



Credit: ACerS

Honoring the ACerS Awards Class of 2015

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 designation as a Distinguished Life Member, a recognition bestowed upon only two or three members each year. In 2015, three individuals will receive DLM honors: David J. Green, Martin P. Harmer, and Rishi Raj.

The Society will elevate 16 members to Fellow and recognize many more outstanding members with various Society, Division, and Class awards and lectures. Awards and lectures will be presented at ACerS's Annual Meeting, October 4 – 8, 2015, held in conjunction with MS&T15 in Columbus, Ohio.

2015 Distinguished Life Members

David J. Green



David Green was looking for a research topic for his master's thesis. As a young undergraduate student at the University of Liverpool in England, he originally studied chemistry—but he was always

intrigued by the study of fracture.

When it was time to select a topic for his honors year specialization, a fellow student recommended he give metallurgy and materials science a try. Embarking on graduate school, he went to McMaster University (Hamilton, Ontario, Canada) to study fracture of metals.

However, when he arrived at McMaster University, he discovered there were no openings to study fracture of metals. Instead, a metallurgy professor directed Green to a guy down the hall who had a project on fracture of ceramics—specifically, zirconia.

So Green quickly changed his plans. "I can count very closely to the day when I started my ceramic career. It was when I took on this project with Dr. Pat Nicholson and started working on fracture of zirconia," he recalls.

At that time, there was interest in using ceramics in high-temperature engines, Green explains. This idea generated a lot of public interest and, as a result,

Nicholson had obtained funding to perform research in this area—in particular, the fracture behavior of zirconia. This became the focus of Green's thesis.

Early in his career, Green joined a research center in California—the Rockwell International Science Center.

At Rockwell International he had the opportunity to study the thermal protection system of the space shuttle before and after its maiden voyage.

The most rewarding part of his career has been combining teaching with research during 28 years at Pennsylvania State University, and being able to share his research and learn from others in the field internationally, he says.

When it comes to being part of ACerS, Green was immediately drawn to the close-knit professional community.

"You could get to know people right away—people who were world-leading experts," he says.

In fact, Green can link his entire professional career to his close-knit ACerS network, from his first job at CANMET with the Canadian government and friends he made while there, to working with Fred Lange at Rockwell International, where he worked on space shuttle tile, to joining the Penn State faculty at the urging of Richard (Dick) Tressler.

In 2014, Green served as ACerS president. During his tenure as president, Green focused on launching the Ceramic and Glass Industry Foundation, outreach to Central and South American members, and promoting diversity in the Society. He

is a Fellow of ACerS, 2005 recipient of the Sosman Lecture Award, and in 2006 became an Alexander von Humboldt Fellow. He serves as senior editor of the Society's flagship *Journal of the American Ceramic Society*.

Martin P. Harmer



Martin Harmer started his career with right hand on an old testament, making an oath.

Harmer did not take this oath lightly. His oath to continue studying ceramics, sworn

to the field's old testament—W. David Kingery's "Introduction to Ceramics"—catalyzed a lauded career answering some of the biggest challenges in ceramic science and engineering.

As an undergraduate at the University of Leeds in the United Kingdom, Harmer initially struggled with a major. He switched from physics and chemistry, studied textiles for a bit—three weeks, to be precise, Harmer says—and was left still searching for his fit.

Then he remembered a presentation given to his high school class about ceramic materials. That lecture planted a seed of intrigue in Harmer's young brain, and that seed began to sprout. But switching yet again from the textiles major and into ceramics required the aforementioned oath to stick with

ceramics—and stick with it he did.

During Harmer's final year of undergraduate study, the ceramics department at the University of Leeds appointed a new department head. Richard Brook was energetic and dynamic, and he inspired Harmer. So inspiring that Harmer decided to continue his graduate work at Leeds, studying with Brook.

It was during graduate school that Brook sent Harmer stateside, for the first time, to the University of California, Berkeley to gain electron microscope experience with renowned materials science professor Gareth Thomas. In addition to the invaluable experience Thomas imparted in the young scientist, Harmer also attended his first ACerS meeting during his time in the United States.

Harmer's oath—as well as his hard work and research experience—continued to serve him, as Lehigh University (Bethlehem, Pa.) offered him a faculty position upon completion of his Ph.D. He accepted, earned his degree, and has since spent the past 35 years building an impressive career at Lehigh. Harmer is currently Alcoa Foundation Distinguished Professor of materials science and engineering and director of the Center for Advanced Materials and Nanotechnology at Lehigh University.

Harmer says the most rewarding aspect of his career is having the opportunity to interact with spectacular colleagues and students, together working to solve tremendous problems in the field—as he puts it, those mysterious processes that have long plagued the field. Harmer's publication record details significant contributions unraveling grain boundary complexions, microchemical ordering and domain structures in ferroelectrics, and critical characteristics of structural ceramics, among many others.

An ACerS member since 1981, Harmer has received an honorable list of Society awards, including ACerS Fellow designation, Richard M. Fulrath Award, Ross Coffin Purdy Award, Robert B. Sosman Memorial Award, Roland B. Snow Award, and W. David Kingery Award.

The Society has a Goldilocks effect on Harmer: "The size of the community is just right—ACerS is small enough to be personal and get to know others well,

yet large enough that the depth of talent is deep." Members give back more than they take, a principle that has allowed the Society to become the tight-knit family that it is, Harmer says.

"A final comment concerns Harmer's quality of spirited optimism about the very subject of ceramics, about the value of committed research, and about the benefits of shared endeavor," mentor Richard Brook comments about Harmer. "He conveys a message—it is a serious message—but it is an intrinsically positive message."

Rishi Raj



Rishi Raj discovered ceramics about a decade after earning his Ph.D., but once he discovered them, he never looked back. Today he is recognized as a prominent thought leader in the field.

His college education started in India with a two-year degree in natural sciences, which he continued at the University of Durham, U.K., earning a B.S. in electrical engineering. After working on control systems for the now defunct Concorde aircraft, he came to the United States to enroll at Harvard University in an interdisciplinary program that bridged engineering and applied physics.

This proved to be a pivotal decision in Raj's intellectual formation, and interdisciplinary inquiry would become the foundation of Raj's research activities. "I love working with others who are experts in their areas," he explains.

At Harvard he studied under Michael Ashby and David Turnbull. Raj says these mentors were "big thinkers—they thought beyond the material, in very fundamental ways."

"There was never any doubt in my mind that I wanted an academic career," Raj says. His first academic appointment was to the faculty of the University of Colorado, Boulder. After a few years he moved to Cornell University, Ithaca, N.Y., where he spent his peak years. The environment, he says, was "very intellectual

and very interdisciplinary." In 1996, Raj rejoined the faculty at University of Colorado, Boulder, where he is professor in the Materials Science and Engineering Program of the Mechanical Engineering Department.

It was during the Cornell years that Raj met Fred Lange, ACerS Fellow and 2002 Distinguished Life Member. Lange invited Raj to visit his lab at Westinghouse in Pittsburgh, Pa., where he was researching silicon nitride and silicon carbide for engines. Lange, who was studying how interfaces slide, shared with Raj a key publication—a paper based on Raj's Ph.D. work! Raj soon shifted his attention from metals to ceramics.

Since that serendipitous lab tour, Raj has studied oxides and non-oxides to understand a wide range of behavior phenomena, including high-temperature creep, superplasticity, interfaces and amorphous phases and their role in sintering and creep, sintering mechanisms, and polymer-derived amorphous materials.

The common thread through these lines of inquiry has been Raj's interdisciplinary approach to modeling the fundamental physics that govern materials properties and processing.

Reflecting on the influence of the Society on his career, Raj says he has "developed a lot of respect and reverence" for institutions "dedicated to searching for truth, and ACerS is one." "The Society provides a meeting place, which has a profound effect whether we realize it or not," he says.

Most recently, Raj has turned his attention to understanding electric field effects on sintering and defect chemistry, also called "flash sintering." Under an electric field, materials, such as zirconia, densify at low temperatures in very short times. This new line of inquiry brings together the entire arc of his career—electrical engineering, solid-state physics, modeling, processing, and decades of studying ceramic materials. "The science community is all fired up about it," he says, and he expects flash sintering will be the new paradigm in 10–15 years.

About this new research, Raj says "I hope that I can give it some structure while I can." In addition, he says, "Fred Lange really would have enjoyed flash sintering." ■

The 2015 Class of Fellows



Chen

Long-Qing Chen is Hamer Professor of materials science and engineering at Pennsylvania State University. He has a B.S. from Zhejiang University (Hangzhou, China); an M.S. from

State University of New York at Stony Brook; and a Ph.D. from the Massachusetts Institute of Technology (Cambridge, Mass.). All degrees are in materials science and engineering.

He has published over 400 papers on computational microstructure evolution and multi-scale modeling of metallic alloys, oxides, and energy materials.



Devanathan

Ram Devanathan is technical group manager in the Energy & Environment Directorate at Pacific Northwest National Laboratory in Richland, Wash. He leads a group of 40 sci-

entists and engineers with expertise in materials characterization, multi-scale modeling, mechanical testing, radiation detection, mechanical design, prototyping, and robotics to develop innovative solutions for the nation's pressing energy and environmental challenges.

He received a B.Tech. in metallurgical engineering from the Indian Institute of Technology Madras (Chennai, India); a Ph.D. in materials science and engineering from Northwestern University (Evanston, Ill.); and an M.B.A. from Washington State University (Pullman, Wash.). He received ACerS Richard M. Fulrath Award in 2012 for excellence in ceramics research.



Fox

Kevin M. Fox is principal engineer in the Environmental Stewardship Directorate of the Savannah River National Laboratory (Aiken, S.C.). His current research focus is

development of innovative waste form

compositions for immobilization of nuclear wastes. He authored more than 25 peer-reviewed publications, co-edited six volumes, and has given more than 40 technical society presentations.

He received a B.S. in ceramic engineering from Alfred University (Alfred, N.Y.) and an M.S. in ceramic science and Ph.D. in materials science from Pennsylvania State University (State College, Pa.). He is a past chair of ACerS Nuclear and Environmental Technology Division and was recently honored with the Karl Schwartzwalder-Professional Achievement in Ceramic Engineering Award.



Goski

Dana G. Goski is director of research at Allied Mineral Products Inc., a global monolithic refractory producer headquartered in Columbus, Ohio. Originally from Canada, she finished

her M.S. in chemistry at Dalhousie University in Nova Scotia under joint supervision from the National Research Council Canada ceramic laboratory. She completed her Ph.D. in the faculty of engineering, department of mining and metallurgy at the Technical University of Nova Scotia.

She has served ACerS as both a participant and chairperson for committees including membership, nominating, meetings, the former Central Ohio Section, Refractory Ceramics Division, and Jeppson Award. She is the 2014–2015 chairperson for the ACerS Meetings Committee and a member of the Refractory Ceramics Division.



Jones

Jacob L. Jones is professor of materials science and engineering and director of the Analytical Instrumentation Facility at North Carolina State University (Raleigh,

N.C.). He received B.S. and M.S. degrees in mechanical engineering and a Ph.D. in materials engineering from Purdue University (West Lafayette, Ind.).

Since 2004, he has published over 120 papers (23 in the *Journal of the American Ceramic Society*) and delivered over 80 invited presentations. He is a member of the Basic Science and Electronics Divisions, treasurer of ACerS Florida Section, and associate editor for the *Journal of the American Ceramic Society*. In 2010 and 2012, papers authored by Jones and his group received the Edward C. Henry "Best Paper" Award from ACerS Electronics Division.



Jones

Julian R. Jones is professor of biomaterials at Imperial College London, U.K., and visiting professor at Nagoya Institute of Technology, Japan. He graduated from the materials science pro-

gram at the University of Oxford and obtained his Ph.D. from Imperial College London. His research focuses on the development of advanced materials for regenerative medicine and therapeutic applications.

He is a member of the Glass and Optical Materials Division and received the Robert L. Coble Award in 2010. He is co-chair of ACerS Technical Interest Group in Bioceramics.



Juenger

Maria Juenger is professor in the civil, architectural, and environmental engineering department at the University of Texas at Austin. She received her B.S. in chemistry from Duke University (Durham,

N.C.) and a Ph.D. in materials science and engineering from Northwestern University (Evanston, Ill.).

Her research focuses on materials used in civil engineering applications, primarily chemical issues in cement-based materials, including phase formation in cement clinkering, hydration chemistry of portland cement, calcium sulfoaluminate cement, supplementary cementitious materials, and chemical deterioration processes in concrete.



Kaplan

Wayne D. Kaplan holds the Karl Stoll Chair in Advanced Materials in the department of materials science and engineering at Technion-Israel Institute of Technology (Haifa, Israel). Since

October 2014, he has been executive vice president of research at Technion.

He completed his B.S. in mechanical engineering and M.S. and D.S. in materials engineering at the Technion. He has published more than 125 manuscripts in reviewed and archived international journals, two textbooks, and presented over 70 lectures at international conferences. He is a former chair of the Basic Science Division.



Lanagan

Michael Lanagan is professor of engineering science and mechanics and materials science and engineering at Pennsylvania State University (State College, Pa.). He received his B.S. in

ceramic engineering from the University of Illinois at Urbana-Champaign and a Ph.D. in ceramic science from Penn State.

His research focuses on dielectric materials for energy and medical applications, and he has authored or co-authored nearly 250 publications. He has been a member of ACerS since 1982 and participates in the Electronics Division.



Madsen

Lynnette D. Madsen has worked at the National Science Foundation headquarters in Arlington, Virginia, as the program director of ceramics since 2000. She has been directly responsible

for more than 500 awards totaling \$155M+.

She holds a B.A.Sc. in electrical engineering and B.A. in psychology (University of Waterloo, Ontario, Canada); M.Eng. in electronics (Carleton University, Ottawa, Ontario); and Ph.D. in materials science (McMaster University, Hamilton,

Ontario). She has published 90 articles, been awarded two patents, and delivered more than 85 invited talks. She serves on ACerS Strategic Planning for Emerging Opportunities Committee, recently chaired the ACerS Presidential Committee on Diversity, and served as the 2013 chair of the Art, Archaeology and Cultural Science Division. Her first book, containing inspirational profiles of 100 successful female ceramic and glass scientists and engineers, is forthcoming.



Mauro

John C. Mauro is research manager and senior research associate in glass research at Corning, Inc. (Corning, N.Y.). He holds a B.S. in glass engineering science, B.A. in computer science, and Ph.D. in glass science all from Alfred University (Alfred, N.Y.).

He is a globally recognized expert in fundamental and applied glass science, statistical mechanics, computational and condensed matter physics, thermodynamics, and the physics of topologically disordered networks, and inventor or co-inventor of several new glass compositions for Corning, including Corning Gorilla Glass products. He is a past winner of the ACerS Norbert J. Kreidl Award, a 2015 winner of the Fultrath award, and serves as an associate editor of the *Journal of the American Ceramic Society*.



Medvedovski

Eugene Medvedovski is senior materials engineer at Endurance Technologies Inc. (Calgary, Canada). He earned B.Sc. and M.S. degrees in ceramic engineering from the Mendeleev Moscow

Chemical Engineering University (Russia) and Ph.D. in ceramic engineering on electroinsulating materials from the All-Union Research and Manufacturing Centre of Cable Industry (Moscow, Russia).

He is a member of ACerS Engineering Ceramics Division and has been co-organizer of ACerS symposia

for years, serving also as a session chair. He is a past recipient of ACerS Global Star Award.



Paranthaman

M. Parans Paranthaman is distinguished research staff member and group leader of materials chemistry in the Chemical Sciences Division at Oak Ridge National Laboratory (Oak Ridge, Tenn.). He has a joint faculty appointment with the University of Tennessee, Knoxville, Bredesen Center.

He earned his Ph.D. in solid-state chemistry and materials science from the Indian Institute of Technology, Madras (Chennai, India) in 1988. He has authored or co-authored more than 350 publications and was issued 30 U.S. patents related to superconductivity, energy storage, and solar cells. He currently serves as an associate editor for the *Journal of the American Ceramic Society*.



Salem

Jonathan A. Salem is materials research engineer at NASA Glenn Research Center in Cleveland, Ohio. He received a B.S. in materials science from the University of Cincinnati in Ohio

and an M.S. and Ph.D. in materials science and mechanical engineering from the University of Washington, Seattle.

He has authored or co-authored over 135 archival publications and six national or international standards on mechanical testing of ceramics. As a member of ACerS Engineering Ceramics division, he served as chair and is a past recipient of the Fultrath Award and first and second place prizes for technical presentations.



Thomas

Jeffrey J. Thomas is principal research scientist at Schlumberger-Doll Research (Cambridge, Mass.). He received a B.S. in applied and engineering physics from

2015 Class of Fellows

Cornell University (Ithaca, N.Y.) and Ph.D. in materials science and engineering from Northwestern University (Evanston, Ill.), where his research focused on high-temperature ceramic processing.

He has published more than 60 peer-reviewed scientific articles, mostly on cement chemistry. He has been active in ACerS Cements Division for two decades and served as chair of the division in 2005–2006. He is also a two-time recipient of the Brunauer Award,

a yearly best-paper award given by the Cements Division.



Wang

Haiyan Wang is professor in the electrical and computer engineering department at Texas A&M University (College Station, Texas). She worked as a director-funded post-doctoral fellow and

permanent staff member at Los Alamos National Lab (N.M.) from 2003 to 2006. She has published more than 300 journal articles, presented 150 invited and contributed talks at various international conferences, and holds eight patents on thin film processing and architectures. She has organized nine symposia at international conferences and meetings. ■

Awards Banquet

The winners of the Society's 2015 awards will be recognized at the **ACerS Annual Awards and Honors Banquet, Monday, October 5**. Banquet tickets may be purchased with conference registration or by contacting Marcia Stout at mstout@ceramics.org. Tickets must be purchased by **noon on October 5, 2015**.



Are You Graduating Soon and Wondering What to Do?

Sign up for a **FREE** year of membership in The American Ceramic Society!

ACerS can help you succeed by offering you a FREE Associate Membership for the first year following graduation. By becoming an ACerS Associate Member, you'll have access to valuable resources that will benefit you now and throughout your career.

With your complimentary membership, you will receive:

- **Young Professionals Network:** includes resources for early career professionals, plus the chance to rub elbows with some of the most accomplished people in the field
- **Employment Services**
- **Online Membership Directory**
- **Networking Opportunities**
- **Free Online Access** to the *Journal of the American Ceramic Society* (searchable back to 1918), the *International Journal of Applied Ceramic Technology* and the *International Journal of Applied Glass Science*
- **ACerS Bulletin**, the monthly membership publication
- **ceramicSOURCE**, Company Directory and Buyers' Guide
- **Discounted registration** at all ACerS meetings and discounts on all publications
- **Ceramic Tech Today:** ACerS ceramic materials, applications and business blog
- **Ceramic Knowledge Center:** includes a growing video gallery covering ceramic materials, applications, emerging technologies and people

Become an ACerS Associate Member After Graduation!

To join, contact Tricia Freshour, ACerS Membership Services Staff, at tfreshour@ceramics.org. For more information, visit www.ceramics.org/associate.

Society Awards

W. David Kingery Award recognizes distinguished lifelong achievements involving multidisciplinary and global contributions to ceramic technology, science, education, and art.



Messing

Gary L. Messing is distinguished professor of ceramic science and engineering, head of the department of materials science and engineering, and co-director of the Center for Innovative Materials Processing by Direct Digital Deposition at Pennsylvania State University (State College, Pa.). He received a B.S. in ceramic engineering from the New York State College of Ceramics at Alfred University (Alfred, N.Y.) and a Ph.D. in materials science and engineering from the University of Florida (Gainesville, Fla.). He has published over 300 papers and co-edited 13 books, and his research focuses on improving ceramic materials for optical, piezoelectric, and structural applications by regulating microstructure evolution using innovative approaches, including seeding of phase transformations, sintering stress analysis, and templated grain growth. He is a past-president of ACerS, a Fellow, a Distinguished Life Member, and is a past recipient of the Robert Sosman, Edward Orton, and John Jeppson awards from ACerS.

John Jeppson Award recognizes distinguished scientific, technical, or engineering achievements.



Faber

Katherine T. Faber is the Simon Ramo professor of materials science at the California Institute of Technology (Pasadena, Calif.) and co-director of the Northwestern University-Art Institute of Chicago Center for Scientific Studies in the Arts at Northwestern University (Evanston, Ill.). Her research interests include fracture of brittle materials, toughening mechanisms, ceramic composites and coatings, porous ceramics, and cultural heritage science. She holds a B.S. in ceramic engineering from Alfred

University (Alfred, N.Y.), an M.S. in ceramic science from Pennsylvania State University (State College, Pa.), and a Ph.D. in materials science and engineering from the University of California, Berkeley. She served as president of ACerS from 2006–2007 and is a Fellow and Distinguished Life Member.

Robert L. Coble Award for Young Scholars recognizes an outstanding scientist conducting research in academia, in industry, or at a government-funded laboratory.



Dillon

Shen J. Dillon is assistant professor at the University of Illinois at Urbana-Champaign. He received his Ph.D. in materials science and engineering from Lehigh University (Bethlehem, Pa.). His research seeks to understand and exploit fundamental thermodynamic and kinetic relationships at interfaces to inform improved design of energy conversion and storage systems. Emphasis is placed on utilizing advanced characterization techniques, particularly in-situ and operando approaches that provide new insights into materials response in complex environments. He is the author of over 50 journal articles.

Ross Coffin Purdy Award recognizes authors who made the most valuable contribution to ceramic technical literature in 2013.

“Microstructural evolution during vacuum sintering of yttrium aluminum garnet transparent ceramics: Toward the origin of residual porosity affecting the transparency,” published in the *Journal of the American Ceramic Society*, Volume 96, No. 6, 1724–1731 (2013). **Rémy Boulesteix**, **Alexandre Maître**, **Lucie Chrétien**, **Yoël Rabinovitch**, and **Christian Sallé**



Boulesteix

Rémy Boulesteix is associate professor at the Science of Ceramic Processes and Surface Treatments, a mixed University of Limoges-National Center of Scientific Research center in Limoges, France.



Chrétien

Lucie Chrétien is postdoctoral researcher at the Science of Ceramic Processes and Surface Treatments laboratory in Limoges, France.



Maître

Alexandre Maître is professor at the Science of Ceramic Processes and Surface Treatments laboratory in Limoges, France.



Rabinovitch

Yoël Rabinovitch is the CEO of Luxeram, a French company that specializes in transparent ceramics for luxury markets.



Sallé

Christian Sallé is a design engineer at Compagnie Industrielle des LASer in Limoges, France.

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 2014.

“The missing boundary in the phase diagram of $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$,” published in *Nature Communications*, Volume 5, Article No. 5231 (2014). **N. Zhang**, **H. Yokota**, **A.M. Glazer**, **Z. Ren**, **D.A. Keen**, **D.S. Keeble**, **P.A. Thomas**, and **Z.-G. Ye**.



Glazer

Mike Glazer is emeritus professor of physics at the University of Oxford in England and visiting professor at the University of Warwick (Coventry, England). He has authored several books and served for many years as editor in chief of the *Journal of Applied Crystallography* and also founded the international journal *Phase Transitions*.

Society Awards



Keeble

Dean S. Keeble is a senior support scientist on the XPDF beamline at Diamond Light Source in the United Kingdom.



Keen

David A. Keen is research scientist at the ISIS Neutron Scattering Facility at the Rutherford Appleton Laboratory (Oxfordshire, United Kingdom) and a visiting professor in the physics department at Oxford University in England.



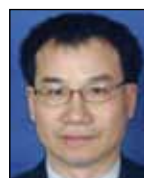
Ren

Zihe Ren is a postdoctoral fellow at the University of British Columbia, Canada.



Thomas

Pamela A. Thomas is provice-chancellor of people and public engagement at the University of Warwick in the United Kingdom.



Ye

Zuo-Guang Ye is professor in the Department of Chemistry & 4D Labs at Simon Fraser University (Burnaby, British Columbia, Canada).



Yokota

Hiroko Yokota is assistant professor in the department of physics at Chiba University, Japan.



Zhang

Nan Zhang is a postdoctoral fellow in the chemistry department at Simon Fraser University (Burnaby, British Columbia, Canada).

NICE and CEC awards

ACerS/NICE: Arthur Frederick Greaves-Walker Lifetime Service Award

recognizes 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 the National Institute of Ceramic Engineers.



Folz

Diane C. Folz is senior research associate and instructor in materials science and engineering at Virginia Tech (Blacksburg, Va.). She works primarily in the area of microwave processing of materials. She holds a B.S. in materials science and engineering from the University of Florida (Gainesville, Fla.) and a Graduate Certificate in Engineering Education and M.S. in materials science and engineering from Virginia Tech. From 1994 to 2006, she served as the executive director of NICE. She is a member of ACerS, past-chair of ACerS Education and Outreach Committee, and past-chair of ACerS Florida Section, and is an evaluator for ABET. She has served as editor on six books and has more than 25 technical publications and two patents.

Ceramic Education Council: Outstanding Educator Award *recognizes truly outstanding work and creativity in teaching, directing student research, or general educational process of ceramic educators.*



Martin

Steve W. Martin is the Anson Marston distinguished professor in engineering and faculty of materials science and engineering at Iowa State University (Ames, Iowa). He holds a Ph.D. in physical chemistry from Purdue University (West Lafayette, Ind.). He is a past recipient of the George W. Morey Award in glass science from ACerS Glass and Optical Materials Division and an ACerS Fellow. His research specialization is the study of ionically conducting glassy solid electrolytes for batteries, fuel cells, optical materials, and fibers. He has published more than 190 articles and given more than 225 invited talks around the world. He is a member of ACerS and past-chair of ACerS Glass and Optical Materials Division. He also co-chaired the 2015 Annual Meeting of ACerS Glass and Optical Division. ■

Du-Co Ceramics Scholarship Award *recognizes an undergraduate student in ceramic or materials engineering for participation in ACerS activities.*



Walden

Michael R. Walden is a senior at the Missouri University of Science and Technology (Rolla, Mo.). He will graduate in May of 2016 with a B.S. in ceramic engineering as well as minors in physics and chemistry. His current roles at MS&T include president of Keramos and vice president of Material Advantage. In addition to undergraduate research projects involving bioglass fibers

and ZrB₂-composite refractories during his sophomore and junior years, he spent the summer of 2015 interning for GE Aviation in Dayton, Ohio. His plan after graduation is to seek a doctorate in materials science with a research field of either solid-state electronics or ultra-high-temperature ceramics.

Du-Co Ceramics Young Professional Award is given to a young professional member of ACerS who demonstrates exceptional leadership and service to ACerS.



Geoff Brennecka is assistant professor in the Metallurgy and Materials Engineering Department at the Colorado School of Mines. He holds B.S. and M.S. degrees in ceramic engineering from the University of Missouri-Rolla (now Missouri S&T) and a Ph.D. in materials science and engineering from the University of Illinois at Urbana-Champaign. His research focuses on functional electroceramics, specifically innovative processing and dynamic response of ferroelectrics, piezoelectrics, and related materials.

He serves in a leadership position for ACerS Electronics Division, was a chair of the Education Integration Committee, a member or chair of several ACerS awards committees, and is currently a member of the ACerS Board of Directors. He helped launch both ACerS President's Council of Student Advisors and the Young Professionals Network, and continues to be active in advisory roles for both.

Karl Schwartzwalder-Professional Achievement in Ceramic Engineering Award is an ACerS/NICE award that recognizes an outstanding young ceramic engineer whose achievements have been significant to the profession and to the general welfare of all people.

Kyle S. Brinkman is associate professor in the department of materials science



Brinkman and engineering at Clemson University (Clemson, S.C.). He holds a B.S. in chemical engineering and M.S. in materials science and engineering from Clemson University and a Ph.D. in materials science and engineering from the Swiss Federal Institute of Lausanne in Switzerland.

He has authored or co-authored over 70 peer-reviewed technical publications and government reports. He serves as ACerS Material Advantage and Keramos faculty advisor for Clemson's undergraduate students in materials science and engineering. He is a member of ACerS Basic Science and Nuclear & Environmental Technology Divisions. ■

Corporate Achievement Awards

Corporate Environmental Achievement Award recognizes and honors a single outstanding environmental achievement made by an ACerS corporate member in the field of ceramics.



Fraunhofer
IKTS



Fraunhofer Institute for Ceramic Technologies and Systems IKTS and **inopor GmbH** jointly won ACerS 2015 Corporate Environmental Achievement Award for their development of ceramic nanofiltration membranes for efficient water treatment. With this technology, water treatment without chemicals is possible with high water savings (recycling of up to 95%) as well as energy savings (by recycling hot water).

The Fraunhofer Institute for Ceramic Technologies and Systems IKTS (Dresden and Hermsdorf, Germany) covers the field of advanced ceramics from basic preliminary research to the entire range of applications.

inopor GmbH (Veilsdorf, Germany) is a wholly-owned subsidiary of Rauschert—a family-owned, German technology company with over 110 years of experience in manufacturing advanced technical ceramics.

Corporate Technical Achievement Award recognizes a single outstanding technical achievement made by an ACerS corporate member in the field of ceramics.



Allied Mineral Products is the recipient of ACerS 2015 Corporate Technical Achievement Award for their development of a unique graphitic refractory castable, STACKCRETE® G, commercially used in blast furnaces.

Allied's research and technical team developed a graphitic-based refractory that is water dispersible. This material does not use alcohol-based solvents, which are common in monolithic graphitic systems. The result is reduced environmental impact and user friendliness.

Allied Mineral Products (Columbus, Ohio) has engineered, manufactured, and shipped monolithic refractories and precast shapes for over 50 years. The company has eight manufacturing facilities worldwide and two research and technology facilities with extensive testing capabilities. ■

Richard M. Fulrath Symposium and Awards

To promote technical and personal friendships between Japanese and American ceramic engineers and scientists

Symposium: Monday, October 5, 2:00–4:40 p.m.



Maria

Jon-Paul Maria

Title: *Entropically-stabilized oxides: A novel class of multicomponent materials*

Jon-Paul Maria is University Faculty Scholar and a professor of materials science and engineering at North Carolina State University in Raleigh, where his research focuses on new materials discovery, property engineering, advances in synthesis science, and new integration strategies to merge diverse materials.



Matsunaga

Tadashi Matsunaga

Title: *Functional ceramics derived from Si-based organics*

Tadashi Matsunaga is manager in the Polyimide and Specialty Products Business Unit at Ube Industries Ltd. (Ube, Japan). He holds B.E., M.E., and Ph.D. degrees in mechanical system engineering from Hiroshima University in Japan.



Mauro

John C. Mauro

Title: *What I talk about when I talk about the glass transition*

John C. Mauro is research manager and

senior research associate of glass research at Corning Inc. (Corning, N.Y.). He is author of over 140 peer-reviewed publications and an associate editor of the *Journal of the American Ceramic Society*.



Shibata

Kenji Shibata

Title: *Development of lead-free (K, Na) NbO₃ piezoelectric films*

Kenji Shibata works as a project leader for SCIOCS Ltd. (Japan), where his research is focused on KNN films. He holds a B.A. in electronics and M.Eng. from Kyusyu University in Japan.



Takeda

Hiroaki Takeda

Title: *Lead-free electroceramics for high-temperature use*

Hiroaki Takeda is associate professor in the metallurgy and ceramics science department at Tokyo Institute of Technology in Japan. He has authored or co-authored over 150 peer-reviewed technical publications and is a member of ACerS Electronics Division. ■

ACerS Award Lectures

ACerS Frontiers of Science and Society–Rustum Roy Lecture

Tuesday, October 6, 2015, 1:00–2:00 p.m.

Delbert E. Day, Curators' Professor emeritus of materials science and engineering and senior investigator of the Graduate Center for Materials Research at the Missouri University of Science and Technology, and former chairman and president of Mo-Sci Corporation (Rolla, Mo.)

Title: *Glass technology for better health*



Day

Delbert E. Day is a member of the National Academy of Engineering; is a Fellow, past-president, and Distinguished Life Member of ACerS; and has received the internationally recognized Phoenix Award for his technical achievements and contributions to the glass industry. His research focuses on glasses for biomedical applications, containerless processing of glass in microgravity, vitrification of nuclear waste, and structure and properties of mixed alkali glasses. He has published 400 technical papers and been awarded 66 U.S. and foreign patents. ■

ACerS Award Lectures

Edward Orton Jr. Memorial Lecture

PLENARY SESSION

Tuesday, October 6, 2015, 8:10–8:50 a.m.

Sylvia M. Johnson, chief materials technologist in the Entry Systems and Technology division at NASA Ames Research Center in Moffett Field, Calif.

Title: *Space: The materials frontier*



Johnson

Sylvia M. Johnson received a B.Sc. in ceramic engineering from the University of New South Wales, Sydney in Australia and an M.S. and Ph.D. in materials science and engineering from the University of California, Berkeley. A Fellow of ACerS since 1992, she served as vice president in 1996–1997 and as a board member from 2002–2005. She is a past recipient of the James I. Mueller Award from the Engineering Ceramics Division. She has worked extensively in silicon nitride and in the use of preceramic polymers, and was instrumental in reviving interest in ultra-high temperature ceramics. She is currently working on new thermal protection materials. ■

ACerS/NICE Arthur L. Friedberg Ceramic Engineering Tutorial and Lecture

Monday, October 5, 2015, 9:00–10:00 a.m.

Arun K. Varshneya, professor of glass science & engineering, emeritus at Alfred University and president of Saxon Glass Technologies (Alfred, N.Y.)

Title: *Principles of glass chemical strengthening science and technology*



Varshneya

Arun K. Varshneya holds an M.S. and Ph.D. from Case Western Reserve University (Cleveland, Ohio). He is known internationally for his solo-authored textbook on glass, “Fundamentals of Inorganic Glasses.” His company, Saxon Glass Technologies, delivers glass chemical strengthening services for pharmaceutical and personal mobile communication device applications, one of the most-recognized developments being the strengthened glass cartridge for the EpiPen. He is a Fellow of ACerS, Distinguished Life Member, past-chair of ACerS Glass and Optical Materials Division, and served as treasurer of ACerS from 2008–2010. ■

Basic Science Division Robert B. Sosman Award and Lecture

Wednesday, October 7, 2015, 1:00–2:00 p.m.

Yuichi Ikuhara, professor and director of the Nanotechnology Center, Institute of Engineering Innovation at University of Tokyo, Japan

Title: *Grain boundary segregation, vacancies, and properties in oxide ceramics*



Ikuhara

Yuichi Ikuhara received his Ph.D. from the department of materials sciences at Kyushu University (Fukuoka, Japan). He is author and coauthor of ~600 scientific papers and has given more than 250 invited talks at international and domestic conferences. His current research focuses on interface and grain boundary phenomena, advanced transmission electron microscopy (STEM, HREM, EDS, EELS), high-temperature ceramics, electroceramics, phase transformation, theoretical calculations, and other areas. He is a Fellow of ACerS and a past recipient of ACerS Ross Coffin Purdy and Fulrath Awards. ■