

Minutes of the University Materials Council Meeting

Sunday, October 31, 1999
Omni Netherland Plaza Hotel
Cincinnati, Ohio
12:00 - 4:00 PM

Minutes Prepared by:

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IMPORTANT : IF YOU HAVE NOT ALREADY PAID, PLEASE PAY YOUR ANNUAL UMC DUES BY SENDING A CHECK FOR \$100.00 PAYABLE TO UNIVERSITY MATERIALS COUNCIL TO :

PROF. DAVID WILLIAMS, HEAD
DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING
LEHIGH UNIVERSITY
BETHLEHEM, PA 18015

Revised Agenda

12:00 - 12:30	Lunch and Introductions	Dave Williams
12:30 - 12:45	NAE Interactions	Jim Economy
12:45 - 1:00	ABET	Tony Rollett
1:00 - 2:15	Materials Education	
	- What do we own ?	Takeshi Egami
	- Undergraduate MSE Curriculum	Dave Williams
	- Discussion	All
2:15 - 2:30	Break	
2:30 - 3:30	Role of MSE as an Enabling Discipline	Ashok Saxena
3:30 - 4:00	Next Meeting	Dave Williams

Minutes

The meeting began with the following members or designees in attendance:

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| 1. David Williams | Lehigh University, UMC Chair |
| 2. Ashok Saxena | Georgia Tech., 1 st Vice-Chair |
| 3. Katherine Faber | Northwestern, 2 nd Vice-Chair |
| 4. James Economy | U. Illinois |
| 5. Raj Singh | Univ. of Cincinnati |
| 6. Douglas Swenson for Cal White | Michigan Tech |
| 7. Raj Bordia | U. Washington |
| 8. Albert Yee | U. Michigan |
| 9. Takeshi Egami | U. Penn |
| 10. Reza Abbaschian | U. Florida |
| 11. Y. Austin Chang for Eric Hellstrom | U. Wisconsin |

12. Joanna McKittrick	UC San Diego
13. Gary Shiflet for Bill Jesser	U. Virginia
14. Dick Tressler	Penn State
15. John Morral	U. Connecticut
16. Bob Snyder	Ohio State
17. Ronald Gordon	Alfred U.
18. Bill Reynolds	Virginia Tech
19. Susan Sinnott for Eric Grulke	U.Kentucky
20. Marek Dollar	I.I.T. Chicago
21. Patrick R. Taylor	U. Idaho
22. Fernand Marquis	S.Dakota Sch. Mines & Tech.
23. Henry J. Rack	Clemson U.
24. J. Michael Rigsbee	N.C. State U.
25. Krish Chawla	UA @ Birmingham
26. Linda Schadler for Richard W. Siegel	\Rennsselear Poly.
27. A.D.(Tony) Rolett	Carnegie Mellon U.
28. Nick Alteiro	Michigan State
29. Dale Niesz	Rutgers U.
30. Alex King	Purdue
31. James Li	Rochester

The meeting opened promptly at 12:00 noon with lunch and introductions and brief introductory remarks by the Chair David Williams of Lehigh University.

Jim Economy, U. Illinois, reported on the discussion at a recent NAE meeting on the proposal for a UMC led study entitled “Role of MSE as an Enabling Discipline”. The purpose of this discussion was to inform the NAE materials group about the UMC plans. Jim’s assessment was that the group consisting of himself, Dale Stein, Mert Fleming, A. Evans, L Schwartz and C. McMahon seemed neutral to the idea; in other words, they neither expressed strong support for such a study nor seemed opposed to it. They, however, expressed an interest in being kept informed about the study.

Tony Rollett, Carnegie Mellon, reported on the activities of the TMS Education Committee which oversees the ABET activities for the Materials Science and Engineering and Metallurgical Engineering Programs and also coordinates the input from ASM International and National Institute of Ceramic Engineers (NICE) to the ABET activities. He urged the UMC group to nominate more Program Evaluators from industry, preferably members of External Advisory Boards of MSE programs. There was also a discussion of the website sponsored by TMS on careers in MSE focussing on students. He urged the membership to visit the site at www.crc4mse.org. Ashok Saxena commented on the importance of keeping the website updated, especially the information on starting salaries of MSE graduates at various degree levels and the earning potential over their careers.

Takeshi Egami and David Williams of University of Pennsylvania and Lehigh University, respectively, made presentations summarizing the discussions that took place in a recent meeting of a subgroup of UMC members at Penn. Egami focussed on the topic of “What do MSE Departments Own ?” while Williams discussed how typical MSE curricula have evolved in recent years. Egami noted that while MSE discipline is not the sole owner of the activities involving the study and modeling of structure, synthesis and processing, properties, and performance of materials, it is the only group that is engaged in all these activities and their inter-relationships. Williams advocated an undergraduate curriculum that covers Math, Science and Engineering Science education in the freshmen and sophomore years, material blind courses in the junior year on topics such as thermodynamics, phase equilibria, mechanical properties, electrical properties and characterization techniques. He suggested that in the senior year the courses should be more material specific, with separate courses in metals, ceramics, polymers etc. He also mentioned the shortage of textbooks that treat materials as opposed to material specific topics. Their overheads are included as separate electronic files with the minutes. After some discussion, it was suggested that regional groups of MSE programs be formed to meet more frequently on curricular issues and bring ideas forward to UMC

meetings for exchange of innovative ideas. The mid-west universities group was informally formed. If other regions would like to form similar groups, please call Dave Williams.

Ashok Saxena of Georgia Tech reported on behalf of a subgroup of UMC members that also includes Reza Abbaschian of U. Florida, Bob Snyder of Ohio State, Albert Yee of U. Michigan and James Economy of U. Illinois on their pre-meeting discussions on the plans for a new UMC led study on the Role of MSE as an Enabling Discipline. The objectives of the study were described and a format was proposed. The workshop output will be in the form of a series of pamphlets/booklets. For details of the presentation and discussion, please see the power-point attachment. The presentation slides have been changed to reflect the discussion that occurred at the UMC meeting.

Next Meeting : The next meeting of UMC will be on May 24, 2000 on the campus of Georgetown University. This meeting will be preceded by the meeting of the Federation of Materials Societies at the same location between May 21-23 to which all UMC members are invited. This meeting will be organized around the recent NMAB report "Forging Links to Industry". Dave Williams has suggested to FMS that they include two UMC presentations as part of their agenda, one covering the educational activities and the other covering the Workshop plans, both of which were discussed above. His suggestion is under consideration by FMS. Stay tuned for more information on the meeting from the UMC Chair, Dave Williams.