

Preeminent professionals

ACerS Awards 2010

Introduction

The highest privilege of The American Ceramic Society is to honor major accomplishments in the field of ceramics. These honors stand for who we are, what we represent and how we move forward in science and technology. Awards designated by ACerS and bestowed by one's peers are a key part of the Society's legacy.

Honors and awards create opportunities to recognize individuals for their support to the Society and for their achievements in ceramics.

Awards Banquet

The winners of the Society's 2010 awards, including the new Distinguished Life Members and the new class of Fellows, will be honored at the **ACerS Annual Awards and Honors Banquet, Monday, Oct. 18, 2010, 7:30 p.m. – 10:30 p.m., in Houston, Texas.** The banquet is held in conjunction with the Society's Annual Meeting and MS&T'10.



One of the first acts of the Society's first meeting was to recognize Bellamy Storer as the first Distinguished Life Member (then referred to as Honorary Member) for her production of the first line of distinctive American art pottery ware.

The honor of Distinguished Life Member was established to recognize current members of the Society of professional eminence elected for their achievements in the ceramic arts or sciences or their service to the Society.

Distinguished Life Member is the highest honor bestowed by the members of ACerS. It showcases the Society's most inspirational members, and celebrates their commitment to the Society and their technological achievements in their careers. Indeed, the 2010 recipients of the Distinguished Life Member Award have made extraordinary contributions to the Society as members and to the field of ceramics through their achievements.

Now, the Society is honored to congratulate L. David Pye and Louis J. Trostel Jr. as the 2010 Distinguished Life Members.

Upon learning that they were the recipients of the award, both members said they were humbled and elated.

"You never get to the top all by yourself," says Trostel. "It's the people that have supported me along the way that are part of my fondest memories throughout my career."

"I highly encourage others to join the Society and lend a hand. That's how to get the most out of the organization. Grab a hold and contribute," he says.

Pye also shared his enthusiasm over the significance of the award.

Distinguished Life Member Awards

"In some small way, I have kept the faith with those who have gone before me in advancing the goals, scope, hope and aspirations of a great Society," he says.

These members are prime examples of the talent, dedication and merit that the Society represents through its membership.



Pye

L. David Pye is dean and professor of glass science, emeritus, the New York State College of Ceramics at Alfred University, and chief executive officer of The Empire State Glassworks

LLC. His career in academia and industry has involved teaching, scholarship, research and consulting on the fabrication, characterization and application of noncrystalline solids. He recently completed a lecture tour in Europe speaking at major universities in Italy on glass science and engineering. Earlier this year he was named a Fulbright Specialist.

Pye has served ACerS in a variety of capacities, including chair of the Glass and Optical Materials Division, 1978; member of the board, 1992–1995; chair of the Globalization Task Force, 2004–2006; and president of the Society, 2007–2008. He currently serves as Founding Editor of the Society's newest publication, the *International Journal of Applied Glass Science*. During 1997–2000 he served as president of the International Commission on Glass and in September will be presented the President's Award by this organization for lifetime achievements.

Pye is the author of nearly 80 contributions to the literature and has served as editor of numerous conference proceedings. He was cofounder of the National Science Foundation Industry-

University Center for Glass Research at Alfred, and, as dean of the College, he established several new academic programs in electronic arts, materials science and engineering, which helped lead the college to then record levels of sponsored research.

Pye cofounded several continuing international conferences, including Boron in Glass, Advances in the Fusion of Glass, Natural Glasses and Photonic Glasses. He has also convened meetings in such diverse places as Cambridge University in the U.K.; the United Nations University in Japan; in Washington, D.C.; and most recently, in Bad Soden, Germany.

Pye has received many honors, including the State University of New York Chancellor's Award for Scholarship, 2003; the Alfred University S.R. Scholes Award, 2005; Honorary Fellowship in the British Society of Glass Technology, 2004; the Alfred University Presidential Order of Merit Award, 2002; Glassman of the Year, 1996; Honorary Membership in the German Society of Glass Technology, 1995; and the Glass Art Society's Dominick Labino Lecture Award, 1992. He has also been elected to the World Academy of Ceramics.

His biography appears in several standard references, including *Who's Who in the World*, *Who's Who in America* and *Who's Who in Engineering*.



Trostel

Louis J. Trostel Jr. was research manager for 10 years in the Norton Company Advanced Ceramics Group before his retirement and the establishment

of his technical consulting practice. Previously, he was at the Ohio State Research Foundation from 1950 to

1955. He received his bachelor's, master's and Ph.D. degrees in ceramic engineering from The Ohio State University.

Trostel is the author and coauthor of more than 27 technical papers on refractories, their properties and testing. He was editor of the *Proceedings of the First Unified International Technical Conference on Refractories* (1989) as well as program chairman. He was the senior United States international executive board member for the UNITECR'97 congress and continued as an advisor to the board for several years. He was elected a Distinguished Life Member of the group in 1993. He has been awarded three U.S. and six foreign patents.

Trostel has been a member of The American Ceramic Society since 1949 and is a Fellow of Society. He served as chair of its Refractories Ceramics Division from 1985 to 1986. And as trustee of that division on the ACerS' board from 1993 to 2002. He continues as the division's counselor. In addition he has been active on the ACerS' Publications and Nomenclature Committees.

Trostel has been a member of the New England Section of ACerS since 1955, serving in the section's offices, including chair, and received the F.H. Norton Award of Distinguished New England Ceramist in 1982. He is a member of Sigma Xi, Tau Beta Pi, The National Institute of Ceramic Engineers and Keramos. He is a registered engineer in the state of Massachusetts.

In 2008, The Refractories Institute awarded Trostel the William T. Tredennick Award. In 1996, the St. Louis Section of ACerS awarded him the T.L. Planje Refractories Award.

He also is a Fellow of ASTM and has been a member of its Committee C8 on Refractories and its subcommittees since 1959.

Trostel will also present the ACerS/NICE Arthur L. Friedburg Memorial Lecture at MS&T'10. For details on his presentation, see page 41.

Guardians of the Society: The 2010 Class of Society Fellows

Introduction

"The work of Fellowship is to build an esprit de corps and incite the young, who are beginning, to put forth their best effort to real achievement."

So said ACerS President Edward Orton back in 1930. Those words ring loud and true today.

The induction of Fellows remains a high honor within the Society that recognizes the rising stars in the field of ceramics. Reaching the rank of Fellow is an honor attained by fewer than five

percent of the Society's members in more than 100 years.

Orton proclaimed, "The Fellowship is the spiritual guardianship of the Society, the preserver of its ideals, the stimulator of its pride, the radiant force of its inspiration, whose influence shall lead us always to higher levels of achievement in the future."

Nineteen members will be elevated to Society Fellows in 2010. Each has made outstanding contributions to the ceramics arts or sciences through broad

and productive scholarship in ceramic science and technology, by conspicuous achievement in ceramic industry, or by outstanding service to the Society.

Fellows have been members of the Society for at least five years, and have made outstanding contributions to the ceramic arts or sciences through broad and productive scholarship in ceramic science and technology by achievement in ceramic industry or by outstanding service to the Society.



Affatigato

Mario Affatigato is professor and chair of the physics department at Coe College in Cedar Rapids, Iowa. He has served as a member of the executive committee and chair of the ACerS' Glass and Optical Materials Division. He is also one of the founding members of the National Executive Leadership Committee for the Research Experiences for Undergraduates program and is on the board of advisors for the NSF's International Materials Institute for New Functionality in Glass. His research emphasizes structure-property relationships in oxide glass systems and light-structure interactions. He is

an associate editor of the *International Journal of Applied Glass Science*.



Aitken

Bruce Aitken is a research fellow at Corning's Sullivan Park Laboratory in Corning, N.Y. His research interest is in the structure-property relationships of oxide and non-oxide glasses and glass-ceramics. An ACerS member for 19 years, he is affiliated with the Glass and Optical Materials Division. He is also a member of the Society of Glass Technology, the American Geophysical Union, Phi Beta Kappa and Sigma Xi. He serves on board of the Non-oxide Glass Symposium and the International Conference on the Physics

of Non-Crystalline Solids. Aitken has been a contributor at the annual GOMD meeting a reviewer for the *Journal of the American Ceramic Society*.



Atkinson

Alan Atkinson is professor of materials chemistry in the department of materials at Imperial College, London, and dean in the faculty of engineering. Atkinson is a Fellow of the Institute of Materials, Minerals and Mining and the Institute of Physics in the U.K. He was awarded the Kroll Medal and Prize for Materials Chemistry in 2000. He has authored/coauthored over 240 journal articles and book chapters and six patents, and

is associate editor of the journal *Fuel Cells*. He is a cofounder of Ceres Power Ltd. He has been a member of ACerS' Basic Science Division since 1997.



Birnie

Dunbar P. Birnie III is the Corning/Saint-Gobain–Malcolm G. McLaren professor of ceramic engineering in the department of materials science and engineering at Rutgers University.

Much of Birnie's research is aimed at fabricating coatings for solar power collection, especially dye-sensitized solar cells that might be suitable for low-cost roll-to-roll printing processes. This current work draws on his prior experience at making high quality coatings and aims to help push the cost-efficiency ratio lower. Birnie is active in ACerS' Basic Science Division with connection to the Electronics and Glass Divisions.



Colombo

Paolo Colombo is a professor at the University of Padova, department of mechanical engineering, in Padova, Italy. He was awarded a Fulbright Scholarship for Pennsylvania State

University, the Pfeil Award (Institute of Materials, Minerals and Mining) and the Global Star Award from ACerS' Engineering Ceramics Division. Colombo's research includes novel processing routes to porous ceramics, the development of ceramic components from pre-ceramic polymers and the vitrification and reuse of hazardous waste. He has been a member of ECD since 1992 and is an associate editor of *JACerS*.



Dickey

Elizabeth Dickey is a professor of materials science and engineering at Pennsylvania State University. Her interests include nanomaterials for electrical and sensing applications, interface materials science, high-temperature ceramic composites and transmission electron microscopy. In January

2011, she will become the dean of the Whitacre College of Engineering at Texas Tech University. Dickey is a member of the ACerS' Basic Science Division and has served as division chair. She is also an associate editor of *JACerS*



Hojo

Junichi Hojo is a professor in the department of applied chemistry, faculty of engineering, Kyushu University, Japan. Hojo has been involved in powder synthesis and processing for over 30 years. His interests include fine ceramic and composite particles, sintering of nanoparticles for nanoceramics, and the new proposal for chemical design of ceramics including microwave processing. A former vice president of the Ceramic Society of Japan, Hojo was elected as advisory board member of the World Academy of Ceramics in 2010. Currently he is editor of the Asian section of *Materials Letters*.

Vikram Jayaram is professor and chair of the department of materials engineering at the Indian Institute of Science, Bangalore. He has won the IIS's Alumni Award for Excellence in Engineering Research and the National Metallurgists Day Award from India's Ministry of Steel & Mines. He is a Fellow of the Indian National Science Academy, Indian Academy of Science, National Academy of Sciences and Indian Institute of Metals. His research includes the properties and processing of ceramics and thin films. He is a member of the ACerS' Basic Science Division and an associate editor of *JACerS*.



Jayaram

Quanxi Jia is a Fellow of Los Alamos National Lab and a Thrust Leader at the Center for Integrated Nanotechnologies, a DOE Nanoscale Science Research Center. He received



Jia

two R&D 100 Awards, the 2005 Asian-American Engineer of the Year Award and the Federal Laboratory Consortium for Technology Transfer Awards for Excellence in Technology Transfer. He is a Fellow of the American Physical Society. His research includes nanostructured and multifunctional materials, thin films, multilayer systems and solid-state microelectronic/electro-optic devices. Jia currently serves as the secretary of ACerS' Electronics Division.



Kim

Hai-Doo Kim is a principal researcher at the Korea Institute of Materials Science, Changwon. Kim research interests include reinforced alumina ceramics and the control of the bimodal microstructure of silicon nitride ceramics. He is interested in developing the inexpensive high quality silicon nitride ceramics. He served as a vice-president of the Korean Ceramic Society and a senior editor-in-chief of the *Journal of the Korean Ceramic Society*. He is the chair of the Engineering Ceramics Division of the Korean Ceramic Society.

Murli H. Manghnani is a professor of geophysics and the director of the High Pressure Mineral Physics Lab and Materials Science at the Hawaii Institute of Geophysics and Planetology, School of Ocean and Earth Science, University of Hawaii. A long-time member of ACerS, he is a Fellow of the Mineralogical Society of America and Life Fellow of the Indian Geophysical Union. He has received a Guggenheim Fellowship award for synchrotron radiation research at high pressure and temperature.



Manghnani

Makio Naito is a professor at the Joining and Welding Research Institute, Osaka University, Osaka, Japan. He is JWRI's vice director and director of its Smart Processing Research Center. In addition, he is a director of Hosokawa Micron Corp. He joined Japan Fine Ceramics



Naito

Center (Nagoya) in 1993, where he has focused on powder characterization and processing technology in ceramics manufacturing. He focuses on developing advanced materials for energy and environmental use. He is a member of ACerS' Engineering Ceramics Division and has received the Richard M. Fulrath Award.



Rahaman

Mohamed N. Rahaman is a professor of materials science and engineering and director of the Center for Bone and Tissue Repair and Regeneration at the Missouri University of Science and Technology. He has received Missouri S&T's Faculty Excellence and Research award and the HAP Paul (Best Paper) Award from the International Society for Technology in Arthroplasty for an article describing the development of ceramic bearings for hip and knee joint replacement. His research interests are in ceramic biomedical applications. A member of the Society since 1984, Rahaman is affiliated with ACerS' Basic Science Division.



Šajgalík

Pavol Šajgalík is the director of the Institute of Inorganic Chemistry, Slovak Academy of Sciences, Bratislava. He has received several awards, including the Alexander von Humboldt Fellowship, was elected academician of the World Academy of Ceramics and made a member elect of the Learning Society of the SAS. He earned the Plaquette of Dioniz Ilkovic for Merits in the Physical–Chemical Sciences, the Silver Medal of Maximilian Hell (University of Trenčín) and the Award of the Slovak Academy of Sciences. He was the 2006 Scientist of the Year in the Slovak Republic. He is a member of ACerS' Basic Science and Engineering Ceramics Divisions.



Sampath

Sanjay Sampath is a professor of materials science and engineering at Stony Brook University and director of the Center for Thermal Spray Research. He received the SUNY Chancellor's Award for excellence in scholarship and creative activities in its inaugural year, was elected Fellow of ASM International and an R&D 100 award for developing the direct write technology. His research interests lie in thermostructural coatings, thick-film materials and multifunctional materials. He is a member of ACerS' Basic Science division.



Sayir

Ali Sayir is the program manager of high temperature aerospace materials at the Air Force Office of Scientific Research. He received the Medal for Public Service Award, R&D 100 Award for Laser Fiber Growth, three of NASA's Inventions Board Awards and numerous recognitions from industry and government laboratories. He is the director of an international AFOSR-funded program to develop directionally solidified boride eutectics. He also is a research associate professor at Case Western Reserve University and holds an adjunct faculty appointment at the University of Akron.



Snead

Lance L. Snead is a research staff member at the Oak Ridge National Lab. He specializes in radiation materials science studies in support of fusion and fission power systems. His research includes studies on radiation effects in ceramics, graphite, composites and ceramic-based fuels. He also investigates materials possessing of inherently low induced radioactivity materials for nuclear power applications, in particular silicon carbide and other ceramic composite systems. He

was an ACerS' Richard M. Fulrath award winner for his work developing a radiation resistant class of ceramic composites. Snead is a member of ACerS' Engineering Ceramics and Nuclear and Environmental Technology Divisions.



Zhou

Yanchun Zhou is a professor and director of the High-Performance Ceramic Division, Shenyang National Laboratory for Materials Science, and vice-chairman of the Academic

Committee of the Institute of Metal Research, Chinese Academy of Sciences. His research includes multi-scale structure–property relationships of ceramics and composites. Zhou is currently affiliated with ACerS' Engineering Ceramics and Basic Science Divisions. He is chair of the International Committee of the ECD and is a member of the advisory committee of the World Academy of Ceramics. He also serves as executive vice editor-in-chief of the *Journal of Materials Science & Technology*, associate editor of *JACerS* and associate editor of the *International Journal of Applied Ceramic Technology*.



Zhu

Dongming Zhu is a senior materials engineer, durability and protective coatings branch, structure and materials division, at the NASA John H. Glenn Research Center, Cleveland, Ohio. His research includes thermal conductivity, lattice defects and transport, mechanical and physical behavior of structural and functional ceramics and composite systems. He has received many honors and awards, including the NASA Exceptional Technology Achievement Medal and an R&D 100 Award. Zhu is a member of the Society's National Institute of Ceramic Engineers. He is a member and former chair of ACerS' Engineering Ceramics Division. He currently serves as associate editor of the *International Journal of Applied Ceramic Technology*.