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# WEEKLY CALENDAR

## January 23, 2012

### DEPARTMENTAL COLLOQUIUM

#### "IceCube, Status and Results"

3:40 PM, January 26, 2012  
109 Nicholson Hall

**Ali Fazely**  
Southern University

**Host: Michael Cherry**

• Refreshments served at 3:15 PM in 232 (Library) Nicholson Hall •

IceCube, installed deep in the ice of the geographic South Pole, is the first cubic kilometer scale neutrino detector. A full complement of 86 strings, each comprised of 60 Digital Optical Modules (DOM), have been deployed and the full detector has been operational since summer of 2011. The detector has three distinct components: a surface array, called the IceTop, for air-showers, a 15-Mton deep core component with approximately eight times more DOM coverage for low energy neutrino detection and the main km<sup>3</sup>-scale component. Although search for high energy astrophysical neutrinos is among the primary goals of the IceCube detector, it is the most powerful Supernova detector and it also provides unprecedented capabilities to perform a plethora of other fundamental physics such as neutrino oscillations, search for exotics, and dark matter search. These topics and some of the latest IceCube results will be presented.

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#### Publications:

1. "Dynamics and applicability of the similarity renormalization group", **K. D. Launey, T. Dytrych, J. P. Draayer** and G. Popa, *J. Phys. A: Math. Theor.* 45, 015208 (2012).
2. RADIATION THERAPY PHYSICS: "Potential of discrete Gaussian edge feathering method for improving abutment dosimetry in eMLC-delivered segmented-field electron conformal therapy", John G. Eley, **Kenneth R. Hogstrom, Kenneth L. Matthews**, Brent C. Parker, and Michael J. Price, *Medical Physics*, December 2011, Vol. 38, Issue 12.
3. "Crystal Structure and Physical Properties of Yb<sub>3</sub>Co(4-x)RuxSn<sub>13</sub> (x = 0, 0.38)", Devin C. Schmitt, **Neel Haldolaarachchige, David P. Young, Rongying Jin**, and Julia Y. Chan, *Z. Anorg. Allg. Chem.* **2011**, 637, 1-7.