

Sensors: From Sea to Space Innovations and Implications for the Future

AGENDA

Government-University-Industry Research Roundtable Meeting

February 22, 2010 (dinner)

Hotel Palomar
2121 P Street, N.W.
Washington, DC 20037

February 23, 2010

The National Academies Keck Center
500 Fifth Street, N.W.
Keck 100
Washington, DC 20001

From environmental, industrial, and biomedical applications to advances in aerospace technology, computing power, and biotechnology, sensors impact almost every aspect of our everyday life. With the advent of emerging healthcare technologies, sensors are changing medicine as we know it today, raising questions on affordability and cradle to grave care. In Earth Observation Science, Global Change Monitoring Systems (GCMS) create important, new opportunities for industry, academia, and the scientific community to work together in understanding the complexities of global warming. In other areas, many electrical, optical, biological and biochemical sensors have broader, secondary applications that have potential uses that are not yet fully recognized.

What are the political and economic considerations, challenges, and opportunities in the global sensor market? How can GUIRR members collectively develop innovative concepts for earth-sensing, including new platform opportunities and new instrument architectures and technology? What can GUIRR members collectively do to facilitate competitive R&D programs for rollout of new sensor technology into potentially commercially viable applications that create jobs and future economic prosperity? With increased threats to our computer systems, need for clean water, and concern about climate change, sensors have the potential to provide viable solutions to these and other important global issues.

Monday, February 22, 2010 (evening only)

Location: Hotel Palomar, 2121 P Street, N.W., Washington, DC 20037

6:00-6:30 PM Cocktails – Room: Freer (Foyer)

6:30-8:00 PM Dinner – Room: Freer

Moderator: **C.D. (Dan) Mote, Jr., President, University of Maryland at College Park**

DDR&E S&T STRATEGY

**Dr. David Honey, Director for Research, Director Defense Research and
Engineering (DDR&E), U.S. Department of Defense**

Tuesday, February 23, 2010

Location: The National Academies Keck Center, 500 Fifth Street, NW, Washington, DC 20001 – Keck 100

7:30-8:00 AM Continental Breakfast

8:00-8:15 AM Welcome Remarks

C.D. (Dan) Mote, Jr., President, University of Maryland at College Park

8:15-8:45 AM FUNCTIONALITIES AND DEVELOPMENTS IN SENSOR NETWORKS
Leonard Poveromo, Director, Technology Development, Northrop Grumman Aerospace Systems AND Robert Silberstein, Tech Fellow, Advanced Programs and Technology Division, Northrop Grumman Aerospace Systems

8:45-8:50 AM Discussion

8:50-9:20 AM SENSORS AND NATIONAL SECURITY
Donald Reago, Principle Deputy for Technology and Countermeasures, Communication and Electronic Research Development Engineering Center (CERDEC), Army Night Vision and Electronic Sensors Directorate, U.S. Army

9:20-9:25 AM Discussion

9:25-9:55 AM SENSORS AND SYSTEMS: ESSENTIAL INGREDIENTS IN TRANSFORMING HEALTH CARE
William Heetderks, Director, Extramural Programs, National Institute of Biomedical Imaging and Bioengineering (NIBIB), National Institutes of Health (NIH)

9:55-10:00 AM Discussion

10:00-10:20 AM Break

10:20-10:50 AM MONITORING GLOBAL CLIMATE CHANGE
James Butler, Director, Global Monitoring Division, Earth System Research Laboratory, National Oceanic and Atmospheric Administration (NOAA)

10:50-10:55 AM Discussion

10:55-11:25 AM NEXT GENERATION SENSOR TECHNOLOGY APPLICATION IN THE POWER INDUSTRY
Arshad Mansoor, Vice President of Power Delivery, Electric Power Research Institute Inc. (EPRI)

11:25-11:30 AM Discussion

11:30 AM- 12:00 PM SENSOR NETWORKS AND PRIVACY
Frank A. Pasquale, Loftus Professor of Law, Seton Hall Law School

12:00-12:05 PM Discussion

12:05-1:30 PM Lunch – Keck 100

Introduction: **Lydia Thomas, President and CEO (Ret.), Noblis; GUIRR Co-Chair**

THE CLOUD, THE INTERNET OF THINGS, AND THE EXAFLOOD
Michael R. Nelson, Visiting Professor, Internet Studies; Communication, Culture and Technology, Georgetown University

1:30-2:00 PM CeNSE: THE CENTRAL NERVOUS SYSTEM FOR THE EARTH
Peter Hartwell, Senior Researcher, Hewlett-Packard Laboratories

2:00-2:15 PM Open Discussion

2:15-2:50 PM Updates and Discussion on Current GUIRR Projects

Moderator: **C.D. (Dan) Mote, Jr., President, University of Maryland at College Park**

- International Research Collaborations – James Casey
- Food Safety and National Defense – Margaret Bruce Saunders
- Data Overload – Scott Weidman
- University-Industry Demonstration Partnership (UIDP) – Jerry Duncan
- Federal Demonstration Partnership (FDP) – Susan Wyatt Sedwick

2:50-3:00 PM Proposal of New Topics or Projects for GUIRR

3:00 PM Adjourn