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 2007

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 12 - Quantitative Biology and Modeling Seminar
Jeff MacKeigan, Van Andel Institute
Using RNAi and Proteomic Approaches for Quantitative Analysis of Molecular Pathways

January 19 - Interdisciplinary Physics Seminar
Shaul Mukamel, Department of Chemistry, University of California, Irvine
Coherent Nonlinear Optical Spectroscopy of Proteins: Femtosecond Analogues of Multidimensional NMR

January 26 – Engineering Seminar
Scott L. Diamond, Dept. of Chemical & Biomolecular Engineering, Univ. of Penn.
Chemical Biology on a Microarray

February 2 - Quantitative Biology and Modeling Seminar
Monte Pettitt, Department of Chemistry, University of Houston
Knots, Loops, and Writhes: How Does Topo Undo Them

February 9 - Interdisciplinary Physics Seminar
Alfred Hero, Dept. of Electrical Eng. and Computer Science, Univ. of Michigan
De Novo Discovery of Gene Regulatory Networks

February 16 – Engineering Seminar
Gregory Baker, Department of Chemistry, Michigan State University
Polymers on Surfaces and at the Interface with Biology

February 23 - Quantitative Biology and Modeling Seminar
Claudia Neuhauser, Dept. of Ecology, Evolution & Behavior, Univ. of Minnesota
Understanding Ecological Communities through Spatial Models

March 2 - Interdisciplinary Physics Seminar
Phillip Duxbury, Dept. of Physics and Astronomy, Michigan State University
Life or Death Decisions in Mammalian Cells: From Non-linear Dynamics to Control and Selectivity

March 16 – Engineering Seminar
Jan Vermant, Dept. of Chemical Engineering, CIT, Katholieke Univ. Leuven
Particles at the Edge: Controlling Structure and Dynamics in 2D Suspensions

March 23 - Quantitative Biology and Modeling Seminar
Steve Horvath, Dept. of Biostatistics & Human Genetics, UCLA
An Overview of Weighted Gene Co-Expression Network Analysis

March 30 - Interdisciplinary Physics Seminar
Herschel Rabitz, Department of Chemistry, Princeton University
Controlling Events in the Micro-World: From Quantum Networks to Bio-Networks

April 6 – Engineering Seminar
Thomas Wood, Department of Chemical Engineering, Texas A&M University
Deciphering Cell Signaling in Bacterial Biofilms: The Role of Indole

April 13 - Quantitative Biology and Modeling Seminar
Scott Patterson, Amgen, Inc.
Application of Biochemical Measures to Early Clinical Drug Development

April 20 - Interdisciplinary Physics Seminar
Supriyo Datta, Dept. of Electrical and Computer Engineering, Purdue University
Nanodevices and Maxwell's Demon

April 27 – Engineering Seminar
Jason Haugh, Dept. of Chem. & Biomolecular Eng., North Carolina State Univ.
Analysis of Intracellular Signal Transduction at Various Scales of Biological Complexity

Organizers
Carlo Piermarocchi (carlo@pa.msu.edu), Dept. of Physics & Astronomy
Christina Chan (krischan@egr.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