

**Materials Research Outreach Symposium**  
**January 29-31, 2003, Corwin Pavilion, University Center**

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***Session 1: January 29, Morning***

**Session Chair: Gui Bazan**

**Biomaterials**

- 8:30 am      Welcome and Introduction, Tony Cheetham
- 9:00 am      Cyrus Safinya, UCSB  
"Supramolecular Assembly in Cell-Cytoskeletal Filamentous Proteins  
and their Associated Biomolecules"
- 9:30 am      Jim Barber, Metabolix,  
"PHAs: A versatile, eco-friendly family of biologically produced  
plastics"
- 10:00 am      Refreshment Break***
- 10:30 am      Luc Jaeger, UCSB  
"Towards self-assembling, programmable RNA nano-devices"
- 11:00 am      Patrick. Daugherty , UCSB  
"Rapid Isolation of Protein and Peptide Ligands from Cellular Libraries"
- 11:30 am      Joseph Zasadzinski , UCSB  
"Development of a Nanostructured, Self-Assembled Drug Delivery  
System."
- 12:00 pm      Lunch***

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***Session 2: January 29, Afternoon***

**Session Chair: Glenn Fredrickson**

**General Polymers / Soft Materials**

- 1:30 pm      Matthew Tirrell, UCSB  
                  “Interactions between polyelectrolyte layers in the presence of multivalent ions”
- 2:00 pm      Michael Adams, Unilever Research and Development  
                  “The micromechanics of wet agglomerates”
- 2:30 pm      Brad Reitz, GE Global Research Center  
                  “Nanoscale Replication in Polymers: Data Storage Applications and Beyond”
- 3:00 pm      *Refreshment Break***
- 3:30 pm      Ed Kramer, UCSB  
                  “Defects and Melting in Two Dimensional Block Copolymer Arrays”
- 4:00 pm      Gui Bazan and Brent Gaylord, UCSB  
                  "Conjugated Water Soluble Chromophores for Biosensing Technologies: An Improved Method for Practical DNA Detection"
- 4:30 pm      *Poster Session I, Engineering II Pavilion***
- 6:30 pm      *Symposium Banquet, UCSB Faculty Club***

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***Session 3: January 30, Morning***

**Session Chair: Ed Kramer**

**Catalysis/Polymers**

- 8:30 am      David Weiner, Diversa Corporation  
                  "New Opportunities in Biocatalysis"
- 9:00 am      Susannah Scott, UCSB  
                  "Catalyst design on surfaces"
- 9:30 am      Gui Bazan, UCSB  
                  "Novel Nickel Initiators for the Tandem Polymerization of Ethylene and  
                  Copolymerization of Ethylene with Functionalized Monomers"
- 10:00 am     *Refreshment Break*
- 10:30 am     Eric McFarland, UCSB  
                  "New Process Chemistry Using Metal Oxide Solid Reactants For  
                  Selective Partial Oxidation of Alkanes"
- 11:00 am     Tim Deming and Andy Nowak, UCSB  
                  "Salt Stable Amphiphilic Block Copolypeptide Hydrogels"
- 11:30 am     Olivier Guerret, Atofina  
                  "Controlled Radical Polymerization with Nitroxides : Creating the tools  
                  to design new materials"
- 12:00 pm     Lunch**

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***Session 4: January 30, Afternoon***

**Session Chair: Tony Cheetham**

**Nanomaterials**

- 1:30 pm      Air Products, Lloyd Robeson  
                  "Membrane Separation of Gases: Subnanotechnology in Practice"
- 2:00 pm      Patrick Maestro, Rhodia  
                  "Inorganic Nanoparticles, a reality in everyday's life"
- 2:30 pm      Geoff Strouse, UCSB  
                  "Doped Quantum Dots: Applications in Magnetic and Electronic Spectroscopy"
- 3:00 pm      Refreshment Break**
- 3:30 pm      Gareth Wakefield, Oxonica,  
                  "Environmental protection and healthcare: Nanotechnology solutions"
- 4:00 pm      David Awschalom, UCSB  
                  "Manipulating Quantum Information with Semiconductor Spintronics"
- 4:30 pm      Robert York, UCSB  
                  "Voltage-Tunable Dielectrics for RF Applications"
- 5:00 pm      Poster Session II, Engineering II, Pavilion**
- 6:30 pm      Vans to Harbor View Inn**

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***Session 5: January 31, Morning***  
**Session Chair: Nicola Hill**

**Nanomaterials and Functional Inorganics**

- 8:30 am      Martin Moskovitz  
                  "Sniffing the Wind with Semiconductor Nanowire Sensors"
- 9:00 am      Susanne Stemmer, UCSB  
                  "Structure and Stability of Thin Gate Oxides"
- 9:30 am      Brad Chmelka  
                  "Meso/Macroporous Inorganic Oxides"
- 10:00 am      Refreshment Break***
- 10:30 am      Ram Seshadri, UCSB  
                  "Novel, scalable routes to nano and sub-micron particles of  
                  complex transition metal oxides and chalcogenides"
- 11:00 am      Carlos Levi, UCSB  
                  "Emerging Materials for Thermal Barrier Systems"
- 11:30 am      Steven Denbaars, UCSB  
                  "Status of GaN Based Solid-State Lighting"
- 12:00 pm      Lunch***
- 1:30 pm      Symposium adjourns***

***Friday afternoon, January 31, 2003***  
***Complex Fluids Design Consortium Workshop***  
***MRL, Seminar Room 2053***