

MATERIALS EDUCATION FOR THE 21ST CENTURY WORKFORCE

The 18th Biennial Conference on National Materials Policy

**May 24-25, 2004
National Academies' Keck Center
Washington, DC**

MONDAY, MAY 24

- 7:00AM Registration and Continental Breakfast
- 8:15AM Welcome and Charge to the Conference
*Aris Christou, University of Maryland
Vice President, Federation of Materials Societies*
- 8:30AM Introduction to Materials Mini-Camp for High School Students
and Teachers (camp will continue throughout the day)
*Chuck Hayes, ASM Materials Education Foundation
Daniel Steinberg, Princeton University*

THE CHANGING UNDERGRADUATE AND GRADUATE MATERIALS CURRICULA

*Organizers: G. Slade Cargill, III, Lehigh University
Members of the University Materials Council*

- 8:45AM "Undergraduate Curricula in MS&E: Current Trends and
Future Possibilities"
*Linda Vanasupa, Cal. Poly. State University, San Luis
Obispo*

- 9:05AM “Design in Undergraduate MS&E Programs”
Emily Allen, San Jose State University
- 9:25AM “ABET and Undergraduate Materials Education”
G. Slade Cargill, III, Lehigh University
- 9:40AM “Developments in Graduate Education in Materials Science
and Engineering”
Alan Cramb, Carnegie Mellon University
- 9:55PM Panel Discussion
- 10:25AM Break

CONTINUING EDUCATION/COMMUNITY COLLEGES

*Organizers: Ernest Levert, Lockheed-Martin
Jud Ready, Georgia Tech
David Richerson, University of Utah*

- 10:40AM “Keeping Faculty on the Leading Edge of MSE Education with
National Educators’ Workshops”
James A. Jacobs, Norfolk State University
- 11:00AM “Success, Failures and Lessons Learned from Experience with
Associate Degree Program in Metallurgy”
*John McKay & Pat Pohar, South Piedmont Community
College*
- 11:20AM “Materials Engineering Technology: The Role of Community
Colleges in Preparing the Technical Workforce of the 21st
Century”
Michael Kenney, ASM International
- 11:40AM “Integration of Employability Skills in Materials Education
Through Skills USA”
Tim Lawrence, SkillsUSA
- 12:00PM Panel Discussion

12:30PM Luncheon
John Hopps, Deputy Under Secretary of Defense

INFORMAL EDUCATION

2:00PM “Increasing Public Awareness and Literacy in Science and Materials”
David Richerson, University of Utah

2:20PM “‘Strange Matter’: Development of an Interactive Materials Science Exhibition and the Community Outreach Program”
Shenda Baker, Harvey Mudd College

2:40PM Outreach Programs of the National Building Museum
Stacie Lemmon, National Building Museum

3:00PM Panel Discussion

3:30PM Break

PROGRAMS TO ENHANCE K-12 EDUCATION IN MATERIALS SCIENCE & TECHNOLOGY

*Organizers: Iver Anderson, Iowa State University
Chuck Hayes, ASM Materials Education
Foundation
Al Hurd, Materials Research Society
Daniel Steinberg, Princeton University*

3:45PM “Encouraging Physical Science Careers through Competition Opportunities”
*Eric Packenham, National Science Teachers
Association*

4:05PM “Establishing a High School Curriculum in Materials Science in the U.K.”
*Peter Davies, Institute of Materials, Minerals and
Mining*

- 4:25PM “Material Science & Design: Spanning the Reality Divide
between High School and the World Beyond”
Kate Heroux, Lake Forest High School
- 4:45PM “Materials Education Outreach to Middle and High Schools in
the Lehigh Valley”
Wojciech Misiolek & Andy Prescott, Lehigh University
Kelly P. Wardlow, East Norristown Middle School
- 5:05PM Panel Discussion
- 5:35PM Materials Mini-Camp Presentation
- 6:00PM First Day Wrap-Up

RECEPTION AND DINNER

- 6:30PM Reception
- 7:15PM Dinner
- “The Congressional Perspective”
Senator John Warner (R-VA) (invited)

TUESDAY, MAY 25

- 8:00AM Continental Breakfast

GLOBAL WORKFORCE ISSUES AND THE STATUS OF FACILITIES FOR MATERIALS RESEARCH

*Organizer: Toni Marechaux, National Materials
Advisory Board*

- 9:00AM “Definitions, Drivers, and Dilemmas”
Toni Marechaux, National Materials Advisory Board

9:20AM “Globalization and the Engineering Workforce”
Jennie S. Hwang, H-Technologies Group

9:40AM “Innovations in Global Research”
R. Byron Pipes, University of Akron

10:00AM Panel Discussion

10:30AM Break

CONFERENCE WRAP-UP

10:45AM Action Agenda

12:00PM Conference Adjournment

12:30PM University Materials Council Luncheon and Meeting