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 2011**

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)

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**September 2 - Quantitative Biology/Gene Expression in Development and Disease Seminar**

Yingfu Li, Health Science Center, McMaster University  
*Expanding the Function and Utility of Nucleic Acids*

**September 9 - Quantitative Biology/Gene Expression in Development and Disease Seminar**

Haixu Tang, Department of Informatics and Computing, Indiana University  
*Next Generation Software Tools for Next Generation Sequence Analysis*

**September 16 - Interdisciplinary Physics Seminar**

Yuri Gorby, Department of Biological Sciences, University of Southern California  
*Bacterial Nanowires and Extracellular Electron Transfer*

**September 23 - Quantitative Biology/Gene Expression in Development and Disease Seminar**

Shizhong Xu, Department of Botany and Plant Sciences, University of California, Riverside  
*Using Genome-wide Marker Information to Detect Natural Selection*

**September 30 - Quantitative Biology/Gene Expression in Development and Disease Seminar**

Dan Voytas, Department of Genetics, Cell Biology and Development, University of Minnesota  
*Precise Genome Engineering with Sequence-specific Nucleases*

**October 7 – Engineering Seminar**

Arul Jayaraman, Department of Chemical Engineering, Texas A&M University  
*Inter-kingdom Signaling in the GI Tract: There’s a Lot of Talking Going On*

**October 14 - Quantitative Biology/Gene Expression in Development & Disease Seminar**

Rob Coalson, Department of Chemistry, University of Pittsburgh  
*Modeling Permeation through Biological Ion Channels: A Physico-Chemical Perspective*

**October 21 - Quantitative Biology/Gene Expression in Development & Disease Seminar**

David Houle, Department of Biological Science, Florida State University  
*Phenomics and the Genotype-phenotype Map*

**October 28 - Interdisciplinary Physics Seminar**

Gianluca Ascolani, Laboratory IMNC, CNRS-UMR8165, Orsay, France  
*Glioma Cells Exchanging Information Via Gap Junctions and Their Migration Process*

**November 4 - Quantitative Biology/Gene Expression in Development & Disease Seminar**

Smadar Ben Tabou de Leon, Department of Biology, California Institute of Technology  
*Information Processing in Developmental Gene Regulatory Networks*

**November 11 - Interdisciplinary Physics Seminar**

Chris Xu, Applied Physics, Cornell University  
*Pushing the Limits of Biological Imaging Using Multiphoton Excitation*

**November 18 – Engineering Seminar**

Justin Hanes, Chemical & Biomolecular Engineering, Johns Hopkins University  
*Drug Delivery to Mucosal Surfaces*

**December 2 - Interdisciplinary Physics Seminar**

Jay Grate, Pacific Northwest National Laboratory  
*Pore Network Microfluidic Habitats and Structures for the Visualization and Study of Microbial Communities and Carbon Sequestration*

**December 9 - Interdisciplinary Physics Seminar**

Jonas Korlach, Pacific Biosciences, California  
*Single-Molecule, Real-Time (SMRT™) Monitoring of Biomolecules: DNA Sequencing and Beyond*

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**Organizers**

Ruby Ghosh (ghosh@pa.msu.edu), & Jeffrey Schenker (jeffrey@math.msu.edu), Interdisciplinary Physics  
Christina Chan (krischan@egr.msu.edu), Engineering  
C. Titus Brown (ctb@msu.edu), & David Arnosti (arnosti@msu.edu), Quantitative Biology/Gene Expression in Development & Disease