Winter Meeting and Technology Expo

November 30 - December 4, 2021 | Washington Hilton | Washington, DC

CALL FOR PAPERS

EXECUTIVE CHAIRS

Technical Program Chair
Piyush Sabharwall (Idaho National Laboratory)

SUMMARY DEADLINE: MONDAY, JULY 12, 2021

JULY → SUBMISSION OF SUMMARIES: **Monday, July 12, 2021**

AUGUST → AUTHOR NOTIFICATION OF ACCEPTANCE: **Friday, August 13, 2021**

SEPTEMBER → REVISED SUMMARIES DUE: **Wednesday, September 1, 2021**

FORMAT

Authors are now REQUIRED to use the ANS Template and Guidelines for TRANSACTIONS Summary Preparation provided on the ANS Web site, ans.org/pubs/transactions. Summaries must be submitted electronically using original Microsoft Word or Adobe Acrobat PDF 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: registrar@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, export-controlled, 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 AND PAGE CHARGES

1. The minimum length is one full page.
2. The maximum length is four pages, including references, tables, and figures.
3. Summaries will incur a $50 per page publication fee.
4. Limit title to ten words; limit listing authors to three or fewer if possible.

SUBMIT A SUMMARY

https://epsr.ans.org/meeting/?m=311

PROGRAM SPECIALIST

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2021 WINTER MEETING: SESSION TITLES BY DIVISION (P) = Panel

1. AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANSTD)

1a. Aerospace Nuclear Science and Technology General
1b. Technologies for LEU-Fueled Space Nuclear Reactors
1c. Space Nuclear Reactor Power Systems
1d. Nuclear Propulsion Systems

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

2a. Cutting Edge Techniques in Education, Training and Distance Education
2b. Student Design Competition
2c. Innovations in Nuclear Technology R&D Awards
2d. Focus on Communications (P)
2e. Research by U.S. DOE NEUP Sponsored Students
2f. Training, Human Performance, and Workforce Development

3. FUSION ENERGY (FED)

3a. Fusion: General
3b. The Future of Commercial Fusion in the US (P)

4. FUEL CYCLE AND WASTE MANAGEMENT (FCWMD)

4a. Used Fuel Management Policy — New Administration, New Congress, New Hope? (P)
4b. University Research in Fuel Cycle and Waste Management
4c. Updates in Management of Radioactive Gases
4d. Fuel Cycle Impacts of LEU+ Fuel
4e. The Need for Sustainable Alpha-Related Skills Development (P)
4f. Update on Repository Status Around the World (P)
4g. Progress Made Towards Planning and Preparation for Transport, Interim Storage, and Final Disposal of Spent Nuclear Fuel (P)
4h. Disposition-Path-Neutral Research and Development Progress Made in the National Laboratory Complex (P)
4i. RADTRAN Development: A Session in Memory of John Garrick (P)
4j. Pre-Disposal Management: An Essential and Strategic Aspect in Responsible and Sustainable Policy for Nuclear Energy (P)
4k. Waste Management Strategy for Molten Salt Reactor Systems (P)
4l. Fuel Cycle Challenges in the Transition to HALEU Fuel
4m. Creating Value from Waste: Recycling Valuable Isotopes for Non-Energy Applications (P)
4n. Molten Salt Chemistry and Corrosion
4o. Fuel Cycle and Waste Management: General

5. HUMAN FACTORS, INSTRUMENTATION & CONTROLS (HFICD)

5a. Best of NPIC&HMIT 2021
5b. General Topics in I&C
5c. General Topics in HFE
5d. Regulatory Implications of ML and AI
5e. Regulatory Aspects of Digital Twins and ML/AI (P)
5f. Cybersecurity for Nuclear Installations
5g. Remote Sensing and Robotics for Inspection and Maintenance
5h. Autonomous Robotics Operation for Maintenance and Inspection
5i. Autonomous and Anticipatory Control
5j. Digital Twins and Simulators
5k. Digital I&C Updates
5l. Sensors and Embedded Technology for Advanced Reactors
5m. I&C to Support Integrated Energy Systems
5n. Concepts of Operation for New Builds

6. ISOTOPES AND RADIATION (IRD)

6a. Isotopes and Radiation: General
6b. Measurement Techniques for Nuclear Security Applications
6c. Advancements in Radiological Interdiction Technologies
6d. Radiological Interdiction Technology Programs (P)
6e. Radiation Effects in Electronics and Electronic/Optical Materials

7. MATERIALS SCIENCE AND TECHNOLOGY (MSTD)

7a. Fuel and Materials for Molten Salt Reactors
7b. In-Pile Testing of Nuclear Fuels and Materials
7c. Accelerated Materials Discovery
7d. Fuel Materials for Space Propulsion Reactors
7e. Advanced Manufacturing/Additive Manufacturing
7f. Sensors and In-Pile Instrumentation
7g. Nuclear Science User Facilities
7h. Accident Tolerant Fuels
7i. Nuclear Fuels
7j. Plutonium Handbook
7k. Aging of Materials
7l. Materials for Small Modular Reactors and Transformational Challenge Reactor
7m. Fuels and Materials for Micro-reactor Applications
7n. Core and Structural Materials
7o. Fuels and Materials for Fast Reactors
7p. Fuel and Materials Issues for Spent Fuel Storage and Disposal

8. MATHEMATICS AND COMPUTATION (MCD)

8a. Uncertainty Quantification, Sensitivity Analysis, and Machine Learning
8b. Computational Methods and Mathematical Modeling
8c. Transport Methods
8d. Current Issues in Computational Methods – Roundtable (P)

9. NUCLEAR CRITICALITY SAFETY (NCSD)

9a. Recent Nuclear Criticality Safety Program Technical Accomplishments
9b. Review of Recent CSSG Activities (P)
9c. ANS-8 Standards Forum
9d. Critical and Subcritical Experiments
9e. OECD NEA Related to Criticality Safety Programs (P)
9f. Criticality Inspections, Audits, and Walk-rounds
9g. Data, Analysis and Operations in Nuclear Criticality Safety
9h. Non-Destructive Assay

10. NUCLEAR INSTALLATIONS SAFETY (NISD)

10a. Emergent Topics in Nuclear Consensus Standards (P)
10b. Current Topics in Probabilistic Risk Analysis
10c. Nuclear Installations Safety: General

11. NUCLEAR NONPROLIFERATION POLICY (NNPD)

11a. Antineutrino Detection in Nuclear Security Applications using Coherent Neutrino-Nucleus Scattering (P)
11b. The 2021 Eisenhower Medal Honors Panel (P)
11c. The 2021 Seaborg Medal Honors Panel (P)
11d. Impact of Advanced Nuclear Technologies on Back-End of the Fuel Cycle and Waste Management (P)
11e. Technology and Policy Advancements in Nuclear Nonproliferation
11f. Understanding Industry Perspectives on International Safeguards and the Marketability of New Reactor Designs (P)

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12. OPERATIONS AND POWER (OPD)

- 12a. Operations and Power: General
- 12b. Advanced Nuclear Reactors and Power Systems
- 12c. Energy Storage Integration with Nuclear Power Plants
- 12d. Hybrid and Integrated Energy Systems
- 12e. Grid Governance and Nuclear Power (P)

13. RADIATION PROTECTION AND SHIELDING (RPSD)

- 13a. Reactor Dosimetry and Diagnostics
- 13b. Radiation Protection and Shielding General
- 13c. Applications of Radiation Transport and Dosimetry in Atmosphere and Space
- 13d. Computational Methods for Radiation Protection and Shielding

14. REACTOR PHYSICS (RPD)

- 14a. Reactor Physics: General
- 14b. Reactor Analysis Methods
- 14c. Reactor Physics Design, Validation and Operational Experience
- 14d. Reactor Physics of Micro Reactors for Terrestrial and Space Applications
- 14e. Reactor Physics of Advanced Reactors
- 14f. Advances in Reactor Design Methods
- 14g. Versatile Test Reactor — Current Developments
- 14h. Versatile Test Reactor — Current Developments (P)
- 14i. Current Issues in LWR Core Design and Reactor Engineering Support
- 14j. Transformational Challenge Reactor — Current Developments
- 14k. Transformational Challenge Reactor — Current Developments (P)
- 14l. Machine Learning and Artificial Intelligence in Reactor Physics and Design
- 14m. Machine Learning and Artificial Intelligence in Reactor Physics and Design (P)
- 14n. Progress in Molten Salt Reactor Development and Deployment: Modeling Advances, Enabling Instrumentation and Material
- 14o. Progress in Molten Salt Reactor Development and Deployment: Modeling Advances, Enabling Instrumentation and Material (P)
- 14p. Research Reactors in Support of Advanced Reactors R&D
- 14q. Research Reactors in Support of Advanced Reactors R&D (P)
- 14r. NRIC Virtual Test Bed
- 14s. Advances in Design through Advanced Reactor Development Program (P)
- 14t. Advances in Education in Criticality Evaluations and Reactor Physics (P)

15. THERMAL HYDRAULICS (THD)

- 15a. High-Performance Computing Applications in TH (P)
- 15b. TH issues in Licensing of Advanced Reactors (P)
- 15c. Computational Thermal Hydraulics
- 15d. Experimental Thermal Hydraulics
- 15e. General Thermal Hydraulics
- 15f. Two-phase Flow and Heat Transfer Fundamentals
- 15g. Young Professional Thermal-Hydraulic Research Competition
- 15h. Advanced Reactor TH
- 15i. Advancements in Experimental Thermal Hydraulics
- 15j. Application of Digital Twins for Thermal Hydraulics
- 15k. TH Applications in the Advanced Reactor Demonstration Program
- 15l. Thermal Hydraulics for SMR and Micro-Modular Reactors
- 15m. Thermal Hydraulics Research and Development in the VTR
- 15n. Thermal Hydraulics Research in the TCR

2021 WINTER MEETING: TECHNICAL DIVISIONS

AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANST)
Jeffrey King, kingjc@mines.edu

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