



ANS Winter Meeting & Expo

2019

Call for Papers

A large image of the Earth as seen from space, showing the Americas and city lights at night.

NUCLEAR
TECHNOLOGY
FOR THE U.S. AND
THE WORLD



November 17-21, 2019
Washington DC
Marriott Wardman Park



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CALL FOR PAPERS

EXECUTIVE CHAIRS

General Chair

John L. Hopkins, Nuscale Power, LLC

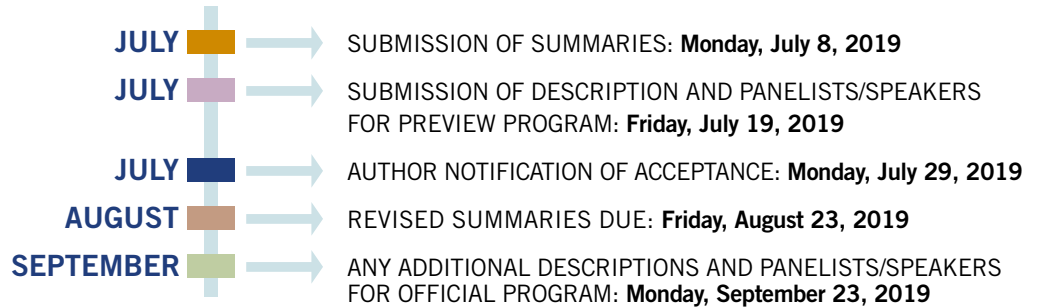
Technical Program Chair

Jeff Brault, Retired

Assistant Technical Program Chairs

Jared A. Johnson, Oak Ridge National Laboratory
James Behrens, U.S. Navy (Ret.)

SUMMARY DEADLINE: MONDAY, JULY 8, 2019



FORMAT

Authors are now **REQUIRED** to use the ANS Template and Guidelines for TRANSACTIONS Summary Preparation provided on the ANS Web site at ans.org/pubs/transactions. Summaries must be submitted electronically using Adobe Acrobat (PDF) files or original Microsoft Word documents and the ANS Electronic Paper Submission and Review System. Summaries not based on the ANS Template will be **REJECTED**.

GUIDELINES FOR SUMMARIES

Please submit summaries describing work that is **NEW**, **SIGNIFICANT**, and **RELEVANT** to the nuclear industry. ANS will publish all accepted summaries in the TRANSACTIONS. Papers are presented orally at the meeting, and presenters are expected to register for the meeting. Non U.S. attendees requesting a Visa or invitation letter: registar@ans.org. Completed papers 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 prior to presentation at the ANS meeting. It is the author's responsibility to protect classified or proprietary information.

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.

LENGTH

1. The minimum length is one full page.
2. The maximum length is four pages, including references, tables, and figures.
3. Limit title to ten words; limit listing authors to three or fewer if possible.

PAGE CHARGE

ANS charges \$100 per final printed page in the TRANSACTIONS. Authors should be prepared to provide their purchase order numbers when submitting their summaries electronically.

SUBMIT A SUMMARY
ans.org/meetings

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SESSION TITLES BY DIVISION

(P) = Panel

1. ACCELERATOR APPLICATIONS (AAD)

- 1a. Accelerator Applications: General
- 1b. [ANS Grand Challenge] Advanced Material Testing Using Accelerators (P)

2. AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANSTD)

- 2a. Aerospace Nuclear Science and Technology: General

3. BIOLOGY AND MEDICINE (BMD)

- 3a. Reference Materials for Medical and Industrial Applications
- 3b. Biology and Medicine: General

4. DECOMMISSIONING AND ENVIRONMENTAL SCIENCES (DESD)

- 4a. General Topics in Decommissioning
- 4b. The Path Towards a Low-Carbon Sustainable Energy Supply System (P)
- 4c. TMI-2 40 years later (P)
- 4d. Hybrid Energy Systems: Integrating Nuclear Plants with Renewable Sources Through Heat Storage and Heat Recycling to Fuel Alternative Applications Beyond the Grid (P)
- 4e. Overview of the Various Environmental Standards Projects (P)
- 4f. New and Emerging Technologies (P)
- 4g. International Decommissioning (P)

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

- 5a. Young Faculty Development (P)
- 5b. Research by U.S. DOE NEUP Sponsored Students
- 5c. Innovations in Fuel Cycle Research Awards
- 5d. Cutting Edge Techniques in Education, Training and Distance Education
- 5e. Student Design Competition
- 5f. Focus on Communications—I (P)
- 5g. Focus on Communications—II (P)

6. FUEL CYCLE AND WASTE MANAGEMENT (FCWMD)

- 6a. Current University Research on Pyroprocessing
- 6b. Leveraging Decades of Commercial Reprocessing and Decommissioning Experience at West Valley (P)
- 6c. Liquid Metal Chemistry and Control
- 6d. Safeguards and Material Accountancy Strategies for Molten Salt Systems
- 6e. Plutonium Disposition—Consideration of Next Steps (P)
- 6f. Fuel Cycle Updates from a Regulatory Perspective (P)
- 6g. Fuel Cycle and Waste Management: General
- 6h. Current Research on Waste Form Development
- 6i. Fuel Cycle Analysis
- 6j. Feasibility Assessment for Direct Disposal of Dual-Purpose Canisters Used for Spent Nuclear Fuel Storage

7. FUSION ENERGY (FED)

- 7a. Fusion Energy: General

8. HUMAN FACTORS, INSTRUMENTATION, AND CONTROLS (HFICD)

- 8a. Human Factors, Instrumentation, and Controls: General
- 8b. Cybersecurity for Nuclear Installations [NNPD]
- 8c. Advanced Reactor Instrumentation
- 8d. Accident Tolerant Fuel Measurement and Instrumentation
- 8e. Instrumentation for Used Fuel Disposition
- 8f. Digital I&C Modernization
- 8g. Data Analytics

9. ISOTOPES AND RADIATION (IRD)

- 9a. Isotope and Radiation: General
- 9b. Recent Developments in Nuclear Battery Technology
- 9c. Applications of DOE-NE University Scientific Infrastructure Support

10. MATERIALS SCIENCE AND TECHNOLOGY (MSTD)

- 10a. Versatile Test Reactor
- 10b. Aging of Materials
- 10c. Plutonium Handbook
- 10d. Fuels and Materials for Molten Salt Reactors
- 10e. Nuclear Fuels
- 10f. Accident Tolerant Fuels
- 10g. Nuclear Fuels and Materials in Fast Reactors
- 10h. Nuclear Science User Facilities
- 10i. Sensors and In-Pile Instrumentation
- 10j. Post-Irradiation Examination
- 10k. Advanced Manufacturing/Additive Manufacturing
- 10l. Transient Fuel Performance

11. MATHEMATICS AND COMPUTATION (MCD)

- 11a. Current Issues in Computational Methods—Roundtable (P)
- 11b. Transport Methods
- 11c. Computational Methods and Mathematical Modeling
- 11d. Uncertainty Quantification and Sensitivity Analysis

12. NUCLEAR CRITICALITY SAFETY (NCSD)

- 12a. Data, Analysis and Operations in Nuclear Criticality Safety
- 12b. Introduction to NCSD Mentor Match (P)
- 12c. Implications of NCS Analysis Process Drift (P)
- 12d. Impacts to Criticality Safety from Recent Revisions to DOE Standards (P)
- 12e. Recent Nuclear Criticality Safety Program Technical Accomplishments
- 12f. ANS-8 Standards Forum (P)

13. NUCLEAR INSTALLATIONS SAFETY (NISD)

- 13a. Regulatory Reform at the Department of Energy (P)
- 13b. Round Table on Non-Reactors Nuclear Facility Consensus Standards (P)
- 13c. Strengthening Global Nuclear Governance (P)
- 13d. Future Directions for the Defense Nuclear Facilities Safety Board (P)
- 13e. Nuclear Installations Safety: General
- 13f. Current Topics in Probabilistic Risk Analysis
- 13g. Emergent Topics in Consensus Standards

14. NUCLEAR NONPROLIFERATION POLICY (NNPD)

- 14a. Arms Control and Treaty Verification (P)
- 14b. Dwight D. Eisenhower Award Special Session Part I: Honoring the 2019 Award Recipients (P)
- 14c. Dwight D. Eisenhower Award Special Session Part II: Nuclear Nonproliferation Policy (P)
- 14d. Critical and Subcritical Experiments [NCSD]
- 14e. Impact of Radiological Sources on Nuclear Nonproliferation
- 14f. SMR Safeguards (P)
- 14g. NSG Involvement (P)

15. OPERATIONS AND POWER (OPD)

- 15a. MicroReactors (P)
- 15b. Thermal Energy Storage Systems and Coupling Challenges
- 15c. Operations and Power: General
- 15d. Gen-IV Reactors' Special Session—I (P)
- 15e. Gen IV Reactors' Special Session—II (P)
- 15f. Versatile Test Reactor (P)
- 15g. The Role of Innovation in Nuclear Development (P)
- 15h. The Changing Focus in Regulating Advanced Systems (P)
- 15i. Hybrid Energy Systems: Integrating Nuclear Plants with Renewable Sources Through Alternative Applications Beyond the Grid (P)
- 15j. New Construction Around the World (P)

16. RADIATION PROTECTION AND SHIELDING (RPSD)

- 16a. Radiation Protection and Shielding: General
- 16b. Computational Tools for Radiation Protection and Shielding
- 16c. ANS Position Statement 41 on the Effects of Low Levels of Radiation

17. REACTOR PHYSICS (RPD)

- 17a. Reactor Physics: General
- 17b. Reactor Analysis Methods
- 17c. Reactor Physics Design, Validation and Operational Experience
- 17d. Innovations in Advanced Reactor Technology and Design Through the ARPA-E MEITNER Program
- 17e. Mark Williams Memorial Session: Sensitivity/Uncertainty Analysis in Reactor Physics
- 17f. "Hands-On" Core Design (P)
- 17g. Nuclear Data for Advanced Reactor Applications
- 17h. Steve Bowman Memorial Session: Evolution of SCALE (P)

18. ROBOTICS AND REMOTE SYSTEMS (RRSD)

- 18a. Robotics and Remote Systems: General

19. THERMAL HYDRAULICS (THD)

- 19a. Young Professional Thermal Hydraulics Research Competition
- 19b. Multiscale and Multi-Physics Thermal Hydraulics
- 19c. Experimental Thermal Hydraulics
- 19d. General Thermal Hydraulics
- 19e. Two-Phase Flow Thermal Hydraulics
- 19f. Computational Thermal Hydraulics
- 19g. Flow Visualization in Single and Two-Phase Flows: Recent Progress
- 19h. Education Nuclear Thermal Hydraulics Issues and Challenges (P)
- 19i. Advanced in Thermal Hydraulics to Support HEU to LEU Conversion of Research Reactors
- 19j. Thermal Hydraulic Challenges for Micro-Reactors (P)

2019 WINTER MEETING: TECHNICAL DIVISIONS

ACCELERATOR APPLICATIONS (AAD)
Peter Hosemann, peterh@berkeley.edu

AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANSTD)
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Young Professionals Congress 2019 2019 Winter Meeting Embedded Topical

November 16, 2019 | Washington DC | Marriott Wardman Park

CALL FOR PAPERS

EMBEDDED TOPICAL MEETING CHAIRS

General Chair

Matthew Jasica, Sandia National Labs.
Catherine Prat, Westinghouse Electric Co.

Technical Program Cochairs

Alyse Huffman, ANS Congressional Fellow
Nicolas Stauff, Argonne National Laboratory

MEETING HIGHLIGHTS

- Discussions on major policy and economic issues impacting the nuclear industry
- Workshops to improve leadership and communication skills
- Strategies for engaging policymakers, customers, and community members
- Networking with fellow young members, experts, and leaders representing industry, the national labs, and academia
- Keynote speaker on “Crucial Conversations in the Workplace”
- Have fun at the pre- and post-YPC social events, Friday and Saturday night
- Anyone interested in participating can contact Matthew Jasica (m.jasica1@gmail.com) or Catherine Prat (catherine.perego@gmail.com)

