

The 2012 MSI Conference organizing committee would like to sincerely thank all speakers, presenters, and attendees for your participation in this event.



The Materials Science Institute is an interdisciplinary institute of the University of Oregon. Founded in 1985 as a State Center of Excellence, the purpose of the institute is to study the structure and properties of materials, to educate in the science of materials, and to serve Oregon as a resource in these sciences. Since its inception, the institute has more than tripled the size of its research program, developed four new graduate programs in materials science and contributed to Oregon's prosperity through collaboration with more than 90 companies.



Welcome to the 2012 Materials Science Institute Fall Conference

University of Oregon
Eugene, Oregon
September 12 -13, 2012



<http://materialsscience.uoregon.edu>

2012 MSI Conference Program

Wednesday, September 12 - Ford Alumni Ballroom

- 4:30 PM Poster Setup / Check-in
5:00 PM Reception and Poster Viewing
5:45 PM Director's Welcome
6:00 PM Dinner

Session I. Materials for Energy – Chair: George Nazin

- 7:00 - 7:50 PM David Ginley – NREL
“Scaling Renewable Energy to the Terawatt Scale”
8:00 - 8:15 PM David Foster – UO
“Energy Killing Defects in Solar Region Absorber Cu_3PSe_4 ”
8:15 - 8:30 PM Andy Ritenour – UO
“Towards High-Efficiency GaAs Solar Cells Grown via Close-Spaced Vapor Transport”
8:45 - 10:00 PM Poster Session

Thursday, September 13 - Lillis Conference Room - 182

- 8:00 AM Breakfast (Lillis north lawn)
- ### Session II. Nano-Engineered Materials for Optics and Electronics – Chair: Ben McMorran
- 8:45 - 9:35 AM Michael Bartl - University of Utah
“Bioinspired Photonic Crystals: Design, Structure, Function”
9:35 - 9:50 AM Ian Pilgrim – UO
“Going Ballistic: The Quest for True Ballistic Electron Transport in Semiconductor Heterostructure Systems”
9:50 - 10:05 AM Victor Fiore – UO
“Storing an Optical Pulse as a Mechanical Excitation in a Silica Optomechanical Resonator”
10:05 AM Break / Poster Viewing

Session III. Biomaterials and Biophysics – Chair: Eric Corwin

- 10:35 - 11:25 AM Matthew Francis – UC Berkeley
“Building New Materials from Chemically Modified Biomolecules”
11:25 - 11:40 AM Rick Montgomery – UO
“Construction and Characterization of Fractal Electrodes: Building a Better Bioelectrode”
11:40 - 11:55 AM Mike Taormina – UO
“Microreological Studies Using Magnetically Driven Ellipsoidal Particles and Selective Plane Illumination Microscopy”
12:00 PM Lunch (Lillis north lawn)

Session IV. Nanomaterials Chemistry – Chair: Darren Johnson

- 1:00 - 1:50 PM Daniel Gamelin - University of Washington
“Electronic Structure and Physical Properties of Doped Quantum Dots”
1:50 - 2:05 PM Rick Glover – UO
“Observing Silver Transformations in a Humid Environment”
2:05 - 2:20 PM Anna Oliveri – UO
“Solution Studies of Group-13 Metal Clusters”
2:20 PM Break / Poster Viewing

Session V. Organic Materials – Chair: Mark Lonergan

- 2:50 - 3:40 PM Oksana Ostroverkhova – OSU
“Understanding Physics of Organics Optoelectronic Materials”
3:40 - 3:55 PM Christopher Weber – UO
“The Effect of Ionic Functionality on the Photooxidation of Conjugated Polymer Thin Films”
3:55 - 4:10 PM Brad Rose – UO
“Indeno[1,2-b]fluorene and Expanded Scaffolds as Electron Accepting Materials for Organic Electronics”
4:10 PM Oral Session Wrap-up
4:20 - 6:00 PM Poster Viewing and CAMCOR Building Tours