



Old Dominion University

Department of Physics Colloquium

Tuesday, November 18, 2025

"Accelerator Driven Subcritical Nuclear Systems for Power Generation and Transmutation"

**Dr. Stuart Henderson
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Subcritical Systems Inc.**

Abstract:

A subcritical nuclear system consists of a high-power proton accelerator driving a spallation target to generate neutrons in a subcritical neutron multiplying assembly. Accelerator Driven Systems are considered for two applications: power production and transmutation of long-lived isotopes in spent nuclear fuel. While such concepts have been studied for decades, the technology for large scale deployment is now within reach. This colloquium will review developments in ADS and the current status and plans for deployment.

Presentation: **OCNPS 200 @ 3:00 pm**
Refreshments: **OCNPS Atrium @ 2:30 pm**

All interested persons are cordially invited to attend.