

MARCH 7TH, 12:00PM, TALBOT LABORATORY 103

GRAINGER Lecture Series

RISK-INFORMED REGULATORY DECISION MAKING

ABSTRACT

Dr. George Apostolakis will review the concept of risk and the structure of a Probabilistic Risk Assessment (PRA) for nuclear power plants. The traditional regulatory system that is based on design basis accidents and the principle of defense in depth will be compared to a risk-informed regulatory system. Additional insights from PRAs will be discussed. New initiatives for the risk-informed licensing of new reactors will be presented. Finally, an overview of the Nuclear Risk Research Center founded by the Japanese nuclear utilities will be offered.



BIOGRAPHY

The Honorable George Apostolakis was sworn in as a Commissioner of the U.S. Nuclear Regulatory Commission (NRC) on April 23, 2010, for a term ending on June 30, 2014.

Dr. Apostolakis has had a distinguished career as a professor, an engineer, and risk analyst. He is internationally recognized for his contributions to the science of risk assessment for complex systems. Before joining the NRC, he was a professor of Nuclear Science and Engineering and a professor of Engineering Systems at the Massachusetts Institute of Technology.

Dr. Apostolakis served as a member of the NRC statutory Advisory Committee on Reactor Safeguards (ACRS) from 1995 to 2010. He also served as Chairman of the ACRS in 2001 and 2002.

In 2007, Dr. Apostolakis was elected to the National Academy of Engineering for “*innovations in the theory and practice of probabilistic risk assessment and risk management.*” He founded the International Conference on Probabilistic Safety Assessment and Management. He served as the Editor-in-Chief of the International Journal Reliability Engineering and System Safety. Dr. Apostolakis received the American Nuclear Society (ANS) Tommy Thompson Award for his contributions to improvement of reactor safety in 1999 and the ANS Arthur Holly Compton Award in Education in 2005. He is a Fellow of the ANS and the Society for Risk Analysis. Currently, he is the Head of the Nuclear Risk Research Center located in Japan.

Dr. Apostolakis holds a Ph.D. in Engineering Science and Applied Mathematics (awarded in 1973) and an M.S. in Engineering Science (1970) both from the California Institute of Technology. He earned his undergraduate degree in Electrical Engineering from the National Technical University in Athens, Greece in 1969.

NPRE ILLINOIS

DEPARTMENT OF NUCLEAR, PLASMA AND RADIOLOGICAL ENGINEERING