NPS Defense Energy Program Presents:

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Nuclear Energy and Security

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With Guest Lecturer Jason T. Harris, Ph.D.

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Abstract:
Recently there has been tremendous interest in developing nuclear energy and technologies involving nuclear and radioactive materials around the world. One of the biggest challenges presented by the global nuclear energy revival is maintaining effective security wherever nuclear or other radioactive material is in use, storage and/or transport, and of associated facilities, especially in countries/regions of heightened security risk. Every effort should be made to take all possible necessary measures, as extensively as possible, in order to protect society from criminal or unauthorized acts involving nuclear and other radioactive material, including nuclear terrorism. Nuclear security includes all such efforts. The international community has developed a number of key instruments related to nuclear security including various International Atomic Energy Agency (IAEA) Information Circulars (INFCIRCs) and United Nation conventions. In addition, partnerships and meetings such as the Nuclear Security Summit have addressed the need for international cooperation in nuclear security. Very broadly, nuclear security can be broken down into three basic elements: prevention, detection and response. Prevention includes all such security measures that may serve either as deterrence or prevent any unauthorized access to a protected nuclear facility and associated facilities. Detection includes all such security measures that help in detection of any unauthorized access to a protected nuclear facility. Response is the security strategy used to defeat an adversary by preventing it from accomplishing its tasks either by containment or by neutralization. The increasing nuclear terrorism threat has forced States to develop education and training programs in this area. The IAEA has assisted in this regard. The purpose of this presentation is to give an overview of nuclear energy and talk about the measures used to secure nuclear facilities at the international, State, and local level.

Abridged Biography:
Dr. Jason T. Harris is currently Associate Professor at Idaho State University (ISU) in the Department of Nuclear Engineering and Health Physics. Dr. Harris received his Ph.D. from Purdue University in health physics in 2007, an M.S. from the University of Illinois at Urbana-Champaign in nuclear engineering in 2002, and a B.S. in biology and chemistry from the University of Tampa in 1995. Dr. Harris has over 10 years of experience as the primary instructor for courses in Health Physics and Nuclear Engineering, including diverse subjects such as radiation detection and instrumentation, health physics, radiation physics, laboratory experimentation, nonproliferation, and nuclear security. He has been an active participant in undergraduate research opportunities and department-wide capstone design projects.

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