



**SAN FRANCISCO BAY AREA
NANOTECHNOLOGY COUNCIL**

Fifth Annual Full Day Symposium - Tuesday, May 19 2009, 8am – 5pm

**Co-Sponsored by IEEE SCV Chapters: LEOS / Photonics; Electron Devices; CPMT.
An IEEE 125th Anniversary Celebration Event.**

Nanotechnology: Enabling Energy Efficient Electronics

Location: National Semiconductor Bldg E-1 CMA Room. 2900 Semiconductor Drive, Santa Clara, CA
Registration (lunch included): IEEE Members \$65, Non-Members \$79, Students \$40. Add \$15 at the door
RSVP by May 15th at www.ieee.org/nano

Agenda

- 8:00 – 8:45 **Registration**
- 8:45 – 9:00 **Welcome.** Chapter Chair Nick Massetti, OmniVision; Symposium Chair Wei Wu, HP Labs.
- 9:00 – 9:30 **Plenary:** Challenges Facing the Incorporation of Nanotechnology in Space Applications.
Robert E. Berry, Chairman Emeritus and Systems Fellow, Space Systems Division / Loral
- 9:30 – 10:00 **Keynote:** Silicon Photonics
Mario Paniccia, Intel Fellow and Director of the Photonics Technology Lab, Intel Corp.
- 10:00 – 11:00 **Session 1. Advanced Fabrication Technology** Chair: Garrett Holthaus, Intel
10:00 – 10:30 Technology Choices, Challenges and Timing Requirements for Nanolithography for the
32nm Node and Beyond.
Chris Krautschik, Strategic Technology Manager, Intel Corp.
- 10:30 – 11:00 Shallow Junction Photonics, Black Si Enhanced Photovoltaics
Martin Pralle, VP, Business Development of SiOnyx
- 11:20 – 12:20 **Session 2 Enabling Energy Efficiency** Chair: Dr. KRS Murthy, CEO Sunrgi
11:20 – 11:50 Energy Efficient Storage and Computation
Chandrasekhar (Spike) Narayan, Functional Manager, Almaden Research Center, IBM
11:50 – 12:20 Energy Technologies with Nanomaterials
Yi Cui, Professor, Stanford University
- 12:20 – 1:00 Lunch
- 1:00 – 1:30 **Lunch Speaker:** Roles of R&D in the Current Economy
Prith Banarjee, Director, HP labs and Senior VP, HP
- 1:30 – 2:00 **Keynote:** Finding the Missing Memristor
Stan Williams, Senior HP Fellow and Director of IQSL, HP labs
- 2:20 – 3:50 **Session 3 Advanced Components** Chair: Jack Berg, CTO ASI
2:20 – 2:50 Status and Prospects of Integrated Nanophotonics Circuits
Lars Thylen, Professor and Director of Photonics Center, KTH (Royal institute of Sweden)
2:50 – 3:20 Nanomagnet-Based Logic Architecture
Jeff Bokor, Professor, UC Berkeley, and Deputy Director of the Molecular Foundry, LBNL
3:20 – 3:50 Nano and microstructures for low-cost solar energy conversion
Peter Peumans, Professor, Stanford University
- 3:50 – 4:50 **Panel Session: “Nanotechnology for Energy and the Environment”**
Moderator: Michael A. Janse, Managing Director and EVP, Harris & Harris
Panelists: Shiv Chiruvolu, VP of R&D, NanoGram
Spike Narayan, Functional Manager, IBM Almaden Research Center
Randall Milanowski, Senior Scientist, L3 Communications
Ying-Lan Chang, Vice President, Platform Development, Nanomix Inc.
- 4:50 - 5:00 Door Prize Raffle for iPod Nano, and Conference Closure