

# PMSE NEWS

Polymeric Materials: Science and Engineering Division of the American Chemical Society  
**SPRING 2002**



## WORDS FROM OUR CHAIR Larry F. Charbonneau

It is my pleasure to serve you as Chair of PMSE in 2002. By the time one becomes Chair of PMSE, he/she has accumulated many years of service to the Division. For example during the last ten years I have chaired the Newsletter/Publicity Committee, the Finance and Investment Committee, and the Program Committee. During these past ten years I have witnessed the PMSE Division grow stronger in financial health, thanks to fiscally responsible management and astute investment policy.

Our programming, which is the major reason for our existence, has continued its excellence in programming by continuing to acknowledge our roots in coating technology while sponsoring Symposia in the cutting edge areas of polymer and material science. Our continuing challenge, especially during the current economic recession, is to support high quality Symposia with outstanding invited speakers while maintaining the excellent financial health of PMSE that has been developed over the past 10 years.

The publication of PMSE Preprints is our Divisions major expense; however, the content of the Preprints is a major if not the major benefit to PMSE members. Hence we have examined ways to reduce the publication cost of the Preprints while attempting to keep their value. Starting with the Spring 2002 issue, the PMSE Preprints has gone paperless! This edition of the Preprints is only produced in CD-ROM format. Additionally, members can view the Preprints on-line. My predecessors, Chris Ober and Peggy Cebe have guided us to this milestone over the past few years. First we transitioned to "paperless" input where abstracts and Preprints were only accepted on-line. And with the current edition of the Preprints the output is also paperless. During his tenure as Chair, Chris Ober appointed Peggy Cebe as Chair of the Electronic Preprint Committee. During her tenure as Chair-Elect, Peggy Cebe guided us through the conversion to on-line submission of Preprints, and then as Chair she led us through the conversion from Paper Preprints to CD-ROM. I thank

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## WORDS FROM OUR PAST CHAIR Peggy Cebe



Dear PMSE Members and Friends,  
The past year has been a very eventful one for PMSE, with many important changes happening one after another. It was the first year in which submissions of abstracts and Preprints for both Spring and Fall National ACS meetings were handled through the OASYS. All of us are now becoming very familiar, possibly even comfortable, with operations like "browsing" and "downloading." We chuckle now to think that some of us had no e-mail capability just two years ago (I won't name any names – you know who you are!!) We have been pushed and pulled into the electronic and communications revolution faster than I could have imagined.

Our first CD-ROM version of the Preprints, replacing our printed version, will be coming to you very shortly thanks to the Electronic Preprints Committee, especially Elliot Douglas and Eileen Ernst. The final decision to go 100% electronic was made more than a year ago, based largely on the unsustainable costs of mailing and producing the Preprints book, which had greatly expanded in size.

The rapid growth in the Preprints volume was of course due to the excellent programming of symposia at the National meetings, and the ease of submission engendered by OASYS. This has created some troubles of its own, viz., the last minute final submission of 80% of the contributions, and the attendant clogging of the system. But technical programming remains one of PMSE's great strengths. We continue to update future programs constantly, so as to program on topics of great current interest to polymer scientists and engineers, such as biotechnology, nano-scale patterning, and supercritical fluids.

The PMSE Fellows Program is a stunning success, thanks to the efforts of Don Schultz and Dave Lohse who were instrumental in organizing this new Award. It is wonderful indeed to honor those members of PMSE who have contributed to our division scientifically and technically, or through dedicated service. This program has garnered PMSE immense positive publicity, because of the pre-eminence of the chosen Fellows. Among the

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## WORDS FROM OUR CHAIR, *continued*

Chris Ober and Peggy Cebe for their leadership, and also sincerely thank Elliot Douglas and other Electronic Preprint Committee members for their work in managing the logistics that culminated in the production of the first PMSE Preprint CD-ROM. Additionally, I ask that you stop by the PMSE table in Orlando and thank our Administrative Assistant, Eileen Ernst, for her tireless effort in working through the inevitable bugs that were a part of our paper to paperless transition.

The PMSE Programming Committee, led by Alec Scranton, has arranged several interesting Symposia for our Spring 2002 meeting in Orlando, and the Fall meeting in Boston. I urge you to suggest Symposia for future meetings by submitting your ideas and proposals to the Programming Committee. The Programming Committee will meet in Orlando to consider suggested Symposia for future meetings. We are especially interested in Symposia that are collaborations with other ACS Divisions, and with relevant non-ACS organizations.

One of the highlights of PMSE Spring Meetings is the Award Luncheon and Award Reception. I urge you to attend these functions and congratulate the Awardees, including the latest class of PMSE Fellows. Tickets for the Monday Award Lunch may be purchased during registration and at the ACS ticket booth during the meeting. The Monday evening Award Reception is funded by contributions, and is open to all ACS members.

Finally, I am writing this message in December 2001, as many of our Countries are at war against international terrorism. I offer my deepest sympathy to our members who have lost family and friends because of terrorist acts, or because they were put in harm's way while serving in the military. I also regret that some of you may be suffering directly or indirectly because of war related job loss.

I look forward to seeing you in Orlando.

Larry F. Charbonneau

PMSE Chair

## PMSE Technical Program Highlights: Orlando, April 2002

At the 223<sup>rd</sup> ACS national meeting (April 7-11, 2002) in Orlando, FL PMSE will sponsor or co-sponsor ten symposia in frontier areas of polymer science and engineering. Not counting presentations in the two co-sponsored symposia, there are a total of 264 oral or poster contributions. As always, the Division will have a General Papers/New Concepts in Polymeric Materials symposium, organized by Paul Valint, for those ideas that do not fit neatly into one of the featured symposia at the meeting. This symposium will be run on Sunday afternoon from 1:30 until 4:10. There will be a joint poster session with the Polymer Division on Tuesday evening from 6 – 8 pm. Sci-Mix, a regular feature of American Chemical Society Meetings, is a general poster session that will be held on Monday evening from 8-10 pm. Almost all ACS divisions are represented at Sci-Mix, so it provides an ideal forum for viewing posters on a wide range of topics.

Gregory A. Sotzing (U. Connecticut) and John R. Reynolds (U. Florida) have organized a symposium entitled "Advances in Electroactive Polymers" that will encompass topics ranging from general theory and synthesis of intrinsically conducting polymers to the application of ICPs and related electroactive materials as sensors, actuators, capacitors, transistors, electrochromics and photovoltaics. Invited speakers include Nobel Laureate Alan MacDiarmid, Arthur Epstein, Timothy Swager, Richard McCullough, David Whitten, John Ferraris, Rigoberto Advincula, Sankaran Thayumanavan, Martin Bryce, Peter Bauerle, Pierre Audebert, Toribio Otero, and Bert Groenendaal.

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## PAST CHAIR, *continued*

ACS divisions, PMSE is the only one to honor members with Fellowship status (though I predict that other divisions may follow suit before too long).

The division remains in excellent financial health. Our investments are not immune to the decline in the economy, but John Lupinski has managed them wisely and conservatively. The production and mailing costs of the two Preprint volumes were a significant burden in '01, and the positive effect of the moving to the CD-ROM should be felt immediately in reducing our operating costs for '02.

I thank my predecessors, former Chairs of PMSE, Dave Lohse, Dave Coccuzzi, and Chris Ober, who have been sources of guidance and inspiration during my own term. I am turning over the care of the division to a most able successor, Larry Charbonneau. Most of the hard labor fell to Larry and Eileen Ernst, our administrative aide. It is absolutely the case that I could not have done my job without the support of all the other PMSE volunteers. It has been a great pleasure to serve you as PMSE Chair, and to have made so many good friends among you.

Peggy Cebe



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## SYMPOSIA FOR ORLANDO • APRIL 7-11, 2002

**Advances in Electroactive Polymers.** Gregory Sotzing, Univ. of CT, Storrs, CT 06269, (860) 486-4619, FAX (860) 486-4745 sotzing@mail.ims.uconn.edu; John R. Reynolds, Univ. of FL, Dept. of Chem., Box 117220, Ctr. For Macromolecular Sci. & Engg. CRB 127, Gainesville, FL 32611, (352) 392-9151, FAX (352) 392-9741, [reynolds@chem.ufl.edu](mailto:reynolds@chem.ufl.edu).

**Advances in Organometallic Polymers.** Charles E. Carraher, Dept. of Chem. and Biochem. and Florida Ctr. for Environmental Studies, FL Atlantic Univ., Boca Raton, FL 33431, (561) 297-2107, FAX 561-297-2759, [carraher@fau.edu](mailto:carraher@fau.edu); John Sheats, Dept. of Chem., Rider Univ., Lawrenceville, NJ 08648, (609) 895-5413, [sheats@rider.edu](mailto:sheats@rider.edu); Charles Pittman, Dept. of Chem., Box 9573, MS State Univ., MS State, MS 39762, (662) 325-7616, FAX (662) 325-7611, [cpittman@ra.msstate.edu](mailto:cpittman@ra.msstate.edu); Martel Zeldin, Hobart & William Smith College, Dept. of Chem., Geneva, NY 14456, (315) 781-3613, FAX (315) 781-3860, [zeldin@hws.edu](mailto:zeldin@hws.edu); Alaa S. Abd-El-Aziz, Alaa S. Abd-El-Aziz, Dept. of Chem., Univ. of Winnipeg, 515 Portage Avenue, Winnipeg, MB R3B 2E9, Canada, [abdaziz@uwinnipeg.ca](mailto:abdaziz@uwinnipeg.ca)

**Non-Metallocene Single-Site Polymerization Catalysts.** Gregory G. Hlatky, Equistar Chemicals, LP, 11530 Northlake Dr., Cincinnati, OH 45249, (513) 530-4004, FAX (513) 530-4206, [Gregory.Hlatky@Equistarchem.com](mailto:Gregory.Hlatky@Equistarchem.com); Abhi O. Patil, ExxonMobil Res. & Engg. Co., Rt. 22 E., Annandale, NJ 08801 (908) 730-2639, FAX (908) 730-2536, [aopatil@erenj.com](mailto:aopatil@erenj.com).

**Polymers from Renewable Resources.** Zoran Petrovic, Pittsburg State Univ., 1501 S. Joplin, Shirk Hall, Pittsburg, KS 66762, (316) 235-4928, FAX (316) 235-4919, [zpetrovi@pittstate.edu](mailto:zpetrovi@pittstate.edu); John Dorgan, Colorado School of Mines, Chem. Engg. Dept. Golden, CO 80401, (303) 273-3179, FAX (303) 273-3730, [jdorgan@mines.edu](mailto:jdorgan@mines.edu); Mehmet A. Gencer, IMET Corp., 520 S. Main St., Akron, OH 44311, (330) 535-7478, FAX (330) 534-7479, [gencer@imet.net](mailto:gencer@imet.net).

**Multi-Layered Polyelectrolyte-Based Materials: Synthesis, Characterization and Applications.** (Cosponsored COLL; COLL is primary sponsor). Nicholas A. Kotov, OK State Univ., Chem. Dept., 107 PS I, Stillwater, OK 74078, Frank Caruso, Max Planck Inst. of Colloids & Interfaces, Potsdam D-14424 Germany; Merlin Bruening, MI State Univ., E. Lansing, MI 48824.

**Structure, Deformation and Fracture in Semicrystalline Polymers.** Hung-Jue Sue, Dept. of Mech. Engg., Texas A & M Univ., College Station, TX 77843-3123, (979) 845-5024, FAX (979) 862-3989, [acs2002@ptc.tamu.edu](mailto:acs2002@ptc.tamu.edu); Mary Boyce, Dept. of Mech. Engg., MIT, Bldg. 1, Rm. 304, 77 Massachusetts Ave., Cambridge, MA 02139, (617) 253-2342, FAX (617) 258-8742, [mcboyce@mit.edu](mailto:mcboyce@mit.edu).

**Team Innovation Award in Honor of Karl Amundson, Zhenan Bao, Ananth Dodabalapur, Paul Drzaic and John Rogers.** Elsa Reichmanis, Bell Laboratories, Lucent Technologies, 600 Mountain Ave., Rm. 1D-260, Murray Hill, NJ 07974, (908) 582-2504, FAX (908) 582-4868, [er@lucent.com](mailto:er@lucent.com).

**General Papers/New Concepts in Polymeric Materials.** Paul L. Valint, Dept. of Chem., Univ. at Buffalo, State Univ. of NY, Buffalo, NY 14260, (716) 645-6800, FAX (716) 645-6963, [plvj@aol.com](mailto:plvj@aol.com).

**Cooperative Research Award in Honor of Ingo Pinnau and Benny Freeman.** Donald R. Paul, Dir., Dept. of Chem. Engg., TX Mats. Inst., Univ. of TX at Austin, Austin, TX 78712, (512) 471-5392, FAX (512) 471-0542, [drp@che.utexas.edu](mailto:drp@che.utexas.edu); Richard Baker, Membrane Tech. & Res., Inc., 1360 Willow Rd., Ste. 103, Menlo Park, CA 94025, (650) 328-2228, Ext. 111, FAX (650) 828-6580, [ipin@mtrinc.com](mailto:ipin@mtrinc.com).



**For more details on the PMSE program in Orlando, please visit our website at:**

<http://membership.acs.org/P/PMSE/meetings/past/spring2002/spring2002programs.html>

## ***Elsa Reichmanis Wins ACS Election as President-Elect for 2002***

Elsa Reichmanis, Director of Advanced Materials Integration at Bell Laboratories, Lucent Technologies, Murray Hill, New Jersey, will serve as ACS president in 2003 and as a member of the board of directors from 2002 to 2004. She garnered 57% of the vote in the national election with William F. Carroll, Jr., Vice President of Chlorovinyl Issues at Occidental Chemical Corporation in Dallas.

Elsa has served for more than 15 years as a key leader in the PMSE division, advancing its technical excellence, its effectiveness in education, its outstanding programming, and its attraction to talented young scientists and engineers. Joining the PMSE executive committee in 1986, she initially focused on PMSE's publications and programming. After her initial work in these areas, Elsa has served PMSE as secretary, vice-chair, and subsequently chair in 1995. Currently, she serves as PMSE Councilor, a position she will now have to resign.

Clearly enthusiastic about the opportunity to serve as president of the ACS, Elsa plans to emphasize communication with both our nation's leadership and the public at large concerning the vital contributions of the chemical sciences to the welfare of our country. Under her leadership, the ACS will champion strong governmental support of fundamental chemical research. "We must develop a shared understanding that fundamental research in our discipline creates an enabling infrastructure that supports all those technologies that are key to the health and welfare of our nation," she says. In addition, she plans, as president, to establish mechanisms to facilitate technical programs in rapid growth areas that are increasingly occurring in multidisciplinary areas.

Elsa has served our division well. We wish her outstanding success as leader of the American Chemical Society.



## ***ICI Student Award in Applied Polymer Science***

*Submitted by: John S. Thomaidis, Chair, ICI Student Award Committee*

The ICI Student Award in Applied Polymer Science is sponsored by the Joint Polymer Education Committee of the ACS Divisions of Polymeric Materials: Science and Engineering and Polymer Chemistry and is generously supported by ICI. This year's winner was Brian E. Priore. Brian is a graduate student at Carnegie Mellon University where his advisor is Professor Lynn M. Walker, and the title of his paper, which was presented at the Fall 2001 ACS National Meeting in Chicago, Illinois, was *Coalescence Analysis of Immiscible Polymer Blends via Droplet Break-up Technique*. The other finalists who presented papers at the Award Symposium were: Christopher L. Lester (University of Southern Mississippi); Robert T. Mathers (The University of Akron); Denise Wade Rafferty (Case Western Reserve University); Osman Rathore (Cornell University); and Sucharita Roy (University of Massachusetts Lowell). The award will be presented to Brian at upcoming Spring 2002 ACS National Meeting.

The 2001 ICI Student Award Symposium was the last one organized and presided over by Dr. Elsa Reichmanis. After 6 years as Chair of the ICI Student Award Committee, preceded by more than 10 years as a committee member, she has "passed the baton" to a new group consisting of Dr. John S. Thomaidis (National Starch and Chemical Company), Dr. Thomas Hahn (National Starch and Chemical Company), and Dr. Abhimanyu Patil (ExxonMobil Research and Engineering Company). John Thomaidis will chair the committee in 2002. Instructions regarding the application procedure for the 2002 ICI Student Award are available from the Chair and can be obtained by writing to him at:

Dr. John S. Thomaidis  
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Applications and preprints for the 2002 Award must be submitted by **March 1, 2002**.



## **Winners Announced for the 2002 Award for Cooperative Research in Polymer Science and Engineering**

Professor Benny Freeman of the Chemical Engineering Department at North Carolina State University (NCSU) and Dr. Ingo Pinnau of Membrane Technology and Research (MTR) are winners of the 2002 Award for Cooperative Research in Polymer Science and Engineering presented by the American Chemical Society's (ACS) Division of Polymeric Materials: Science and Engineering (PMSE). Dr. Loren Hill, chairman of the PMSE Cooperative Research Award Committee, announced the award, which has been presented annually since 1992, when it was endowed by a gift from the Eastman Kodak Company to PMSE.

Dr. Freeman, Professor and Associate Department Head of Chemical Engineering at NC State, and Dr. Pinnau, Principal Scientist at MTR, won the 2002 award based on sustained, significant contributions in the areas of gas, vapor, and liquid separations using polymer and polymer-based membranes. Their pioneering research has identified fundamental limitations of existing membranes and led to new materials that elegantly circumvent these limitations. For example, they identified new polymers and polymer-based nanocomposites that, in contrast to conventional polymer membranes, are much more permeable to larger, more soluble molecules (e.g., *n*-butane) than to smaller molecules (e.g., methane). Membranes prepared from such polymers enable selective separation of volatile or toxic organic vapors from air gases and removal of condensable hydrocarbons from natural gas for dewpoint and heating value control. They have recently conceived of and reduced to practice the concept of applying thin (<1  $\mu\text{m}$ ), nonporous coatings of self-assembled block copolymers to the surface of conventional porous membranes for water treatment. These coatings reduce membrane fouling by more than 90% in some applications, such as purification of oily wastewater. Advanced membranes for drinking water production may also benefit from this approach.

Since 1994, their cooperative research has resulted in more than 25 joint publications, two ACS Symposium Series books, many jointly led conferences and symposia, more than 4 million dollars of Federal research support for cooperative research projects between MTR and NCSU, more than 20 joint oral presentations, and significant advancement of the field of novel separations using polymer membranes. Evaluators of the nomination were impressed by the quality of the scientific contributions and by the breadth of joint activities.

Professor Freeman is a recognized leader in the science of small molecule transport in polymers. Fundamental research in his laboratory bears directly upon membranes for liquid, gas, and vapor separations; controlled drug delivery devices and techniques; barrier plastics for food and specialty packaging; monomer and solvent removal from formed polymers; and physical aging of glassy polymeric materials and membranes. The National Science Foundation, National Academy of Engineering, the ALCOA Foundation, and the Japan Society for the Promotion of Science (JSPS) have recognized his research. Dr. Pinnau is an authority on polymer-based membranes for separations applications. He directs the materials and membrane production group at MTR, and he has developed a variety of polymeric, solid polymer electrolyte, metal, and nanocomposite membranes for next-generation separation applications in the chemical, petrochemical, and allied industries. He holds 22 U.S. patents and has been honored three times by his selection to receive a prestigious JSPS Fellowship.

For more information, contact:

Dr. Loren Hill  
Chairman, PMSE Cooperative Research Award Committee  
Tel: (413)596-4463

### **POLYMER STANDARDS FOR GPC/SEC MOLECULAR WEIGHT ANALYSIS GPC/SEC COLUMN REGENERATION**

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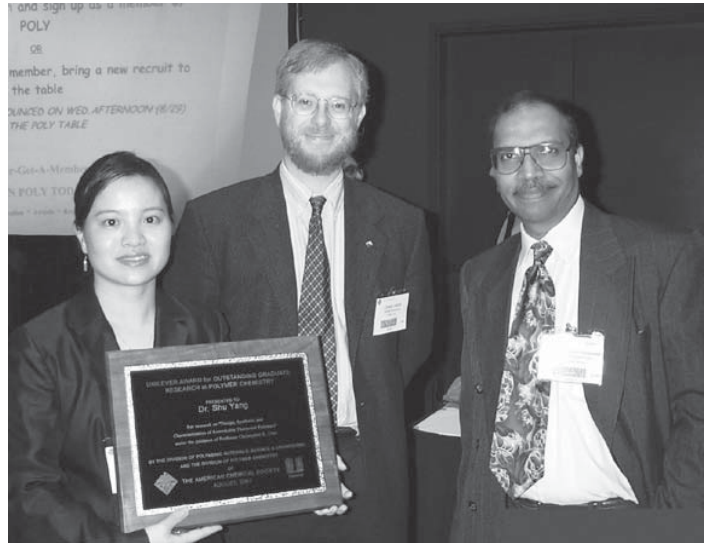


**PMSE Receives ChemLuminary Award**  
**Peggy Cebe** accepted the ChemLuminary award on behalf of the PMSE Technical division. PMSE's Fellows program, preprints, and electronic submissions through OASys-PMSE contributed to winning the award.



**Tess Award in Coatings Winner**  
**Frank N. Jones**, a Professor at Eastern Michigan University, received the award for his work in reducing pollution through development of high-solids and solvent-free coatings.

# A Look At Chicago



**Unilever Award Winner**  
**Dr. Shu Yang**, Lucent Bell Laboratories, with Prof. Chris Ober, advisor at Cornell University, and Anantha Padmnabhan Ph.D., Unilever Research. The award recognizes a recent Ph.D. graduate who has completed the most outstanding thesis in the design, synthesis and physical chemistry of polymers.



**Finalists for ICI Student Award in Applied Polymer Science**  
 Osman Rathore, Christopher Lester, Denise Wade Rafferty, Sucharita Roy, Robert Mathers, Brian Priore (award winner). **Brian Priore**, a graduate student in Professor Lynn Walker's group, won the award for his presentation entitled "Coalescence Analysis in Immiscible Polymer Blends via Droplet Break-up Technique."

# PMSE SYMPOSIA FOR FUTURE NATIONAL MEETINGS

## **BOSTON - August 18-22, 2002**

**Abstracts and PMSE preprints must be submitted electronically through ACS OASys (Online Abstract Submittal). Follow instructions given at <http://www.acs.org/meetings/>. Preprints must be submitted electronically through OASys as word processing or PDF files in conjunction with abstract submittal; approved templates for preprints may be downloaded at <http://membership.acs.org/P/PMSE/meetings/authinst.html>. For further information, see the published PMSE "Instructions for Authors" and home page, <http://membership.acs.org/P/PMSE/>. Deadline for submittal of abstracts and preprints is tentatively scheduled for March 29, 2002.**

**Application Rheology of Dispersed Systems.** (Cosponsored FSCT). J. Edward Glass, ND State Univ., Dept. of Polymers & Coatings, Fargo ND 58105, (701) 231-7128, FAX (701) 231-8439, [e\\_glass@ndsu.nodak.edu](mailto:e_glass@ndsu.nodak.edu); Rose Ryntz, Visteon Corporation, 401 Southfield Rd., P.O. Box 6231, Dearborn, MI 48121, (313) 755-6164, FAX (313) 755-0601, [rryntz@visteon.com](mailto:rryntz@visteon.com); Raymond Fernando, Air Products and Chemicals, Inc., 7201 Hamilton Blvd., Allentown, PA 18195, (610) 481-2602, FAX (610) 481-7923, [fernandrh@apci.com](mailto:fernandrh@apci.com).

**Biomacromolecules.** (Cosponsored MACR; MACR is primary sponsor). Timothy E. Long, Dept. of Chem., VA Polytechnic Inst. and State Univ., Davidson Hall (0212), Blacksburg, VA 24061-0212, (540)231-2480, FAX: 540-231-8517; [telong@vt.edu](mailto:telong@vt.edu)

**Control of Polymer Stereochemistry Using Single-Site Catalysts.** Geoffrey W. Coates, Baker Lab., Dept. of Chem. & Chem. Biology, Cornell Univ., Ithaca, NY 14853-1301, (607) 255-5447, FAX (607) 255-4137, [gc39@cornell.edu](mailto:gc39@cornell.edu); Robert M. Waymouth, Stanford Univ., Dept. of Chem., S G MUDD, Rm. 191, Stanford, CA 94305-5080, (650) 723-4515, FAX (650) 725-0259, [waymouth@leland.stanford.edu](mailto:waymouth@leland.stanford.edu).

**General Papers/New Concepts in Polymeric Materials.** A. Jay Dias, ExxonMobil Chem. Co., Baytown Polymer Ctr., 5200 Bayway Dr., Baytown, TX 77520-5200, (281) 834-5199, FAX (281) 834-2678, [jay.dias@exxonmobil.com](mailto:jay.dias@exxonmobil.com).

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**Imaging and Spectroscopic Techniques for Polymer Systems.** Alistair Westwood, ExxonMobil Chemical Co., Baytown Polymer Ctr., 5200 Bayway Dr., Baytown, TX 77520, (281) 834-5741, FAX (281) 834-1792, [alistair.d.westwood@exxonmobil.com](mailto:alistair.d.westwood@exxonmobil.com).

**Particle Size Assessment and Characterization.** (Cosponsored COLL). Theodore Provder, Polymers & Coatings Consultants, 26567 Bayfair Dr., Olmsted Falls, OH 44138, (440) 235-3680, FAX (440) 235-3512, [tprovder@worldnet.att.net](mailto:tprovder@worldnet.att.net); John Texter, Strider Res. Corp., 265 Clover St., Rochester, NY 14610 (716) 288-5913, FAX (716) 482-7795, [texter@striderresearch.com](mailto:texter@striderresearch.com).

**Polymers for Micro- and Nano-Electronics: From Synthesis to Applications.** Qinghuang Lin, IBM T. J. Watson Res. Ctr., P.O. Box 218, Rt. 134, MS 6-250, Yorktown Heights, NY 10598, (914) 945-2366, FAX (914) 945-2141, [qhlin@us.ibm.com](mailto:qhlin@us.ibm.com); Raymond A. Pearson, Dept. of Mats. Sci. & Engg., Lehigh Univ., 5 East Packer Ave., Bethlehem, PA 18015, (610) 758-3857, FAX (610) 758-4244, [rp02@lehigh.edu](mailto:rp02@lehigh.edu); Jeffrey C. Hedrick, IBM T. J. Watson Res. Ctr., P.O. Box 218, Rt. 34, Yorktown Heights, NY 10598, (914) 945-1563, FAX (914) 945-4033, [jhedrick@us.ibm.com](mailto:jhedrick@us.ibm.com).

**Polymers in Orthopaedics.** Anuj Bellare, Harvard Medical School, MRB 108, BWH, 75 Francis St, Boston, MA 02115, (617) 732 5864, FAX (617) 732 6705, [abellare@rics.bwh.harvard.edu](mailto:abellare@rics.bwh.harvard.edu); Lisa A. Pruitt, 5134 Etcheverry Hall, Univ. of California at Berkeley, Berkeley, CA 94720, OFFICE (510) 642-2595, LAB: (510) 643-3095, FAX (510) 643-5599, [lp Pruitt@newton.berkeley.edu](mailto:lp Pruitt@newton.berkeley.edu).

**Polymers in Photonics and Displays: Synthesis, Processing, and Devices.** (Cosponsored Optical Society of America, POLY) C. Allan Guymon, Dept. of Polymer Sci., Univ. of Southern MS, Southern Station 10076, Hattiesburg, MS 39406; Alex K-Y. Jen, Dept. of Mats. Sci. & Engg., Univ. of WA, Roberts Hall, Box 352120, Seattle, WA 98195-2120; Dick J. Broer, Philips Research Laboratories, Eindhoven Univ. of Tech., Holstlaan 4, 5656 AA Eindhoven, Netherlands.

**Shelf-Life of Polymers in Medical Devices.** Yu-Chin Lai, Bausch & Lomb, Inc., 1400 N. Goodman St., Rochester, NY 14692-0450, (716) 338-8711, FAX (716) 338-5304, [ylai@bausch.com](mailto:ylai@bausch.com); W. Shalaby, Poly-Med Inc. 6309 Hgwy. 187, Anderson, SC 29265, (864) 646-8544, FAX (864) 646-8547, [shalaby@poly-med.com](mailto:shalaby@poly-med.com).

**Synthetic Polymers in Ophthalmology.** Jay Künzler, Bausch & Lomb, 1400 N. Goodman St., Rochester, NY 14609, (716) 338-5286, FAX (716) 338-5304, [jkunzler@bausch.com](mailto:jkunzler@bausch.com); Miguel F. Refojo, Schepens Eye Res. Inst., Harvard Medical School, 20 Staniford St., Boston, MA 02114, (617) 912-7435, FAX (617) 912-0101, [mrefojo@vision.eri.harvard.edu](mailto:mrefojo@vision.eri.harvard.edu).

**Tess Award Symposium in Honor of Mohamed El-Aasser.** David R. Bauer, Ford Motor Co., MD-3182, SRL, P.O. Box 2053, Dearborn, MI 48121-2053, (313) 594-1756, FAX (313) 323-1129, [dbauer@ford.com](mailto:dbauer@ford.com).

**Unilever Award for Outstanding Graduate Research in Polymer Science and Engineering.** (Cosponsored POLY). Warren T. Ford, Dept. of Chem., OK State Univ., Stillwater, OK 74078, (405) 744-5946, FAX (405) 744-6007, [wtford@nmrserv.chem.okstate.edu](mailto:wtford@nmrserv.chem.okstate.edu).

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# 2002 PMSE Fellows

The following division members have been chosen as PMSE Fellows in the nomination and selection process which was completed in November of 2001:

**Bill Culbertson**

**Hiroshi Ito**

**Michael Jaffe**

**James McGrath**

**Elsa Reichmanis**

**Leslie Sperling**

**S. Richard Turner**

**Paul L. Valint**

**Mitchell A. Winnik**

This third class of PMSE Fellows will be inducted at the Awards Lunch at the Orlando ACS Meeting on Monday, April 8, 2002. PMSE is pleased to welcome this distinguished group of polymer scientists and engineers to the ranks of fellows. Following is a short description of each of them.

**Bill M. Culbertson** is 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 accomplish-



ments 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).



**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 Fellows

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.



**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).

**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.



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

(continued on page 10)

# 2002 PMSE Fellows

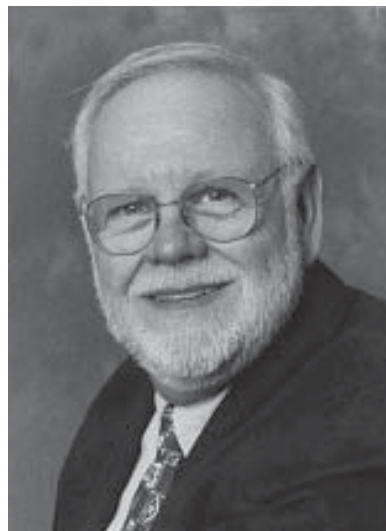
Chemistry at Duke University in 1959, and from 1958 to 1965, he was employed by the Buckeye Cellulose Corporation, Memphis, Tennessee. During this period, he was also a night instructor at Christian Brothers College in Memphis. From July, 1965 to May, 1967, he was postdoctoral research associate at Princeton 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.

**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.

**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 pre-



sentations 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.

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 chem-



ist. 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 included 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 Mantiello 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 of scholarly excellence.



# Nominating a PMSE Fellow

*The fellows program has worked well to recognize outstanding division members, and PMSE will be continuing it in the future. Nominations of candidates to be considered for induction at the Spring 2003 ACS meeting should be sent to the chair of the PMSE Fellowship Selection Committee by October 15, 2002 at the following address: David J. Lohse, ExxonMobil Research & Engineering Company, Route 22 East, Annandale, New Jersey 08801, Phone: (908) 730-2541, Fax: (908) 730-2536, e-mail: david.j.lohse@exxonmobil.com. Instructions for the nomination process can be found on the PMSE website, in the PMSE Newsletter, and in the PMSE Preprints.*

## PROCESS

- Candidates can be nominated by any PMSE member in good standing
- Nominations should be sent to the Chair of the Fellowship Selection Committee
- The nomination packet shall consist of:
  - At least two nomination letters by persons having first-hand knowledge and understanding of the nominees' accomplishments.
  - Supporting information (if available)
    - A key-point resumé
    - Any other written information describing the significance of the nominee's work (e.g. C&E News articles, etc.)
    - Testimonials by other cognizant parties (especially for proprietary work)

We recognize that many contributions that are worthy of recognition can be difficult to document when they are industrial developments of a proprietary nature. Thus, we will accept endorsements of such contributions without full disclosure of all details, provided such endorsements come from knowledgeable experts within the nominee's company.

- Selection shall be made by a majority vote of the Fellowship Selection Committee

## CRITERIA

- A PMSE member in good standing for at least 5 years
- Recognition for specific scientific or technological contributions to polymer materials science and engineering or applied polymer science
  - Examples
    - Development of a polymer characterization tool
    - Invention of a polymerization catalyst
    - Discovery of fundamental concepts or principles in polymer science or engineering
    - Leadership of/or substantial contribution to the commercialization of new polymeric materials or processes
    - Leadership of/or substantial contribution to the manufacture of polymeric materials or processes
    - Advancement of the science or engineering of polymeric materials.
    - (Co)Authorship of a significant paper in polymeric materials science and engineering
    - (Co)Inventorship of a key patent in an area of polymeric materials science and engineering
- Recognition of the overall advancement of the field of polymeric materials science and engineering or applied polymer science
  - Examples
    - Establishment of/or strong contribution to polymer education initiatives
    - Establishment of/or strong contributions to promoting a positive public image for polymeric materials and processes
- Services to PMSE
  - Substantial service to PMSE Division, while not a primary selection criterion, many be used as a secondary consideration for the selection of worthy candidates.



## ORLANDO, *continued*

Four sessions (Sunday and Monday morning (8 am – approximately noon) and afternoon (1 pm – 4:40 pm) will be held in this symposium.

Gregory G. Hlatky (Equistar Chemicals, LP) and Abhi O. Patil (ExxonMobil Res. & Engg. Co.) will lead a symposium entitled "Non-Metallocene Single-Site Polymerization Catalysts." Group 4 bis(cyclopentadienyl) and related constrained-geometry catalysts have been at the forefront of developments in single-site polymerization catalysis. Over the past few years, there has been more intensive research in industry and academia to prepare next-generation single-site catalysts. These catalysts are based on non-cyclopentadienyl ligands for early-transition metals and late transition metal complexes and have the potential to provide better control over polymer properties, yield unique polymer architectures, and incorporate some polar comonomers. The purpose of this symposium is to highlight the recent advances in non-metallocene polymerization catalysts and polymers. This symposium, which has four sessions, will be held Sunday and Monday morning (8 am – 11:30) and afternoon (1 – 4 pm).

Nicholas A. Kotov (OK State Univ), Frank Caruso (Max Planck Inst. of Colloids & Interfaces), and Merlin Bruening (MI State Univ.) have organized "Multi-Layered Polyelectrolyte-Based Materials: Synthesis, Characterization and Applications," which is co-sponsored with the Division of Colloid and Surface Chemistry. Multilayers based on polyelectrolytes and different colloids have become more versatile and better organized due to recent developments in the area. New functions of the multilayers are being investigated, including drug delivery, gas separation, rendering surfaces biocompatible, and formation of electrical devices. A better understanding of the structure of these films is being achieved with new techniques such as electrochemical methods and nuclear magnetic resonance spectroscopy. This symposium comprises eight oral sessions and will run from Sunday Morning through the end of the day on Wednesday. There is also a poster session on Monday evening.

Hung-Jue Sue (Texas A & M Univ.) and Mary Boyce (MIT) have organized a five session symposium on "Structure, Deformation and Fracture in Semicrystalline Polymers." This symposium runs Monday afternoon (1:25 – 4:55), Tuesday morning (9 – 11:50) and afternoon (2 – 5:20), and Wednesday morning (8:30 – 11:50) and afternoon (2 – 5:30).

Zoran Petrovic (Pittsburg State Univ.) John Dorgan (Colorado School of Mines), and Mehmet A. Gencer (IMET Corp.) have organized the first National ACS symposium on "Polymers from Renewable Resources." This symposium brings together a distinctive collection of experts in the field from around the world to address important issues about sustainability in the plastic industry. Representatives from both industry and academia will speak about new developments in the field. Particularly noteworthy is the new commercialization of polylactides from Corn discussed by Pat Gruber from the Cargill-Dow Company. In addition, other plant based polymers available from starch and from soy bean oil are topics receiving special consideration. The symposium has five sessions and meets on Tuesday

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## FUTURE NATIONAL MEETINGS, *continued*

### NEW ORLEANS – March 23-27, 2003

**Applications of Scanning Probe Microscopy to Polymers.** James D. Batteas, Dept. of Chem., CUNY-College of Staten Island, 2800 Victory Blvd., Staten Island, NY 10314, (718) 982-4075, (718) 982-3910, batteas@postbox.csi.cuny.edu; Gilbert C. Walker, Dept. of Chem., Univ. of Pittsburgh, Chevron Science Ctr., 219 Parkman Ave., Pittsburgh, PA 15260, (412) 383-9650, FAX (412) 383-9646, gilbertw+@pitt.edu.

**Functional Polymers.** Jean M. J. Frechet, Dept. of Chem., Univ. of CA – Berkeley, Berkeley, CA 94720-1460, (510) 643-3077, FAX (510) 643-3079, frechet@cchem.berkeley.edu.

**Gene-Based Medicine: Delivery and Diagnostics.** Steven M. Dinh, Emisphere Technologies, Inc., 765 Old Saw Mill River Rd., Tarrytown, NY 10591; (914) 785-4756, FAX (914) 593-8291, sdinh@emisphere.com; John D. DeNuzzio, Becton Dickinson Technologies, 21 David Dr., Research Triangle Park, NC 27709-2016, (919) 313-6127, john\_d\_denuzzio@bd.com.

**General Papers/New Concepts in Polymeric Materials.** A. Jay Dias, ExxonMobil Chem. Co., Baytown Polymer Ctr., 5200 Bayway Dr., Baytown, TX 77520-5200, (281) 834-5199, FAX (281) 834-2678, jay.dias@exxonmobil.com.

**In-Situ Characterization of Polymerization Processes.** Julie Jessop, Dept. of Chem. & Biochem. Engg., Univ. of IA, 125 Chemistry Bldg. Iowa City, IA 42242, (319) 335-0681, (319) 335-1415, julie-jessop@uiowa.edu.

**MALDI and ESI Mass Spectrometry Techniques for Polymers.** Mark E. Bier, Ctr. For Molecular Analysis, Dept. of Chem., Carnegie Mellon Univ., 4400 Fifth Ave., Pittsburgh, PA 15213, (412) 268-3540, FAX (412) 268-6897, mbier@andrew.cmu.edu; Robert P. Lattimer, Noveon, Inc., 9911 Brecksville Rd., Brecksville, OH 44141, (216) 447-5369, FAX (216) 447-5575, bob.lattimer@noveoninc.com.

**Polymer Brushes: From Synthesis to Functional Microstructures.** Rigoberto C. Advincula, Dept. of Chem., Univ. of AL at Birmingham, Chem. Bldg., 901 14<sup>th</sup> St., South Birmingham, AL 35294-1240, (205) 934-8286, (205) 934-2543, gobet@uab.edu; Jurgen Ruhe, Chem & Physics of Interfaces, Inst. for Microsystem Technology (IMTEK), Univ. of Freiburg, George-Köhler-Allee 103; 79110 Freiburg; Germany, +49 (0)7 61 / 2 03-7161, +49 (0)7 61 / 2 03-7162, ruehe@imtek.uni-freiburg.de

**Polymer Surfaces and Interfaces.** (Cosponsored COLL). Bryan Chapman, ExxonMobil Chemical Co., Baytown Polymers Ctr., 5200 Bayway Dr., Baytown, TX 77520, (281) 834-0216, FAX (281) 834-1793, bryan.r.chapman@exxon.com; Paul L. Valint, Dept. of Chem., Univ. at Buffalo, State Univ. of NY, Buffalo, NY 14260, (716) 645-6800, FAX (716) 645-6963, plvj@aol.com.

Cooperative Research Award

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## FUTURE NATIONAL MEETINGS, *continued*

### NEW YORK – September 7-11, 2003

**Advances in Epoxide and Polyurethane Coatings.** Mark D. Soucek, Dept. of Polymer Engg. Univ. of Akron, Akron, OH 44325-3909, (330) 972-2583, FAX (330) 972-2339, msoucek@uakron.edu.

**Assembly and Applications of Soft Interfaces.** S. Michael Kilbey, Dept. of Chemical Engineering, Clemson University, Clemson, SC 29634-0909, (864) 656-5423, FAX (864) 656-0784, mike.kilbey@ces.clemson.edu; Igor Luzinov, 263 Serrine Hall, School of Mats Sci. and Engg., Clemson Univ., Clemson, SC 29634-0971, (864) 656-5958, FAX (864) 656-5973, luzinov@clemson.edu.

**Ethylene Elastomers and Plastomers.** Sudhin Datta, ExxonMobil Chem. Co., Baytown Polymer Ctr., 5200 Bayway Dr., Baytown, TX 77520, (281) 834-5092, FAX (281) 834-2863, sudhin.datta@exxon.com.

**Nanostructured Liquid Crystal Materials and Applications.** L. C. Chien, Chemical Physics Program and Liquid Crystal Institute, Kent State Univ., Kent, OH 44242, (330) 672-3827, FAX (330) 672-2796, lcchien@lci.kent.edu; Timothy J. Bunning, Air Force Research Lab, MLPJ, 3005 P. St., Ste. 1, WPAFB, OH 45433, (937) 255-3808, x3167, (FAX (937) 255-1128, timothy.bunning@afml.af.mil

**Polymers as Additives.** Donald N. Schulz, ExxonMobil Res. & Engg. Co., Rt. 22 E., Annandale, NJ 08801, (908) 730-2526, FAX (908) 730-2536, donald.n.schulz@exxonmobil.com; Abhimanyu O. Patil, ExxonMobil Res. & Engg. Co., Rt. 22 E., Annandale, NJ 08801, (908) 730-2639, FAX (908) 730-2536, abhimanyu.o.patil@exxonmobil.com.

**Polymer Applications in the Personal Care and Pharmaceutical Industries.** Zahid Amjad, RNA Corp., 13740 S. Chatham St., Blue Island, IL 60406, (708) 597-7777, ext. 121, FAX (708) 497-8151, zahid@rnacorporation.com.

**Smart Nano-Assemblies.** Yuri M. Lvov, Inst. of Inst. of Micro-manufacturing, P.O. Box 10137, LA Tech. Univ., Ruston, LA 71272, (318) 257-5144, FAX (318) 257-5144, ylvov@coes.latech.edu; Fotios Papadimitrakopoulos, Inst. of Mats. Sci., U-36, Univ. of CT, Storrs, CT 06269-3136, (860) 486-3447, FAX (860) 486-4745, papadim@mail.ims.uconn.edu.

General Papers/New Concepts in Polymeric Materials

Tess Award Symposium.

ICI Student Award Symposium

### ANAHEIM – March 28-April 1, 2004

**Functional Polymer Thin Films for Switching, Sensing and Adaptive Applications.** Manfred Stamm, Institut für Polymerforschung Dresden, Hohe Strasse 6, 01069 Dresden, Germany, +49 351 4658 224, stamm@ipfdd.de; Curt Frank, Dept. of Chem. Engg., Stauffer III, 381 North-South Mall, Stanford Univ., Stanford, CA 94305-502, (650) 723-4573, curt@chemeng.stanford.edu; Sergey Minko, Institut für Polymerforschung Dresden, Hohe Strasse 6, 01069 Dresden, Germany, +49 351 4658 271, minko@ipfdd.de

**Interface of Polymers and Biomimetics.** Morley Stone, Rajesh Naik, Lawrence Brott, AFRL/MLPJ, Building 651, 3005 P St., Wright-Patterson Air Force Base, OH 45433-7702, (937) 255-3808 x3180, (937) 255-1128, morley.stone@afml.af.mil

**Polymer Films for Electronic Applications.** Qinghuang Lin, IBM T. J. Watson Research Ctr., P.O. Box 218, Rt. 134, MS 6-250, Yorktown Heights, NY 10598, (914) 945-2366, (914) 945-2141, qhlin@us.ibm.com

General Papers/New Concepts in Polymeric Materials

Cooperative Research Award Symposium

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### PHILADELPHIA – August 22-26, 2004

**Fire and Polymers.** Gordon Nelson, FL Inst. of Tech., College of Science & Liberals Arts, 150 W. University Blvd., Melbourne, FL 32901-6975, (407) 674-7260, FAX (407) 984-8864, nelson@fit.edu

General Papers/New Concepts in Polymeric Materials

Tess Award Symposium

ICI Student Award Symposium



## ORLANDO, *continued*

morning (8:50-11:20), Wednesday morning (8:30-10:20) and afternoon (1-4:30), and Thursday morning (8:30-10:50) and afternoon (1-3).

Dr. Benny D. Freeman (Univ. of Texas at Austin), and Dr. Ingo Pinnau (Membrane Technology and Research Inc.) are winners of the 2002 PMSE Cooperative Research Award in Polymer Science and Engineering sponsored by Eastman Kodak Company. Their work is in the areas of gas, vapor and liquid separations using polymer and polymer-based membranes. Their pioneering research has identified fundamental limitations of existing membranes and led to new materials that elegantly circumvent these limitations. For example, they identified new polymers and polymer-based nanocomposites that, in contrast to conventional polymer membranes, are much more permeable to larger, more soluble molecules (e.g., n-butane) than to smaller molecules (e.g., methane). Membranes prepared from such polymers enable selective separation of volatile or toxic organic vapors from air gases and removal of condensable hydrocarbons from natural gas for dewpoint and heating value control. They have recently conceived of and reduced to practice the concept of applying thin ( $<1\ \mu\text{m}$ ), non-porous coatings of self-assembled block copolymers to the surface of conventional porous membranes for water treatment. These coatings reduce membrane fouling by more than 90% in some applications, such as purification of oily wastewater. A two-session symposium, organized by Donald R. Paul (Univ. of Texas at Austin) and Richard W. Baker (Membrane Technology and Research, Inc.) will be held on Tuesday morning (8:25-12:00) and afternoon (1:30-5:05) in recognition of this award. Eighteen speakers from nine countries will participate in this symposium.

Zhenan Bao and John Rogers of Bell Laboratories, Lucent Technologies, Ananth Dodabalapur formerly from Bell Labs and now at the University of Texas, Austin, Karl Amundson of E-ink Corporation and Paul Drzaic now at Alien Corporation, are the recipients of this year's *ACS Award for Team Innovation sponsored by The Corporation Associates*. This interdisciplinary team of research chemists, chemical and process engineers and device physicists led a larger group responsible for the fabrication of the world's first, flexible, electronic paper prototype. They successfully took inventions relating to the design of electronic ink and organic semiconductor materials from research concept through device demonstration and prototype electronic paper implementation in the remarkably short time of one year. The innovation of a 25 square inch, 256 pixel display driven by an active matrix of transistors built on a flexible plastic substrate using low-cost fabrication techniques was announced to the public on November 20, 2000. Highlighted in this symposium will be talks by Bao, Rogers and Amundson, in addition to presentations related to self-assembly processes, organic photonic structures and novel electronic materials concepts by George Whitesides, Tobin Marks and Cherie Kagan. The symposium will take place on Tuesday afternoon from 1:10 until approximately 5:00.

"Advances in Organometallic Polymers" is a four-session symposium co-organized by Charles E. Carraher (Atlantic Univ.), John Sheats (Rider Univ.), Charles Pittman (MS State Univ.), Martel Zeldin (Hobart & William Smith College), and Alaa S. Abd-El-Aziz (Univ. of Winnipeg). Metal-containing polymers is a rapidly expanding area where we are often limited by our vision. Whereas most polymers utilize only about a dozen chemical elements, metal-containing polymers have at their disposal over a hundred different elements. The symposium will focus on a variety of metal-containing polymers, and more than half of the papers will be presented by international experts in the field. There will be two special sessions dealing with iron containing polymers. This symposium will meet on Wednesday morning (8:30-11:00) and afternoon (1:30-4:30) and Thursday morning (8:30-12:00) and afternoon (1:30-4:30).

The second co-sponsored symposium, "Chemistry and Engineering of Polyolefins," will be held on Tuesday evening as well as Wednesday and Thursday morning and afternoon. This symposium is co-sponsored with the Society of Plastics Engineers and the Division of Polymer Chemistry.

Please join us in Orlando for another outstanding PMSE program!



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### TENTATIVE LOCATIONS/DATES OF FUTURE NATIONAL ACS MEETINGS

|               |                             |
|---------------|-----------------------------|
| San Diego     | March 13-17, 2005           |
| Washington    | August 28-September 2, 2005 |
| Atlanta       | March 26-31, 2006           |
| San Francisco | September 10-15, 2006       |
| Chicago       | March 25-30, 2007           |

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