SPEAKER:

Faith Hensley, University of Kentucky

TITLE:

An Inverse Problem for the Local Radiative Transport Equation

ABSTRACT:

The radiative transport equation (RTE) is a model for light propagation inside a scattering medium. In this talk, we set up a boundary value problem for the RTE to model the scenario of shooting a laser beam in a foggy medium. Classically, one can consider the following inverse problem for the RTE: Given the ability to measure light intensity on the boundary, can we recover the light's scattering rate? Here, we will consider a modification of this inverse problem where we only have access to sources and measurements on a subset of the boundary and explore whether the scattering coefficient can be recovered.