

WICHITA STATE UNIVERSITY

Physics Seminar Presents Our Speaker:

Dr. Gavin Davies

Indiana University

“Neutrinos, Antineutrinos and Deep Learning with NOvA”

ABSTRACT: Neutrinos are abundant fundamental particles throughout the universe; second-most only to the photon. They undergo a phenomenon called neutrino oscillation whereby they change flavor from one type to another as they travel. The NOvA experiment seeks to elucidate further understanding of this phenomenon utilizing Fermilab's NuMI neutrino beam and two detectors to observe neutrino interactions: a 300 ton near detector underground at Fermilab, IL and a 14 kton far detector in Ash River, MN.

The NOvA experiment has recently produced updated neutrino oscillation measurements as well as its first antineutrino oscillation results. At the core of NOvA's measurements is the use of deep learning algorithms for identification and reconstruction of the neutrino flavor and energy. Presented here are the latest neutrino and first antineutrino results as well as details about the convolutional neural network implementation on NOvA and further extensions of NOvA's deep learning efforts

Day & time:

Wednesday, August 29, 2018
2:00 p.m., 128 Jabara Hall
Refreshments & Discussion Afterwards

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