NUCLEAR SEMINAR SERIES

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(PhD class of '14)

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Monday, December 3
4:00 pm - Rm 123 NSH

WMD assessment tools and training developed at INL

One of the primary missions of the nuclear nonproliferation division at Idaho National Lab is concerned with training our military and first responders and developing tools and techniques for them that would be useful in various WMD threat scenarios. For many of these, the collection and analysis of gamma-ray spectra are a key task. This talk provides an overview of two such projects. The first involves the detection of possible chemical warfare agents inside munitions and their identification using prompt gamma-ray neutron activation analysis (PGNAA), where a novel detection system and automated analysis software, developed at INL, has been in use and under continuous development. The second involves the production of surrogate glass debris with radiological properties mimicking realistic nuclear fallout for post-detonation forensics exercises, which utilizes an accelerator-based production mechanism for the radioisotopes of interest.

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