

This Week in Physics

SYRACUSE UNIVERSITY
College of Arts & Sciences

Week of
October 13, 2008

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

DEPARTMENT OF PHYSICS

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MONDAY, OCTOBER 13

Computational Physics Group Meeting
10:00 AM, Rm 202

Prof. Simon Catterall (SU)
Frontiers of Lattice Gauge Theory: what, why and how...

THURSDAY, OCTOBER 16

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

Prof. Aharon Kapitulnik (Stanford University)
Time Reversal Symmetry Breaking in Unconventional Superconductors

The search for broken time reversal symmetry (TRSB) in unconventional superconductors intensified in the past few years as more systems have been predicted to possess such a state. Following our pioneering study of TRSB state in Sr_2RuO_4 using magneto-optic probes, we embarked on a systematic study of several other systems predicted to be candidate of such novel state. The primary instrument for our studies is the Sagnac magneto-optic interferometer which we recently developed. This instrument can measure optical rotations with unprecedented sensitivity of 10 nano-radians at temperatures as low as 100 mK. In this talk we will review our recent studies of TRSB in several systems, emphasizing unconventional superconductors, the study of the pseudogap state of high temperature superconductors and the inverse proximity effect in superconductor/ferromagnet bilayer structures.

FRIDAY, OCTOBER 17

Condensed Matter/Biological Physics Seminar
11:00 AM, Rm 202

Dr. Gianfranco Durin (Istituto Nazionale di Ricerca Metrologica (I.N.Ri.M), Torino, Italy)
Crackling noise and complexity in natural systems

