

DEPARTMENT OF PHYSICS

# This Week in Physics

SYRACUSE UNIVERSITY  
*College of Arts & Sciences*

Week of

September 14, 2009

[http://www.phy.syr.edu/  
SeminarsEvents.htm](http://www.phy.syr.edu/SeminarsEvents.htm)

DEPARTMENT OF PHYSICS

201 Physics Building  
Syracuse NY 13244-1130

Phone: 315-443-3901  
Fax: 315-443-9103  
Email: [davis@phy.syr.edu](mailto:davis@phy.syr.edu)

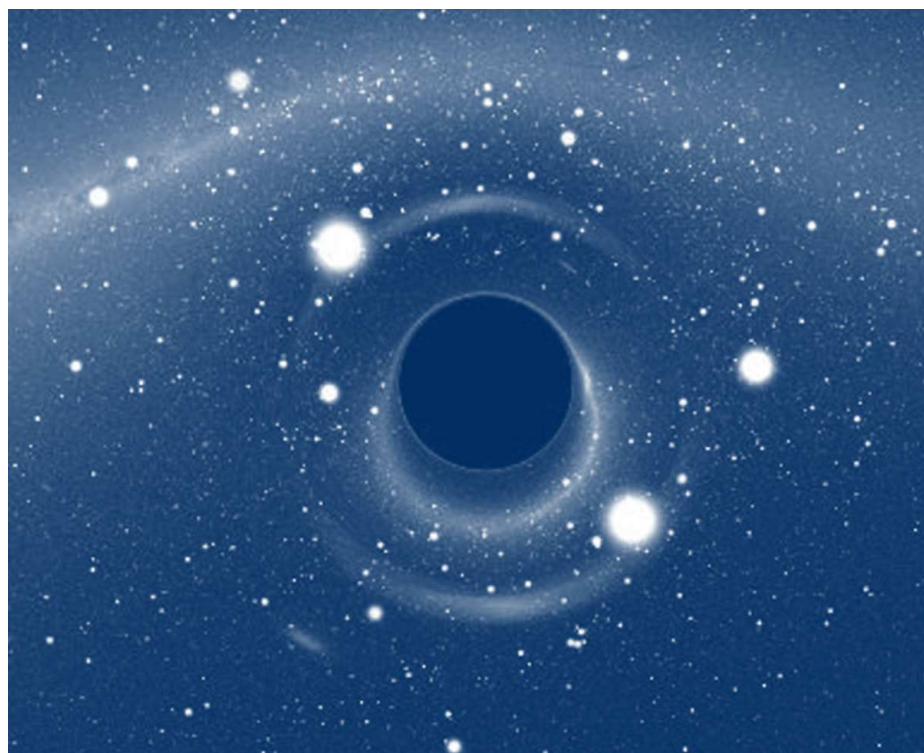
## THURSDAY, SEPTEMBER 17

Kamesh C. Wali Lecture in the Sciences and Humanities Syracuse Symposium

4:00 PM, LSC Rm 001 (reception and book signing to follow)

Professor Janna Levin (Barnard College)

*Black Holes Sing*



## THURSDAY, APRIL 9

Colloquium

4:00 PM, Rm 202 (refreshments 3:30 PM)

Prof. Steve Nahn (MIT)

*On the Edge of the LHC Era*

Particle physicists have been holding their collective breath for a few years now in anticipation of the opening of a new window on High Energy interactions with the turn on of the Large Hadron Collider at CERN. If all goes well, this fall we should finally be able to exhale. After a brief "big picture" overview, I will convey the preparedness of the Compact Muon Solenoid experiment to exploit this opportunity and describe the physics resolution for early measurements at the LHC.

## FRIDAY, APRIL 10

Condensed Matter/Biological Physics Seminar

11:00 AM, Rm 202

Prof. Andre Marziali (University of British Columbia)

*Electrophoretic methods for nucleic acid manipulation and analysis*



Charlie didn't know which was harder to work out - quantum physics or his wife's mind.

## THURSDAY, MARCH 5

Colloquium

3:45 PM, Rm 202 (refreshments 3:30 PM, Rm 204)

Dr. Sergei Urazhdin (West Virginia University)

*Current-induced excitations in magnetic bilayers: why does the polarizer behave differently from the free layer?*

## FRIDAY, MARCH 6

Condensed Matter/Biological Physics Seminar

11:00 AM, Rm 202

Dr. Sergei Urazhdin (West Virginia University)

*Thermally activated reversal statistics in magnetic nanostructures: a sensitive tool for the studies of nanomagnets.*

## TUESDAY, MARCH 3

Condensed Matter/Biological Physics Seminar

11:00 AM, Rm 202

Dr. Pengpeng Zhang (Pennsylvania State University)

*Structure and Electronic Transport Properties of Nanometer-Scale Silicon-on-Insulator Membranes*

Joint Relativity/Cosmology/High Energy Physics Seminar

3:00 PM, Rm 202

Dr. Eugene Lim (Columbia University)

*Field Theory in Cosmology : observational and theoretical applications*

## FRIDAY, FEBRUARY 6

Condensed Matter/Biological Physics Seminar

11:00 AM, Rm 202

Dr. Xianglin Ke (Penn State University)

*Magneto-thermodynamics of geometrically frustrated magnets - spin ice and related compounds*

Joint Relativity/Cosmology/High Energy Physics Seminar

2:30 PM, Rm 202

1:30 PM, Rm 202

## TUESDAY, JANUARY 22

Colloquium

4:00 PM, Rm 202 (refreshments 3:30 PM, Rm 204)

## WEDNESDAY, JANUARY 23

Condensed Matter/Biological Physics Seminar

11:00 AM, Rm 202

Dr. Cristian Staii (University of Wisconsin, Madison)

*Nanoscale Chemical and Biological Sensors: From Functionalized Carbon Nanotubes to Protein Microarrays*

## FRIDAY, MARCH 28

Condensed Matter/Biological Physics Seminar

11:00 AM, Rm 202

Prof. Robin Selinger (Liquid Crystal Institute, Kent State University)

*Simulation studies of orientational order and topological defects in curved geometries*

## WEDNESDAY, FEBRUARY 27

Joint Relativity/Cosmology/High Energy Physics Seminar

12:45 PM, Rm 202

Dr. Takemichi Okui (Johns Hopkins University/University of Maryland, College Park)

*Colored Resonances at the Tevatron: Phenomenology and Discovery Potential in Multijets*

Colloquium

4:00 PM, Rm 202 (refreshments 3:30 PM, Rm 204)

## THURSDAY, NOVEMBER 20

Colloquium

4:00 PM, Rm 202 (refreshments 3:30 PM, Rm 204)

## THURSDAY, FEBRUARY 14

Colloquium

4:00 PM, Rm 202 (refreshments 3:30 PM, Rm 204)

Dr. Martin Forstner (University of California, Berkeley)

*Membrane Biophysics: from Single Molecules to Whole Cells*

Recognized as a quintessential part of all cellular life, bio-membranes have been a focus of interdisciplinary research over many decades. Yet, despite the concentrated efforts of biologist, chemist and physicist, many fundamental questions regarding biological membranes remain wide open. To gain an understanding of these challenges, first elementary aspects of membranes and their building blocks will be discussed, followed by an exposé of some of their most intriguing physical aspects including self assembly, phase behavior, membranes as complex fluids and emergence. Much of the recent scientific advances in membrane biophysics are driven by the development of new bio-compatible experimental techniques. Thus, the lecture will conclude with an overview of available investigative tools, emphasizing modern photonic methods such as single molecule tracking and fluorescence correlation spectroscopy.

## FRIDAY, FEBRUARY 15

Condensed Matter/Biological Physics Seminar

11:00 AM, Rm 202

Dr. Martin Forstner (University of California, Berkeley)

*Bio-Membranes: Structured, Adaptive and Dynamic - New Insights from in vivo and in vitro Experiments*