



# 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.

FALL 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.

**Friday, September 17 – Interdisciplinary Physics Seminar**

Chong-Yu Ruan, Michigan State University, Physics and Astronomy  
*Ultrafast Electron Crystallography: An Atomic-Scale Structural and Dynamical Probe for Complex Systems*

**Friday, September 24 – Quantitative Biology and Modeling Seminar**

Gavin Reid, Michigan State University, Chemistry  
*Quantitative Proteome Analysis by Stable Isotope Labeling and Mass Spectrometry*

**Friday, October 1 – Engineering Seminar**

Kenneth S. Schweizer, University of Illinois at Urbana-Champaign, Departments of Materials Science, Chemistry, and Chemical & Biomolecular Engineering  
*Structure, Phase Separation, Gelation and Viscoelasticity of Nanoparticle-Polymer Suspensions*

**Friday, October 8 – Interdisciplinary Physics Seminar**

Martin Caffrey, Ohio State University, Biophysics, Biochemistry and Chemistry  
*A Lipid's Eye View of Membrane Protein Crystallization in Mesophases*

**Friday, October 15 – Quantitative Biology and Modeling Seminar**

Gianluigi Veglia, University of Minnesota, Chemistry  
*Probing Intramembrane Protein - Protein Interactions by NMR Spectroscopy*

**Friday, October 22 – Quantitative Biology and Modeling Seminar**

Evan Dorn, California Institute of Technology, Computation and Neural Systems  
*Life Not as We Know It: How Digital Life can Aid the Search for Extraterrestrial Organisms*

**Friday, October 29 – Interdisciplinary Physics Seminar**

John Rehr, University of Washington, Seattle, Department of Physics  
*Unraveling the Mysteries of Complex Systems with X-Ray Spectroscopy: Theory and Computation vs. Experiment*

**Friday, November 5 – Engineering Seminar**

Kathryn Uhrich, Rutgers University  
*Biodegradable Polymers for Drug Delivery*

**Friday, November 12 – Quantitative Biology and Modeling Seminar**

Isabel Novella, Medical College of Ohio, Medical Microbiology and Immunology  
*Peculiarities of RNA Virus Evolution*

**Friday, November 19 – Interdisciplinary Physics Seminar**

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

**Friday, December 3 – Engineering Seminar**

Allen Minton, National Institutes of Health  
*Effects of Macromolecular Crowding Upon Protein Conformation and Stability*

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SEMINAR ORGANIZERS:

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