

UNL Department of Physics and Astronomy presents:

The IceCube Neutrino Observatory and the Beginning of Neutrino Astrophysics

PRESENTED BY
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THURSDAY
OCTOBER 28
4:00 PM
VIA ZOOM

Refreshments will be served in the JH 1st Floor Vending Area at 3:30pm

ABSTRACT

The IceCube Neutrino Observatory is the world's largest neutrino detector, instrumenting a cubic kilometer of ice at the geographic South Pole. IceCube was designed to detect high-energy astrophysical neutrinos from potential cosmic ray acceleration sites such as active galactic nuclei, gamma ray bursts and supernova remnants. IceCube announced the detection of a diffuse flux of astrophysical neutrinos in 2013, including the highest energy neutrinos ever detected. In September 2018, IceCube observed a neutrino in coincidence with a flaring blazar. Recently, IceCube has identified a Glashow resonance event, which gives clues about the environment in cosmic accelerators. I will discuss the latest results from IceCube and discuss prospects for future upgrades and expansions of the detector.