

Nuclear Engineering Seminar

Dr. Jason P. Hayward

Professor

University of Tennessee(Knoxville, TN)/Oak Ridge National Laboratory
(Nuclear Materials Detection/Characterization Group, Global Nuclear Security
Technology Division)

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**“Research in Basic and Applied Nuclear Detection for Nuclear
Security and Safeguards Applications”**

ABSTRACT

Nuclear radiation detectors are becoming increasingly important for a wide range of applications, which include, but are not limited to: nonproliferation and arms control, homeland security to protect against terrorist threats, nuclear forensic analysis, counter-proliferation, monitoring of nuclear waste, medical imaging, environmental safety, nuclear physics, high energy physics, oil well logging, and other industrial applications. My work includes basic and applied research in the areas of radiation detection and measurement, nuclear security and safeguards. I will describe one ongoing project in the area of nuclear safeguards instrumentation as well as two of my projects that are soon to begin. In this new research, my aim is to advance knowledge and understanding of detection materials and systems that hold great promise in solving two significant nuclear threat detection problems.

BIO

Professor Jason P. Hayward holds a joint faculty appointment with the University of Tennessee and the Oak Ridge National Laboratory Nuclear Materials Detection and Characterization Group, Global Nuclear Security Technology Division. Prof. Hayward has a B.S. in Physics and Mathematics from Valparaiso University. He holds M.S.E. and Ph.D. degrees in Nuclear Engineering and Radiological Science from the University of Michigan. As a Naval Reserve Officer, Prof. Hayward engaged in nuclear detection research and research administration with Naval Research Laboratory and the Office of Naval Research (2003-2007). Prior to that time, Prof. Hayward served on active duty as a Nuclear Power School Instructor in Charleston, SC (1999-2003). He is currently a reviewer for Nuclear Instruments and Methods A, Nuclear Engineering and Technology, and IEEE Transactions on Nuclear Science. Recent awards include the Dean's Junior Faculty Research Excellence Award (2009), University of Tennessee Quest Scholar of the Week (2009), and University of Michigan College of Engineering Distinguished Achievement Award (2007).