

This Week in Physics

SYRACUSE UNIVERSITY
College of Arts & Sciences

Week of

November 9, 2009

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

DEPARTMENT OF PHYSICS

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MONDAY, NOVEMBER 9

Joint Relativity/Cosmology/High Energy Physics Seminar
2:30 PM, Rm 202

Prof. A.P. Balachandran (Syracuse University)

Pauli-Forbidden Transitions vs Noncommutative Spacetimes

THURSDAY, NOVEMBER 12

Colloquium

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

Prof. Kara Hoffman (University of Maryland)

South Pole Neutrino Telescopes

Neutrinos are unique astronomical messengers which may provide critical information in identifying sources of cosmic rays and the physics processes out of which they are born. The search for astrophysical neutrinos has given rise to a new generation of neutrino telescopes of an unprecedented scale, including the IceCube Neutrino Observatory, which is under construction at the South Pole and will be world's the first kilometer scale neutrino telescope. The construction, which commenced in January 2005, is nearing completion, with 59 of the planned 86 strings of optical modules currently installed and operating in the clear deep polar ice. Even in its partially completed state, IceCube is already the largest operating neutrino telescope, and the results of the first analyses, along with some of the final results from its predecessor, AMANDA, offer a glimpse of IceCube's potential for discovery. However, even IceCube's unparalleled cubic kilometer of instrumented volume is not large enough to measure the flux of the so called GZK neutrinos produced by the interaction of the highest energy cosmic rays with the cosmic microwave background. Plans are already underway to follow the construction of IceCube with a 100 kilometer scale observatory designed to detect the GZK neutrinos via radio frequency emissions from the Askaryan effect.

FRIDAY, NOVEMBER 13

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

Prof. Valerica Raicu (University of Wisconsin)

Determination of structure and distribution of protein complexes in living cells