National Academy of Engineering
American Association of Engineering Societies

2017 Convocation of Professional Engineering Societies

AAES

AAES Awards Dinner
Annual Engineering Public Policy Symposium
AAES General Assembly Meeting

April 24-25, 2017
Washington, DC
The National Academy of Sciences Building
2101 Constitution Avenue, NW
Washington, DC 20418
Lecture Room

AGENDA

Monday, April 24, 2017
8:00 a.m.    Continental Breakfast – East Court
8:30 a.m.    Welcome from the NAE
             C. D. Mote, Jr., President
             National Academy of Engineering
8:40 a.m.    Welcome from the AAES
             Alyse R. Stofler, Chair
             American Association of Engineering Societies
8:50 a.m.    Introduction and Keynote: Robotics and Artificial Intelligence:
             Technology, Society and the Individual
             Subra Suresh, President
             Carnegie Mellon University

SESSION I – Artificial Intelligence and Autonomous Systems in Engineering – the Challenges and Opportunities of This Frontier

9:40 a.m.    Introduction to Session I
             Moderator, Alan S. Brown
             Associate Editor, Mechanical Engineering, ASME

9:50 a.m.    Panel

             Autonomous Systems: The Future in Aerospace
             Kevin A. Wise, Senior Technical Fellow
             The Boeing Company

             The Journey of Using Autonomous Machines in Mining
             Michael C. Murphy, Chief Engineer, Surface Mining &
             Technology Division
             Caterpillar Inc.

             Smart Manufacturing: Advanced Sensing, Controls, Platforms,
             Modeling, and Next-Generation OT/IT Practices
             James F. Davis, CTO/CIO
             Clean Energy Smart Manufacturing Innovation Institute
             University of California, Los Angeles
Ethically Aligned Design: Values-Driven Technology for the Algorithmic Age

John C. Havens, Executive Director
The IEEE Global Initiative for Ethical Considerations in Artificial Intelligence and Autonomous Systems

10:40 a.m. Break

10:55 a.m. Panel Continued

11:45 a.m. Moderated Discussion between Panelists, Audience Questions

12:30 p.m. Lunch

1:40 p.m. Dream Big
Leslie Collins, Executive Director
DiscoverE Foundation

SESSION II – Ethics and Autonomous Vehicles

2:00 p.m. Introduction to Session II

Introduction
Moderator: Kodi Verhalen
2016–17 President, National Society of Professional Engineers

2:10 p.m. Panel

A System-Level Perspective on Self-Driving Cars and Engineering Ethics
Jason Borenstein, Director, Graduate Research Ethics Programs
Georgia Institute of Technology

Joseph Herkert, Associate Professor Emeritus of Science, Technology & Society,
North Carolina State University
Advisor-NAE Center for Engineering Ethics and Society

Moving Beyond the Trolley Problem: Why Engineers Really Need Ethics to Design Automated Vehicles
J. Christian Gerdes, Professor of Mechanical Engineering
Stanford University
The Traffic Jam of Robots: Implications of Autonomous Vehicles for Trip-Making and Society

Joan Walker, Professor, Civil and Environmental Engineering and Global Metropolitan Studies
University of California, Berkeley

Earning Trust and Evaluating Trustworthiness
Bryant Walker Smith, Assistant Professor, School of Law and (by courtesy) School of Engineering
University of South Carolina

3:45 p.m.  Break

4:00 p.m.  Moderated Discussion between Panelists, Audience Questions

4:55 p.m.  Closing Comments

5:00 p.m.  Adjourn

5:30 p.m.  Reception – East Court, NAS Building

6:30 p.m.  AAES Awards Banquet – Great Hall, NAS Building

9:00 p.m.  Adjourn

Tuesday, April 25, 2017
Rayburn House Office Building 2043-2044-2045

Policy Forum: Federal Investments for Engineering & Science to Spur Innovation & Competitiveness

8:00 a.m.  Registration and Breakfast

8:30 a.m.  Welcome and Opening Remarks

9:15 a.m.  Divergent Views on Federal Investments for Engineering & Science to Spur Innovation, Productivity and Competitiveness

10:00 a.m. Break
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<tr>
<th>Time</th>
<th>Event Details</th>
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<tbody>
<tr>
<td>10:15 a.m.</td>
<td><strong>Panel Discussion</strong>&lt;br&gt;Federal Agencies: Research and Technologies</td>
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<tr>
<td>11:50 a.m.</td>
<td>Members of Congress and Congressional Staff</td>
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<td>12:30 p.m.</td>
<td>Lunch Served</td>
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<td>12:55 p.m.</td>
<td>Closing Remarks</td>
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<td>1:10 p.m.</td>
<td>Congressional Visits Overview</td>
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<td>2:00 p.m.</td>
<td><strong>AAES General Assembly Meeting</strong>&lt;br&gt;Keck Center of the National Academies of Sciences, Engineering and Medicine&lt;br&gt;500 Fifth Street, NW&lt;br&gt;Washington, DC 20001</td>
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<td>4:30 p.m.</td>
<td>Adjourn</td>
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*Funding for the Symposium is provided by the United Engineering Foundation.*