ANS CALL FOR PAPERS

2025 ANS WINTER CONFERENCE AND EXPO

November 9–12, 2025 | Washington, DC | Washington Hilton

EXECUTIVE CHAIRS

Technical Program Chair
John Bess, JFoster & Assoc.

Assistant Technical Program Chairs
Kim Burns, SAIC
Simon Pimblott, INL

IMPORTANT DEADLINES

SUBMISSION OF SUMMARIES (NO EXTENSIONS)
Tuesday, June 24, 2025

AUTHOR NOTIFICATION OF ACCEPTANCE
Friday, July 18, 2025

REVISED SUMMARIES DUE
Thursday, July 31, 2025

SUBMIT A SUMMARY

https://epsr.ans.org/meeting/?m=378

PROGRAM SPECIALIST

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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 on the left.

FORMAT AND LENGTH

1. Use the ANS Template and Guidelines for TRANSACTIONS Summary Preparation provided on the 2025 ANS Winter Conference and Expo website. 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. Do not include a cover page. After you save your document as a PDF, verify that it is still four or fewer pages.
5. 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.
6. Limit title to ten words; limit listing of authors to three or fewer if possible.
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 to the left). Executive Sessions take a broader look at developments in nuclear science and technology and their impact on policy and markets.

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SESSION TITLES BY DIVISION

(P) = Panel

1. ACCELERATOR APPLICATIONS (AAD)

See embedded topical conference Accelerator Applications 2025

2. AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANSTD)

2a. Aerospace Nuclear Science and Technology: General

3. DECOMMISSIONING AND ENVIRONMENTAL SCIENCES (DESD)

3a. Lessons Learned: License Termination Plan Development
3b. Non-Naval Application of Nuclear Propulsion
3c. Domestic and International Decommissioning
3d. Environmental Impacts from Uranium Mining

4. EDUCATION, TRAINING, AND WORKFORCE DEVELOPMENT (ETWDD)

4a. Distinguished Early Career Program for Early Career Faculty (P)
4b. ANS Student Design Competition
4c. Innovations in Nuclear Research and Development Student Competition
4d. Office of Nuclear Energy Supported Student Presentations
4e. Education, Training, and Workforce Development: General

5. FUEL CYCLE AND WASTE MANAGEMENT (FCWMD)

5a. Fuel Cycle and Waste Management: General

Also see embedded topical conference International High Level Radioactive Waste Management (IHLRWM 2025)

6. FUSION ENERGY (FED)

6a. Fusion Materials
6b. Blanket and Fuel Cycle
6c. Fusion Neutronics and Safety
6d. Fusion Modeling and Simulation
6e. Fusion: Lightning Talks (P)

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. Artificial Intelligence for I&C and Human Factors
7e. Cybersecurity in Wireless Technologies, Digital I&C, Digital Twins, and Human Factors Considerations
7f. Digital Twins and Their Applications
7g. Embedded Sensors and Additive Manufacturing for Nuclear Applications
7h. Human Reliability Analysis
7i. I&C Regulations, Standards, Aging Management, and Guidelines
7j. I&C for Space Application of Nuclear
7k. I&C and Human Factors Considerations for SMR and Advanced Reactors
7l. Large Language Models for Nuclear
7m. Online Monitoring, Diagnostics, and Prognostics
7n. Risk-informed Operation and Control

7. HUMAN FACTORS, INSTRUMENTATION, AND CONTROLS (HFICD) CONTINUED

7o. Robotic Applications in Operation and Maintenance
7p. Remote Monitoring and Operation: I&C and Human Factor Considerations
7q. Structural Health Monitoring for Nuclear Power
7r. Challenges with Adoption of Innovation in the Nuclear Industry (P)
7s. Cybersecurity for SMRs (P)
7t. Regulation of Artificial Intelligence and Machine Learning in Nuclear (P)

8. ISOTOPES AND RADIATION (IRD)

8a. Innovations in Nuclear Forensics
8b. Isotopes and Radiation: General

9. MATERIALS SCIENCE AND TECHNOLOGY (MSTD)

9a. Nuclear Fuels and Claddings
9b. Molten Salt Reactor Fuels and Materials
9c. Irradiation Experiments for Nuclear Materials and Fuels Research
9d. Advanced/Additive Manufacturing
9e. Environmental Degradation of Materials
9f. AI and ML Applications in Nuclear Materials
9g. High-Throughput Experimentation in Nuclear Energy Materials Research
9h. Actinide Science
9i. Curation, Distribution, and AI Augmentation of Post-Irradiation Data in Nuclear Research Data System
9j. Advanced Characterization and Simulation Techniques for Nuclear Materials

10. MATHEMATICS AND COMPUTATION (MCD)

10a. Current Issues in Computational Methods: Roundtable (P)
10b. Transport Methods
10c. Computational Methods and Mathematical Modeling
10d. Uncertainty Quantification, Sensitivity Analysis, and Machine Learning

11. NUCLEAR CRITICALITY SAFETY (NCSD)

11a. NCS for Advanced Fuels - Fabrication and Transportation
11b. Tom McLaughlin and his Impact on the Field (P)
11c. Development and Use of the ANS 8.28 Standard (P)
11d. ANS 8 Standards Forum (P)
11e. Critical and Subcritical Experiments
11f. Recent Nuclear Criticality Safety Program Technical Accomplishments
11g. Data, Analysis and Operations in Nuclear Criticality Safety

12. NUCLEAR INSTALLATIONS SAFETY (NISD)

12a. Nuclear Installations Safety: General
12b. PRA for Advanced Reactors
12c. Highlights of PSA 2025 (P)
12d. Research Reactor Fuel Failure Events in HFIR and NCNR: Recovery to Normal Operations (P)
12e. An Accident Anywhere is an Accident Everywhere — Learning from Fukushima (P)

13. NUCLEAR NONPROLIFERATION POLICY (NNPD

See embedded topical conference Advances in Nuclear Nonproliferation Technology and Policy Conference

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)

15a. Computational Tools for Radiation Protection and Shielding
15b. Radiation Protection and Shielding: General
15c. Radiation Protection and Shielding: Lightning Talks (P)

16. REACTOR PHYSICS (RPD)

16a. New Multiphysics Models on the NRIC Virtual Test Bed
16b. Advanced Reactor Demonstration Program (ARDP) Status Update (P)
16c. Leveraging MARVEL as a Microreactor Technology Testbed (P)
16d. Open-Science in Reactor Physics (P)
16e. Reactor Analysis Methods
16f. Reactor Physics Design, Validation and Operational Experience
16g. Reactor Physics of Advanced Reactors
16h. Reactor Physics of Micro Reactors for Terrestrial and Space Applications
16i. Advances in Reactor Design Methods
16j. Reactor Physics: General
16k. Reactor Physics: Lightning Talks (P)

17. ROBOTICS AND REMOTE SYSTEMS (RRSD)

17a. Robotics and Remote Systems: General
17b. Advancements in Robotics and Remote Systems (P)

18. THERMAL HYDRAULICS (THD)

18a. Increased Enrichment, High Burnup Fuels, Power Uprates (P)
18b. Thermal Hydraulics of Small Modular Reactors (P)
18c. Thermal Hydraulics of Microreactors (P)
18d. 60th Anniversary of Nuclear Technology
18e. AI/ML Applications in Thermal Hydraulics
18f. Thermal Hydraulic Challenges in Multiphysics Simulations
18g. Thermal Hydraulic Challenges and Opportunities in Microreactors
18h. Thermal Hydraulic Research and Challenges in Advanced Fuels
18i. OECD/NEA AI/ML Benchmark on Critical Heat Flux
18j. Thermal Hydraulics: General
18k. Advanced Reactor Thermal Hydraulics
18l. Experimental Thermal Hydraulics
18m. Computational Thermal Hydraulics
18n. Computational Multiphase Flow
18o. Experimental Multiphase Flow
18p. Young Professionals Competition

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