Nuclear Security and Nonproliferation: More than just Nuclear Science

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Abstract
Nuclear security and nonproliferation is a broad field that encompasses many disciplines, including engineering, computer science, physics, chemistry, seismology, mathematics, political science, and international affairs. This presentation highlights key challenges in nuclear security and nonproliferation with special attention paid to a method being developed at VCU to proliferation-proof nuclear materials using high specific heat isotopes of plutonium and uranium. Initial results have shown that proliferation-proofing plutonium is possible and that it may be commercially feasible in the near future has very high burn-up nuclear fuels are developed and deployed.

Biography
Dr. Braden Goddard is an Assistant Professor in the Department of Mechanical and Nuclear Engineering at Virginia Commonwealth University and is the principal investigator for the Nuclear Security and Nonproliferation Laboratory at VCU. Dr. Goddard has over 5 years of domestic and international experiences in industry, national laboratories, and academia. His research interests are nuclear security and nonproliferation, with a focus on radiation detection and measurements. Dr. Goddard is a member of the Institute of Nuclear Materials Management Strategic Planning Committee and is a World Institute for Nuclear Security Certified Nuclear Security Professional.