

Thursday, October 27th, 2022

Refreshments at 3:45pm in PSF 186

Colloquium from 4:00 PM – 5:00 PM in PSF 101

Scattering in Neutrino Alley

Professor Kate Scholberg

Duke University



Abstract:

Coherent elastic neutrino-nucleus scattering (CEvNS) is a process in which a neutrino scatters off an entire nucleus. It is tremendously challenging to detect, due to the tiny nuclear recoil. CEvNS was measured for the first time by the COHERENT collaboration using the unique source of neutrinos at the Oak Ridge National Laboratory Spallation Neutron Source. This talk will describe the physics reach of CEvNS, as well as COHERENT's measurements, status and future plans.

Biography:

Kate Scholberg is Arts and Sciences Distinguished Professor of Physics and Bass Fellow at Duke University. She received a B.Sc. in Physics from McGill University in 1989. She then attended Caltech, receiving an M.S. in 1991 and a Ph.D. in 1997 for thesis research on the MACRO experiment at Gran Sasso Laboratory in Italy. As a research associate at Boston University, she joined the Super-Kamiokande collaboration. She moved to Duke University in 2004. She serves as spokesperson of the COHERENT collaboration and is currently a member of the Super-K, T2K and Deep Underground Neutrino Experiment collaborations. Her research interests are at the intersection of particle physics, nuclear physics and astrophysics, and include multiple aspects of neutrino physics, astrophysics and cosmology.

Host: Prof. Cecilia Lunardini

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