



DIVISION OF POLYMERIC MATERIALS: SCIENCE & ENGINEERING

2002 PMSE Fellow Ceremony

The third PMSE Fellow class contains nine members, chosen in the nomination and selection process which was completed in November of 2001. They were inducted as the third class during the Awards Lunch at the 223rd National ACS Meeting on Monday, April 8th, 2002.

- Prof. Bill M. Culbertson - The Ohio State University
- Dr. Hiroshi Ito - IBM Almaden Research Center
- Prof. Michael Jaffe - New Jersey Institute of Technology and Rutgers University
- Prof. James E. McGrath - Virginia Polytechnic Institute and State University
- Dr. Elsa Reichmanis - Bell Laboratories
- Prof. Leslie Sperling - Lehigh University
- Dr. S. Richard Turner - Eastman Chemical Company
- Prof. Paul L. Valint, Jr. - University at Buffalo, The State University of New York
- Prof. Mitchell A. Winnik - University of Toronto

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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2002 PMSE Fellow Induction Biographies

2002 PMSE Fellow

Bill M. Culbertson

Ohio State University

Bill M. Culbertson is a Professor of Biomaterials and Materials Science at The Ohio State University, College of Dentistry, Columbus, Ohio. He obtained a Ph.D. in Organic Chemistry from the University of Iowa, Iowa City, IA in 1962. Following that, he worked on polymer chemistry in the chemical industry, mainly at Ashland Chemical Co., for 27 years, achieving the rank of Sr. Scientist at Ashland. He has been at OSU since 1989.

He has published more than 200 papers, along with authoring or co-authoring five books, and he has more than 40 patents to his credit. His research has covered many areas of polymer science, a few of which are high temperature polymer synthesis and characterization, development of improved performance polymers for thermosets and composites, maleic anhydride and maleimide copolymerizations, composite matrix resins, water soluble polymers (polyelectrolytes), and cyclic imino ether synthesis and step-growth polymerizations. Most recently, his studies have focused on photo-polymerizable, hyperbranched polymers and nanocomposite materials, for formulating new polymeric materials for biomedical applications.

Professionally, he is a past chairman of both the Columbus Section and the Polymer Chemistry Division of the ACS, and past editor (1982-1998) of *Polymer Preprints*. He has served on the Editorial Board of *Macromolecules*, *The Journal of Macromolecular Science: Pure and Applied Chemistry*, and *Polymers for Advanced Technologies*. He has chaired many symposia at ACS and other venues and he has been active in both the POLY and PMSE divisions of the ACS. Past recognition of his research and other accomplishments include the Columbus Section Award in 1982, the Polymer Division Service Award in 1986 and 1994, citation as a Pioneer in Polymer Chemistry, and, most recently, the OSU Stazen Sr. Research Award (2001).



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2002 PMSE Fellow

Hiroshi Ito

IBM Almaden Research Center

Dr. Hiroshi Ito is a Research Staff Member at IBM Almaden Research Center in San Jose, CA. He obtained B.S. and M.S. degrees from the University of Tokyo. After receiving a Ph.D. in chemistry from the University of Tokyo in 1976, he worked as a research associate at the chemistry department of the State University of New York in Syracuse (1976-1980). He joined the IBM Research Division in San Jose in 1980 and has played a pivotal role in inception, development, and advancement of chemical amplification resists for use in the microlithographic technology.

Dr. Ito has also been active in fundamental research on polymer synthesis, reactivity and kinetics in polymerization, and spectroscopic characterization of polymers. He holds about 30 U. S. patents and has 180 publications in the area of microlithography and polymer chemistry. Dr. Ito is a recipient of the Arthur K. Doolittle Award (PMSE 1989), the Award of the Society of Polymer Science, Japan (1990), the Cooperative Research Award (PMSE 1994), the Photopolymer Science and Technology Award (Photopolymer Conference, Japan, 1997), and the Kosar Memorial Award (The Society of Imaging Science and Technology, 1999).



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2002 PMSE Fellow

Michael Jaffe

New Jersey Institute of Technology

Rutgers University

Professor Michael Jaffe is presently a faculty member at the New Jersey Institute of Technology and Rutgers University. He is the Director of the Medical Device Concept Laboratory and is Chief Scientist for Industrial Programs of the New Jersey Center for Biomaterials. Previously, he was a Research Fellow at the Hoechst Celanese Corporation, which he joined upon completion of his Ph.D. in Chemistry from Rensselaer Polytechnic Institute in 1967.

His work has focused on understanding the structure-property relationships of polymers and related materials, the application of biological paradigms to materials design, and the translation of new technology to commercial reality. He is a member of the National Materials Advisory Board, is a past chairman of PMSE, and currently is a PMSE councilor. He has authored more than 50 technical publications, six book chapters, and 14 patents.



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2002 PMSE Fellow

James E. McGrath

Virginia Polytechnic Institute and State University

Prof. James E. McGrath is the University Distinguished Professor of Chemistry and Director of the Materials Research Institute at Virginia Tech in Blacksburg, VA. He received his Ph.D. in Polymer Science from the University of Akron, Ohio in 1967. From then until 1975 he worked on polymer chemistry at Union Carbide Corporation, Bound Brook, NJ, becoming a Research Scientist and Group Leader.

For the past 27 years he has developed a strong research program at Virginia Tech. His most recent work has involved the synthesis and characterization of high performance matrix polymers and structural adhesives, new composite matrix and adhesive polymers for possible use in aerospace, new high-temperature polymer dielectrics for computer development, and new sulfonated aromatic polymers for proton exchange membranes (fuel cells).

Prof. McGrath is on the editorial boards of several journals, including Polymer and Journal of Polymer Science, Part A. He has been honored with numerous awards, including the Herman F. Mark Award (ACS 1996), the Plastics Hall of Fame (SPE, 1997), the Chemistry of Thermoplastic Elastomers Award (ACS, 2001), and the Award in Applied Polymer Science (ACS, 2002).



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2002 PMSE Fellow

Elsa Reichmanis
Bell Laboratories

Dr. Elsa Reichmanis is Bell Labs Fellow and Director of the Materials Research Department at Bell Laboratories, Lucent Technologies, Murray Hill, NJ. She received her Ph.D. (1975) and BS (1972) degrees in chemistry from Syracuse University, and joined Bell Labs in 1978 after completing a post-Doctoral Fellowship program.

Her research interests include the chemistry, properties and application of radiation sensitive materials, particularly as they relate to materials for photonics and electronics. She has published in a variety of areas ranging from synthetic organic and heteroaromatic chemistry to radiation chemistry of polymeric systems. She is author of over 100 publications, the holder of several patents and editor of four books.

Dr. Reichmanis was presented with the 1993 Society of Women Engineers Achievement Award; she was elected to the National Academy of Engineering in 1995, and was awarded the ASM Engineering Materials Achievement Award in 1996. In 1997, she was elected Fellow of the AAAS. She is the recipient of a 1998 Photopolymer Science and Technology Award, was the 1999 ACS Applied Polymer Science Awardee, and is the 2001 Perkin Medalist. She was Chair of PMSE in 1995, was a Member of the National Materials Advisory Board, and is a current member of the Air Force Science Advisory Board. She is also Associate Editor of Chemistry of Materials. In addition she has been elected as ACS President-elect for 2002.



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2002 PMSE Fellow

Leslie Sperling

Lehigh University

Dr. Leslie Sperling is Professor and Director of the Engineering Polymers Laboratory of Materials Research Center at Lehigh University, and also serves as the Chairman of the Education Committee of the Center for Polymer Science and Engineering. He earned his Ph.D. in Chemistry at Duke University in 1959, and from 1958 to 1965, he was employed by the Buckeye Cellulose Corporation, Memphis, Tennessee. During this period, he was also a night instructor at Christian Brothers College in Memphis. From July, 1965 to May, 1967, he was postdoctoral research associate at Princeton studying under Dr. A. V. Tobolsky. Dr. Sperling joined the staff of Lehigh University in June, 1967 as Assistant Professor of Chemical Engineering and Senior Staff Member, Materials Research Center.

His present research interests include the molecular basis of fracture in plastics, metastable phase diagrams and properties of interpenetrating polymer networks, and sound and vibration damping. He has published ten books and over 250 papers in these areas. He has chaired several symposia at ACS meetings, and for the past twelve years, he has served as a Member-at-Large for PMSE.



DIVISION OF POLYMERIC MATERIALS: SCIENCE & ENGINEERING

2002 PMSE Fellow

S. Richard Turner

Eastman Chemical Company

Dr. S. Richard Turner is currently a Research Fellow in the Polymers Technology Division of Eastman Chemical Company in Kingsport, TN. He received his Ph.D. in organic polymer chemistry from the University of Florida in 1971 and was a postdoc in polymer chemistry in Darmstadt, Germany. After working in the research labs of Xerox and Exxon, he joined the Research Laboratories of Eastman Kodak Company in 1982 and transferred to the Eastman Chemical Company in 1993.

He has been actively involved in various aspects of PMSE governance since 1983 and served as PMSE chairman in 1992, and was General Secretary of the Macromolecular Secretariat in 1995. He currently serves the Division as Symposium Funding Chairman and PMSE representative to the Macromolecular Secretariat. He is a member of the Advisory Board of the Petroleum Research Fund, has served on several NSF review panels, and is an editorial board member for *J. Poly. Sc. - Part A: Polym. Chem.*, and *J. Macromol. Sci. - Rev. Macromol. Chem. Phys.* He holds 85 patents and has 75 publications in various areas of polymer chemistry.



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2002 PMSE Fellow

Paul L. Valint, Jr.

University at Buffalo, The State University of New York

Dr. Paul L. Valint, Jr. is a Research Professor in the Chemistry Department of the University at Buffalo, The State University of New York. He recently retired as Senior Research Fellow in Global Scientific Affairs of Bausch & Lomb's Vision Care Division. He received his Ph.D. degree in chemistry at Seton Hall University, followed by a year of postdoctoral research at the University of Maryland.

His career in industrial research has spanned 34 years at Exxon Research and Engineering Co. and at Bausch & Lomb. He has 67 U.S. patents and 120 publications and presentations in various areas including agricultural chemicals, water soluble polymers and surfactants for enhanced oil recovery and new materials for contact lenses and the surface modification of contact lenses.

He is Past President of the Surfaces in Biomaterials Foundation and is the current Vice Chair of PMSE. He was the recipient of the Clifford C. Furnas Memorial Award for 2000 from the State University of New York at Buffalo for distinguished achievement in the fields of chemistry and chemical technology at the national and international levels, in academic circles and in industry.



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2002 PMSE Fellow

Mitchell A. Winnik

University of Toronto

Professor Mitchell A. Winnik obtained his Ph.D. degree in the area of organic chemistry at Columbia University in 1969 under the direction of Prof. Ronald Breslow. He then spent a year as a postdoctoral fellow in the laboratory of Prof. George Hammond at the California Institute of Technology studying organic photochemistry. He joined the faculty at the University of Toronto in 1970, and received tenure as an organic chemist. On his first sabbatical, in Bordeaux France, he chose to switch his interest to polymer chemistry.

Since the late 1970's, he and his coworkers have been examining various applications of fluorescence spectroscopy to polymers, particularly in the study of polymer-polymer interfaces. These studies have include work on latex dispersions, polymer blends, water soluble polymers, and the formation of cylindrical and tubular micelles from inorganic block copolymers.

Prof. Winnik has received the Bell Forum Award for excellence in University-Industry research interactions and an Alexander von Humboldt Senior Scientist Award. He and his coworkers received three first place Roon awards (1991, 1995, 1998) for contributions to the coatings literature. For his work on waterborne coatings and he received the R. W. Tess Award (PMSE, 1999) and the 2001 Matiello Lecture Award. He is a Fellow of the Royal Society of Canada. In 1998, he was awarded the title University Professor, the University of Toronto's highest award in recognition scholarly excellence.