Department of Engineering Physics
UNIVERSITY OF WISCONSIN–MADISON

INSTITUTE FOR NUCLEAR ENERGY SYSTEMS

Presents:
Dr. Troy C. Haskin
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Next Generation Severe Accident and Dynamic Event Tree Modeling

Abstract: MELCOR3 and ADAPT are two computer applications being used for nuclear safety-related simulations and developed at Sandia National Laboratories. MELCOR3 is a next generation severe accident simulation application that focuses on robust and flexible simulations with concrete measures of Software Quality Assurance, Verification, Validation, and Uncertainty Quantification (SQA-VVUQ). ADAPT is a next generation dynamic event tree (DET) software that focuses on using one or more physics simulators to build a set of trees from epistemic and aleatory uncertainties as a function of state to efficiently explore the space of sequences that may occur during an event. This talk will discuss both codes at a high level, recent efforts and results, and plans for future development.

***Biography*:** Troy C. Haskin received his Ph.D. in Nuclear Engineering from the University of WisconsinMadison in 2016, and he is currently a Senior Member of the Technical Staff in the Severe Accident Analysis Department at Sandia National Laboratories. Dr. Haskin specializes in numerical methods, nonlinear solvers, and software architecture as primarily applied to nuclear systems and severe accidents.

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