

CONNECT

CONsortium of Nuclear sECurity Technologies

CONNECT Undergraduate Research Experience



Jeffrey Favorite, Ph.D.

Los Alamos National Laboratory

Thursday, 6 June 2024

2:00PM - 3:30PM

BSB 3.03.02

Scientific Computing

From the centers of stars to the center of the earth and everything in between, scientific computing is key to understanding nature and making predictions. We will discuss general concepts in scientific modeling and uncertainty quantification. Specific examples will be presented from neutron transport problems, but the concepts apply across all disciplines.

Dr. Jeffrey Favorite received his Ph.D. in nuclear engineering from the Georgia Institute of Technology in 1998. He studied variational perturbation methods in nuclear reactor physics under Prof. W. M. Stacey. A paper based on his Master's thesis won the Mark Mills Award from the American Nuclear Society in 1995. In 1998, Dr. Favorite joined X-Division at Los Alamos National Laboratory, where he remains. His work and research are in the areas of neutron multiplication and criticality, neutron and photon shielding, and other neutron and photon simulations, uncertainty quantification and analyses using the MCNP Monte Carlo code, the PARTISN discrete-ordinates code, and other transport codes. His particular interests are in perturbation and sensitivity methods as well as inverse and optimization methods for neutron and photon transport problems. Interface and boundary perturbations are of special interest.