MICHIGAN STATE UNIVERSITY

SCIENCE at the Edge

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

Spring Semester 2006

Seminars are on Fridays at 11:30 a.m., with refreshments served at 11:15 a.m.
1400 Biomedical and Physical Sciences Building (unless noted otherwise)

January 27 – Engineering Seminar
Paul Laibinis, Dept. of Chemical Engineering, Vanderbilt Univ.
DNA Directed Assembly

February 3 - Interdisciplinary Physics Seminar
Christopher Schuh, Dept. of Materials Science & Engineering, MIT
Percolation and Scaling in Grain Boundary Engineering

February 10 - Quantitative Biology and Modeling Seminar
Charles Brooks, Dept. of Molecular Biology, Scripps Research Institute
The Role of Membrane Environment and pH on the Insertion, Folding and Assembly of Peptides and Proteins

February 17 - Quantitative Biology and Modeling Seminar
Mark Tuckerman, Depts. of Chemistry and Mathematics, New York Univ.
Hydronium and Hydroxide Transport in Liquid Water Predicted from Density Functional Theory Based Ab Initio Molecular Dynamics

February 24 - Interdisciplinary Physics Seminar
Valeriy Ginzburg, Physical Science Group, Dow Chemical Co., Midland
Theory and Modeling of Polymer-Inorganic Nanocomposites

March 3 – Engineering Seminar
Abraham Lenhoff, Dept. of Chemical Engineering, Univ. of Delaware
Protein Transport in Porous Chromatographic Adsorbents

March 17 - Quantitative Biology and Modeling Seminar
Una-May O'Reilly, Computer Science & Artificial Intelligence Lab, MIT
Fitness Landscapes of Analog Controllers

March 24 - Interdisciplinary Physics Seminar
Zoltan Oltvai, School of Medicine, Univ. of Pittsburgh
Flux States and Functional Organization of Cellular Networks

March 31– Engineering Seminar
Curt Frank, Dept. of Chemical Engineering, Stanford Univ.
Interpenetrating Network Hydrogels for Development of an Artificial Cornea

April 7 - Quantitative Biology and Modeling Seminar
Julie Mitchell, Biochem. & Mathematics, Univ. of Wisconsin, Madison
Mathematical Approaches to Protein Re-Design

April 14 - Interdisciplinary Physics Seminar
Miguel Llinas, Dept. of Chemistry, Carnegie Mellon Univ.
Is it NMR or is it Crystallography: Solving Protein Structures via the CLOUDS Approach

April 21 – Engineering Seminar
David Schaffer, Dept. of Chem. Engineering, Univ. of California, Berkeley
Molecular Engineering of Stem Cells and Viruses for Therapeutic Application

April 28 - Quantitative Biology and Modeling Seminar
Michael Betenbaugh, Dept. of Chem. & Biomolec. Eng., Johns Hopkins Univ.
Quantitative Analysis of Glycosylation Processing

Organizers

Phillip Duxbury (Duxbury@pa.msu.edu), Dept. of Physics & Astronomy
Michael E. Mackay (mackay@msu.edu), Dept. of Chemical Engineering & Material Science
Michael Feig (feig@msu.edu), Marianne Huebner (huebner@msu.edu), and Charles Ofria (ofria@msu.edu), Quantitative Biology & Modeling Initiative