

Thursday, January 23, 2020

Dr. Robert Martin, BWXT

VCU, College of Engineering East Hall 401 W. Main St. room E3229

Richmond, VA



Topic: "Science-Based Nuclear Design and Safety in the Emerging Age of Data Based Analytics"

Summary: Over the many decades of nuclear power development, science- and data-based evaluations have alternated in priority by technologists as they mutually serve to refine the understanding and utility of nuclear science. The rapid advancement of both of these methods principles for nuclear applications, among others, has been synergistic with advances in computing. Stimulated by recent data analytics achievements in the realm of computer visualization, machine learning and the internet-of-the-things, this presentation reviews the historical trends of science- vs. data-based analytics with a focus on nuclear-thermal-hydraulics modeling and simulation. The benefit of this progress is then presented in terms of its value to the nuclear industry. An underlying assumption is maintained that sustainable progress relative to present-day investment in research and development is only possible where benefits for the commercial nuclear power industry can be realized.

Biography: Robert Martin leads the development of evaluation methodologies and models for the design and safety analysis of advanced nuclear power plant concepts at BWX Technologies, Inc. Through employment with B&W, AREVA (now Framatome), and Siemens Power Corp, he has been responsible for the development and regulatory defense of several evaluation methodologies for the design and safety nuclear power plants, including the first applications of best-estimate plus uncertainty methods to design-basis LOCA for both fuel and containment evaluations and for demonstrating plant resiliency to beyond design-basis severe

accidents. His experience includes employment at the Idaho National Laboratory, working in the area of thermal system fluid modeling (RELAP5-3D). Dr Martin holds a PhD awarded by Penn State University, and a BS and MS from Texas A&M.

Schedule:

6:00: Registration Begins

6:30: Presentation

7:30 - 8:30: Social at Mojo's Philadeli (walking distance at [733 W. Cary St](#))

Cost: Free! The presentation will be followed by a social where attendees will pay for their own food/drinks. Reservations for the meeting needed to be made by 4 p.m. on Monday, January 20, 2020. Please address any questions to Jessika Rojas Marin.