

Akira Tokuhiro, PhD

Dean, Faculty of Energy Systems and Nuclear Science at University of Ontario Institute of Technology
Oshawa, ON, CA

Prominent nuclear design, engineering and safety expert brings leadership and severe nuclear accident analytics skills to UOIT

Description

Few people understand the complexity of analyzing a severe nuclear reactor accident and its environmental consequences better than international nuclear energy expert Akira Tokuhiro, PhD. His contributions to the American Nuclear Society's President's Committee on the 2011 Fukushima Daiichi nuclear power plant accident in Japan led him to co-author a book on the disaster. With an interest in big data analytics, he has been instrumental in guiding global nuclear energy design, engineering and safety research with U.S. Department of Energy (DOE) support, and at the Japan Atomic Energy Agency, and Switzerland's Paul Scherrer Institute.

Appointed Dean of the Faculty of Energy Systems and Nuclear Science, Dr. Tokuhiro brings over 20 years of diverse nuclear engineering experience in academia and industry to UOIT. Most recently he served as Senior Principal Engineer of NuScale Power LLC, a nuclear energy startup company in Corvallis, Oregon, funded by the DOE and Fluor Corporation. In this role, he developed the technical basis of the Emergency Planning Zone of the NuScale Small Modular Reactor, which led the company to complete the first-ever submission of the Design Certification Application to the U.S. Nuclear Regulatory Commission (USNRC) in January 2017. From 2007 to 2014, he served as Professor of Mechanical and Nuclear Engineering, and Director of the Nuclear Engineering Graduate Program at the University of Idaho in Moscow, Idaho.

Previously, he was an Associate Professor in the Department of Mechanical and Nuclear Engineering at Kansas State University in Manhattan, Kansas; as well as an Assistant Professor in the Department of Nuclear Engineering, and Director and USNRC Senior Reactor Operator of the research reactor at the University of Missouri in Rolla, Missouri. Dr. Tokuhiro has earned numerous awards for contributions to his field, and for his mentorship of graduate students. He holds great interest in developing computational methods and experimental validation of nuclear reactor accidents, and energy systems analysis. His research has been published in more than 150 journal and conference papers.

He completed his Bachelor of Science in Engineering (Engineering Physics) at Purdue University in West Lafayette, Indiana, then earned his Master of Science in Mechanical Engineering from the University of Rochester in New York State. His interests shifted to nuclear energy and he returned to Purdue to obtain his Doctorate in Nuclear Engineering.

Industry Expertise

Education/Learning, Energy, Nuclear, Public Safety, Plant Engineering and Operations, Program Development, Research, Safety

Topics

Nuclear Systems Design, Nuclear Engineering, Nuclear Reactor Safety, Energy and Resource Issues, Big Data Analytics, Computational Fluid Dynamics, Convective Heat Transfer, Experiments and Measurement, Modelling of Complex Systems, Thermal Hydraulics, Ultrasonic and Particle Velocimetry

Affiliations

American Nuclear Society

Past Talks

Simulation-based Stochastic Optimization of a Dry, Used Nuclear Fuel Storage Array for Nuclear Criticality Safety

International Conference on Nuclear Criticality Safety

Branch-and-Bound Algorithm Applied to Dynamic PRA with Uncertainty Quantification for LWR Station Blackout

23rd International Conference on Nuclear Engineering, ICONE-23

CFD Analysis of the $\hat{A}^{1/4}$ -Scale Air Reactor Cavity Cooling System with Focus on the Inlet Plenum

23rd International Conference on Nuclear Engineering, ICONE-23

Characterizing Single- to Two-Phase Flow Behavior in a Crosscutting RCCS Design with Decay Heat Variation

23rd International Conference on Nuclear Engineering, ICONE-23

Emerging Regulatory Requirements and Industry Practices on Emergency Preparedness in the Post-Fukushima Operations Era

23rd International Conference on Nuclear Engineering, ICONE-23

Lesson Learnt from Fukushima

5th Annual Nuclear Supply Chain Conference

Supply Chain Management in the Global Market, Bridging the Divide Between Vendor, Utility and Supplier

Nuclear Exchange 2013

The Realities and Consequences of the Post-Quake and Tsunami Fukushima NPP Incidents

Nuclear Exchange 2011

Production of Energetic Light Fragments with Expanded Cascade Exciton Model (CEM)

2014 ANS Annual Meeting

Is the Food in Safe in Japan?

American Chamber of Commerce Japan Conference, Meeting on Food Safety (Post-Fukushima)

Education

Purdue University
PhD Nuclear Engineering

University of Rochester
MS Mechanical Engineering

Purdue University
BS Engineering Science (Physics)

Accomplishments

Donald Crawford Graduate Faculty Mentoring Award, University of Idaho
Dr. Tokuhiro was honoured for his efforts to mentor graduate students.

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