Advanced Reactor Safety (ARS 2024)
EMBEDDED IN THE ANS ANNUAL CONFERENCE
June 9-12, 2024 I Las Vegas, NV, USA I The Mirage

CALL FOR PAPERS

EXECUTIVE CHAIRS

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Mihai A. Diaconeasa (North Carolina State University)

MEETING DESCRIPTION

The recent acceleration in advanced reactor licensing efforts, both for non-light water designs (e.g., Aurora, Hermes, Natrium, Xe-100, eVinci) and for light water designs (e.g., NuScale, BWRX-300, SMR-160), will naturally result in new and interesting safety-related research. This conference provides the advanced nuclear industry a venue to share their safety approaches and research.

The Advanced Reactor Safety (ARS) conference, formerly entitled the International Topical Meeting on Advanced Reactor Safety and first held in 1994, is one of two conferences the Nuclear Installations Safety Division (NISD) has historically sponsored to support information sharing and networking across the safety community. ARS 2024 will be of interest to those working in both deterministic and probabilistic safety approaches for various applications. The meeting welcomes the submission of full-length technical papers, which will be peer reviewed and published as conference proceedings.

Detailed information and announcements regarding the conference will be posted on the ARS 2024 meeting page.

ABSTRACT GUIDELINES

Maximum of one page identifying title, authors, affiliations, and two to three paragraphs (total fewer than 400 words) describing the key concepts of the paper. A wide range of topic areas are highlighted in the next page of this call. The abstract template is on the ARS 2024 meeting page.

FULL PAPER SUBMISSION

Full papers must describe work that is new, significant, and relevant to safety-related research for advanced reactors. The full-paper submissions should be 7-10 pages. Papers exceeding 10 pages will be rejected unless an exception is granted. For papers exceeding 10 pages, page charges are $100/page for p. 11 and above.

Authors of accepted papers must agree to register and attend the conference and present their papers. Papers that are not presented in person at the conference will not appear in the final conference publication. The full paper template is on the ARS 2024 meeting page.

Selected papers will be invited to submit extended manuscripts for publication as a special issue in Nuclear Technology.

SUBMIT AN ABSTRACT
https://epsr.ans.org/meeting/?m=383

PROGRAM SPECIALIST
Janet Davis
708-579-8253
jdavis@ans.org
T1: TREATMENT OF PASSIVE AND INHERENT SAFETY FEATURES
   1a. Levels of Defense-in-Depth
   1b. Modeling of Passive Systems and Inherent Safety
   1c. Space, Remote, or Small Reactors

T2: DETERMINISTIC SAFETY ANALYSIS
   2a. Design Basis T/H Analysis
   2b. Design Basis Source Terms
   2c. Normal Effluents
   2d. Tools, Methods, and Validations

T3: PROBABILISTIC RISK ASSESSMENT
   3a. Tools, Methods, and Validations
   3b. Reliability Databases
   3c. Unique Internal and External Hazards
   3d. PRA Source Terms

T4: THE LICENSING NEXUS: PROVING “SAFE ENOUGH” AND “SECURE ENOUGH”
   4a. Risk-Informed and Performance-Based Approaches
   4b. Meshing of the Deterministic and Probabilistic Safety Case
   4c. Developing an Affirmative Safety Case
   4d. Safety Informed Cyber and Physical Security
   4e. Principal Design Criteria (e.g., SARRDLs/SAFDLs)

T5: ADVANCED FUEL CYCLE SAFETY
   5a. Reprocessing
   5b. Fuel Fabrication and Synthesis
   5c. Management of both HLW and LLW

T6: DESIGN ASSURANCE
   6a. Scaled Safety Testing
   6b. Equipment Qualification Efforts
   6c. Quality Assurance Considerations

Note: The topics listed above are not session titles; they are provided just as a guide. The ARS 2024 Technical Program Committee will be happy to expand the areas and include new sessions into the program. Please contact the Publications Chair, Mihai A. Diaconeasa, at madiacon@ncsu.edu to discuss new and alternative concepts.