

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.



MICHIGAN STATE
UNIVERSITY

Fall Semester 2015

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 11 – Quantitative Biology/Gene Expression in Development & Disease Seminar
Santiago Schnell, Department of Molecular & Integrative Physiology and
Department of Computational Medicine & Bioinformatics at the University of
Michigan Medical School
Sex, Reward or Death (in Fruit Flies)

September 18 – Quantitative Biology/Gene Expression in Development & Disease Seminar
Sophia Lunt, Department of Biochemistry & Molecular Biology,
Michigan State University
Cancer Metabolomics

September 25 - Interdisciplinary Physics Seminar
Steven Girvin, Department of Physics, Yale University
Quantum Money, Information and Computation

October 2 - Quantitative Biology/Gene Expression in Development & Disease Seminar
Thorsten Dieckmann, Biophysical Chemistry, University of Waterloo
Molecular Recognition and Catalysis in Ribonucleic Acids

October 9 - Quantitative Biology/Gene Expression in Development & Disease Seminar
Edward Lyman, Dept. of Physics and Astronomy and Dept. of Chemistry and
Biochemistry, University of Delaware
Title TBA

October 16 - Interdisciplinary Physics Seminar
Haijun Gong, Department of Mathematics and Computer Sciences,
Saint Louis University
Statistical Inference and Model Checking in Systems Biology

October 23 - Quantitative Biology/Gene Expression in Development & Disease Seminar
Shirley Liu, Dana-Farber Cancer Institute and Harvard School of Public Health
Data-Mining for Cancer Gene Expression

October 30 - Interdisciplinary Physics Seminar
Nancy Makri, Dept. of Chemistry, University of Illinois at Urbana–Champaign
*The Classical and Quantum Mechanism of Decoherence and the Quantum-
Classical Path Integral Formulation*

November 6 – Interdisciplinary Physics Seminar
Herbert Levine, Center for Theoretical Biological Physics, Rice University
Phenotypic Transitions en route to Metastasis—Can Theory Help?

November 13 - Engineering Seminar
Ali Jarvey, Electrical Engineering and Computer Sciences,
University of California at Berkeley
Materials Innovations for Nanoelectronics, Flexible Electronic Skin, and PVs

November 20 - Interdisciplinary Physics Seminar
Sui Huang, Institute for Systems Biology Seattle
Critical State Transitions, Rebellious Cells and Why it is So Hard to Eradicate Cancer Cells

December 4 - Quantitative Biology/Gene Expression in Development & Disease Seminar
Maja Bucan, Genetics, University of Pennsylvania, Perelman School of Medicine
Family-Based Analysis of Bipolar Disorder in a Genetic Isolate

December 11 - Quantitative Biology/Gene Expression in Development & Disease Seminar
Deidre Meldrum, Department of Electrical Engineering in School of Electrical,
Computer, and Energy Engineering, Arizona State University and Director, Center for
Biosignatures Discovery Automation The Biodesign Institute at Arizona State University
Biosignature Discovery

Organizers

Carlo Piermarocchi (carlo@pa.msu.edu) & Ruby Ghosh (ghosh@pa.msu.edu)
Interdisciplinary Physics

Richard Lunt (rlunt@egr.msu.edu), Engineering

David Arnosti (arnosti@msu.edu), & George Mias (gmias@msu.edu)
Quantitative Biology/Gene Expression in Development & Disease