



**GREENER NANO CONFERENCE**  
**ADVANCING APPLICATION & REDUCING RISK**

**MAY 1-3, 2011 @ HP in Cupertino, CA**

**CONFERENCE SCHEDULE**





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MAY 1-3, 2011 @ HP in Cupertino, CA

## Greener Nano 101 Workshop

### ***What do policymakers and regulators need to know to advance greener nanotechnology?***

Location: Hotel Valencia Santana Row, 355 Santana Row, San Jose, CA 95128, T: 408.551.0010

This workshop is designed for policymakers, industry, students, researchers or those new to the field and interested in learning how the principles of greener nanotechnology can be applied to provide opportunities for innovation.

### **Sunday, May 1**

12:00 PM	Registration opens for GN101 and GN11
1:00 – 5:00 PM	Greener Nano 101 Workshop
1:00 – 1:10 PM	Introduction by Tim Carter (moderator)
1:10 – 1:40 PM	<b><i>“The Critical Importance of Nanotechnology to National and Regional Economies”</i></b> - Skip Rung, Oregon Nanoscience and Microtechnologies Institute (ONAMI)
1:40 – 1:55 PM	Moderated Discussion
1:55 – 2:25 PM	<b><i>“Greener nanomaterials: Design, production and analysis”</i></b> ; James Hutchison, Department of Chemistry, University of Oregon
2:25 – 2:40 PM	Moderated Discussion
2:40 – 3:00 PM	Break
3:00 – 3:30 PM	<b><i>“Using biological assays to determine nanomaterial ‘greenness’”</i></b> ; Robert Tanguay, Department of Environmental and Molecular Toxicology, Oregon State University
3:30 – 3:45 PM	Moderated Discussion
3:45 – 4:05 PM	<b><i>“Responsible Manufacturing Processes: Good for Business and the Customer”</i></b> Timothy Carter, Life Technologies
4:05 – 4:15 PM	Moderated Discussion
4:15 – 4:35 PM	<b><i>“A new lens on nanotechnology: seeing is believing”</i></b> - John Miller, Dune Sciences
4:35 – 4:45 PM	Moderated Discussion
4:45 – 5:00 PM	Q and A / wrap-up
5:00 – 5:45 PM	Light Reception
6:00 – 8:00 PM	<b>Opening Dinner Reception with Stan Williams</b> , with Stan Williams, Senior Fellow and Director, Quantum Science Research, Hewlett Packard

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# Monday, May 2

Location: HP Executive Briefing Center, 19091 Pruneridge Ave, Cupertino, CA, 95014, T: 408.447.3917

8:00 – 5:00 PM Registration

8:00 – 8:30 AM Continental Breakfast

## Opening Session: Overview of Green Nanotechnology

8:30 – 8:45 AM ***“Delivering Business Value with Sustainability”***; Judy Glazer, Director, Social & Environmental Sustainability and Compliance, Ethics and Compliance Office, Hewlett Packard Company

8:45 – 9:45 AM ***“The Safer Nanomaterials and Nanomanufacturing Initiative: Advancing Applications and Reducing Implications of Nanotechnology”***; James Hutchison, Director of SNNI, Lokey-Harrington Professor of Chemistry and Associate Vice President for Research and Strategic Initiatives, University of Oregon

9:45 – 10:45 AM ***“High content evaluations of the nano/bio interface: A path to greener nanomaterials”***; Robert Tanguay, Distinguished Professor of Molecular Toxicology, Department of Environmental and Molecular Toxicology, Oregon State University

10:45 – 11:00 AM Break

11:00 – 12:00 ***Plenary Presentation: “Safer Nanotechnology through Design: Can we EVER correlate nanoscale material properties with macroscopic environmental behavior and effects?”*** Greg Lowry, Deputy Director for CEINT and Professor of Civil and Environmental Engineering, Carnegie Mellon University

12:00 – 1:00 PM Lunch (provided)

## Session I: Precision-engineered nanoparticles and characterization in complex environments

*The goal of this session is to understand how the use of precision-engineered or well-defined material is beneficial to developing structure/activity relationships and how characterization under “use appropriate” or “real world” conditions provides insight about how nanoparticles interact with biological/environmental matrices or transform in those matrices.*

Session Chair: Mark Lonergan, Department of Chemistry, University of Oregon

### Keynote Speakers

1:00 – 1:45 PM ***“Nanomaterials surfaces, analysis and behavior in complex biological systems”***; David W. Grainger, George S. and Dolores Doré Eccles Presidential Endowed Chair and Departmental chair in Pharmaceuticals and Pharmaceutical Chemistry and Professor of Bioengineering, University of Utah.

1:45 – 2:30 PM ***“Synthesis and Surface Modification of Transition Metal Nanoparticles for Catalytic and Biomedical Applications”***; Shouheng Sun, Professor, Department of Chemistry, Associate Director of the Institute for Molecular and Nanoscale Innovation, Brown University

2:30 – 2:50 PM Break

### Rapid-Fire Session

(Rapid-Fire sessions represent an innovative series of shorter “rapid-fire” presentations that aim at the state-of-the-art thinking surrounding a particular topic or issue in nanotechnology. These sessions are designed to encourage audience participation.)

2:50 – 3:00 PM ***“Surface Functionalized Nanomaterials for Environmentally Relevant Applications”***; Marvin Warner, Scientist, Pacific Northwest National Laboratory

3:00 – 3:10 PM ***“A Robot Called WANDA: Precision Engineering and High-Throughput Screening of Nanoscale Materials”***; Emory Chan, Research Facility Staff, Inorganic Nanostructures Facility, The Molecular Foundry, Lawrence Berkeley National Laboratory

- 3:10 – 3:20 PM ***“Tuning Properties of Lead Sulfide Nanocrystals via Post-Synthetic Exchange Reactions”***; Ian Moody, Graduate Researcher, Department of Chemistry, University of Oregon
- 3:20 – 3:30 PM ***“Observing Environmental Transformations to Silver Nanoparticles Using a Novel Characterization Platform”***; Richard Glover, Graduate Research, Department of Chemistry, University of Oregon
- 3:30 – 4:30 PM Interactive in-depth discussion
- 4:30 – 6:15 PM Poster Session and reception in the Cafe  
Poster abstracts can be found at: [http://www.greennano.org/GN11\\_abstracts](http://www.greennano.org/GN11_abstracts)
- 6:15 – 9:00 PM Networking Dinner at Arya Global Cuisine (pre-registration required)

## Tuesday, May 3

- 8:00 – 8:30 AM Registration and continental breakfast
- 8:30 – 8:40 AM Opening remarks

### Session II: Advances and challenges in exploring the nano/bio interface

The goal for the session is to explore the unique challenges that biologists face in assessing the bioactivity of engineered nanomaterials and the importance of working closely with engineers so only well-characterized materials are assessed. This session will provide an up to the date report with a discussion of the current data trends.

Session Chair: Robert Tanguay, Department of Environmental and Molecular Toxicology, Oregon State University

### Keynote Speakers

- 8:40 – 9:25 AM ***“Toxicity of Nanoparticles in in Vitro Models Based on Their Physicochemical Properties”***; Saber Hussain, Senior Toxicologist, Air Force Research Laboratory, Human Effectiveness Directorate, Biosciences and Performance Division, Biological Interaction Group, Wright-Patterson, AFB
- 9:25 – 10:10 AM ***“Use of ToxCast Assays for Bioactivity Profiling of Engineered Nanomaterials”***; Keith Houck, National Center for Computational Toxicology, EPA

- 10:10 – 10:25 AM Break

### Rapid-Fire Session

- 10:25 – 10:35 AM ***“The influence of divalent cations and Suwannee River Humic Acids on silver ion and silver nanoparticle toxicity on the ammonia oxidizing bacterium, Nitrosomonas europaea”***; Tyler Radniecki, Faculty Research Associate, Oregon State University
- 10:35 – 10:45 AM ***“Multi-model toxicology and biohazard assessment of nanomaterials and their enabled products”*** Navin Kumar Verma, Nanomedicine and Molecular Imaging Group, Institute of Molecular Medicine, Trinity Centre for Health Sciences, Dublin, Ireland
- 10:45 – 10:55 AM ***“Media ionic strength impacts embryonic responses to engineered nanoparticle exposure”***; Lisa Truong, Graduate Research Associate, Oregon State University
- 10:55 – 11:05 AM ***“Using genetic approaches to understand nanoparticle toxicity”***; Terrance J. Kavanagh, Professor, Toxicology Program, Deputy Director, Center of Ecogenetics and Environmental Health, Department of Environmental and Occupational Health Sciences, University of Washington
- 11:05 – Noon Interactive in-depth discussion of session
- 12:00 – 1:00 Lunch (provided)

## Advancing Applications Panel Discussion: "What's needed to advance green nanotechnology in Corporate America?"

The goal for this capstone session is to explore the issues across government agencies, NGOs and industry that keep green nanotechnology innovations from moving to the marketplace (and U.S. manufacturing job market) more quickly. After all the nano-hype (both utopian and dystopian), is there a mature phase in sight where innovations advance smoothly, and both product and process designs are as safe and environmentally benign as possible?

Session Chair: Skip Rung, Oregon Nanoscience and Microtechnologies Institute

1:00 – 1:25 PM	<b>"Advancing Greener Nanotechnology: An EPA Perspective"</b> Jeff Morris, National Program Director, Nanotechnology Research Program, EPA
1:25 – 1:50 PM	<b>"DTSC's Nanotechnology Initiative – Update"</b> Hamid Saebfar, Office of Pollution Prevention and Green Technology, Department of Toxic Substances Control
1:50 – 2:15 PM	<b>"Corporate Accountability and the use of Nanotechnology in the Solar Industry"</b> ; Sheila Davis, Executive Director of Silicon Valley Toxics Coalition
2:15 – 2:40 PM	<b>"Advancing Greener Industrial Applications of Nanotechnology: Product Stewardship - a Key to Responsible Development of Products"</b> - David Warheit, DuPont Haskell Laboratory for Health and Environmental Sciences
2:40 – 3:05 PM	<b>"Delivering Green Nanotechnology with Quantum Dots"</b> ; Seth Coe-Sullivan, co-founder and Chief Technology Officer, QD Vision
3:05 – 3:30 PM	<b>"Green Nanotechnology and the Impact on Emerging Technologies"</b> ; Sam Angelos, Vice President and General Manager, Technology Development Operations, Inkjet and Web Solutions Business, Hewlett-Packard Company
3:30 – 4:30 PM	In-depth discussion
4:30 PM	Adjourn



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