WICHITA STATE UNIVERSITY

Physics Seminar Presents Our Speaker:

Dr. Leo Aliaga

Fermi National Accelerator Laboratory, IL

"How to Produce and Characterize the World's Most Intense Neutrino Beams"

Abstract: The determination of the flux in any accelerator neutrino beam presents a challenge for current and future short and long baseline neutrino experiments. The high intensity of the NuMI beamline (Neutrinos at the Main Injector) at Fermilab, in Batavia, IL, the most intense high-energy neutrino beam in the world, allows us to study neutrino oscillations and neutrino interactions with high statistics in experiments like NOvA, MINERvA and MINOS+. The uncertainties on the knowledge of the flux are associated with production and attenuation of hadrons in the beamline materials and with the beam optics.

Existing hadron production experiments are being used to constrain flux uncertainties, reducing them significantly, and new experiments are currently being developed that will have a big impact, especially for the DUNE era. In this talk, I show an overview of the neutrino beam physics, the status of NuMI and the current efforts to measure new hadron production data.

Day & time:

Wednesday, April 3, 2019
2:00 p.m., 128 Jabara Hall
Refreshments & Discussion Afterwards

Supported by the Eddy and April Lucas Fund, Wichita, Kansas