terms as treasurer of both ACerS and CGIF from 2018–2022. He was also awarded an ACerS Global Ambassador Award in 2021.



Bryan Douglas Huey is professor and department head for materials science and engineering at the University of Connecticut. Huey received a B.S. in materials from Stanford University and an M.S. and Ph.D. in materials from the University of Pennsylvania. He is co-chair for PacRim 2025, chair of the Basic Science Division, and co-organizer for EMA.



Leena Hupa is professor of inorganic chemistry and leader of the High-Temperature Processes and Materials research group at Åbo Akademi University, Finland. She is a member of the Glass & Optical Materials and Bioceramics Divisions. She has been an organizer and presenter at several ACerS meetings, including GOMD and ICACC.



Jon Ihlefeld holds a dual appointment as professor of materials science and engineering and professor of electrical and computer engineering at the University of Virginia. Ihlefeld received a B.S. in materials engineering from Iowa State University and M.M.S.E. and Ph.D. from North Carolina State University. He is past chair of the Electronics Division and is a member of the Electronics, Basic Science, and Glass & Optical Materials Divisions. He has served as a general chair for the Electronic Materials and Applications meeting.



Pierre Lucas is professor of materials science and engineering and professor of optical engineering at the University of Arizona. Lucas received a B.S. in chemistry from the University of Rennes (France) and a Ph.D. in physical chemistry from Arizona State University. He is an associate editor for *Journal of American Ceramic Society* and previously served as GOMD chair (2017–2018). He has chaired two international conferences on glass and optical materials: the Joint ICG-GOMD conference at PACRIM in Vancouver, B.C., in 2009, and the GOMD conference at MS&T in Columbus, Ohio, in 2011.



Rodrigo Moreno is research professor at the Institute of Ceramics and Glass of the Spanish National Research Council. Moreno received a B.S. and Ph.D. in chemistry from the Autonomous University of Madrid, Spain. He has been an ACerS member from 1991–2004 and 2014–present. He previously was an associate editor of *Journal of the American Ceramic Society* (2009–2011).



Nathan Newman is president of Paramagnetix Inc. and Emeritus Professor in materials at Arizona State University. Newman received a B.S. in biomedical and electrical engineering from the University of Southern California and a M.S. and Ph.D. in electrical engineering from Stanford University. He has been an ACerS member since 2013. He has been presented many invited talks at the Electronic Materials and Applications meeting.



Ian M. Reaney is European site director for the U.S. National Science Foundation Center for Dielectrics and Piezoelectrics. Reaney received a Ph.D. from the University of Manchester, U.K. He is a member of the Electronics Division and has served as chair of the U.K. Chapter since 2021. He was awarded the Edward C. Henry Award for Best Paper in JACerS in 2002.



Hui (Claire) Xiong is professor in the Micron School of Materials Science and Engineering at Boise State University. Xiong received a B.E. in applied chemistry and M.S. in inorganic chemistry from East China University of Science and Technology and a Ph.D. in electroanalytical chemistry from the University of Pittsburgh. She is a member of the Electronics and Basic Science Divisions. She is past chair of the Electronics Division.

Visit <https://ceramics.org/awards/society-fellows> to learn more about the 2023 Fellows.

Society Awards

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



Vincent Harris is University Distinguished Professor and William Lincoln Smith Chair Professor at Northeastern University in Boston, Mass.

His research encompasses materials design and the study of processing, structure, and magnetism in a wide range of ceramic materials used principally in high-frequency devices, systems, and platforms.

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

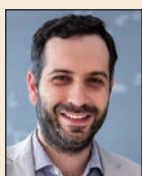


Ruyan Guo, FACerS, is Robert E. Clarke Endowed Professor of Electrical Engineering at the University of Texas, San Antonio. Guo earned a B.S. and M.S. in electrical engineering from Xi'an Jiaotong University (China) and a Ph.D. in solid-state science from The Pennsylvania

State University.

Guo specializes in interdisciplinary materials research and electronic device engineering. She served as chair of the ACerS Electronics Division (2002–2003) and was honored in 2020 with the Global Ambassador Award.

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



Mattia Biesuz is assistant professor of materials science and technology at the University of Trento, Italy. He received a Ph.D. there in materials, mechatronics, and systems engineering.

His interests embrace understanding the sintering process under nonconventional heating conditions and the nanostructure of polymer-derived ceramics.

ROSS COFFIN PURDY AWARD recognizes authors who made the most valuable contribution to ceramic technical literature in 2021.

The structure of sodium silicate glass from neutron diffraction and modeling of oxygen–oxygen correlations

Published in *Journal of the American Ceramic Society* 2021, 104(12): 6155–6171.

Alex C. Hannon, Rutherford Appleton Laboratory, U.K.

Shuchi Vaishnav, Sheffield Hallam University, U.K.

Oliver L. G. Alderman, Rutherford Appleton Laboratory, U.K.

Paul A. Bingham, Sheffield Hallam University, U.K.

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 2022.

Phase equilibria of MgO–Al₂O₃–TiO₂ system at 1,600°C in air:

Emphasis on pseudobrookite and spinel solid solution phases

Published in *Journal of the American Ceramic Society* 2022, 105(11): 1–12.

Yuchao Qiu, Northeastern University, China

Junjie Shi, Northeastern University, China

Bin Yu, Panzhihua Steel Group Research Institute Co. LTD, China

Changle Hou, Northeastern University, China

Jingjing Dong, Northeastern University, China

Song Li, Liupanshui Normal University, China

Yumo Zhai, Northeastern University, China

Jianzhong Li, Northeastern University, China

Changsheng Liu, Northeastern University, China

THE AMERICAN CERAMIC SOCIETY

2023 ANNUAL HONORS

AND

AWARDS BANQUET

125 YEARS OF ADVANCING THE CERAMICS AND GLASS COMMUNITY

Join us to honor the Society's 2023 award winners at
ACerS Annual Honors and Awards Banquet

Monday, Oct. 2 at MS&T23

6–6:30 p.m. Reception

6:30–9 p.m. Dinner and awards

9–11 p.m. ACerS 125th Anniversary Afterglow

Regency Ballroom,
Hyatt Regency

Please note: This year we are providing open seating.

You are free to select your table when the doors open at 6 p.m.

Purchase banquet tickets with your conference registration or contact
Erica Zimmerman at ezimmerman@ceramics.org.

Tickets must be purchased by noon on Sept. 15, 2023.

Society Awards (continued)

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



Mao-Hua Zhang is a postdoctoral researcher at The Pennsylvania State University. He received a bachelor's and master's degrees in materials science and engineering from Tsinghua University (China) and a Ph.D. in materials and geosciences from Technical University of Darmstadt (Germany).

His dissertation focused on the development of new lead-free antiferroelectric materials with reversible field-induced phase transitions and the exploration of the underlying mechanisms and potential applications. He succeeded in reversing the previously irreversible antiferroelectric-ferroelectric phase transition in NaNbO_3 -based materials.

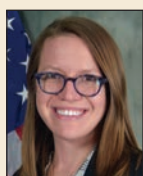
MEDAL FOR LEADERSHIP IN THE ADVANCEMENT OF CERAMIC TECHNOLOGY recognizes individuals who have made substantial contributions to the success of their organization and expanded the frontiers of the ceramics industry through leadership.



Jacques Rennotte is general manager of the Belgian Ceramic Research Centre in Mons, Belgium. He initially studied chemical engineering at the University of Liege and then pursued a Ph.D. in process engineering, focusing on the development of liquid-vapor equilibrium thermodynamic models for electrolyte solutions and process engineering.

He joined the Belgian Ceramic Research Centre to give a boost to industrial activities in the field of ceramics. Today he is involved in the deployment of ceramic technologies for the benefit of industry and its entrepreneurs.

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



Lisa M. Rueschhoff is materials research engineer in the Ceramics Branch of the Materials and Manufacturing Directorate at the Air Force Research Laboratory. She received a B.S. in materials engineering from Iowa State University and a Ph.D. in materials engineering from Purdue University.

Rueschhoff's current research focuses on advanced processing methods for high-temperature structural ceramics and composites as well as materials and structures development for morphing aerospace concepts.

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.

Raj N. Singh is Regents Professor at the Oklahoma State University and is the founding head of the School of Materials

Science and Engineering. He obtained a Sc.D. degree in ceramics from Massachusetts Institute of Technology.



He is a world expert on ceramic matrix composites and has demonstrated an innate ability to invent new materials and novel processing methods. Singh's current research interests are in processing and properties of nanomaterials for quantum devices, fuel cells, batteries, supercapacitors, medicine, and smart systems.

NAVROTSKY AWARD FOR EXPERIMENTAL THERMODYNAMICS OF SOLIDS recognizes an author who made the most innovative contribution to experimental thermodynamics of solids technical literature during the two calendar years prior to selection.

Radiation damage and thermal annealing in tunnel structured hollandite materials

Published in *Acta Materialia* 2021, 206: 116598.



Kyle Brinkman is chair of the Department of Materials Science and Engineering at Clemson University. Brinkman received a B.S. in chemical engineering and an M.S. in materials science and engineering, both from Clemson. He graduated from the Swiss Federal Institute of Technology in Lausanne, Switzerland, with a Ph.D. in materials science and engineering.

KARL SCHWARTZWALDER-PROFESSIONAL ACHIEVEMENT IN CERAMIC ENGINEERING (PACE) AWARD honors the past president of the National Institute of Ceramic Engineers, focusing on public attention on outstanding achievements of young persons in ceramic engineering and illustrates opportunities available in the ceramic engineering profession.



Scott Cooper is technical director at Celsian Glass. Cooper received a B.S. in materials science from the University of Arizona and a Ph.D. from the University of Florida. A vocal advocate for the glass industry's transformation to a sustainable future, Cooper believes that a vibrant glass industry is vital to a well-functioning society. ■

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.



Francis J Cambier, retired, is an advisor to his successor at the Belgian Ceramic Research Centre. He received an M.Sc. and Ph.D. in industrial chemistry.

Cambier is a member of various scientific advisory boards, including serving on the JECS Trust. He also serves as a reviewer for several scientific journals. ■

Class Awards

Richard M. Fulrath Symposium and Awards

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



Amjad S. Alman-sour, materials research engineer, Ceramic and Polymer Composites Branch, Materials and Structures Division, NASA John H. Glenn Research Center, USA



Nicola Perry, associate professor of materials science and engineering, University of Illinois Urbana-Champaign, and affiliate of the Materials Research Laboratory, USA



Sanshiro Aman, section manager, Materials Research Center, Technology HQ, TDK Corporation, Japan



Yukio Sato, professor, Research and Education Institute for Semiconductors and Informatics, Kumamoto University, Japan ■



Fuminori Mizuno, project general manager, Advanced Battery Development Division, Toyota Motor Corporation, Japan

Check matscitech.org for latest updates.

EPDC OUTSTANDING EDUCATOR AWARD

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



Brian P. Gorman is professor in the George Ansell Department of Metallurgical and Materials Engineering at Colorado School of

Mines. He completed B.S., M.S., and Ph.D. degrees in ceramic engineering from the University of Missouri-Rolla.

Over the past two decades, Gorman routinely taught undergraduate atomic structures and diffraction as well as particulate materials and ceramic forming. Most recently, he has focused on giving ceramic engineering students hands-on experiences with sintering and glass science that incorporate design of experiments.

EDUCATION & PROFESSIONAL DEVELOPMENT COUNCIL: GREAVES-WALKER LIFETIME SERVICE AWARD

The Greaves-Walker Lifetime Service Award is presented to an individual who has rendered outstanding service to the ceramic engineering profession and who, by life and career, has exemplified the aims, ideals and purpose of EPDC.



Kevin M. Fox retired as Fellow Engineer from the Savannah River National Laboratory in 2020, where he researched glass and ceramic materials for the safe disposition of nuclear

waste. An ACerS Fellow and a past member of the ACerS Board of Directors, his service includes helping to develop and launch the Education and Professional Development Committee in 2017 and the Energy Materials and Systems Division in 2019.

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.



Jake Amoroso is principal engineer at Savannah River National Laboratory. He received a Ph.D. in materials science and engineering from New York State College of Ceramics at Alfred University. ■

Corporate Environmental Achievement Award

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



RHI MAGNESITA

RHI Magnesita is a global leader in refractories headquartered in Vienna, Austria. The company has one of the world's most vertically integrated refractory supply chains, with its raw materials coming from its own mines.

The company's sustainability strategy is integral to and supports its overarching strategy. The topics identified by internal

and external stakeholders to be most important to the company's sustainability mission are climate and energy, health and safety, diversity, recycling, and reducing NO_x and SO_x emissions. For each of these topics, RHI Magnesita has set targets and regularly reports progress toward achieving them. The company also sets targets for additional topics such as water usage, forest management, and supply chain sustainability, among others. ■

ACerS Award Lectures

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



Kathy Lu, FACerS, professor, Virginia Tech

Polymer derived ceramics—a new class of materials unrivaled by others

Lu's research focuses on polymer-derived ceramics and composites; materials degradation in harsh environments; materials synthesis, processing, characterization, and fundamental studies; and coatings for harsh environments and long-term uses.

EDWARD ORTON JR. MEMORIAL LECTURE



Sergei Kalinin, Weston Fulton Chair Professor, University of Tennessee, Knoxville

Microscopy is all you need: The rise of autonomous science

For the last 15 years, Kalinin's research has focused on the applications of machine learning and artificial intelligence in nanotechnology, direct electron beam atomic fabrication, and materials discovery via scanning transmission electron microscopy, as well as mesoscopic studies of electrochemical, ferroelectric, and transport phenomena via scanning probe microscopy.

ACerS FRONTIERS OF SCIENCE AND SOCIETY RUSTUM ROY LECTURE



Mrityunjay Singh, DLM, FACerS, chief scientist, Ohio Aerospace Institute

Strategically aligned additive manufacturing: Disruptor to global supply chains and enabler of sustainable societal development

Singh's research has addressed both basic and applied questions and has been instrumental in establishing design, integration, and performance limits for single and multimaterials used in a wide variety of aerospace and ground-based applications.

BASIC SCIENCE DIVISION ROBERT B. SOSMAN AWARD AND LECTURE



Elizabeth Dickey, FACerS, Teddy & Wilton Hawkins Distinguished Professor, Carnegie Mellon University

Defect disorder in electronic ceramics: Designing functionality

Dickey's research focuses on the application of electron microscopy and spectroscopy techniques to understanding the role of material defects on electrical and chemical transport in dielectric materials.

GLASS & OPTICAL MATERIALS DIVISION ALFRED R. COOPER AWARD SESSION

COOPER DISTINGUISHED LECTURE PRESENTATION



Lothar Wondraczek, chair, Glass Chemistry II, Otto Schott Institute of Materials and Research, Germany

Glassy disorder and macroscopic properties

Wondraczek's research activities span all areas of experimental glass science with particular focus on the exploration and development of new glass and glass-ceramic compositions and surface modification techniques.

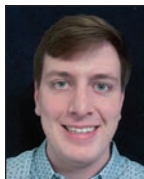
2023 ALFRED R. COOPER YOUNG SCHOLAR AWARD



Cooper Scholar:

John Bussey, Washington State University

Salt formation and detection in nuclear waste glasses



Cooper runner up:

Stuart Leland, Iowa State University

Developing a method to characterize the crystallization and viscosity behaviors of glassy solid-state electrolytes



Cooper runner up:

Vaibhav Bihani, Indian Institute of Technology Delhi, India

StriderNET: A graph reinforcement learning approach to optimize glassy structures on rough energy landscapes



Cooper runner up:

Yi Wei, Coe College, Iowa

Extending the glass formation of alkali tellurites

Check www.matscitech.org for latest updates.