

# ANS CALL FOR PAPERS

## SUBMIT A SUMMARY OR ABSTRACT

[https://epsr.ans.org/  
meeting/?m=377](https://epsr.ans.org/meeting/?m=377)



### 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.

### PROGRAM SPECIALIST

Janet Davis  
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# 2025 ANS Annual Conference

June 15–18, 2025 | Chicago, IL | Chicago Marriott Downtown

## EXECUTIVE CHAIRS

**Technical Program Chair**  
Elia Merzari (Penn State)

**Assistant Program Chairs**  
Dillon Shaver (ANL)  
Emily Shemon (ANL)  
Vaibhav Sinha (Ohio State)

## SUMMARY AND ABSTRACT DEADLINE: FEBRUARY 7, 2025

**SUBMISSION OF SUMMARIES  
AND ABSTRACTS**  
FEBRUARY 7, 2025

**AUTHOR NOTIFICATION OF  
ACCEPTANCE**  
FEBRUARY 28, 2025

**REVISED SUMMARIES AND  
ABSTRACTS DUE**  
MARCH 17, 2025

## GUIDELINES FOR SUMMARIES AND ABSTRACTS

Please submit summaries or abstracts describing work that is new, significant, and relevant to the nuclear field. Summaries and abstracts 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](mailto:registrar@ans.org).

## PRESENTATION OPTIONS

There are two options for submittal, using the ANS Electronic Paper Submission and Review (EPSR) portal:

### 1) Summary/Standard-Length Presentation Option

Submit a summary. If accepted, you will provide a standard-length presentation at the conference. Summaries should be a maximum of four (4) pages and a minimum of one (1) page; references, tables, figures, and acknowledgements are counted as pages.

#### 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.

### 2) Abstract/Lightning Talk Option

Submit a 1-page abstract only. If accepted, you will provide a brief Lightning Talk at the conference. For this option, you will not submit a summary later. Submit an abstract for a Lightning Talk to one of the Lightning Talk sessions listed on p. 2; make sure you submit to a session that has "Lightning Talk" in the session title.

## FORMATTING AND PUBLISHING

1. [Use the provided templates for summaries and abstracts.](#)
2. Summaries and abstracts must be submitted as Adobe Acrobat PDF documents. After you save your document as a PDF, verify that it still meets the page-length requirements.
3. Limit the title to ten words if possible. Limit listing of authors to three or fewer if possible.
4. Do not use all capital letters for the title or any part of any authors' names. For the title of the abstract or summary, Capitalize the First Letter of Major Words. Author names should be First Name or Initial(s) followed by Last Name.
5. 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 abstract or summary. The conference program is derived from the information entered into the EPSR, not from the summary or abstract itself.
6. In the EPSR, authors' affiliations should match the affiliation provided on the summary or abstract 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 or abstract is accepted.
7. Do not use page numbers, headers, or footers. Do not save your PDF as "read only."
8. Keep the bottom margin clear so there is space for the ANS-applied footer and page number.
9. All accepted and presented abstracts and summaries will be included in the conference's TRANSACTIONS, which will publish digitally shortly after the conference concludes.
10. Full papers based on summaries or abstracts may be published elsewhere, but the summaries and abstracts become the property of ANS. Under no circumstances should a summary or abstract 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.

## SESSION TITLES BY DIVISION

(P) = Panel

- 1. ACCELERATOR APPLICATIONS (AAD)**
  - 1a. Accelerator Applications: General
  - 1b. Accelerator Applications: Lightning Talks
- 2. AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANSTD)**
  - 2a. Aerospace Nuclear Science and Technology: General
  - 2b. Aerospace Nuclear Science and Technology: Lightning Talks
- 3. DECOMMISSIONING AND ENVIRONMENTAL SCIENCES (DESD)**
  - 3a. Decommissioning and Environmental Sciences: General
  - 3b. Decommissioning and Environmental Sciences: Lightning Talks
- 4. EDUCATION, TRAINING, AND WORKFORCE DEVELOPMENT (ETWDD)**
  - 4a. Innovations in Nuclear Curricula
  - 4b. Training, Human Performance, and Workforce Development
  - 4c. Cutting-Edge Techniques in Education, Training, and Distance Education
  - 4d. Modernizing Training in the Nuclear Power Industry (P)
  - 4e. Nuclear Energy Sector – Academic Roadmap (P)
  - 4f. Global Synergy: Forging International Partnerships in Nuclear Engineering Education, Training and Workforce Development (P)
  - 4g. Education, Training, and Workforce Development: General
  - 4h. Education, Training, and Workforce Development: Lightning Talks
- 5. FUEL CYCLE AND WASTE MANAGEMENT (FCWMD)**
  - 5a. Progress in Salt Reactors: Current Status and Key Considerations for Advancement (P)
  - 5b. Progress Towards a Domestic Repository Program (P)
  - 5c. Used Fuel, What is it Good For? (P)
  - 5d. Update on the International SNF Management Efforts (P)
  - 5e. Technical Aspects of HALEU Production (P)
  - 5f. Actinide Science in Nuclear Energy Through the Glenn T. Seaborg Institutes (P)
  - 5g. Advances in Consent-Based Siting
  - 5h. Scientific and Technical Advances in SNF Storage and Transportation
  - 5i. Innovative Methods in SNF Disposal Research and Development
  - 5j. Fuel Cycle and Waste Management Applications of Automation and Artificial Intelligence (AI) / Machine Learning (ML)
  - 5k. Advances in the Application of Digital Twins in the Fuel Cycle and Waste Management
    - 5l. Advances in Fuel Recycle
    - 5m. Molten Salt Fuel Chemistry
    - 5n. University Research in Fuel Cycle and Waste Management
    - 5o. Fuel Cycle and Waste Management: General
    - 5p. Fuel Cycle and Waste Management: Lightning Talks

- 6. FUSION ENERGY (FED)**
  - 6a. Fusion Materials
  - 6b. Blanket and Fuel Cycle
  - 6c. Neutronics and Safety
  - 6d. Advances in Fusion Technology
  - 6e. Fusion Modeling and Simulation
  - 6f. Careers in Fusion (P)
  - 6g. Fusion Thermal Hydraulics
  - 6h. Fusion Energy: Lightning Talks
- 7. HUMAN FACTORS, INSTRUMENTATION, AND CONTROLS (HFICD)**

*See embedded topical meeting Nuclear Plant Instrumentation and Control & Human-Machine Interface Technology (NPIC&HMIT). Abstracts are due Oct. 25, 2024*
- 8. ISOTOPES AND RADIATION (IRD)**
  - 8a. Advances in Research Reactors and Isotope Production with High-Density LEU Fuel
  - 8b. Isotopes and Radiation: General
  - 8c. Isotopes and Radiation: Lightning Talks
- 9. MATERIALS SCIENCE AND TECHNOLOGY (MSTD)**
  - 9a. Nuclear Fuels
  - 9b. Accident Tolerant Fuels
  - 9c. Fast Reactor Fuels
  - 9d. Fuels and Materials for Molten Salt Reactors
  - 9e. Irradiation Experiments for Nuclear Materials and Fuels Research
  - 9f. Advanced/Additive Manufacturing
  - 9g. Environmental Degradation of Materials
  - 9h. AI and Machine Learning Applications in Nuclear Materials
  - 9i. Nuclear Science User Facilities
  - 9j. Actinide Science
  - 9k. High Entropy Alloys and Ceramics
  - 9l. Materials Science and Technology: Lightning Talks
- 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
  - 10e. Mathematics and Computation: Lightning Talks
- 11. NUCLEAR CRITICALITY SAFETY (NCS)**
  - 11a. Data, Analysis, and Operations in Nuclear Criticality Safety
  - 11b. Practical Uses of Uncertainty Tools in NCS
  - 11c. Sharing of Good Industry Practices and/or Lessons Learned in NCS (P)
  - 11d. Updates/Revisions to Series 8 Standards (P)
  - 11e. Knowledge Transfer to Younger NCS Staff (P)
  - 11f. ANS 8 Standards Forum (P)
  - 11g. Nuclear Criticality Safety: Lightning Talks
- 12. NUCLEAR INSTALLATIONS SAFETY (NISD)**
  - 12a. Research and Test Reactor Safety
  - 12b. Fusion Systems Safety: Challenges, Initial Efforts and Path Forward (P)
  - 12c. Nuclear Installations Safety: General
  - 12d. Nuclear Installations Safety: Lightning Talks

*Also see embedded topical meeting 19th International Conference on Probabilistic Safety Assessment and Analysis (PSA 2025). Abstracts are due Oct. 14, 2024*

- 13. NUCLEAR NONPROLIFERATION POLICY (NNPD)**
  - 13a. Science, Technology, and Policy Advances in Nuclear Nonproliferation
  - 13b. Export Controls and Nuclear Nonproliferation
  - 13c. Nuclear Nonproliferation Policy: Lightning Talks
- 14. OPERATIONS AND POWER (OPD)**
  - 14a. Advanced Nuclear Reactors and Power Systems
  - 14b. Energy Storage Integration with Nuclear Power Plants
  - 14c. Hybrid and Integrated Energy Systems
  - 14d. Nuclear Energy Markets, Financing, and Economics
  - 14e. Operations and Power: General
  - 14f. Operations and Power: Lightning Talks
- 15. RADIATION PROTECTION AND SHIELDING (RPSD)**
  - 15a. Computational Tools for Radiation Protection and Shielding
  - 15b. Advanced Computational Methods for Activation Analysis, Shielding, and Post-Shutdown Assessments
  - 15c. Radiation Protection and Shielding: General
  - 15d. Radiation Protection and Shielding: Lightning Talks
- 16. REACTOR PHYSICS (RPD)**
  - 16a. Reactor Analysis Methods
  - 16b. Reactor Physics Design, Validation and Operational Experience
  - 16c. Reactor Physics of Advanced Reactors
  - 16d. Advances in Reactor Design Methods
  - 16e. Reactor Physics of Micro Reactors for Terrestrial and Space Applications
  - 16f. Early Career Reactor Physicist Award (P)
  - 16g. MARVEL Project: Lessons Learned Towards Demonstration
  - 16h. Reactor Physics: General
  - 16i. Reactor Physics: Lightning Talks
- 17. ROBOTICS AND REMOTE SYSTEMS (RRSD)**
  - 17a. Effective Nuclear Industry Collaborations in the Digital Age (P)
  - 17b. Robotics and Remote Systems: Lightning Talks
- 18. THERMAL HYDRAULICS (THD)**
  - 18a. Advanced Reactor Thermal Hydraulics
  - 18b. Experimental Thermal Hydraulics
  - 18c. Computational Thermal Hydraulics
  - 18d. Computational Multiphase Flow
  - 18e. Experimental Multiphase Flow
  - 18f. AI/ML Applications in Thermal Hydraulics
  - 18g. Thermal Hydraulic Challenges in Multiphysics Simulations
  - 18h. Thermal Hydraulic Challenges and Opportunities in Microreactors
  - 18i. Thermal Hydraulics Challenges and Opportunities for LWR Initiatives (P)
  - 18j. Thermal Hydraulic Testing for Advanced Reactors (P)
  - 18k. Non-Traditional Uses of Nuclear Energy (P)
  - 18l. Thermal Hydraulic Education: Opportunities with AI (P)
  - 18m. Thermal Hydraulics: General
  - 18n. Thermal Hydraulics: Lightning Talks

## TECHNICAL DIVISION LEADERSHIP

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