



Fall Meeting Highlights

The 2001 Fall Annual Meeting was held November 4-9 in Reno, NV. The MESD sponsored or co-sponsored a total of 54 sessions – fourth highest among the divisions.

Executive Council Meeting Minutes

The MESD Executive Council meeting was held in the Shasta 1 Meeting Room of the Reno Hilton in Reno, Nevada from 2-4 PM, on Tuesday, November 6, 2001. The following people were in attendance.

Name	Affiliation	2001 Office
Stevin Gehrke	Kansas State	Sec./Treasurer
Larry Duda	Penn State	Chair
Tim Anderson	U. of Florida	Director (2002)
Matthew Tirrell	UCSB	Past Chair, CTOC
Dennis Hess	Georgia Tech	Stine Award Chair
John G. Ekerdt	U. of Texas	Programming Chair
Giuseppe Palmese	Drexel University	Director (2002)
Amod A. Ogale	Clemson	Poster Session Chair
Sue Ann Bidstrup Allen	Georgia Tech	Past Chair
John M. Torkelson	Northwestern	1 st Vice Chair
Doug Kalika	U. of Kentucky	Webmaster
Christine Schmidt	U. Texas-Austin	MESD Area 8b Chair
Pete Ludovice	Georgia Tech	MESD member
Brian Mitchell	Tulane University	MESD Newsletter Editor
Annette (Sauer) Ngijol	AICHE headquarters	Staff
Don Baird	VA Tech	Director (2003)
Klavs Jensen	MIT	Past Stine Award Chair
Raj Krishnaswamy	Chevron Phillips	Director (2003)



John Torkelson (left) incoming MESD Chair, presents a plaque to J. Larry Duda (right) in recognition of his service to MESD.

1) Introduction and Elections - Larry Duda, Pennsylvania State

Larry Duda called meeting to order at 2:00 pm. Meeting attendees were introduced. L. Duda reviewed election results, about 11% of MESD members returned ballots. New officers were announced: Douglass Kalika, 2nd Vice Chair, Don Baird, MESD Director; Raj Krishnaswamy, MESD Director. This was the first year AICHE used electronic balloting. Many divisions had trouble with the e-ballots, but MESD seemed to have been relatively trouble-free.

2) Minutes of Last Meeting - Stevin Gehrke, Kansas State

Approved with the correction of Matt Tirrell's 2000 title; changed to Chair, Chemical Engineering Technical Operating Council (CTOC).

3) Secretary/Treasurer's Report - Stevin Gehrke, Kansas State

S. Gehrke presented the secretary/treasurer's report on finances and membership. At the end of the past membership year (8/31/01), the MESD had \$25,306.56 in its bank account, an increase of \$2,436.91 over the past year, and an increase of \$8,998.73 over the past three years. The primary reasons for the surplus has been an overall reduction in Division operating expenses and especially in the

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large reduction of cost of the newsletter since B. Mitchell began producing and mailing it from Tulane rather than using New York. The Council discussed whether the dues level was appropriate, or how the increased income could be most effectively used to promote materials within AIChE and the chemical engineering community at large. E.I. du Pont's continued support was recognized by the council. They have been the key corporate sponsor of the MESD over the past year, donating \$3,000 to cover the Stine award and honoraria for the invited award session speakers. L. Duda noted that last year we developed a policy to support to poster session awards with Division funds if corporate sponsors could not be found. A. Ogale noted that no poster awards were given this year, but plans will be made to resume this activity for next year. D. Kalika reviewed the process used in the past.

The declining membership trend in the MESD was halted this year, increasing by 3 members to a total of 581. M. Tirrell noted that membership is down across the Institute, and discussion ensued on the topic. Distributing membership flyers and asking members to recruit their materials-oriented colleagues was proposed.

4) Council Liaison (Past Chair CTOC) - Matt Tirrell, UC-Santa Barbara

Matt Tirrell continued discussion on the generally declining membership trends across institute. He reviewed other issues as also described in the minutes of CTOC at

<http://www.aiche.org/divisions/cdonov01.htm>

Tirrell outlined CTOC's expectations of the divisions, which include improved communications, and regular sharing of concerns with CTOC. He also explained that AIChE will pay particular attention to emerging technologies that could lead to the formation of interest groups, which could lead to new divisions. Tirrell suggested that some of the divisions might need to examine the relevance of their traditional approaches and, perhaps, reinvent themselves with an eye on the changing technical interests of chemical engineers. The Materials Engineering & Sciences Division has been asked to do a presentation of their activities and future plans at the next Council of Division Officers' meeting in Indianapolis, November

2002. CTOC may plan to have Saturday meetings prior to AIChE meeting to discuss divisions. MESD had not been invited before because the MESD is seen as healthy.

L. Duda brought up his concern that Materials areas are being dispersed among the Particle Technology Forum and Nanotechnology in addition to the MESD. M. Tirrell believes that these new developments would increase overall interest/attendance in AIChE meetings by materials-oriented individuals and companies – that's certainly the intention.

M. Tirrell noted that AIChE has some concern about its financial health – it needs to stabilize its financial situation. The last couple years were good, but this was artificial because of income from the sale of its former headquarters building. Hopefully AIChE's administration will be successful in its financial restructuring and get the Institute on a sounder financial footing.

T. Anderson (who will be Vice Chair of CTOC next year.) stated that the Executive Board Program Committee (EBPC) may look to restructure programming - some areas are very active, but others are not. MESD is doing well with its programming.

J. Torkelson and L. Duda brought up dissatisfaction with Chemical Engineering Progress – things like featuring a pump on the cover do not make CEP seem relevant to most chemical engineers. S. Gehrke is the current academic member on CEP's editorial board. He described the struggle to position CEP in a way that captured the breadth of chemical engineering audience on a limited budget. However, there is a new editor, Kristine Chin, who is actively soliciting new ideas for CEP to make it a 'must read' for the profession. MESD members can contact her directly, or else Gehrke is happy to forward comments and ideas to her. T. Anderson suggested that she contact NSF-funded Engineering Research Centers (ERCs) for story ideas – they usually try to disseminate timely material.

5) 2001 Program Chair Report - John Torkelson, Northwestern University

To open, J. Torkelson presented a "thank you" plaque to Larry Duda in recognition of his work as chair of the past year (see front page).



Left to right: J. Larry Duda, Amod Ogale, Giuseppe Palmese, John Ekerdt, Dennis Hess, Tim Anderson, Stevin Gehrke, discuss MESD membership numbers at the Executive Committee Meeting in Reno.

Preparation and execution of the Reno meeting have worked out pretty well in general. The location in Reno gave us plenty of space for sessions, as showed in a summary of sessions Torkelson passed out. MESD has 15% of the total number of sessions (over 300) at the meeting (including co-sponsored sessions) - which is a very positive indicator of division's programming success. Torkelson reviewed the numbers of submissions to sessions: some were cancelled because of low submission rates. Session chairs must be sure that they must receive at least 6 papers - we can't afford to cancel sessions in the future, as we will be more constrained in the future (especially at San Francisco). In terms of planning the Reno meeting, Esin Gulari was very effective as Meeting Program Chair; in some cases she was able to resolve session programming problems within 24 hours.

6) C. M. A. Stine Award - Klavs Jensen, MIT

K. Jensen has passed the responsibilities for the Stine Award, sponsored by duPont, on to D. Hess for the upcoming year. Jensen wants to be sure chemical engineering department heads are made aware of this award, as the number of nominations were down this year. We've been very successful with getting top quality candidates in the past and we want to maintain the high stature of the award. L. Duda thinks the low nomination numbers this year may simply be an anomaly. D. Hess asked how we

could increase the number of industrial nominees for the award. Suggestions included contacting industrial representatives to the Council for Chemical Research (CCR) and asking industrial members of the MESD members to nominate eminent people from within their companies. R. Krishnaswamy suggested we need to work hard to solicit more industrial participants for the MESD in general, from this they would get more awareness of the Stine award, the value of attending and presenting at the meetings, as well as the other activities of the MESD.

J. Torkelson noted that the MESD plenary speakers at Reno were not listed in the program book. J. Ekerdt noted that he did not get the list of speakers submitted this year in time to get it printed in the program. The difficulty was contacting and coordinating in timely fashion the discussion among the past 5 winners, who make the selection, and then arranging an appropriate slate of supporting speakers for the plenary session. Otherwise there would have been sufficient time to get the Stine Award session information listed in the program. We need to set the deadline for the award early enough so that the supporting plenary speakers can be invited well ahead of the deadline for the program. The Executive Council agreed to move the nomination deadline to February 15 to give us more time to arrange the supporting plenary session. This won't be effective until 2003 because the current deadline is already published for 2002.

L. Duda gave K. Jensen a plaque to thank him for his service leading this committee.

7) Website - Doug Kalika, University of Kentucky

D. Kalika has kept the site fairly basic so that it can be easily updated. He's willing to pass this responsibility on to another MESD member if someone else wants to revise and expand it. He didn't think it was necessary any longer to list all of the division's sessions on the site because this is now readily accessible from the main site. T. Anderson noted that AIChE also wants to get input from members to improve its site.

8) Newsletter - Brian Mitchell, Tulane University

B. Mitchell mailed out over 600 Spring 2001 newsletters. He did not create a summer issue since it normally featured election information, and now all

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the election information was available on the website. Thus there wasn't much information for a summer newsletter. The fall newsletter was sent out late because of late receipt of election results, so it didn't get to members ahead of the Reno meeting, unfortunately. The plan is to send out the Spring 2002 newsletter by March 31, 2002. It will follow the format of last year, with an address from the MESD chair and the minutes of this meeting. The Stine Award winner's article will be published in a future edition.

B. Mitchell really would like to get more content from area chairs or MESD membership to include in the newsletters. The council discussed whether we need to send out a summer issue anymore, now that candidate biographies and other election materials are all on the web now. Some Council members thought it could be worth sending out election information in duplicate. Ideas for new content included asking area chairs to write paragraphs on new developments in their areas, maybe promote their sessions set for the fall meeting. T. Anderson suggested that we also get session chairs to write a paragraph summary of their session's highlights following the meeting. The Council consensus was that the newsletters were an important benefit to the membership, and that we should continue sending a summer newsletter. The Council recommended that we revise the newsletter to include session chair summaries. L. Duda also suggested that we send out copies of the newsletter to more than just the membership in order to solicit new members.

9) 2002 Program Chair Report - John Ekerdt, University of Texas-Austin

J. Ekerdt passed out a summary of session information for 2002. The MESD was given 18 points to use in programming, with 1 point charged per session, 0.5 point per joint sponsored session. The Council discussed whether to change our internal re-allocations among areas 8a, 8b, etc. We could consider number of papers submitted and level of attendance as criteria for reallocation. Quality of sessions is also rated with session evaluation bubble sheets, but it's not clear how this information can be effectively used. Session chairs should be encouraged to schedule papers in their sessions for a minimum of 20 minutes, although some sessions find

that 15 minute talks can work out fine.

The council discussed scheduling a topical conference for the future. The target is for 2004 meeting in Austin, Texas. The tentative plan is to hold it on Polymer Processing. (*Ed note:* Since this meeting, MESD has submitted a proposal for a Polymer Processing Topical Conference to take place in 2003 in San Francisco. Paula Hammond is the Area 8 contact for the Topical.)

10) 2003 Program Chair Report - Doug Kalika, University of Kentucky

For the San Francisco meeting, space is limited, so we won't be able to have as many sessions as in recent years, so area planning committees must consider this in their planning for 2003. (*Ed note:* Since this meeting, programming for San Francisco has been increased to levels comparable with previous years.)

D. Kalika suggested adding student representatives to the MESD Council. Others noted that this probably requires bylaw changes, and other complications may also arise in implementing this idea. However, the Council was favorably disposed toward the idea. Kalika will draft a proposal to the officers for consideration at the 2002 Executive Council Meeting.

11) Poster Sessions - Larry Duda, Penn State

L. Duda proposed that the MESD plan regular poster sessions with student awards. As in the past, we will ask the poster session chair to try to raise money for the awards, but even if the chair is not successful, we should go ahead with awards, using MESD funds. D. Kalika reviewed the procedures he had developed when he ran the poster sessions in the past: how he organized the poster sessions, publicized them, and the methods used for judging the student posters.

J. Torkelson made a formal motion that the Division will, if necessary, supplement support of Stine Award up to \$1000 per year for honoraria for the plenary session speakers; the treasurer will also be authorized to commit up to \$1000 per year for student poster awards. The motion was unanimously approved.

12) Membership - Larry Duda, Penn State

We should develop a membership solicitation flyer and when mailing it out we should include a copy of the current newsletter. The key is to figure out how to identify prospective members: ideas generated included sending newsletters and membership flyers to all presenters in MESD sessions. We should distribute membership flyers at next year's sessions for all session attendees. We may encourage students and others to join the MESD even if they do not join AIChE, as there is only a \$7 membership charge for MESD, and AIChE membership is not required for MESD membership. We might even consider waiving this charge for students. Hopefully, they would then remain members after graduation.

13) Other Business - Raj Krishnaswamy, Chevron Phillips

R. Krishnaswamy proposed Sunday short courses for nominal fees, primarily as encouragement for joining the Division, rather than as a money-making enterprise. The system used by the APS (American Physical Society) was suggested as a model to follow. Council members noted that AIChE has tended to lose money on its continuing education programs held in conjunction with national meetings; however, the system has changed in recent years. MESD might be allowed to develop its own approach. T. Anderson agreed to check out the possibilities of setting this up with the EBPC. R. Krishnaswamy also volunteered to see if he could develop such a short course for next year's annual meeting.

There being no further business, the meeting was adjourned at 4:15 pm.

Session Highlights

The two sessions of "Novel Catalytic Materials" were held with great success at this year's AIChE meeting, as judged from the wide array of interesting topics covered and the standing room-only attendance throughout the day. One common theme was the microstructural control of voids within the inorganic matrix via new synthetic chemistries. Another theme

was the appearance of new compositions that significantly improved catalytic performance for several industrial processes, such as hydroprocessing and alkane partial oxidation. – *Michael S. Wong*



Manohar Nekkanti (right) of the University of Nevada-Reno discusses his poster at the MESD Poster Session in Reno.

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:

- Nominees must be members of AIChE.
- The award can be given to an individual or a team.
- 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, 2002. Nominations must be submitted by members of the division and can be sent to:

Materials Engineering & Sciences Division Awards Committee
 Dennis Hess, Chair
 School of Chemical Engineering

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Georgia Institute of Technology
778 Atlantic Drive NW
Atlanta, GA 30332-0100
404-894-5922
dennis.hess@che.gatech.edu

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.iche.org/awards/awarddtl.asp?AwardID=42

or the MESD Website at: www.engr.uky.edu/MESD

MESD Short Course in Planning

Raj Krishnaswamy, MESD Director, has had some discussions with Joe Cramer (who organizes short courses at annual meetings) at AIChE and has proposed that MESD conduct a one-day short course or tutorial during the Sunday of annual meetings. Joe welcomed the proposal and was very encouraging, offering help us out with the entire process.

Raj indicated to Joe that MESD's primary objective for the short course was to attract and retain new members to MESD and AIChE. The topic would be chosen such that it is relevant to the location of the conference. The registration fees of such a course/tutorial should be nominal - this way we can attract many engineers and scientists to attend the course and subsequently join the MESD. Joe agreed to all of the above and recommended the following:

* MESD chooses topic and provides him with a course description, objective and information on speakers/instructors before April, 2002.

* AIChE will provide room arrangements at the annual meeting for the course.

* AIChE will market/advertise the course extensively; even contacting societies such as SPE, PPS, and ACS.

* The registration fees may be between \$150 - \$200 per attendee - we may be able to include the MESD membership charge of \$ 7.00 as part of the

registration fees.

* AIChE will provide a honorarium of approximately \$100-\$300 per speaker depending on the number of lecturers at this short course.

It is up to MESD now to come up with an appropriate topic and finalize the speakers. Indianapolis may be a good location to offer a polymer processing related topic. "Flow-Induced Crystallization of Polymers" has been suggested as a potential topic. Four to five speakers from academia and industry would be invited to give reviews on select sub-topics with ample time for discussion and debate after each 30-45 min lecture. Please provide Raj with input on this idea, including possibilities for other topics.

Ideally, MESD will need to finalize the topic for the subsequent year's course/tutorial during the meetings at the annual conference. This will provide sufficient input from each of the groups within MESD. For further information, contact

R. K. (Raj) Krishnaswamy
Chevron Phillips Chemical Company, LP
94-G Phillips Research Center
Bartlesville, OK 74004
krishrk@cpchem.com
Ph: (918) 661-9906
Fax: (918) 661-1709

U.S.-EC NANOTECH COLLABORATION LAUNCHED

A milestone in scientific cooperation between the United States and the European Commission (EC) will boost the growing field of materials research at the nanoscale. The National Science Foundation (NSF) and the EC have expanded a program of workshops and funding of mutual research goals in materials science, to include nanotechnology.

"The creation and modification of materials at the nanoscale, once the stuff of science fiction, will be a critical factor in shaping future technologies," Lance Haworth, executive officer of NSF's Materials Research Division, said in announcing the collaboration. "Because of the emerging nature of

the field, the benefits from international collaboration could be significant."

Under the cooperative program, research goals will be determined jointly by U.S. and European researchers. NSF grants will support the U.S. side of research teams in areas such as surface structure and thin films, carbon nanotubes and the role of defects in materials. The EC will fund the Europeans' participation.

Four joint workshops are planned for 2002, following up on an initial workshop in 2000 to identify opportunities for nanoscale research:

- "Nanomanufacturing and Processing," San Juan, Puerto Rico, Jan. 5-7, will explore processes and techniques for design, modeling, tooling and fabrication of devices and materials.
- "Nanotechnology-Revolutionary Opportunities and Societal Implications," Lecce, Italy, Jan. 31-Feb. 1, will highlight U.S. and European "roadmaps" for nanotechnology and impacts of the field for society and various industries.
- "Instrumentation and Tools for Nanotechnology," Grenoble, France, June 12-14, will examine tools, instruments and devices needed for nanoscale manufacturing.
- "Nanostructured Materials," Boston, Mass., Dec. 5-6, will review developments in metals, polymers, ceramics and other advanced materials.

The collaborative research awards and joint workshops are being carried out under an agreement signed in December 1999 to cooperate in materials research and education. That agreement, an implementing arrangement under the U.S.-EC Science and Technology Agreement of 1998,

establishes the framework for collaboration in areas such as the understanding of fundamental materials phenomena, materials synthesis and characterization, and the properties, processing and fabrication of advanced materials.

International cooperation in materials research and nanotechnology helps advance NSF's goals to facilitate U.S. access to worldwide research, optimize U.S. investments in the global environment, foster the development of an internationally competitive work force and carry out the National Nanotechnology Initiative. In Europe, the cooperation furthers an EC program on competitive and sustainable growth.

NSF's Directorate for Mathematical and Physical Sciences, Directorate for Engineering and Division of International Programs will participate in the nanotechnology collaboration with Europe.

MESD Membership Application

Some of you are receiving this complimentary issue of the newsletter as authors or co-authors of a paper or poster in a recent MESD-sponsored session. We thank you for your interest in MESD, and invite you to join the division. Simply fill out the form below and return it to the address provided. Dues are only \$7 per year. You do not need to be a member of AIChE to be a division member. However, if you would like to wait until your Institute dues come due, simply check the MESD division box on the renewal form. The dues will automatically be forwarded to MESD, and you will be a member! If you have any questions, please feel free to contact any of the officers using the information on the next page.

Materials Engineering and Sciences Division Membership Application Form

Not a member of the MESD? Come join one of the most active programming divisions in AIChE. Just fill out the form below, cut it out and return it with a \$7 check made out to AIChE to:

AIChE
Customer Service Center
3 Park Avenue
New York, NY 10016-5991

Yes! I want to be a member of MESD.

or call the Customer Service Center at (212) 591-8100 for credit card payments.

Name _____

Mailing Address _____

City _____ State _____ ZIP _____ Country _____

AIChE Member Number _____

MESD Officers

Chair

John Torkelson
Northwestern University
(847) 491-7449
j-torkelson@nwu.edu

First Vice Chair

John Ekerdt
University of Texas
(512) 471-4689
ekerdt@che.utexas.edu

Past Chair

J. Larry Duda
Pennsylvania State University
(814) 865-2574
jldche@enr.psu.edu

**Second Vice Chair and
Program Committee Chair**

Douglass Kalika
University of Kentucky
(859) 257-1759
kalika@enr.uky.edu

Secretary-Treasurer

Stevin H. Gehrke
Kansas State University
(785) 532-5584
sgehrke@ksu.edu

Webmaster

Pete Ludovice
Georgia Tech University
(404) 894-1835
pete.ludovice@che.gatech.edu

Directors (term ends 2002)

Tim Anderson
University of Florida
(352) 392-0882
tim@nersp.nerdc.ufl.edu

Directors (term ends 2003)

Donald Baird
Virginia Polytechnic Institute
(540) 231-5998
dbaird@vt.edu

Newsletter Editor

Brian S. Mitchell
Tulane University
(504) 862-8257
brian@tulane.edu

Giuseppe Palmese
Drexel University
(215) 895-5814
palmese@coe.drexel.edu

R.K. Krishnaswamy
Chevron Phillips Chemical Company
(918) 661-9906
krishrk@cpchem.com

American Institute of Chemical Engineers
Materials Engineering and Sciences Division
c/o Department of Chemical Engineering
Tulane University
New Orleans, LA 70118

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