

NSI Colloquium on Monday, August 27 at 3:45 pm in Hawking Auditorium--Mitchel Institute

Refreshments will be served at 3:30 pm

FORENSIC RADIOCHEMISTRY

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Abstract:

Signatures inherent in a sample containing radionuclides give clues about the origin of the material. This information can be quite important when dealing with smuggled nuclear materials interdicted by law enforcement personnel, or potential debris samples following a nuclear explosion. The isotopic content of the major components of a sample is a clue to the nuclear processes that produced the sample. Ingrowth of daughter activities in decay processes can lead to the production time line. The concentrations of minor contaminant species are linked to the chemical processes used in the recovery of the material. Inorganic contaminants and alloy compositions provide useful information. Results obtained from real-world samples will be used to illustrate these points.