



CINT Users Conference

September 18-20, 2012

Marriott Pyramid Hotel, Albuquerque, NM

Agenda

<u>Tuesday Evening, September 18</u>		<u>Location</u>
5:00 pm	User Conference Registration Desk open Informal Meet & Greet Reception	Atrium
8:00 pm	Registration Desk closed Reception ends	
<u>Wednesday Morning, September 19</u>		<u>Location</u>
7:30 am	Registration Desk opens Continental Breakfast available CINT User Executive Committee Caucus	Foyer Foyer PDR
9:00 am	Welcome, Introductions and CINT Update David Morris , CINT Director Neal Shinn , CINT Co-Director	Cancun
9:20 am	Charles Lieber , Harvard University <i>Nanowires, Nanoscience and Emerging Nanotechnologies</i>	
10:00 am	Break	
10:20 am	Oskar Painter , California Institute of Technology <i>Chip-Scape Optomechanics: Towards Quantum Light and Sound</i>	
11:00 am	Vicki Colvin , Rice University <i>The Nano-bio Interface Applications and Implications</i>	
11:40 am	Buffet Lunch Informal poster viewing	Yucatan Yucatan

(continued on next page)

Wednesday Afternoon, September 19

Location

1:00 pm	Concurrent Symposia: (see details below) I. Advances at the Interface of Biology and Nanomaterials II. NanoMechanics of Top Down and Bottom Up Nanostructures III. Nanowires	
3:00 pm	Coffee Break	
5:00 pm	Poster Session – Presenters at posters	Yucatan
7:00 pm	Conference Banquet and Presentation: John Pautler , Cabot Corporation <i>User Facility Perspective from Cabot Corporation</i>	Yucatan

Thursday Morning, September 20

Location

8:00 am	Registration Desk open Continental Breakfast available	Foyer Foyer
8:30 am	Open Meeting with Users Executive Committee <i>Moderator: Linda Peteanu</i> , UEC Chair, Carnegie Mellon University	Tampico
9:00 am	Concurrent Symposia Continue: I. Advances at the Interface of Biology and Nanomaterials II. NanoMechanics of Top Down and Bottom Up Nanostructures III. Nanowires	
10:30 am	Break	
12:30 pm	Box Lunch available	Foyer
2:00 pm	Optional tour at CINT Core Facility, Albuquerque, NM (Limited to U.S. citizens; Transportation is <u>not</u> provided)	

Moderators: **George Bachand** and **Gabe Montano**, CINT

Wednesday, September 19, 2012

- 1:00 pm **Jessica Winter**, The Ohio State University
Fluorescent-Magnetic Nanomanipulators for Sensing and Separations
- 1:30 pm **Frank Gu**, University of Waterloo
Improving the Uniformity and Monodispersity of Polymer Nanoparticles for Targeted Cancer Therapy.
- 2:00 pm **Samudra Sengupta**, The Pennsylvania State University
Designing Micromotors and Micropumps Using Enzymes as Engines
- 2:30 pm **Eva Chi**, The University of New Mexico
Stabilization of proteins by a novel sol-gel encapsulation method
- 3:00 pm Break
- 3:30 pm **Andrij Holian**, The University of Montana
Development of In Vitro Models to Predict In Vivo Outcomes for Nanomaterials Safety Evaluation
- 4:00 pm **Rashi Iyer**, Los Alamos National Laboratory
Comprehensive Bioassessment of Engineered Nanomaterials
- 4:30 pm **Elba Serrano**, New Mexico State University
Leveraging CINT Capabilities for Development of Biocompatible Applications for Nanoparticles and Integrated Microsystem Platforms

Thursday, September 20, 2012

Moderators: **Linda Peteanu**, UEC, Carnegie Mellon University and **Jennifer Hollingsworth**, CINT

- 9:00 am **Igor Medintz**, Naval Research Laboratory
Quantum-Dot-Based Biosensors and Cell Delivery
- 9:30 am **Sandra Rosenthal**, Vanderbilt University
Biocompatible Drug-Conjugated Quantum Dots for Imaging and Assays in Neuroscience
- 10:00 am **Geoffrey Strouse**, Florida State University
Sustainable Nanocrystals and Their Applications in Bio-Medical Technologies
- 10:30 am **Break**
- 11:00 am **Jin Zhang**, The University of California at Santa Cruz
Novel Plasmonic Nanostructures for SERS and Photothermal Ablation Therapy: A Case Study of Hollow Gold Nanospheres
- 11:30 am **Joseph Wang**, The University of California at San Diego
Man-Made Nanomachines: Design and Applications
- 12:00 pm **Allison Dennis**, Los Alamos National Laboratory
Blinking-suppressed Near-infrared Emission in Novel Type-II InP/CdS Quantum Dots
- 12:15 pm **Jennifer Martinez** and **Jim Werner**, CINT
Fluorescent Silver and Gold Nanoclusters

Symposium II: NanoMechanics of Top Down and Bottom Up Nanostructures

Tampico

Moderators: **Dvora Perahia**, Clemson University, **Guillaume Gervais**, McGill, **Mike Lilly**, and **Mark Stevens**, CINT

Wednesday, September 19, 2012

- 1:00 pm **Keith Schwab**, The California Institute of Technology
Look But Don't Touch: Quantum Non-demolition Measurement of Motion
- 1:30 pm **Tom Harris**, CINT
Thermal Transport at the Nanoscale
- 2:00 pm **Jack Sankey**, McGill University
Controlling the Motion of Solid Objects with Light
- 2:30 pm **Nathan Mara**, CINT
Mechanical Behavior of Bulk Metallic Nanolamellar Composites
- 3:00 pm Break
- 3:30 pm **Molly Kennedy**, Clemson University
Impacts of Accelerated Aging on the Mechanical Properties of Nanolaminates
- 4:00 pm **Ting Zhu**, The Georgia Institute of Technology
In Situ Nanomechanics of Nanostructures
- 4:30 pm **Julia Greer**, California Institute of Technology
From Nano to Macro: Hierarchical Design of Lightweight, Damage-Tolerant Materials

Thursday, September 20, 2012

NanoMechanics of Top Down and Bottom Up Nanostructures

Tampico

Moderators: **Dvora Perahia**, Clemson University, **Guillaume Gervais**, McGill University, **Mike Lilly**, and **Mark Stevens**, CINT

- 9:00 am **Peter Hosemann**, The University of California at Berkeley
Small Scale Mechanical Testing of Structural Materials, Benefits and Limitations
- 9:30 am **Mark Robbins**, The Johns Hopkins University
Mechanical Properties of Interfaces at Atomic Scales
- 10:00 am **Heinrich Jaeger**, The University of Chicago
Self-Assembled Nanoparticle Monolayers and Membranes
- 10:30 am Break
- 11:00 am **Gary Grest**, CINT
Self-Assembly of Nanoparticles at Water/Vapor Interface
- 11:30 am **Sergiy Minko**, Clarkson University
Dynamically Reconfigurable Thin Composite Films
- 12:00 pm **Oleg Gang**, Brookhaven National Laboratory
Nanoscale Self-Assembly Guided by DNA: from Structures to Designed Materials

Moderators: **Suneel Kodambaka**, The University of California at Los Angeles

Wednesday, September 19, 2012

- 1:00 pm **Joan Redwing**, The Pennsylvania State University
Prospects and Challenges of Silicon Nanowire Photovoltaics
- 1:30 pm **Jinkyong Yoo**, Los Alamos National Laboratory
High-performance Photovoltaic Applications Based on Single Crystalline Si Radial p-i-n Junction Nanowire Arrays: From Growth Study to Design Rule for Devices
- 2:00 pm **Rohit Prasankumar**, CINT
Tracking charge carriers through space and time in single silicon core-shell nanowires
- 2:30 pm **Shadi Dayeh**, Los Alamos National Laboratory / The University of California at San Diego
One-Dimensional Semiconductor Heterostructures: Challenges and Opportunities
- 3:00 pm Break
- 3:30 pm **King Ning Tu**, The University of California at Los Angeles
Thermodynamics and kinetics of the nucleation events in epitaxial growth of silicide in nanowires of silicon
- 4:00 pm **Daniel Perea**, Pacific Northwest National Laboratory
Controlling nanowire axial heterojunction morphology and chemical abruptness through catalyst alloying
- 4:30 pm **Jeong-Hyun Cho**, Los Alamos National Laboratory
Silicon NW Growth on Metal substrates for a High performance lithium-ion Battery Anode

Thursday, September 20**Nanowires****Coronado**

Moderators: **Suneel Kodambaka**, The University of California at Los Angeles

- 9:00 am **Deli Wang**, The University of California at San Diego
Semiconductor Nanowires for Optoelectronics & Renewable Energy Applications
- 9:30 am **George Wang**, Sandia National Laboratories
III-Nitride Nanowires: From the Bottom-Up to the Top-Down
- 10:00 am **Aditya Mohite**, Los Alamos National Laboratory
Scanning Photocurrent Microscopy of Si/Ge Nanowires