



Notes from the Chair

At the MESD Board Meeting at the 1999 AIChE Annual Conference I was pleased to welcome three new members to the Board: Second Vice-Chair John Torkelson (Northwestern University), and Directors David Mooney (University of Michigan) and Jackie Ying (M.I.T). These individuals bring many years of involvement in the materials community that will be valuable to the Division. I am looking forward to working with these new members. John Torkelson already has been very active in negotiating and planning sessions with other divisions for the 2001 Annual Meeting. Please contact him with questions or input regarding programming for that meeting.

The division had a strong showing in the program for the 1999 Annual Meeting, with sponsorship of 37 sessions in polymers, biomaterials, ceramics, electronic materials and composites. Beginning with the 1999 Annual Meeting, the format for the Stine Award Presentation has changed from an after-dinner address to a lecture in a special session consisting of plenary talks. This gives the division members a greater opportunity to attend the Stine Award Lecture and allows for overview talks in the diverse materials areas within the division. As recipient of the 1999 Stein Award, Dennis W. Hess led off the session with a fascinating overview of thin film processing and surface modification for integrated circuit fabrication. This presentation was followed with four plenary talks given by Klavs F. Jensen (M.I.T.), Mark Allendorf (Sandia), Buddy D. Ratner (University of Washington) and Frank S. Bates (University of Minnesota). Many thanks for this excellent session go to the outstanding speakers and to E. I. duPont de Nemours and Company for their financial support of the Stine Award and this plenary session.

Division Programming Chair Larry Duda and the area programming officers have been putting the final touches on an equally outstanding program for the 2000 Annual Meeting. At this meeting, the Division will sponsor its first Student Competition.

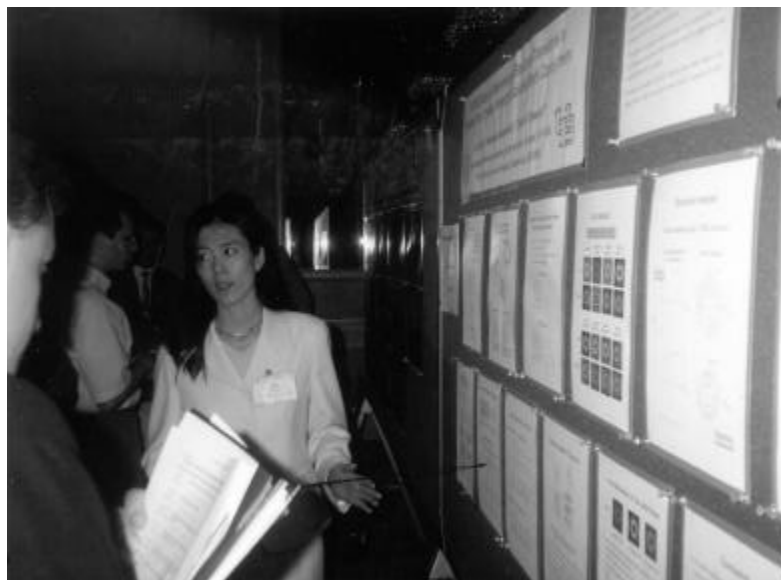
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The submission deadline for this session pre-dates the regular meeting submission date to permit the forwarding of papers not accepted for the Student Paper Session to other sessions. See the article on page 2 for more details. Another new session for the MESD division is entitled "Innovations in Materials Engineering Education." Please contact session chair Tim Anderson at the University of Florida (tim@nersp.nerdc.ufl.edu) for more information regarding this session.

In closing, I would like to thank Klavs Jensen, Jerry Bautista and Tim Anderson for all their help both with the meeting programming and providing guidance on the workings of the MESD division and AIChE. I also greatly appreciate the efforts of Doug Kalika (Webmaster), Stevin Gehrke (Secretary/Treasurer) and Brian Mitchell (Newsletter editor). These individuals have worked hard in supporting and serving the Materials community within AIChE.

-Sue Ann Bidstrup-Allen



Lin Yang, a student at SUNY-Buffalo, discusses her poster at the MESD Poster Session in Dallas, TX. Ms. Yang received a third place prize for her award (see complete story on page 4).

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Stine Award Nominations Sought

The Charles M. S. Stine Award, sponsored by E.I. duPont de Nemours & Company, recognizes an individual's outstanding contribution to the scientific, technological, educational or service areas of materials engineering and science. Selection criteria include:

1. Nominees must be members of AIChE.
2. The award can be given to an individual or a team.
3. Significant discoveries, important research, the development of new processes and products, the initiation of new materials and management, education concepts, or outstanding service to the materials community.

The deadline for submission of nominations is March 31, 2000. Nominations must be submitted by members of the division and can be sent to:

Materials Engineering & Sciences Division Awards Committee

Dr. Klavs Jensen, Chair

Dept. of Chemical Engineering, Room: 66-566
Massachusetts Institute of Technology
Cambridge, MA 02139-4307

Stine Award Recipients

Curry E. Ford (1979)
John L. Kardos (1981)
Alan S. Michaels (1982)
Nicholas A. Peppas (1984)
Donald R. Paul (1985)
Sheldon E. Isakoff (1986)
Stuart L. Cooper (1987)
Christopher W. Macosko (1988)
J. Larry Duda and James S. Vrentas (1989)
Curtis W. Frank (1990)
Robert S. Langer (1991)
Dale S. Pearson (1992)
Edward W. Merrill (1993)
Timothy J. Anderson (1994)
Klavs F. Jensen (1995)
Matthew V. Tirrell (1996)
Ilhan A. Aksay (1997)
Buddy D. Ratner (1998)
Dennis W. Hess (1999)

The award includes a plaque and \$1,000. The awardee(s) will be invited to deliver an address at the Fall Annual Meeting. For more information visit the award's website at:
www.aiche.org/awards/awarddtl.asp?AwardID=42

MESD Student Paper Competition to Begin in 2000

The division is pleased to initiate a new symposium for student papers, which will be co-chaired by John Ekerdt and Klavs Jensen. This symposium, to be held on Sunday, November 12, 2000, will consist of eight papers, selected by a committee. The purpose of this symposium is to highlight the original research of graduate students in the Materials Engineering and Sciences Division. The oral presentations will be judged and the top paper will be awarded a cash prize. Award money is being provided by the division.

The application process and deadlines are different from normal paper submissions to AIChE meetings. Students should supply the following documents in duplicate:

- A two-page abstract (12 point font, one-inch margins)
- A one-page CV
- A letter of support from the student's supervisor describing the student's original contributions to the research.
- An email address for all communication.

These materials are to be mailed to:

John G. Ekerdt
Department of Chemical Engineering
University of Texas at Austin
Austin, TX 78712

The materials will not be accepted electronically, and must be received in Austin on or before April 5, 2000. The committee will convene and decide which papers to accept for an oral presentation in the Student Paper Competition by April 26. All submitters will be notified by email if their paper

has been selected for an oral presentation in the Student Paper Competition. Those papers not accepted will have time to submit the paper to a regular session, which have deadlines of May 1. Students presenting a paper to the Student Paper Competition must agree not to also submit the paper to a regular session.

Materials Research Society Endorses National Nanotechnology Initiative

February 3, 2000, Pittsburgh, PA-The Materials Research Society (MRS) has communicated its "wholehearted support" for President Clinton's \$500M research budget for a new initiative in nanoscale research. This new funding, part of the Administration's FY2001 budget, marks an 84% increase in federal funding for nanoscience and nanotechnology R&D. MRS support was conveyed by MRS President Harry A. Atwater in a January 19 letter to Dr. Neal Lane, Assistant to the President for Science and Technology. In the letter, Prof. Atwater voiced the Society's support for nanoscale research as well as associated education and training to ensure the best-trained practitioners and lay citizenry that must participate in making related social decisions.

"The ability to control materials near the atomic level to alter properties, tailor their behavior, and to build unseen devices will bring about a revolution that is currently unimaginable," Atwater stated. He further noted that the multidisciplinary nature of nanotechnology is well-recognized by the Materials Research Society, whose 13,000 members work in the cross-disciplinary areas, including but not limited to, biology, biochemistry, solid state physics, materials science, and mechanical engineering. "We look forward to working with the President and Congress to build a bipartisan effort to make the Initiative a success," Atwater emphasized. President Clinton detailed his plan for an overall increase in science and technology funding of \$2.8B in a January 21 speech at the California Institute of Technology and last week to Congress during his

State of the Union Address. For the complete text of the MRS Nanotechnology Initiative letter, background on President Clinton's science and technology budget increase for FY2001 and speech at Cal Tech, see www.mrs.org/pa/nanotech.

Upcoming Meetings

219th ACS National Meeting

March 26-30, 2000
San Francisco, California

2000 MRS Spring Meeting

April 24-28, 2000
San Francisco, California

102nd AcerS Annual Meeting & Exposition

April 30 - May 3, 2000
St. Louis, Missouri

Third Joint China/USA Chemical Engineering Conference (ChChE-3)

September 25-28, 2000
Beijing, China

2000 AIChE Annual Meeting

November 12-17, 2000
Los Angeles, California

2000 MRS Fall Meeting

November 27 - December 1, 2000
Boston, Massachusetts

Pacificchem 2000

December 14-19, 2000
Honolulu, Hawaii

2001 AIChE Spring National Meeting

April 22-26, 2001
Houston, Texas

Annual Meeting Highlights

The Division was once again very active at the Fall Annual Meeting, which was held in Dallas, TX October 31 – November 5, 1999. A record total of 37 sessions were either sponsored or co-sponsored by the MESD, including a plenary session and two poster board sessions.

The plenary session, entitled “Frontiers in Materials Research,” included four invited speakers and featured, for the first time, the Stine Award Lecture. Dennis Hess of Georgia Tech, the 1999 Charles M.A. Stine Award winner, delivered his award lecture on “Thin Film Processing and Surface/Interface Modification for Integrated Circuit Fabrication,” which will be featured in an upcoming issue of the division newsletter. Invited lectures were given by Klavs Jensen of MIT, Mark Allendorf of Sandia National Laboratories, Buddy Ratner of the University of Washington, and Frank Bates of the University of Minnesota. Both Klavs Jensen and Buddy Ratner are former Stine Award recipients. The session was chaired by Sue Ann Bidstrup-Allen and Tim Anderson.



MESD Poster Session Winners (from left) Diana Hess (2nd place), Kathryn Berchtold (1st place), and Lin Yang (3rd place).

The Executive Meeting was held on Tuesday afternoon, and was attended by members of the division’s Executive Board, area representatives, and other interested parties. In addition to his duties as one of the division Directors, Matt Tirrell reported on his functions as the division liaison to the Chemical Technology Operating Council (CTOC). There are three operating councils that report to the AIChE Board of Directors. The CTOC is responsible for the technical content of the organization. Tim Anderson is the division’s alternate liaison to the CTOC. In other business, it was reported that division membership has declined by about 10% over the past two years. There was general agreement that recruiting efforts need to be strengthened. The division’s plenary session (see above) and Student Paper Competition (see article on page 2) were also discussed.

Submissions to the MESD Poster Board session were so numerous this year that they had to be grouped into two divisions. A total of 70 posters were presented in areas ranging from nanowires to



Incoming MESD Chair Sue Ann Bidstrup (left) runs the MESD Executive Meeting as Area 8f representative Guisepppe Palmese, 1st Vice Chair Larry Duda and Area 8a representative Doug Kalika participate.

plasma etching. Posters were judged by a panel of experts (Paul Van Tassel, Michael Tsapatsis and John Van Zanten), from which five “Finalists” were selected. Three awards were then given to the top posters. Kathryn Berchtold of the University of Colorado-Boulder received a first place prize of \$500 for her poster on the “Kinetics of Crosslinking Photopolymerizations of (Meth)Acrylic Monomers.” The second place award of \$300 went to Diana Hess of UC-Berkeley for her poster entitled “A Study of Phase Transition in a Polymer Blend using Rheology, Microscopy, and SALS.” Lin Yang of SUNY-Buffalo received a \$200 third place prize for her poster “A SANS Study of Shear-Induced Structural Transitions in Micellar Cubic Crystals Formed by Solvated Block Copolymers.” The other Finalists were K. S. Ziemer of West Virginia University, and Reidun E. Vold of Northeastern University. Jim Watkins and Chuck Manke were session chairs, and Dow Chemical and Procter and Gamble were industrial sponsors.

Area News

Area 8a: Polymers

The Area 8a programming meeting in Dallas featured the election of Paula Hammond (MIT) as Vice-Chair of the polymers area; Paula will serve as programming Chair for the 2002 and 2003 Annual Meetings. The program for the 2000 Annual Meeting features sessions in all of the core areas in which 8a has traditionally programmed: Structure and Properties of Polymers, Thermodynamics of Polymers, Polymer Thin Films and Interfaces (all co-sponsored with Area 1a), Diffusion in Polymers and Membranes (co-sponsored with Area 2d), Polymer Kinetics, Catalysis and Reaction Engineering (co-sponsored with Group 20) and Polymer Processing and Rheology. Additional

sessions include Structure and Properties of Polymers: Novel Characterization Techniques, and Solids Handling in the Polymer Industry (co-sponsored with Area 3c). Program planning is well underway for the 2001 Meeting in Reno as well. In addition to the core areas, proposed sessions include Polymers for Microelectronics, and Polymer Engineering Education.

-Douglass Kalika

Area 8d: Ceramics

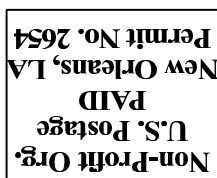
At the planning meeting at the Dallas 1999 Annual Meeting, all expressed appreciation for Jackie Ying's leadership for several years and for her coordination of 8d sessions at the Dallas 1999 and Los Angeles 2000 annual meetings. In Los Angeles there will be eight ceramics related sessions, including those cosponsored with Group 2 (Separations), Group 3 (Particle Technology Forum), and Group 20 (Catalysis and Reaction Engineering); proposals to present are being accepted now! Alon McCormick began coordinating session proposals for the Reno 2001 annual meeting. More than fifteen proposals were generated; these included proposals to cosponsor with Groups 2, 3, and 20 as before, and in addition proposals to cosponsor with the Molecular Simulation and Modeling topical conference. The list of sessions for the 2001 meeting will be available shortly; those that are not approved for 2001 will be given high priority for 2002.

-Alon McCormick

Did You Know...

The first “metallurgists” lived in the Zagros Mountains between eight thousand and four thousand years ago. Starting in western and central Turkey, the Zagros Mountains are a rocky area that stretches to the central desert of Iran, and contain a wealth of metallic ores. These metallurgists developed the process of heating copper-bearing rock (malachite) in the presence of carbon to produce metallic copper – what we now call “smelting”. Source: “Stuff,” I. Amato, Basic Books.

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