

CINT User Conference

September 24-26, 2013
La Fonda Hotel, Santa Fe, NM

Agenda

Tuesday Evening, September 24

Santa Fe Room

- 4:30 pm User Conference Registration Desk open
Informal Meet & Greet Reception
- 7:00 pm Registration Desk closed
Reception ends

Wednesday Morning, September 25

Lumpkins Ballroom South

Moderator: Neal Shinn, CINT Co-Director

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| 8:00 am | Registration Desk opens
Continental Breakfast available | Mezzanine
Lumpkins Ballroom North |
| 9:00 am | Welcome, Introductions and CINT Update
David Morris , CINT Director | |
| 9:20 am | Zhenan Bao , Stanford University
<i>Organic and Carbon Nano Materials for Electronic Skin</i> | |
| 10:00 am | Break | |
| 10:20 am | Ichiro Takeuchi , University of Maryland
<i>Dynamic nano-second resolved piezoresponse and robust magnetoelectric coupling in multiferroic thin films and heterostructures</i> | |
| 11:00 am | Axel Scherer , California Institute of Technology
<i>From Lab-on-a-Chip to Lab-in-the-Body: The Role of Nanotechnology in the Miniaturization of Medical Diagnostic Tools</i> | |
| 11:40 am | Plated Lunch
Informal poster viewing | Lumpkins Ballroom North
Mezzanine |

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Wednesday Afternoon, September 25

- 1:00 pm [Concurrent Symposia: \(see details below\)](#)
I. Dynamics of Soft and Biological Nanocomposites: Manipulation and Integration
II. Complex Metal Oxides and Unconventional Interfaces
III. Light emission and interaction with Si and Ge nanostructures
- 3:00 pm Coffee Break
- 5:00 – 7:00 pm Poster Session – Presenters at posters Mezzanine
- 7:00pm End of Session – please enjoy dinner on your own

Symposium I: Dynamics of Soft and Biological Nanocomposites: Manipulation and Integration New Mexico Room (first floor)

Moderators: **Wally Paxton** and **Jen Martinez**, CINT, **Boian Alexandrov**, LANL

- 1:00 pm **John Kasianowicz**, National Institute of Standards and Technology
High resolution physical and chemical characterization of individual molecules using single nanopores
- 1:30 pm **Ayusman Sen**, Pennsylvania State University
Self-Powered Motion at the Nanoscale: Motors and Pumps
- 2:00 pm **Ted Goodson**, University of Michigan
Optical Properties and Applications of Gold and Silver Nanoclusters
- 2:30 pm **Boian Alexandrov**, Los Alamos National Laboratories
DNA Breathing Dynamics, Transcription, Protein-DNA Binding, and THz Radiation
- 3:00 pm Break
- 3:30 pm **Kyle Bishop**, Pennsylvania State University
Adaptive Nanoparticle Amphiphiles
- 4:00 pm **Jon Dieringer**, Northwestern University
Instrumentation: Super-Resolution Plasmon Microscopy
- 4:30 pm **Bryan Kaehr**, Sandia National Laboratories
Zombie Cells

Symposium II: Complex Metal Oxides and Unconventional Interfaces Ballroom North

Moderators: **Quanxi Jia**, CINT

- 1:00 pm **Lane Martin**, University of Illinois at Urbana-Champaign
Understanding the role of chemistry on conductivity at the $\text{LaAlO}_3/\text{SrTiO}_3$ heterointerface
- 1:30 pm **Ho Nyung Lee**, Oak Ridge National Laboratory
Epitaxial oxygen sponges: Reversible redox reactions in multivalent strontium cobaltites

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- 2:00 pm **Haiyan Wang**, Texas A&M University
Interface Coupling in Oxide Nanocomposites for Integrated Functionalities
- 2:30 pm **Derek Meyers**, University of Arkansas
Shining light on the correlated oxides
- 3:00 pm Break
- 3:30 pm **Chris Marianetti**, Columbia University
Computing the Phase Stability of Rare-Earth Nickelates via DFT+DMFT
- 4:00 pm **Jianxin Zhu**, Los Alamos National Laboratories
First-principles simulation and theoretical modeling of interfacial magnetism in $\text{BiFeO}_3/\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$ and $\text{BiFeO}_3/\text{YBa}_2\text{Cu}_3\text{O}_7$

Symposium III: Light emission and interaction with Si and Ge nanostructures **Ballroom South**

Moderator: Ryan Camacho, CINT

- 1:00 pm **Paul Davids**, Sandia National Laboratories
Advances in Germanium-on-Silicon Photonics
- 1:30 pm **Rodolfo Camacho-Aguilera**, Massachusetts Institute of Technology/ Intel Corporation
Ge-on-Si laser: From optical to electrical pumped
- 2:00 pm **Weng Chow**, Sandia National Laboratories
Modeling of laser gain from direct transition in Ge-on-Si

Thursday Morning, September 26

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| 8:00 am | Registration Desk open
Continental Breakfast available | Mezzanine
Lumpkins Ballroom North |
| 8:30 am | Open Meeting with Users Executive Committee
<i>Moderator: Guillaume Gervais</i> | Lumpkins Ballroom North |
| 9:00 am | Concurrent Symposia:
II. Complex Metal Oxides and Unconventional Interfaces
III. Light emission and interaction with Si and Ge nanostructures | |
| 10:30 am | Break | |
| 11:00 am | Box Lunch available | Mezzanine |

Symposium II: Complex Metal Oxides and Unconventional Interfaces **Ballroom North**

Moderators: Haiyan Wang, Texas A&M

- 9:00 am **Rolando Valdes Aguilar**, Los Alamos National Laboratory
Time resolved Terahertz dynamics of the topological insulator Bi_2Se_3 thin films
- 9:30 am **Mengkun Liu**, University of California, San Diego
Infrared near-field study of unidirectional phase separation in strained VO_2 films

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- 10:00 am **Jan Musfeldt**, University of Tennessee
Magnetic field-induced shift of the optical band gap in Ni₃V₂O₈
- 10:30 am Break
- 11:00 am **Haidan Wen**, Argonne National Laboratory
Correlation of Structural and Electronic Dynamics in Complex Oxide Thin Films
- 11:30 am **Rohit Prasankumar**, CINT
Using Ultrafast Optical Spectroscopy to Explore Magnetoelectric Coupling in Multiferroic Oxide Heterostructures

Symposium III: Light emission and interaction with Si and Ge nanostructures **Ballroom South**

Moderator: **Ryan Camacho**, CINT

- 9:00 am **Ritesh Agarwal**, University of Pennsylvania
Obtaining Bright Visible Light Emission from ``Bulk'' Silicon by Nanocavity Plasmons
- 9:30 am **Miriam Reshotko**, Intel Corporation
Ge Photodetectors for On-die and On-package Optical Interconnects
- 10:00 am **Michal Lipson**, Cornell University
Pushing the boundaries of silicon photonics
- 10:30 am Break
- 11:00 am **Panel Discussion: The Future of Silicon and Germanium Photonics**