



Credit: ACerS

Honoring the ACerS Awards Class of 2017

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 2017, three individuals will receive DLM honors: Richard C. Bradt, Marina R. Pascucci, and Masahiro Yoshimura.

The Society will elevate 15 members to Fellow and recognize many more outstanding members with various Society, Division, and Class awards and lectures that will be presented at ACerS Annual Awards Banquet at MS&T17, October 8–12 in Pittsburgh, Pa.

2017 DISTINGUISHED LIFE MEMBERS

Richard C. Bradt



Dick Bradt enjoys watching things grow.

And over the course of about the past 50 years, Bradt—and undoubtedly many others—have watched his professional trajectory grow into quite

the successful career.

During his undergraduate training at the Massachusetts Institute of Technology (Cambridge, Mass.), Bradt sat in the classroom of W. David Kingery, who quite literally wrote the book on ceramics. But it was during his time at Rensselaer Polytechnic Institute (Troy, N.Y.), where Bradt received his M.S. and Ph.D., that he met his real mentor in the field—Bob DeVries.

“He’s the guy—he was a real mentor to me in ceramics,” Bradt says. “He instilled in me a lot of the geology and crystallography that are necessary in ceramics.”

After graduating from RPI and then taking a brief stint in industry, Bradt in 1967 joined the faculty at Pennsylvania State University (State College, Pa.), DeVries’ alma mater, at the mentor’s urging. There, Bradt says, he felt right at home.

And despite eventually going on to accept positions at the University of Washington in Seattle, University of Nevada-Reno, and the University of Alabama in Tuscaloosa—where he is currently professor emeritus—Bradt has stuck with ceramics ever since.

And ceramics have definitely stuck with him. Bradt’s research has broadly focused on the fracture of structural ceramics, refractories, and glasses. That work has taken him all over the world, including sabbaticals in Japan, Brazil, Chile, and Great Britain. Being able to continue to stay active in the field, even after retirement, has been one of the most rewarding aspects of his career, Bradt says.

And one of the most meaningful aspects of his career, Bradt adds, is the awards he has been honored with over the years. Bradt proudly holds a cache of prestigious awards, including ACerS Jeppson, W. David Kingery, Bleining, Planje-St. Louis Refractories, and Richard M. Fulrath Awards. He also has a host of other notable honors—for instance, Bradt is Fellow of both ACerS and ASM, an academician of the World Academy of Ceramics, and distinguished life member of UNITECR, the international refractories organization.

A career so successful and so successfully decorated does not come overnight. It needs time to grow, and it requires dedication, passion, and patience to do so. And Bradt’s patience is perhaps most clearly demonstrated in one of his interesting hobbies—growing trees from seeds.

He grows various types of trees, some of which grow fast and some of which grow slow, Bradt says. Regardless of the type of tree, however, the process of preparing seeds is largely similar—he collects and cleans the seeds, and then places them in the refrigerator.

There they sit, chilled in a plastic bag filled with peat moss and some moisture, for an entire winter, the refrigerator keeping

the seeds cold enough to germinate, Bradt explains. The following spring, he plants the seeds. “Sometimes they sprout, and sometimes they don’t—you need patience.”

But patience pays off. One year, Bradt even donated 100 Japanese maple seedlings to Habitat for Humanity.

That patience has undoubtedly paid off professionally, too, helping him mentor more than 100 masters students and 50 Ph.D. students during the course of his career. Bradt remains in touch with many of his students today, he says.

An ACerS member for almost 50 years, Bradt belongs to the Refractory Ceramics, Basic Science, and Glass and Optical Materials Divisions, and he has served on the Board of Directors as a vice president of the Society. Bradt says the Society is an incredible international community, full of individuals who are always willing to help and provide guidance—just like himself.

“I’ve met a lot of good people,” Bradt reflects. “I have nothing but fond memories.”

Marina R. Pascucci



Marina Pascucci did not really set out to be a ceramic and materials science engineer. What she really wanted to do was major in math. When she applied to Alfred University (Alfred, N.Y.), a

recruiter told her during an interview that they were trying to get more women to join the engineering school.

They offered her the option of a dual degree in math and ceramics. “They told me I could try it, and if I didn’t like it, I could switch out and stay with math,” she recalls. That was during the early 1970s, when women were not encouraged to study subjects in male-dominated fields. “When I was in high school, guidance counselors rarely suggested engineering school to female students,” Pascucci adds.

Since she went down that path, Pascucci has had no regrets. She switched majors to chemistry midway through school and graduated from Alfred with a B.S. in ceramic science and a B.A. in chemistry. Pascucci went on to earn her M.S. and Ph.D. in ceramics and materials science from Case Western Reserve (Cleveland, Ohio) and credits the recruiter at Alfred for encouraging her to enter the ceramics field.

Pascucci has been dedicated to the ceramics industry since she left school. She spent 10 years working in research, which included two years as a research scientist for Battelle (Columbus, Ohio) and seven years as senior member of technical staff at GTE Laboratories (Waltham, Mass.). After spending five years in academia as assistant professor of materials science at Worcester Polytechnic Institute (Worcester, Mass.), Pascucci entered the corporate world in 1997, when she joined CeraNova Corporation (Marlborough, Mass.).

She currently is director of government programs and contracts at CeraNova, where she is responsible for business development, customer relations, and program management for many government clients—including managing Department of Defense projects totaling \$20 million.

Pascucci holds three patents in the area of transparent polycrystalline ceramics and has co-authored 30 papers on processing, characterization, and applications of advanced ceramics, including transparent polycrystalline ceramics, piezoelectric ceramics, ceramic-ceramic composites, and radiation damage in α -quartz.

Pascucci is an ACerS Fellow and received the F.H. Norton Distinguished Ceramist Award and Alfred University’s Career Achievement Award.

Realizing the value of membership in a professional society, Pascucci joined ACerS while she was still an undergraduate, and has been an active member ever since. She is a member of the Basic Science, Engineering Ceramics, and

Manufacturing Divisions, and held several officer positions on numerous committees, including Honorary Members chair, Ross Coffin Purdy Award chair, VP for publications, and others.

Although she has worked in many types of positions—research, faculty, C-level—Pascucci considers her term as Society president to be her most rewarding position. She says she has developed many friendships and made a lot of professional contacts over the years through her ACerS membership.

“The networking has been very helpful,” she says. “A lot of people who have been professional colleagues have now become my friends. It’s an opportunity to meet so many people from all over the world.”

Masahiro Yoshimura



Masahiro Yoshimura is a rock star in the field of ceramics.

Like music rock stars, he has an international following, has brought his message to many countries and venues, has a few “greatest hits,” and graciously accepts his role as a leader.

Yet his professional style bears little resemblance to rock stars—no entourage follows him, he greets all with warmth, he leads without drawing attention to himself, and he carries himself with humble delight at the impact of his life’s work in ceramics. He describes himself as “never highlighted as fashionable, but recognized as a true academician.”

Statistics back up his claim. A prolific author of more than 700 articles as well as other works, his work has been cited in more than 17,500 articles. His h-index is 67, which means he has written 67 papers with at least 67 citations each. No wonder Thomson Reuter in 2001 classified him as one of ISI’s highly cited researchers!

Tokyo Institute of Technology was Yoshimura’s research home for most of his career. He earned his M.S. and Ph.D. from the Institute in 1967 and 1970, respectively. On graduation, he continued with Tokyo Institute’s Research Laboratory of Engineering Materials for eight years, becoming associate professor in 1978, full professor in 1985, and emeritus in 2008. Today he is Distinguished Chair Professor and director of the Promotion Center for

Global Materials Research at the National Cheng Kung University in Taiwan.

Academia was a good fit for Yoshimura. “I like challenging research and study, including discussion and education—I have a strong curiosity to know unknown matters,” he says.

He was attracted to ceramic materials because “ceramics are one of the most complicated materials,” and his instinct told him the timing was good.

“Frankly speaking,” he says, “ceramics was not in fashion in the 1960–70s, but personally I had a feeling something may come in future. Of course, I did not understand what, when and how at that moment. I was rather lucky because the so-called ceramics boom came in the 1980–90s, when I was most active in my career.”

His research has focused on advancing processing of ceramic workhorse materials: zirconia, barium titanate, silicon carbide, silicon nitride, hydroxyapatite, and others. He studied low-temperature processing techniques, such as hydrothermal processing and “soft processing” technologies. He conducted numerous fundamental phase equilibria studies, especially on zirconia and other rare-earth oxide systems. More than 30 of these diagrams are in the ACerS-NIST Phase Equilibria Diagrams database.

His research has always had strong international collaborations. In the 1970s, he was at CNRS Laboratories in France and Massachusetts Institute of Technology in the United States. As emeritus professor, he has enjoyed visiting professorships at Tohoku University in Japan, University of Limerick in Ireland, ETH in Switzerland, and Institute of Metal Research, CAS, in China. Since 2010 he has been chair professor at National Cheng Kung University in Taiwan.

Yoshimura was introduced to ACerS through its journal, and during his time at MIT he joined the Society’s Basic Science Division. He helped organize many ACerS meetings and received ACerS Fulrath Award. He is founding president of the International Hydrothermal and Solvothermal Association. The European Ceramic Society included him in its first class of only eight Honorary Fellows in 2017.

With his distinctive long, white beard, Yoshimura is easy to find in a crowd and quick with a smile. “I am a very happy and lucky person because of job=pleasure=hobby,” he says. ■

The 2017 Class of Fellows



Brennecka

Geoff Brennecka is assistant professor in the Department of Metallurgical and Materials Engineering and the Colorado Center for Advanced Ceramics at the Colorado School of Mines (Golden, Colo.). He holds B.S. and M.S. degrees in ceramic engineering from the University of Missouri-Rolla and a Ph.D. in materials science and engineering from the University of Illinois (Champaign, Ill.). He received the ACerS Emerging Leader Award, Du-Co Ceramics Young Professional Award, and the Karl Schwartzwalder-PACE Award. Brennecka serves as associate editor of *JACerS*, chair of ACerS Electronics Division, and sits on ACerS Board of Directors. His research focuses on processing and applications of ferroelectric, piezoelectric, and related ceramic materials in bulk and thin film forms.



Fotheringham

Ulrich Fotheringham is senior principal scientist in the materials development directorate of Schott AG (Mainz, Germany). He earned a Ph.D. in physics from Johannes Gutenberg University. He holds 20 patents and has published 40 journal articles, book chapters, and conference papers. Fotheringham's research interests include non-equilibrium thermodynamics, structure-property relations, and materials modeling in inorganic glass.



Graeve

Olivia Graeve is professor in the Department of Mechanical and Aerospace Engineering, director of the CaliBaja Center for Resilient Materials and Systems, and faculty director of the IDEA Engineering Student Center at the University of California, San Diego. She holds a Ph.D. in materials science and engineering from the University of California,

Davis. Her numerous awards include ACerS 2010 Karl Schwartzwalder Professional Achievement in Ceramic Engineering Award and the National Science Foundation CAREER award. Graeve's research focuses on fundamental studies of the design, synthesis and processing of new materials for extreme environments (ultra-high temperatures, radiation, impact).



Soo Kim

Eung Soo Kim is professor in the Department of Materials Engineering of Kyonggi University, Suwon, Kyonggi-do, Korea. He is VP of the Korean Ceramic Society and editor-in-chief of the *Journal of the Korean Ceramic Society*. He holds an M.D. and Ph.D. in electronic ceramics from Yonsei University (Seoul, South Korea) and received the Academic Award of the Korean Ceramic Society. He is a member of ACerS Electronics Division and a reviewer for *JACerS* and *IJACT*. Kim's research focuses on development of electronic ceramics by tailoring the crystal structure for microwave dielectric materials, LTCC technology, ferroelectrics, piezoelectrics, ceramic processing, and microstructure-property relations.



Ley

Tyler Ley is Williams Foundation professor of civil engineering at Oklahoma State University (Stillwater, Okla.). He holds a Ph.D. in civil engineering from the University of Texas at Austin. He earned several awards, including the NSF Career Award, the American Concrete Institute Faculty Achievement Award, and the Regents Research Award from OSU. Ley served as secretary, cochair, and chair of ACerS Cements Division. His research has focused on understanding and ultimately manipulating early age behavior, mechanical properties, and long-term durability of cements through development of sensors, testing equipment, and novel structure and chemical imaging.



Lu

Kathy Lu is professor in the Department of Materials Science and Engineering at Virginia Tech (Blacksburg, Va.). She holds an M.S. and a Ph.D. of materials science and engineering from The Ohio State University (Columbus, Ohio). She is a member of ACerS Engineering Ceramics Division, where she organized 22 ACerS-sponsored symposia at various conferences. Lu is associate editor of *JACerS* and served on the board of the National Institute of Ceramic Engineers. Her research interests are powder materials, energy materials, composites, and functionally/structurally graded materials and porous materials.



Mitic

Vojislav Mitic is scientific adviser at the Institute of Technical Sciences of the Serbian Academy of Sciences and Arts. He holds a Ph.D. in material science from the University of Nis (Nis, Serbia). Mitic has published in more than 460 scientific publications, where he pioneered applications of fractal geometry and analysis in the study of ceramics materials, nanotechnology, and energetic issues. He is president of the Serbian Ceramics Society and has been an invited lecturer at many conferences, including EMA and ICACC. Mitic's main research focus is in electronic ceramic materials.



Narayan

Roger Narayan is professor of the Joint Department of Biomedical Engineering at the University of North Carolina (Chapel Hill, N.C.) and North Carolina State University (Raleigh, N.C.). He holds an M.D. from the School of Medicine at Wake Forest University (Winston-Salem, N.C.) and a Ph.D. in materials science and engineering from NCSU. His research focuses on laser processing of ceramics and laser-based addi-

The 2017 Class of Fellows (continued)

tive manufacturing of ceramics. Narayan has earned numerous awards, including ACerS Robert L. Coble Award and the Richard M. Fulrath Award.



Ormond

Paul Ormond is a senior account manager at AluChem Inc. (Cincinnati, Ohio), where he works on market development for reactive alumina products. He holds a B.S. in ceramic engineering from Alfred University (Alfred, N.Y.). Ormond is past chair of ACerS Refractory Ceramics Division and past program chair of the St. Louis Refractories Symposium. He previously received an ACerS Global Ambassador Award.



Parr

Chris Parr is senior vice president, innovation, sustainable development and technology at Kerneos SA, Paris, France. He holds a B.S. in chemistry from University of York (York, U.K.). He also

holds numerous patents in the field of hydraulic binders based on calcium aluminates technologies and their applications in refractories. Parr is a member of ACerS Refractory Ceramics Division and is chairman of the Federation for International Refractory Research and Education, which promotes higher education in refractory materials engineering.



Sakka

Yoshio Sakka is senior scientist and an advisor of the graduate program office at the National Institute for Materials Science (Tsukuba, Japan). He holds a Ph.D. from Kyushu University

(Fukuoka, Japan). He is a member of ACerS Basic Science Division and has received numerous awards, including ACerS Richard M. Fulrath Award and ACerS Spriggs Phase Equilibria Award. Sakka's research interests include fabricating innovative ceramics that show novel

individual property and/or multifunctional properties among electric, dielectric, thermal, optical, chemical, and mechanical properties through development of nanoparticle processing and novel sintering techniques.



Shimamura

Kiyoshi Shimamura is associate professor at Waseda University (Tokyo, Japan) and research associate at Tohoku University (Sendai, Japan). He holds a Ph.D. in chemistry from Tohoku

University. Shimamura is a member of ACerS Engineering Ceramics Division and has earned many awards, including ACerS Richard M. Fulrath Award. His primary research field is growth and characteristics of single crystals for electrical and optical applications, some of which is already commercialized.



Tidrow

Steven Tidrow is Inamori Professor of material science and engineering at Alfred University (Alfred, N.Y.). He holds an M.S. in applied physics from Texas Tech University (Lubbock,

Texas) and a Ph.D. in engineering physics from the University of Oklahoma (Norman, Okla.). Tidrow was chair of ACerS Electronics Division and is also a member of ACerS Basic Science and Manufacturing Divisions. His areas of research include RF sensing, microwave material and device characterization, materials for energy storage and conversion, and RF tunable materials and frequency-agile RF components for multi-function RF systems.



Vandiver

Pamela Vandiver is professor of materials science and engineering, codirector of the program in Heritage Conservation Science, head of the Laboratory for Cultural Materials,

and adjunct professor of anthropology at the University of Arizona (Tucson, Ariz.). She holds an M.A. in art glass, cast bronzes, and large ceramic sculptures. Her research focus is on the technological history of faience and other glassy materials in Egypt and Mesopotamia, medieval *Ishkor* plant-ash glaze technology of central Asia, Chinese Song dynasty glazes, Neolithic Yangshao and Longshan pottery, and technology transfer of glaze technologies from China to the rest of east and southeast Asia. She recently was chair of ACerS Art, Archaeology and Conservation Science Division.



Vaßen

Robert Vaßen is department head at Forschungszentrum Jülich GmbH, IEK-1, Jülich, Germany. He holds a Ph.D. in physics from RWTH Aachen University (Aachen, Germany).

Vaßen holds more than 20 patents and is a reviewer of several journals, including *JACerS* and *IJACT*. His research focuses on development of different coatings for advanced power plants as thermal barrier coatings for gas turbines and environmental barrier coatings for ceramic matrix composites. ■



9

MONDAY

Awards Banquet

Join us to honor the Society's 2017 award winners at **ACerS Annual Awards and Honors Banquet, Monday, October 9 at MS&T17.**

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

Tickets must be purchased by **noon on October 9, 2017.**



Society Awards

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



Singh

Mrityunjay Singh is chief scientist, Ohio Aerospace Institute (Cleveland, Ohio). He holds a Ph.D. in metallurgical engineering from Indian Institute of Technology-BHU

(Varanasi, India). He is an ACerS Fellow, ACerS past president, and has received numerous awards, including ACerS John Jeppson, Richard M. Fulrath, Samuel Geijsbeek, and James I. Mueller Lecture awards.

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



Trolier-McKinstry

Susan Trolier-McKinstry is Steward S. Flaschen Professor of Ceramic Science and Engineering, professor of electrical engineering, and director of the nanofabrication facility at Pennsylvania State

University (State College, Pa.). She is an ACerS Fellow, an academician of the World Academy of Ceramics, and a past president of Keramos. Her main research interests include thin films for dielectric and piezoelectric applications.

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



Hu

Juejun Hu is Merton C. Flemings Career Development Associate Professor in the Department of Material Science and Engineering at Massachusetts Institute of

Technology (Cambridge, Mass.). He holds a Ph.D. in materials science and engineering from MIT. His research interest is enhanced photon-matter interactions in nanophotonic structures, with an emphasis on on-chip spectroscopy and chemical sensing applications using novel infrared glasses. Hu is a member of ACerS Glass & Optical Materials Division.

ROSS COFFIN PURDY AWARD recognizes authors who made the most valuable contribution to ceramic technical literature in 2015.

“Readily processed protonic ceramic fuel cells with high performance at low temperatures” *Science* 2015, Vol. 349 Issue 6254 by **Chuancheng Duan, Jianhua Tong, Meng Shang, Stefan Nikodemski, Michael Sanders, Sandrine Ricote, Ryan O’Hayre, and Ali Almansoori**



Almansoori

Ali Almansoori is dean of engineering and associate professor in the Department of Chemical Engineering at the Petroleum Institute (Abu Dhabi, U.A.R.).



Duan

Chuancheng Duan is a research assistant and Ph.D. candidate at the Colorado School of Mines (Golden, Colo.).



O’Hayre

Ryan O’Hayre is professor of metallurgical and materials engineering at the Colorado School of Mines (Golden, Colo.).



Ricote

Sandrine Ricote is associate research professor in the Department of Mechanical Engineering at Colorado School of Mines (Golden, Colo.).



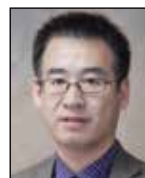
Sanders

Michael Sanders is research assistant professor for the Colorado Center for Advanced Ceramics in the Metallurgical and Materials Engineering Department at the Colorado School of Mines (Golden, Colo.).



Shang

Meng Shang is R&D scientist at APL Engineered Materials (Urbana, Ill.).



Tong

Jianhua Tong is associate professor of the Department of Materials Science and Engineering at Clemson University (Clemson, S.C.).



Nikodemski

Stefan Nikodemski is a Ph.D. graduate in materials science from the Colorado School of Mines (Golden, Colo.).

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 2016.

“High temperature phases with wurtzite-derived structure in Zn_2LiGaO_4-ZnO alloy system” *Journal of Alloys and Compounds*, 688, Part A 69-76 (2016) by **Masao Kita, Tomoaki Fukada, Shu Yamaguchi and Takahisa Omata**



Fukada

Tomoaki Fukada has worked in the plastics industry in Japan for six years.



Kita

Masao Kita is associate professor in the Department of Mechanical Engineering at the National Institute of Technology, Toyama College (Toyama, Japan).





Omata

Takahisa Omata is professor at the Institute of Multidisciplinary Research for Advanced Materials, Tohoku University (Sendai, Japan).



Yamaguchi

Shu Yamaguchi is professor at the Department of Materials Engineering, School of Engineering, The University of Tokyo (Tokyo, Japan).

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



Reigel

Marissa M. Reigel is principal engineer in the Immobilization Technology Section at Savannah River National Laboratory, (Aiken, S.C.) where she focuses on processing and immobilization of legacy nuclear waste, including formulation and properties of radioactive waste forms, materials design bases for nuclear facilities, material compatibility analyses, and project management. Reigel is a member of ACerS Nuclear and Environmental Technology Division and has served as cochair of ACerS Young Professionals Network, representative to the Material Advantage committee, and cochair of the Student Activities Council. She was recently named cochair of ACerS Education and Professional Development Council.

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.



Michaelis

Alexander Michaelis is president of the Fraunhofer Institute for Ceramic Technologies and Systems IKTS (Dresden, Germany). He holds a Ph.D. in electro-

chemistry from the University of Düsseldorf (Düsseldorf, Germany). He is an ACerS Fellow and has received numerous awards, including ACerS Bridge Building Award. He also served on many boards, including ACerS Ceramic and Glass Industry Foundation.



Sastri

Suri Sastri is founder, CEO, and chairman of Surmet Corp. (Burlington, Mass.), an ACerS corporate member. He holds a Ph.D. in metallurgical engineering from Imperial College (London, U.K.). His research focuses on innovations leading to very high volume at lower cost manufacturing of transparent ceramics. Sastri has earned several awards, including ACerS Corporate Technical Achievement Award.

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 Education and Professional Development Council.

William Mullins is program officer of synthesis and processing of advanced materials on the adjunct faculty in the Department of Mathematics at the University of North Carolina at Chapel Hill. He holds an Sc.D. in materials science from Massachusetts Institute of Technology (Cambridge, Mass.). Mullins served as president of the National Institute of Ceramic Engineers and committee member on the Schwartzwalder-Professional Achievement in Ceramic Engineering Award committee.

EDUCATION AND PROFESSIONAL DEVELOPMENT COUNCIL: OUTSTANDING EDUCATOR AWARD recognizes truly outstanding work and creativity in teaching, directing student research, or general educational process of ceramic educators.



Carter

W. Craig Carter is POSCO Professor of Materials Science at the Massachusetts Institute of Technology (Cambridge, Mass.) and an adjunct faculty member at École Polytechnique Fédérale De Lausanne. He holds a Ph.D. in materials science from the University of California, Berkeley. He cofounded 24M, a company that produces grid scale energy storage solutions. His research focuses on mesoscale modeling of materials properties and microstructural evolution, battery materials, and electro-chemo-mechanics. Carter is an ACerS Fellow and past chair of the Basic Science Division. He has received many awards, including ACerS Ross Coffin Purdy, Robert L. Coble, and Richard M. Fulrath awards

D.T. RANKIN AWARD recognizes a member of the Nuclear & Environmental Technology Division who has demonstrated exemplary service to the division.



Cozzi

Alex D. Cozzi is Fellow engineer with the Savannah River National Laboratory at the Department of Energy's Savannah River Site (Aiken, S.C.). He holds a Ph.D. in materials science from the University of Florida (Gainesville, Fla.). He is an ACerS Fellow, an active member and past chair of the Nuclear and Environmental Technology Division, and active member and past president of the National Institute of Ceramic Engineers. His research focuses on cementitious waste forms for radioactive waste disposal.

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



SELEE Corporation is the recipient of the ACerS Corporate Technical Achievement Award for the development of an aluminosilicate-based ceramic foam filter for molten iron and aluminum filtration.

The product was developed out of a need to replace traditional silicon carbide ceramic foam filters that proved to be costly and environmentally unfriendly. Also, the new product line stabilized an unreliable supply chain.

The attributes of aluminosilicate combined with a newly engineered ceramic formulation enabled creation of a product equal in performance with an improved supply chain. SELEE IC is free of silicon carbide, yet capable of meeting the thermal shock and refracto-

ry challenges of iron foundry filtration applications. All ceramic materials for the product are sourced from the U.S., eliminating the impact of ocean freight costs, foreign currency fluctuations, and political risks.

SELEE Corporation, located in Hendersonville, N.C., is a leading manufacturer of ceramic foam. The company holds patents in Mexico, Canada, U.S., India, China, Europe, and Russia. ■

Richard M. Fulrath Symposium and Awards

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

Symposium: October 9, 2017 | 2 – 4:40 p.m.



Akitoshi Hayashi
Development of ion-conducting glasses for solid-state batteries

Hayashi Akitoshi Hayashi is professor of applied chemistry at Osaka Prefecture University in Japan. He holds a Ph.D., M.S., and B.S. in materials science from OPU. Hayashi's research focuses on ion-conducting glasses for energy storage devices.

of ACerS Electronics Division, and cochair of EAM 2018.



Chie Kawamura
Synthesis of high crystalline and fine BaTiO₃ powder for thinner Ni-MLCCs via solid state route

Chie Kawamura is manager of the Materials Research and Development Department of the Research and Development Laboratory at Taiyo Yuden Co. Ltd. (Tokyo, Japan). She holds a Ph.D. in engineering from the Keio University (Tokyo, Japan). Her research includes synthesis technique of finer particles by solid state route, contributing to increased capacity and decreased size of MLCCs.

Ph.D. from Hosei University (Tokyo, Japan). His research background includes functional material synthesis by plasma technology, research and synthesis of ultrafine particles, and DC plasma process allowing for development of binary and tertiary alloy nanoparticles. His current focus is the synthesis of new functional materials for an electronic device and establishment of its mass production process by plasma.



Jon Ihlefeld
New functionality from reconfigurable ferroelastic domains in ferroelectric films

Ihlefeld Jon Ihlefeld is associate professor of materials science and engineering and electrical and computer engineering at the University of Virginia (Charlottesville, Va.). He holds a Ph.D. in materials science and engineering from North Carolina State University (Raleigh, N.C.). His research interests include synthesis, processing, and integration of electroceramic thin films and resulting functionality—with main areas of focus in ferroelectrics, dielectrics, oxide semiconductors, and fast ion conductors. Ihlefeld has earned several awards, is secretary



Hideki Tanaka
Development of mass production of Ni-nanopowder for the internal electrode of MLCC by DC thermal plasma process

Hideki Tanaka is group leader for Shoei Chemical Inc. (Tokyo, Japan) where he oversees development of Ni-nanoparticle for internal electrodes of MLCC. He holds a



Klaus van Benthem
Do fields matter? — Microstructure evolution in ceramic oxides

van Benthem Klaus van Benthem is associate professor for materials science and engineering at the University of California, Davis. He holds a Ph.D. in materials science from the Max-Planck-Institute for Metals Research (Stuttgart, Germany). His research focus is characterization of atomic scale defect structures and their evolution under applied stress fields, and electric fields on ceramic microstructure evolution, and mechanisms of solid-state dewetting for metal/ceramic interfaces. Klaus has served as chair and cochair of MS&T, PACRIM, and EMA conferences. ■

ACerS Award Lectures



EDWARD ORTON JR. MEMORIAL LECTURE

PLENARY SESSION

Tuesday, October 10, 2017, 8–10:40 a.m.

Steven J. Zinkle, Governor's Chair professor, University of Tennessee/Oak Ridge National Laboratory (Oak Ridge, Tenn.)

What's new in nuclear reactors?



Steven Zinkle earned his Ph.D. in nuclear engineering from the University of Wisconsin-Madison. His current research focuses on using materials science to explore fundamental physical phenomena important for advanced nuclear energy applications and microstructure-property relationships. Zinkle is an ACerS Fellow and a member of ACerS Nuclear and Environmental Technology Division. He received the ACerS NETD Best Paper Award and serves on ACerS Rustum Roy Lecture Award committee. His research interests include deformation and fracture mechanisms in structural materials, advanced manufacturing, and investigation of radiation effects in ceramics, fuel systems, and metallic alloys for fission and fusion energy systems. ■



ACERS/NICE ARTHUR L. FRIEDBERG CERAMIC ENGINEERING TUTORIAL AND LECTURE

Monday, October 9, 2017, 9–10 a.m.

Rosario A. Gerhardt, professor of materials science and engineering at the Georgia Institute of Technology (Atlanta, Ga.)

Structure-property-processing relationships in composite materials



Rosario A. Gerhardt holds a doctoral degree from Columbia University. She is an ACerS Fellow and past executive officer of ACerS Electronics Division. Her research focuses on determining structure-property-processing relationships in a wide range of materials, including metals, polymers, and ceramics, and their composites in bulk and in thin film form—emphasizing electrical and optical characterization of materials supplemented by AFM, SEM, TEM, X-ray, and neutron scattering in addition to numerical modeling. ■



ACERS FRONTIERS OF SCIENCE AND SOCIETY–RUSTUM ROY LECTURE

Tuesday, October 10, 2017, 1–2 p.m.

Qingjie Zhang, president, Wuhan University of Technology (Wuhan, China), director of the State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, chair professor of materials science and engineering, Wuhan University of Technology, and chief scientist of the Chinese National “973” Program for Thermoelectric Materials

Global energy challenges and development of thermoelectric materials and systems in China



Qingjie Zhang holds a Ph.D. from Huazhong University of Science and Technology (Wuhan, China). He has received several national awards for technological invention, including the National Natural Science Award of China. His research focuses on inorganic non-metallic materials and composites with special function, including thermoelectric materials and applications, energy storage materials, conductive ceramics, and intelligent composite materials. ■



BASIC SCIENCE DIVISION ROBERT B. SOSMAN AWARD AND LECTURE

Wednesday, October 11, 2017, 1–2 p.m.

Michael J. Hoffmann, professor of ceramic materials and systems at the Institute for Applied Materials at the Karlsruhe Institute of Technology (Karlsruhe, Germany)

Grain growth in perovskite-based ceramics



Michael J. Hoffmann holds a Ph.D. in chemistry from the University of Stuttgart (Germany). He is an ACerS Fellow, a member of ACerS Basic Science and Engineering Ceramics Divisions, and has served on several ACerS committees, including director. His research focuses on sintering and microstructural evolution of engineering and functional ceramics, ceramic processing, mechanical behaviour of brittle materials, defect chemistry in perovskites, ferroelectric ceramics, and materials for electrochemical storage and conversion. ■