



# SCIENCE at the Edge

Traditionally distinct science disciplines are merging to create new opportunities. Share the excitement and challenge each week through seminars and discussions with nationally recognized pioneers in science at the edge.

SPRING SEMESTER 2004

MICHIGAN STATE UNIVERSITY

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UNIVERSITY

Seminars Begin at 11:30 a.m.,  
Refreshments Served at 11:15 a.m.  
All Seminars are in Room 1400 Biomedical and Physical Sciences Building unless otherwise noted.

**Friday, January 23 – Center for Biological Modeling Seminar**

John Marko, University of Illinois at Chicago, Department of Physics  
*Micromechanical Study of DNA Organization from Protein-DNA Interactions to Whole Chromosomes*

**Friday, January 30 – Campus Theory Seminar**

Bill Wedemeyer, Michigan State University, Departments of Biochemistry and Physics and Astronomy  
*Folding Proteins on a Laptop*

**Friday, February 6 – Engineering Seminar**

Christopher Ober, Cornell University, Department of Materials Science and Engineering  
*Advances in Lithography: Taking Nanoscale Structures from Microelectronics to Biotechnology*

**Friday, February 13 – Center for Biological Modeling Seminar**

So Hirata, William R. Wiley Environmental Molecular Sciences Laboratory and Pacific Northwest National Laboratory  
*“Computational” Spectroscopy for Molecules and Polymers*

**Friday, February 20 – Campus Theory Seminar**

Ethan Vishniac, Johns Hopkins University, Department of Physics and Astronomy  
*Magnetic Fields in Stars and Galaxies: Dynamo Theory in the 21st Century*

**Friday, February 27 – Engineering Seminar**

Michael Strano, University of Illinois at Urbana-Champaign, Department of Chemical and Biomolecular Engineering  
*Understanding and Exploiting the Surface Chemistry of Single Walled Carbon Nanotubes*

**Friday, March 5 – Center for Biological Modeling Seminar**

Peter Kuhn, Palo Alto Research Center, The Scripps Research Institute  
*High-Throughput Biophysical Methods in Structural Proteomics and Drug Discovery*

**Friday, March 19 – Campus Theory Seminar**

Turab Lookman, Los Alamos National Laboratory, Theory Division  
*Elasticity-Driven Nanoscale Texturing in Functional Materials*

**Friday, March 26 – Engineering Seminar**

Bernd Gotsmann, IBM Zurich Research Laboratory  
*Nanoindentation of Polymers with Heated Tips: Data Storage Applications and Fun(damental) Science*

**Friday, April 2 – Center for Biological Modeling Seminar**

Stephen Harvey, Georgia Institute of Technology, School of Biology  
*Molecular Modeling Approaches to Understanding Viral Assembly*

**Friday, April 9 – Campus Theory Seminar**

Ned Wingreen, NEC Laboratories America, Inc.  
*E. Coli’s Division Decision: Modeling Min-Protein Oscillations*

**Friday, April 16 – Engineering Seminar**

Eric Amis, NIST Materials Science and Engineering Laboratory, Polymers Division  
*Exploiting the Innovators Dilemma: New Paradigms in Polymer Science*

**Friday, April 23 – Center for Biological Modeling Seminar**

\*\*1:00 p.m. in Room 1415 BPS Building\*\*

Wah Chiu, Baylor College of Medicine, Department of Biochemistry and Molecular Biology  
*Electron Cryomicroscopy of Macromolecular Complex*

**Friday, April 30 – Campus Theory Seminar**

Mark Newman, University of Michigan, Department of Physics  
*Large-Scale Structure of Social and Biological Networks*

SEMINAR ORGANIZERS:

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