Contribution ID: **100** Type: **not specified**

IceCube-Gen2: The Science, the Detector, Drilling, and Logistics

Monday, 14 September 2015 12:10 (35 minutes)

New groups from the astroparticle physics community have joined an enlarged IceCube Collaboration to pursue construction of a next-generation very large volume neutrino telescope at the South Pole site. This new collaboration, called the IceCube-Gen2 collaboration, hopes to bring forth an instrument that will further push the recently expanded frontiers of knowledge in the field of neutrino astrophysics to cover new territory. The instrument, based on proven engineering and operational experience gained in constructing and running the IceCube Neutrino Observatory, will nevertheless utilize new techniques to effect transformative change in the field. This presentation will describe the scientific mission to understand the sources of high energy neutrinos, probing all the way to the highest energies with new technologies, and will describe the conceptual-level designs under evaluation. Technical aspects such as advances in photodetection and detection via RF sensors are then covered along with associated electronics. Drilling and logistics make up a significant portion of the total project: new designs and strategies for large scale drilling and construction activities in an environment different from that of the IceCube construction merit close attention. The presentation concludes with project-level concerns such as cost, schedule, and the mobilization of large financial and human resources across the globe.

Primary author: Prof. HANSON, Kael (University of Wisconsin - Madison)

Presenter: Prof. HANSON, Kael (University of Wisconsin - Madison)

Session Classification: Plenary Session 2