



Sensors and Platforms Session Overview

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The MITRE Corporation



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“Top Drawer” Sensor and Platform Issues

- **Hardware:**
 - “Right-sizing” platforms for applications
 - Processor, Memory architectures
 - Power Management
 - Power supplies
 - Efficient communications
 - Packaging
- **Software:**
 - Programming languages – is TinyOS the right paradigm?
 - Network programming vs. node programming models
 - Dynamic vs static code
- **Sensors:**
 - Sensor integration, interface standards
 - Who are the sensor vendors?



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Session Schedule

- **1045-1105: Dr. John Suh, Crossbow**
 - Design migration into mainstream
- **1105-1125: Dr. Robert Poor, Ember**
 - Impact of 802.15.4 WPAN standard
- **1125-1145: Dr. Sokwoo Rhee, Millennial**
 - Data reliability considerations
- **1145-1205: Mr. Phil Lundy, NVESD**
 - Military operational design constraints
- **1205-1230: Panel Discussion**
 - Real-time idea capture





Dr. John Suh

Dr. John Suh is a Senior Application Engineer at Crossbow Technology. He works closely with customers to develop and deploy Smart Dust and sensor network solutions for their business needs. He conducts both national and international training seminars on Smart Dust technology.

John has extensive expertise in MEMS, automotive manufacturing, robotics and has been granted five patents. His education includes a B.S. in Electrical Engineering from GMI Engineering & Management Institute (now: Kettering University in Flint, MI) and an M.S. and Ph.D. in Mechanical Engineering from Stanford University.

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Dr. Robert Poor

Prior to founding Ember, Robert Poor was a doctoral student at the MIT Media Lab, where he developed embedded networking, a new class of wireless network that enables inexpensive, scalable, easily-deployed connections for common manufactured goods. Poor has accrued over 25 years of technical and management-level experience from Silicon Valley, including LucasFilm's precursor to Pixar, Stanford Artificial Intelligence, Lucid, NeXT and Opcode. He is a technical editor for the IEEE 802.15.4 standards specification. He received a patent for self-organizing networks in 2000 and was awarded his Ph.D. from MIT in 2001





Dr. Sokwoo Rhee

Sokwoo Rhee, co-founder and chief technology officer at Millennial Net, has unique interdisciplinary expertise in wireless communication and industrial and biomedical instrumentation. He developed the breakthrough design for ultra-low-power wireless communication circuitry and the power-efficient ad-hoc networking protocol which make up the core of Millennial Net's wireless mesh networking systems. Prior to co-founding Millennial Net, he was a research associate at MIT focusing on wireless biomedical instrumentation. He was selected as one of top 100 young innovators by MIT Technology Review magazine in 2004, and as one of 5 innovators of the year by Red Herring magazine in 2004. He also received 2004 Douglas H. Annin Award from ISA in 2004. He has published numerous papers at top journals and conferences, and also holds several patents on wireless networks and biomedical instrumentation. Sokwoo holds an M.S. degree and a Ph.D. degree from Massachusetts Institute of Technology.





Mr. Phil Lundy

Mr. Lundy is with the U.S. Army Night Vision and Electronic Sensors Directorate, located on Fort Belvoir, Virginia



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Panel Discussion



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