

# This Week in Physics

SYRACUSE UNIVERSITY  
*College of Arts & Sciences*

Week of

February 23, 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)

## MONDAY, FEBRUARY 23

Joint Relativity/Cosmology/High Energy Physics Seminar  
1:30 PM, Rm 202

**Dr. Patrick McDonald (University of Toronto)**

*Large-scale structure theory for the coming era of massive surveys*

## TUESDAY, FEBRUARY 24

Colloquium

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

**Dr. Patrick McDonald (University of Toronto)**

*The large-scale structure of the Universe as a probe of fundamental physics*

We have only scratched the surface of the potential for using large-scale structure (LSS) as a probe of fundamental physics/cosmology. Future measurements will probe dark energy, inflation, dark matter properties, neutrino masses, modifications of gravity, etc. with unprecedented precision. I will discuss the basic picture of LSS, and the most commonly discussed use of it: measuring the baryonic acoustic oscillation (BAO) standard ruler. I will discuss three specific probes: the traditional galaxy redshift survey, the Lyman-alpha forest (Ly $\alpha$ F), and the new idea of 21 cm intensity mapping; and two experiments I am involved with that cover these probes: SDSS-III/BOSS (galaxies and Ly $\alpha$ F) and the proposed CHIME (21 cm).

## THURSDAY, FEBRUARY 26

Colloquium

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

Dr. Jacinta Conrad (University of IL, Urbana - Champaign)

*Structure and dynamics of non-equilibrium colloidal suspensions*

## FRIDAY, FEBRUARY 27

Condensed Matter/Biological Physics Seminar

11:00 AM, Rm 202

Dr. Jacinta Conrad (University of IL, Urbana-Champaign )

*Colloids under flow: assembly and patterning*

