CINT Users Conference

September 18-20, 2012
Marriott Pyramid Hotel, Albuquerque, NM

Agenda

Tuesday Evening, September 18		**Location**
5:00 pm	User Conference Registration Desk open Informal Meet & Greet Reception	Atrium
8:00 pm	Registration Desk closed Reception ends	

Wednesday Morning, September 19		**Location**
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 *Nanowires, Nanoscience and Emerging Nanotechnologies*	
10:00 am	Break	
10:20 am	**Oskar Painter,** California Institute of Technology *Chip-Scape Optomechanics: Towards Quantum Light and Sound*	
11:00 am	**Vicki Colvin,** Rice University *The Nano-bio Interface Applications and Implications*	
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 *User Facility Perspective from Cabot Corporation*	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 *Moderator*: **Linda Peteanu**, 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 not provided)	

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Symposium I: Advances at the Interface of Biology and Nanomaterials — Cozumel

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

Advances at the Interface of Biology and Nanomaterials — Cozumel

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

Symposium III: Nanowires — Coronado

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 **Jinkyoung 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 NWGrowth 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