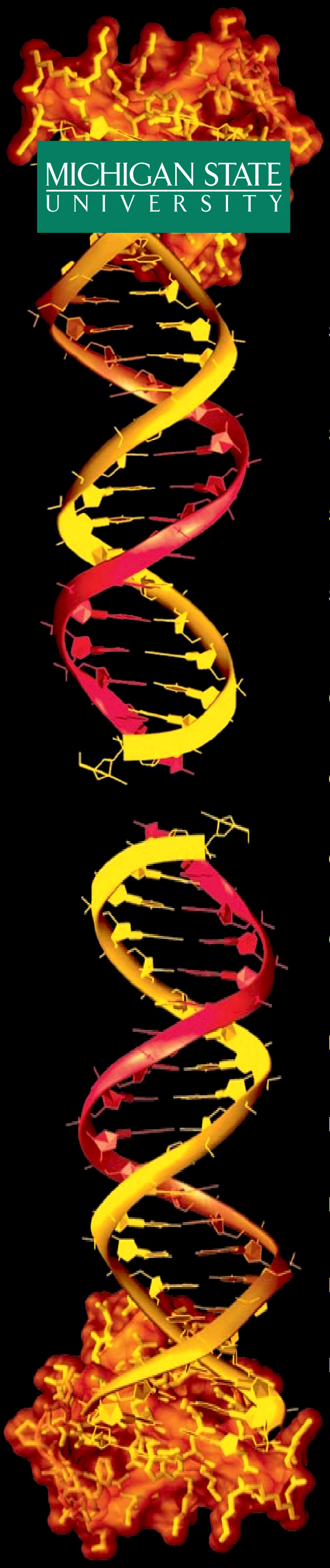

SCIENCE *at the Edge*

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.

Fall 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)

September 8 – Engineering Seminar
Steve Granick, Depts. of Chemistry, Chemical & Biomolecular Eng., and Physics, University of Illinois at Urbana-Champaign
Polymer-Assisted Fun with Phospholipids

September 15 - Quantitative Biology and Modeling Seminar
Shinhan Shiu, Department of Plant Biology, Michigan State University
Genome Evolution and Gene Duplication in Eukaryotes

September 22 - Interdisciplinary Physics Seminar
Stephen Wells, Center for Biological Physics, Arizona State University
Geometric Simulation of Mobility in Macromolecules

September 29 – Engineering Seminar
Eva Harth, Department of Chemistry, Vanderbilt University
Utilization of Macromolecular Architectures: Synthesis of Highly Targeted Intracellular Delivery Systems and the Design of Organic Quantum Dots

October 6 - Quantitative Biology and Modeling Seminar
Sharon Hammes-Schiffer, Department of Chemistry, Pennsylvania State Univ.
Hydrogen Tunneling and Protein Motion in Enzyme Reactions

October 13 - Interdisciplinary Physics Seminar
Carlo Piermarocchi, Dept. of Physics and Astronomy, Michigan State University
Optical Quantum Control of Spin Interactions in Nanostructures

October 20 - Interdisciplinary Physics Seminar
Mark Worden, Dept. of Chemical Engineering, Michigan State University
Nanostructured Interfaces that Express Protein Activities

October 27 - Quantitative Biology and Modeling Seminar
Julie Mitchell, Depts. of Biochemistry & Mathematics, Univ. of Wis., Madison
Using Shape Specificity and Biochemical Contacts to Predict Protein Interface Hot Spots

November 3 - Interdisciplinary Physics Seminar
Alessandro Vespignani, Dept. of BioInformatics, Indiana University
Epidemic Modeling in Complex Networks

November 10 – Engineering Seminar
Nicholas Kotov, Department of Chemical Engineering, University of Michigan
Organization of Materials at Nanoscale: Hard but Necessary

November 17 - Quantitative Biology and Modeling Seminar
Risto Miikkulainen, Department of Computer Science, University of Texas, Austin
Constructing Intelligent Agents through Neuroevolution

December 1 - Interdisciplinary Physics Seminar
Steve Plimpton, Biophysics Group, Sandia National Laboratories
Cell Modeling and Simulation

December 8 – Engineering Seminar
Todd Emrick, Dept. of Polymer Science & Engineering, Univ. of Mass., Amherst
Organic & Polymer Synthesis in Nanoscience - from Composite Materials to Interfacial Assembly and Capsules

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