

University Materials Council (UMC)
Minutes of the 2008 Fall Meeting – October 9, 2008
Carnegie Mellon University, Pittsburgh, PA.
Minutes prepared by Peter Davies.

Attendees:

David Clark (Virginia Tech), Peter Davies (University of Pennsylvania), Richard LeSar (Iowa State), Subhash Mahajan (Arizona State), Kevin Jones (University of Florida), Gary Messing (Penn State), Mark Goorsky (UCLA), Greg Rohrer (CMU), Robert Hull (RPI), R. G. Reddy (UA), Raj Singh (Univ. Cincinnati), Bob Snyder (Georgia Tech), Ian Robertson (Univ. Illinois), Scott Misture (Alfred), S. Ankem (Univ. Maryland), Helen Chan (Lehigh), Dunbar Birnie (Rutgers), James McGuffin-Cawley (Case Western), Darryl Butt (Boise State), Sue Babcock (Univ Wisconsin- Madison), Mark Plichta (Michigan Tech), Jorge Wiezorek (Univ Pittsburgh), Barry Carter (Univ. Connecticut), Brajhenda Mishra (Colorado School of Mines). Also in attendance: Lyle Schwartz (consultant, vice-chair NMAB).

1. 2008 Gender Equity Workshop:

Ian Robertson reported on the University Materials Council led, NSF-sponsored, Workshop on Gender Equity in Materials Science and Engineering held at the University of Maryland Conference Center, May 18-20, 2008. The workshop was deemed highly successful in creating greater awareness of the issues involved in gender equity and all MSE chairs are recommended to read the final report. Ian has posted the report at <http://www.matse.illinois.edu/gender/index.htm>

Action item: post a link to the report on the UMC site and update the UMC charter to highlight our commitment to gender equity and diversity.

It was suggested UMC follow-up on the Gender Equity Workshop with a workshop on diversity. Action item: investigate possible funding/interest from NSF (David Clark) or DoE (Kevin Jones) for a workshop on diversity in MSE. If the agencies show interest we will need someone to champion the workshop. Update status at Spring 2009 meeting.

2. UMC 2008 survey.

Bob Snyder provided a summary of the latest UMC benchmarking survey. A detailed summary is available for all UMC members who contributed data to the survey.

3. Design of logo for UMC.

Gary Messing suggested UMC enhance its identity by designing a logo for the website. He volunteered to take responsibility and will provide an update at the Spring 2009 meeting.

4. The State of MSE Departments and MSE Education – Present and Future.

The main topic of the meeting was a discussion regarding the future of Materials Education led by Lyle Schwarz. Prior to the discussion it was noted several non-elective mergers over the last 5-10 years have reduced the number of “independent” MSE departments to 53, its lowest level in several years.

The discussion focused on the need for a re-evaluation of the key requirements for curricula in materials education and for a clear definition of the unique role of MSE in programs offered at the undergraduate and graduate level. A major part of the discussion focused on the

best forum for conducting this evaluation. Possibilities included a study led by UMC; by materials societies such as ASM, TMS and MRS; NSF-sponsored workshops and participation in studies initiated by the Physics or Chemistry communities. It was agreed the NRC-led report (“the Flemings report”), which is now more than 20 years old, was the last major study of materials education to have positive and lasting impact. That study, jointly sponsored by the Solid State Science Committee and NMAB, focused on a broad agenda that included research and facilities as well as education. It was also noted the study was complicated by friction between different communities.

After extensive discussion it was concluded the best way forward was to lobby for a new broad-based and comprehensive study of materials education through the auspices of the National Academies, specifically through the National Materials Advisory Board. It was agreed Lyle Schwartz would have our enthusiastic endorsement in opening discussion with the Solid State Sciences Committee and NMAB to explore their interest in seeking sponsorship of a broad based study of materials education beyond the high school level. The consensus opinion was an NMAB sponsored study would best reflect the interest and needs of the MSE community.

Motion: proposed by Gary Messing seconded by Richard Le Sar: “The University Materials Council urge the National Materials Advisory Board to conduct a thorough study of materials education beyond the high school level and commit to providing any support needed in such a study”. The motion was passed unanimously.

Lyle agreed to report the strong support for an academy study of materials education at the next meeting of NMAB scheduled for 11/6-11/7/08. He noted that if NMAB agreed a study should be undertaken, the first and most critical step would involve identification of potential sponsors.

The membership thanked Lyle for his leadership on this issue and agreed he be invited to the spring 2009 UMC meeting to provide an update and to continue the discussion.

5. Curriculum definition and information sharing within UMC.

In parallel with a potential NMAB-led study, it was agreed UMC should focus future meetings to define the core of our own programs and share information on innovations in education being made in MSE departments. A variety of methodologies for information exchange were discussed. These included sharing of information on new course curricula and new laboratory modules on the UMC website, and effective links to materials society initiatives on the UMC website.

It was noted effective information gathering requires significant investment of time and resources. Gary Messing proposed the following action item: “the executive committee should investigate the feasibility of UMC committing to the fiscal support of staff tasked with gathering information for posting on the UMC website. If this is not feasible, can other mechanisms be identified to facilitate data collection and dissemination?”

6. UK Materials Department head meeting.

David Clark reported he accepted an invitation to attend the UK materials department heads meeting in England in August 2008. It was agreed the invitation should be reciprocated and the chair of the UK council be invited to attend the spring 2009 UMC meeting to provide an update on their activities and current issues in the UK and Europe.

7. UMC Graduate Student Recruitment.

David Clark updated the membership on the coordination and exchange of junior and senior undergraduates interested in graduate study in MSE. He thanked Mark Cooper at Ohio State University for his time in organizing the exchange of information between departments and encouraged all UMC members to participate.

8. Date and location of Spring 2009 UMC meeting.

New potential sites, more centrally located, were discussed as possible locations for the spring meeting to enable greater representation from schools on the west coast. Expansion to a full 2-day meeting was also discussed. After due deliberation it was concluded the next spring meeting should remain in Washington DC to facilitate participation by representatives from the various governmental funding agencies. The dates and specific site will be circulated to the membership in early 2009 after due deliberation by the executive committee.