Belle R. Upadhyaya

Professor of Nuclear Engineering

UT INSTITUTE FOR NUCLEAR SECURITY

Dr. Upadhyaya is a professor in the department of nuclear engineering and is the recipient of several prestigious awards in the field of nuclear engineering including the 2007 American Society for Engineering Education Glenn Murphy Award and the 2010 International Society of Automation Best Paper Award.

Professor Upadhyaya's research interests include:

- Instrumentation and controls
- Reactor dynamics
- Advanced digital signal processing
- Power and process plant monitoring and diagnosis
- Autonomous and fault-tolerant control of small modular reactors
- Nuclear desalination
- Sensor placement strategies
- Accelerated aging of detectors and equipment
- Nondestructive examination
- Nuclear safeguards
- Reliability and maintainability engineering

Professor Upadhyaya received his Bachelor of Engineering degree in Mechanical Engineering from the University of Mysore, India and his Masters of Applied Science in Applied Mechanics from the University of Toronto, Canada. He received his Ph.D. in Systems Science from the University of California at San Diego.

Dr. Upadhyaya has been the principal investigator of several research projects including power plant performance monitoring and advanced controls, signal validation, automated diagnosis of valve systems, nondestructive testing and fault diagnosis, aging studies of sensors and equipment, life prediction, fault detection and isolation of sensors and field devices, autonomous control of space reactor systems, and small and medium reactors. He has published over 315 articles in scientific journals and conference proceedings, chapters in handbooks, and is the author or co-author of over 130 research reports.

Dr. Upadhyaya is an elected Fellow of the American Nuclear Society (ANS), a life senior member of the Institute of Electrical and Electronics Engineers (IEEE), and a senior member of the International Society of Automation (ISA). He is a member of the American Society of Mechanical Engineers (ASME), American Society for Nondestructive Testing (ASNT), Institute of Nuclear Materials Management (INMM), American Society for Engineering Education (ASEE), and Society for Maintenance and Reliability Professionals (SMRP). He is a registered professional engineer in the State of Tennessee.

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