



DIVISION OF POLYMERIC MATERIALS: SCIENCE & ENGINEERING

2012 PMSE Fellow Ceremony

The American Chemical Society Division of Polymeric Materials: Science and Engineering (PMSE) has just completed its process to select a new class of PMSE Fellows for 2012 and the following distinguished PMSE members have been chosen:

- Stephen Z. D. Cheng
- Lloyd Robeson
- Jimmy Mays
- Abhimanyu O. Patil

They will be inducted as the twelfth class of PMSE Fellows at the San Diego ACS Meeting during the joint PMSE/POLY Awards Reception on Wednesday evening. PMSE is pleased to welcome this distinguished group of polymer scientists and engineers to the ranks of fellows.

A short description of their work up to the point of the induction as a PMSE Fellow is on the following pages.



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2012 PMSE Fellow Induction Biographies

2012 PMSE Fellow

Stephen Z. D. Cheng
University of Akron



"For seminal contributions to the field of liquid crystal displays."

Professor Stephen Z. D. Cheng joined the faculty of Polymer Science at the University of Akron in 1987, after the completion of his PhD and postdoctoral work with Prof. Bernhard Wunderlich at the Rensselaer Polytechnic Institute (RPI). He has had a spectacular career at Akron in research, teaching, service and leadership. Since 2007, Stephen has been the Dean of the College of Polymer Science and Polymer Engineering at the University of Akron. He is known for his visionary leadership that strengthens the educational and research programs there. In addition, he continues to maintain a large research effort involving more than a dozen Ph.D. candidates and several postdocs. He has served as the Senior Editor (for the Americas) of *Polymer* since 1999. He is also very active in many professional societies, including the ACS. He has published more than 400 papers in peer reviewed journals and a book entitled "Phase Transitions in Polymers: The Role of Metastable States" and is co-inventor of 10 patents, many of which have been licensed for commercialization. Dr. Cheng has received numerous awards, including (but not limited to) two Distinguished Corporate Inventors Awards, National Inventors Hall of Fame (1995, 1998), the Dillon Medal from the American Physical Society (1994), the Goodyear Corporate Inventor Award (1998), the Industry-Academia Cooperative Research Award from the ACS (2005). He has been elected as a Fellow of the American Association for the Advancement of Science (2006), a Fellow of the American Physical Society (1994), and a Fellow of the North American Thermal Analysis group. Most recently (2008), he was elected to the National Academy of Engineering.

Stephen Z. D. Cheng's research interests span a broad range of condensed state phenomena in polymers and liquid crystal systems. His goal is to link our basic understandings of these polymer and liquid crystal systems on different length and time scales with their specific material properties. To do this, we seek to understand the basic science and underlying principles of the thermodynamics/kinetics and structure/dynamics in soft matter phase transformations under equilibrium and non-equilibrium conditions. Experimental techniques to detect the multiple length and time scales involved in structure

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and morphology development include transmission electron microscopy, atomic force microscopy, optical microscopy, wide-angle x-ray diffraction, small angle x-ray scattering, electron and optical diffraction. To determine the dynamic and phase behaviors of these systems, solid state nuclear magnetic resonance, mechanical and dielectric analyses as well as calorimetry are used. Through these activities Dr. Cheng hopes to realize the full potential of soft matter materials in photonics and biological processes which will enable a pervasive new wave of technologies that will permanently improve how we live our lives.



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2011 PMSE Fellow

Lloyd Robeson

Air Products / Lehigh University



“For seminal contributions to the fields of polymer blends and gas separation membranes.”

Professor Lloyd Robeson received his BS degree in Chemical Engineering from Purdue University in 1964 and his PhD in Chemical Engineering from the University of Maryland in 1967. He was employed at Union Carbide Corporation from 1967 to 1986 and at Air Products and Chemicals, Inc. from 1986 to 2007 at which time he retired. His career in industry was primarily involved with polymer science and engineering. During his industrial career he worked in areas of polymer blends, polymer composites, permeability, engineering polymers, extrusion polymerization, flame retardant polymers, thermoplastic polyurethanes, polyolefins and ethylene copolymers, environmental stress failure, biomedical applications, carbon fiber reinforced thermoplastics, water soluble polymers, polymer processing, reactive extrusion compatibilization, dynamic mechanical properties, block and graft copolymers, emulsion polymers, adhesives, water soluble polymers, polymers for electronic applications, conducting polymers and membrane separation processes. He is a member of the National Academy of Engineering (class of 2001) and is in the College of Engineering Innovation Hall of Fame at the University of Maryland along with Distinguished Alumnus Honors from both Purdue University and the University of Maryland. His awards include the Industrial Polymer Award: Polymer Division of ACS (2002) and the Applied Polymer Science Award of ACS (2003). His publications number ~100 including two books on the subject of polymer blends. He is the (co)author of 100 US patents which has translated into a number of commercial products. Presently, he is an Adjunct Professor at Lehigh University.



DIVISION OF POLYMERIC MATERIALS: SCIENCE & ENGINEERING

2011 PMSE Fellow

Jimmy Mays

University of Tennessee, Knoxville



“For seminal contributions to anionic polymerization, polymer characterization and macromolecular architectures.”

Professor Jimmy Mays received the B.S. degree in Polymer Science from the University of Southern Mississippi in 1979 and a Ph.D. in Polymer Science from the University of Akron in 1984 under the direction of Professor Lewis Fetters. After graduation he worked for several years at Hercules Research Center, prior to joining the faculty at the University of Alabama at Birmingham. In 2002 he moved to his current position as UT/ORNL Distinguished Scientist at the University of Tennessee, Knoxville, and Oak Ridge National Laboratory. Professor Mays' research is centered on polymer synthesis, especially synthesis of polymers having controlled architectures. He has published over 300 peer reviewed papers and presented over 450 lectures on polymers worldwide. Professor Mays and his wife, Patricia, enjoy traveling and playing with their three dogs, Taz, Precious, and Bits.



DIVISION OF POLYMERIC MATERIALS: SCIENCE & ENGINEERING

2011 PMSE Fellow

Abhimanyu O. Patil

ExxonMobil Research and Engineering



“For seminal contributions to the mechanistic understanding and practical use of synthetic fluids, lubricant additives and functional polyolefin materials.”

Dr. Abhimanyu (Abhi) Patil is Senior Research Associate at the Corporate Strategic Research Laboratory of ExxonMobil Research and Engineering in New Jersey. Abhi has been working with ExxonMobil for over 23 years. He has 65 issued US patents and over 70 publications. At ExxonMobil, Abhi's research has been focused on polymer and organic chemistry. His contributions have been recognized by several prestigious internal ExxonMobil awards, including the Global Technology Award from ExxonMobil Chemical for new product development. Abhi received his PhD in Organic/Polymer Chemistry from IIT- Bombay (1981). He worked with Prof. D. Y. Curtin on organic synthesis as a Post-Doctoral Fellow at the University of Illinois, Urbana-Champaign and was a Research Scientist at the Institute for Polymers and Organic Solids at the University of California, Santa Barbara, where he worked on conducting polymers with Profs. Fred Wudl and Alan Heeger. Abhi has organized 5 National ACS symposia and co-edited 2 ACS books: “Beyond Metallocene: Next Generation Polymerization Catalysts” and “Functional Polymers: Modern Synthetic Methods and Novel Structures”. He sits on the Polymeric Material Science and Engineering (PMSE) Executive Committee, and has served as PMSE Program Chair; PMSE Book Committee Chair; and Macromolecular Secretariat General Secretary.