

MSEE/IIRM Joint Seminar



Nuclear Weapons Effects Source, Transmission, Interaction, and Response

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Nuclear weapon detonations produce unique phenomena that result in environmentally sensitive effects. In this seminar, we'll discuss nuclear weapons effects in terms of the source phenomena, transmission of the source energy through varying environments, interaction with objects in the environment, and the response of those objects. This will include detonations in the atmosphere, in space, and underground/water. The discussion will include the effects of x-rays, ionizing radiation, thermal radiation, shock and blast waves, electromagnetic pulse, and residual radiation. We will focus on the basic physics and chemistry of these effects at the unclassified level.

Bio: John McClory has been a Professor of Nuclear Engineering at the Air Force Institute of Technology (AFIT) since 2008. He is the Director of the Nuclear Weapons Effects, Policy and Proliferation Graduate Certificate Program and Curriculum Chair of the Nuclear Engineering Program. He graduated from the Air Force Institute of Technology with a PhD. in nuclear engineering, Texas A&M University with an M.S. in physics, and Rensselaer Polytechnic Institute with a B.S. in physics. Prior to joining the AFIT faculty, Dr. McClory was a US Army officer and served in various assignments in the United States, Europe, and the Middle East; including service during Operation Iraqi Freedom and as an assistant professor of physics at the United States Military Academy. Dr. McClory's research interests include the effects of radiation on military equipment and electronics; nuclear forensics techniques, and nuclear weapon effects.