ICONE 28

28th International Conference on Nuclear Engineering

Nuclear Energy:
the Future Zero Carbon Power

Virtual Conference, Online

Virtual Conference:
August 4 – August 6, 2021

ASME's Nuclear Engineering Division, the Japanese Society of Mechanical Engineers, and the Chinese Nuclear Society invite you to present your work during next year's virtual event

ABOUT ICONE

The International Conference on Nuclear Engineering (ICONE) is a global event for nuclear engineering professionals. We host a diverse group of industry, government, and academia professionals from around the world who gather to present and share their experiences, developments, and lessons learned on all aspects of Nuclear Engineering. We also provide a platform for researchers, students, and educators to present their work on recent innovations, trends, challenges, and solutions in the nuclear industry.

WHY SUBMIT?

This conference is for anyone who wants to stay technically current and on top of the nuclear industry trends and developments. To help us shape our conference, we encourage authors to submit abstracts for technical publication, presentation only, posters, and the student that address the ICONE theme and topics.

The conference features keynote and plenary presentations, panel, and industry forums and workshops where International subject matter experts present their views and expertise on current topics of importance to the global Nuclear Community.

Through the ICONE student program, the conference also fosters the development of future nuclear professionals.

TOPIC

- Operating Plant Challenges, Successes, and Lessons Learnt
- Nuclear Plant Engineering
- Advanced Reactors and Fusion
- Small Modular and Micro-Reactors Technologies and Applications
- Nuclear Fuels, Research, and Fuel Cycle
- Nuclear Codes & Standards
- Thermal-Hydraulics
- Computational Fluid Dynamics (CFD)
- Verification and Validation
- Advanced Methods of Manufacturing (AMM) for Nuclear Reactors and Components
- Decontamination, Decommissioning, and Radioactive Waste Management
- Beyond Design Basis and Nuclear Safety
- Risk Informed Management and Regulation
- Student Paper Competition

For more information: **event.asme.org/ICONE**

For technical publication submissions, authors should submit a 400-word text-only abstract by **November 30, 2020.**

For presentation only submissions, authors should submit their abstract by **March 8, 2021.**

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TRACK	TRACK DESCRIPTION
Operating Plant Challenges, Successes, and Lessons Learnt	Papers and presentations on methods for keeping the current fleet of aging nuclear reactors and their auxiliaries on line and operating at their full potential output make up the focal point of this track. All related topics, including optimizing and improving plant operations, equipment maintenance and troubleshooting, plant modifications and upgrades, aging management, performance evaluations, risk and outage/work window planning and management are welcome.
Nuclear Plant Engineering	This track will focus on new developments, and novel concepts related to plant systems, structures and components, reliability, I&C for next generation plants, integrated control rooms, hybrid control rooms, I&C refurbishment, analog component supply issues, human-machine interface.
Advanced Reactors and Fusion	Papers and presentations on the expected safety and performance features of current and future advanced nuclear systems including fusion reactors and advanced fission reactors are included in this track. Topics of interest include the technical, scientific, economic, and environmental details of the many different reactor designs and concepts, as well as descriptions of their potential uses.
Small Modular and Micro-Reactors Technologies and Applications	Papers and presentations on the technical, scientific, economic, and environmental details of the new breed of Small Modular and Micro Reactors that are currently in the design and licensing stages of development will be highlighted in this track. We are looking for lively discussions on the economic and social benefits of these sources of clean and abundant power to go along with the technical details of their operation and construction.
Nuclear Fuels, Research, and Fuel Cycle	This track will cover topics related to recent developments in nuclear fuel, fuel cycle, reactor physics, neutronics and transport theory for research, power and small modular reactors.
Nuclear Codes & Standards	This track will focus on globalization of codes and standards, risk-informed codes & standards and their applications, Plant System Design, PRA standards, design & QA issues, and Conformity Assessment.
Thermal-Hydraulics	This track will focus on small and large-scale thermal-hydraulic experiments, laboratory and industrial measuring methods, system and component thermal-hydraulic codes development, separate thermal-hydraulic effects, coupling to system codes, best estimate plus uncertainty analysis, as well as safety analyses and TH application discussions.
Computational Fluid Dynamics (CFD)	This track will focus on computational fluid dynamics (CFD), multidimensional single and multiphase systems, CFD and thermal-hydraulic codes coupling
Verification and Validation	This track will focus on V&V of engineering-scale (systems analysis) and high-fidelity (CFD) codes. Verification includes such techniques as method of manufactured solutions. Validation includes design, scaling, and results of experiments and creation of validation matrices. Also, studies to show analysis tools are adequate for licensing of nuclear systems.
Advanced Methods of Manufacturing (AMM) for Nuclear Reactors and Components	This track addresses advanced methods of manufacturing for pressure retaining and reactor internals applications. Methods such as additive manufacturing, electron beam welding, powder metallurgy-hot isostatic pressing, cold spray, and diode laser cladding will be presented for nuclear applications.
Decontamination, Decommissioning, and Radioactive Waste Management	This track will cover topics related to decontamination/decommissioning and demolition of radioactive facilities, radiation protection, radiation shielding, waste management, improvements in waste reduction, recycling and reuse of contaminated materials, and transportation and storage of radioactive materials.
Beyond Design Basis and Nuclear Safety	The track addresses the topics of Beyond Design Basis Accidents (BDBAs), including severe accident, evaluation of accident progress, analyses by using computer codes, experimental studies, PSA studies for BDBAs, severe accident preventive and mitigative measures, severe accident management, emergency response in NPPs, insights from Fukushima accident, etc. It will also consider safety and security topics, safety culture, plant security, as well as safety and security of digital I&C systems.
Risk Informed Management and Regulation	This track will focus on Probabilistic Risk (Safety) Assessment (PRA/PSA), use of risk measure in the design of new plants and operation and maintenance of existing, and development and use of risk informed rules and regulation.
Student Paper Competition	The purpose of this track is to encourage the active participation of students in ICONE 28 by submitting high quality technical papers on the various aspects of nuclear engineering. Students participating in this track will be expected to make a technical paper presentation and participate in award competitions

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