ANS Winter Conference and Expo 24

CALL FOR PAPERS

November 17–21, 2024 | Orlando, FL
Renaissance Orlando at SeaWorld

EXECUTIVE CHAIRS

Technical Program Chair:
Jef Lucchini (LANL)

Assistant Program Chair:
Stephanie Bruffey (Ultra Safe Nuclear)

SUMMARY DEADLINE: MONDAY, JULY 1, 2024

JULY → SUBMISSION OF SUMMARIES: **Monday, July 1, 2024**

JULY → AUTHOR NOTIFICATION OF ACCEPTANCE: **Thursday, July 25, 2024**

AUGUST → REVISED SUMMARIES DUE: **Wednesday, August 7, 2024**

GUIDELINES FOR SUMMARIES

Please submit summaries describing work that is new, significant, and relevant to the nuclear industry. ANS will publish all accepted and presented summaries in the TRANSACTIONS. Summaries are presented orally at the conference, and presenters are expected to register for the conference. Non–U.S. attendees requesting a visa invitation letter: registrar@ans.org. Full papers based on summaries may be published elsewhere, but the summaries become the property of ANS. Under no circumstances should a summary or full paper be published in any other publication before presentation at the ANS conference. It is the author's responsibility to protect classified, export-controlled, or proprietary information. Submit your summary via the ANS Electronic Paper Submission and Review (EPSR) portal; see link below.

FORMAT AND LENGTH

1. Use the ANS Template and Guidelines for TRANSACTIONS Summary Preparation provided on the Winter 2024 Speaker Information webpage. Summaries that are not based on the ANS template will be rejected.
2. Summaries must be submitted as Adobe Acrobat PDF documents.
3. The minimum length is one full page.
4. The maximum length is four pages, including references, tables, and figures. After you save your document as a PDF, verify that it is still four or fewer pages.
5. Limit title to ten words; limit listing of authors to three or fewer if possible.
6. Do not use all capital letters for the title or any part of any authors' names. For the title of the summary, Capitalize the First Letter of Major Words. Author names should be First Name or Initial(s) followed by Last Name.
7. The names of all authors should be entered into the Authors page in the EPSR. List the authors in the same order in which their names appear on the summary. The conference program will be derived from the information you enter into the EPSR.
8. In the EPSR, authors' affiliations should match the affiliation provided on the summary itself. If an author has multiple affiliations, enter the ONE that should be included in the program and in the conference TRANSACTIONS, assuming the summary is accepted.
9. Do not use page numbers, headers, or footers. Do not save your PDF as "read only."
10. Keep the bottom margin clear so there is space for the ANS-applied footer and page number.

CONTENT

1. Introduction: State the purpose of the work.
2. Description of the actual work: Must be new and significant.
3. Results: Discuss their significance.
4. References: If any, must be closely related published works. Minimize the number of references.
5. Do not present a bibliographical listing.
6. If a disclaimer is required (e.g., related to the author's employer), it is the author's responsibility to include the disclaimer in the summary as either an end-of-summary note (preferred) or footnote. Please ensure such footnotes do not interfere with the bottom margin, and do not format disclaimers as headers or footers.

EXECUTIVE SESSIONS

Would you like to propose and arrange an Executive Session? If so, email the Program Specialist (contact information below). Executive Sessions take a broader look at developments in nuclear science and technology and their impact on policy and markets.

SUBMIT A SUMMARY

https://epsr.ans.org/meeting/?m=347

PROGRAM SPECIALIST

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2024 WINTER CONFERENCE: SESSION TITLES BY DIVISION (P) = Panel

1. ACCELERATOR APPLICATIONS (AAD)
- 1a. Accelerator-Based Modification, Testing, and Characterization of Nuclear Materials

2. AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANSTD)
- 2a. Aerospace Nuclear Science and Technology: General
- 2b. Space Nuclear Power Reactor Design and Applications
- 2c. Nuclear Reactors for Space Propulsion

3. DECOMMISSIONING AND ENVIRONMENTAL SCIENCES (DESD)
See embedded topical meeting Decommissioning Environmental Sciences and Remote Technology 2024

4. EDUCATION, TRAINING, AND WORKFORCE DEVELOPMENT (ETWDD)
- 4a. Challenges of Developing a Molten Salt Reactor Workforce (P)
- 4g. Education, Training, and Workforce Development: General

5. FUEL CYCLE AND WASTE MANAGEMENT (FCWMD)
- 5a. Progress in Salt Reactors (e.g., FHR, Solid Fuel and Salt Cooled): Current Status and Key Considerations for Advancement (P)
- 5b. Progress Towards Domestic HALEU Production (P)
- 5c. Progress Towards a Domestic Repository Program (P)
- 5d. Saying Yes to Fuel Recycling (P)
- 5e. Integrated Fuel Cycles, Creating an Experimental Prototype Community of Tomorrow (P)
- 5f. Used Fuel, What is it Good for? (P)
- 5g. Full-Scale Spent Nuclear Fuel Transportation Package Performance Demonstration: Mission and vision (P)
- 5h. Progress on ARPA-E Programs Related to Recycling (P)
- 5i. Advances in Automation and Artificial Intelligence (AI) / Machine Learning (ML) in the Fuel Cycle and Waste Management
- 5j. Molten Salt Fuel Cycles
- 5k. Fabrication of Advanced Reactor Fuels
- 5l. Preparations for Used/Spent Advanced Reactor Fuels
- 5m. Off-Gas Management
- 5n. Advances in Interim Storage, Transportation, and Disposal of Spent Nuclear Fuel
- 5o. Progress in Data-Based Decision Making for Site Management and Strategy Regarding the Fuel Cycle and Waste Management
- 5p. Fuel Cycle and Waste Management: General
- 5q. University Research in Fuel Cycle and Waste Management

6. FUSION ENERGY (FED)
- 6a. Fusion Energy: General

7. HUMAN FACTORS, INSTRUMENTATION, AND CONTROLS (HFICD)
- 7a. Advances in Sensors and Instrumentation
- 7b. Advances in Human Factors Engineering
- 7c. Autonomous Control of Reactor Technologies
- 7d. Cybersecurity in Wireless Technologies, Digital I&C, Digital Twins, and Human Factors Considerations
- 7e. Digital Twins and Their Applications
- 7f. Embedded Sensors and Additive Manufacturing for Nuclear Applications
- 7g. Human Reliability Analysis
- 7h. I&C Regulations, Standards, and Guidelines
- 7i. I&C for Space Application of Nuclear
- 7j. I&C and Human Factors Considerations for Flexible Plant Operations
- 7k. Large Language Models for Nuclear
- 7l. Online Monitoring, Diagnostics, and Prognostics
- 7m. Risk-Informed Operation and Control
- 7n. Robotic Applications in Operation and Maintenance
- 7o. Remote Monitoring and Operation: I&C and Human Factor Considerations
- 7p. Structural Health Monitoring for Nuclear Power
- 7q. 2025 NPIC&HMIT Preview (P)
- 7r. Advances in Autonomous Controls (P)
- 7s. Non-Traditional versus Traditional Application of Nuclear (P)

8. ISOTOPES AND RADIATION (IRD)
- 8a. Isotopes and Radiation: General
- 8b. Industrial Radiation and Radioisotope Measurement Applications
- 8c. Atomic Detectives: Exploring the Current State and Opportunities for Research and Education in Nuclear Forensics (P)
- 8d. Innovations in Nuclear Forensics

9. MATERIALS SCIENCE AND TECHNOLOGY (MSTD)
- 9a. Nuclear Fuels
- 9b. Accident Tolerant Fuels
- 9c. Fuels and Materials for Molten Salt Reactors
- 9d. Irradiation Experiments for Nuclear Materials and Fuels Research
- 9e. Environmental Degradation of Materials
- 9f. AI and Machine Learning Applications in Nuclear Materials
- 9g. Nuclear Science User Facilities
- 9h. Actinide Science

10. MATHEMATICS AND COMPUTATION (MCD)
- 10a. Current Issues in Computational Methods (P)
- 10b. Transport Methods
- 10c. Computational Methods and Mathematical Modeling
- 10d. Uncertainty Quantification, Sensitivity Analysis, and Machine Learning

11. NUCLEAR CRITICALITY SAFETY (NCSD)
- 11a. Data, Analysis and Operations in Nuclear Criticality Safety
- 11b. ANS 8 Standards Forum
- 11c. Recent Nuclear Criticality Safety Program Technical Accomplishments
- 11d. Critical and Subcritical Experiments
- 11e. Interview with the Past to Better Inform the Future (P)
- 11f. Validation Efforts in NCS

12. NUCLEAR INSTALLATIONS SAFETY (NISD)
- 12a. Nuclear Installations Safety: General

13. NUCLEAR NONPROLIFERATION POLICY (NNPD)
- 13a. Nuclear Nonproliferation Policy
- 13b. Science, Engineering, and Technology in Support of Nonproliferation Policy
- 13c. Arms Control and Policies Support Nonproliferation
- 13d. Proliferation Resistance and Risk
- 13e. Safeguards
- 13f. Safeguards and Security Challenges in Licensing Small Modular Reactors
- 13g. Student Research to Inform the Nonproliferation and Safeguards Regime.

14. OPERATIONS AND POWER (OPD)
- 14a. Operations and Power: General
- 14b. Advanced Nuclear Reactors and Power Systems
- 14c. Energy Storage Integration with Nuclear Power Plants
- 14d. Hybrid and Integrated Energy Systems
- 14e. Nuclear Energy Markets, Financing, and Economics

15. RADIATION PROTECTION AND SHIELDING (RPSD)
See embedded topical meeting Radiation Protection and Shielding Division 2024 (RPSD 2024)

16. REACTOR PHYSICS (RPD)
- 16a. Reactor Physics: General
- 16b. Reactor Analysis Methods
- 16c. Reactor Physics Design, Validation and Operational Experience
- 16d. Reactor Physics of Advanced Reactors
- 16e. Reactor Physics of Micro Reactors for Terrestrial and Space Applications
- 16f. Advances in Reactor Design Methods
- 16g. Wigner Award Lecture (P)
- 16h. NRIC Virtual Test Bed (VTB)
- 16i. MARVEL Development Status (P)
- 16j. Advanced Reactor Demonstration Program (ARDP) Status and Updates (P)
- 16k. Microreactor Demonstration at the NRIC DOME Facility (P)
- 16l. Molten Chloride Reactor Experiment (MCRE) Project Update (P)

17. ROBOTICS AND REMOTE SYSTEMS (RRSD)
See embedded topical meeting Decommissioning Environmental Sciences and Remote Technology 2024

18. THERMAL HYDRAULICS (THD)
See embedded topical meeting
Advances in Thermal Hydraulics (ATH 2024)

2024 WINTER CONFERENCE TECHNICAL DIVISIONS

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