



PHYSICS COLLOQUIUM

Neutrino Physics Beyond SNO

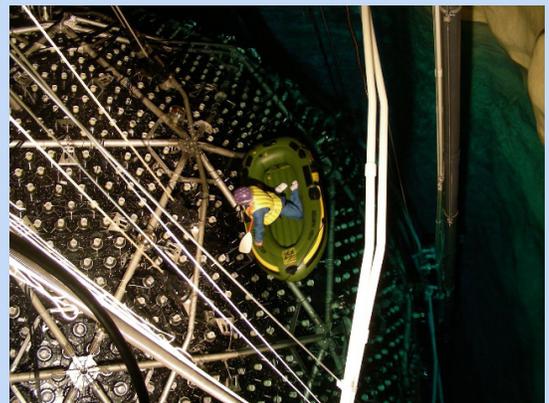


Mark Chen

Dept of Physics, Queen's University

Host: Heeger

Abstract: A follow-up experiment to the Sudbury Neutrino Observatory is being developed, called SNO+. With a liquid scintillator replacing the heavy water, SNO+ will examine neutrino phenomena at lower energies than SNO. Physics goals include: detecting the CNO solar neutrinos and using them to resolve a new puzzle related to solar chemical composition; precision measurements of the survival probability of pep solar neutrinos at the transition energy between vacuum- and matter-dominated oscillation; and measuring the flux of geo-neutrinos in a detector site where the local geology has been extensively characterized, enabling the measurement to address fundamental questions in geoscience. We also plan to add neodymium to the SNO+ liquid scintillator in order to perform a competitive next-generation 0ν double beta decay search. The physics capabilities and the status of the experiment will be presented.



2241 Chamberlin Hall • Friday, April 17, 2009 • 4:00 P.M.

cookies & coffee served at 3:30 p.m.