



# ANS

# Winter Meeting & Expo

November 15-19, 2020 | Chicago, IL | Chicago Marriott Downtown

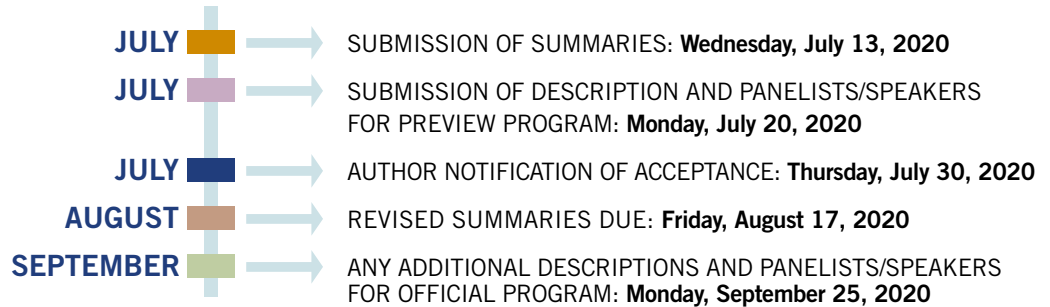
## CALL FOR PAPERS

### EXECUTIVE CHAIRS

#### *Technical Program Chair*

Elia Merzari (Nuclear Engineer, Argonne National Laboratory)

### SUMMARY DEADLINE: WEDNESDAY, JULY 13, 2020



### 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](http://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](mailto: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**  
[epsr.ans.org/meeting/?m=308](http://epsr.ans.org/meeting/?m=308)

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## SESSION TITLES BY DIVISION

(P) = Panel

### 1. AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANST)

- 1a. Aerospace Nuclear Science and Technology—General
- 1b. ANS Position Statement on the Use of Low Enriched Uranium in Space (p)
- 1c. Challenges to the use of Low Enriched Uranium in Space Applications

### 2. DECOMMISSIONING AND ENVIRONMENTAL SCIENCES (DESD)

- 2a. General Topics in Decommissioning
- 2b. Community Advisory Panels (p)
- 2c. Grid Modelling Considerations for Nuclear Energy (p)
- 2d. Innovative Characterization Techniques in Support of Decommissioning (p)
- 2e. Building Up Decommissioning Staff Credentials for Future Decommissioning Projects (p)
- 2f. Meeting Targets for Reduction of CO<sub>2</sub> Emission without Causing Economic Damage (p)

### 3. EDUCATION, TRAINING, AND WORKFORCE DEVELOPMENT (ETWDD)

- 3a. Student Design Competition
- 3b. Cutting edge Techniques in Education, Training and Distance Education
- 3c. Focus on Communications—I (p)
- 3d. Focus on Communications—II (p)
- 3e. Innovations in Nuclear Technology R&D Awards
- 3f. Research by U.S. DOE NEUP Sponsored Students I, II, III
- 3g. Nuclear Industry Employment Needs I—Overview (p)
- 3h. Nuclear Industry Employment Needs II—Startups (p)
- 3i. ABET Accreditation Changes: An Update (p)

### 4. FUEL CYCLE AND WASTE MANAGEMENT (FCWMD)

- 4a. Waste Management and Fuel Cycle innovation Challenges for Advanced Nuclear Reactors (p)
- 4b. Creating Value from Waste: Recycling Valuable Isotopes for Non-Energy Applications (p)
- 4c. Molten Salt Chemistry (p)
- 4d. Commercial Spent Nuclear Fuel Safety Analyses: Traditional Design-Basis Bounding vs. As-Loaded Approaches (p)
- 4e. Fuel Cycle and Waste Management: General
- 4f. University Research in Fuel Cycle and Waste Management
- 4g. Recent Advancements in Pyroprocessing Technologies
- 4h. Advances in Solvent Extraction Technologies for Advanced Fuel Cycles (p)
- 4i. Reprocessing and Reactors. Together at Last! (p)

### 5. HUMAN FACTORS, INSTRUMENTATION, AND CONTROLS (HFICD)

- 5a. General topics in human factors
- 5b. General topics in instrumentation and control

### 6. ISOTOPES AND RADIATION (IRD)

- 6a. Advancement in Medical Isotopes Production and Applications (p)
- 6b. Progress on High-Density LEU Fuel Development and Reactor Conversion
- 6c. Research and Development in Medical Isotopes Production and Applications
- 6d. Isotope and Radiation: General
- 6e. New and Innovative development at the Research Reactors and Nuclear Science Programs Resrch reactors and Nuclear

### 7. MATERIALS SCIENCE AND TECHNOLOGY (MSTD)

- 7a. Fuels 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. Post-Irradiation Examination
- 7g. Sensors and In-Pile Instrumentation
- 7h. Nuclear Science User Facilities
- 7i. Fuels and Materials for Molten Salt Reactors
- 7j. Accident Tolerant Fuels
- 7k. Nuclear Fuels
- 7l. Plutonium Handbook
- 7m. Aging of Materials
- 7n. Versatile Test Reactor

### 8. MATHEMATICS AND COMPUTATION (MCD)

- 8a. Advances in Reduced-Order Modeling (p)
- 8b. Uncertainty Quantification and Sensitivity Analysis
- 8c. Computational Methods and Mathematical Modeling
- 8d. Transport Methods
- 8e. Current Issues in Computational Methods-Roundtable (p)

### 9. NUCLEAR CRITICALITY SAFETY (NCSD)

- 9a. ANS-8 Standards Forum, Discussion
- 9b. Recent Nuclear Criticality Safety Program Technical Accomplishments
- 9c. Metrics and Leading Indicators (p)
- 9d. Nuclear Criticality Safety Operational Off-Normals, Incidents, and Infractions (p)
- 9e. An International Perspective on Nuclear Criticality Safety Standards (p)
- 9f. Data, Analysis and Operations in Nuclear Criticality Safety
- 9g. 15 years of S/U Techniques in Nuclear Criticality Safety: Review and Outlook
- 9h. Fundamentals of Uranium Chemistry and NCS Considerations (p)
- 9i. Critical and Subcritical Experiments

### 10. NUCLEAR INSTALLATIONS SAFETY (NISD)

- 10a. Nuclear Installations Safety: General
- 10b. Current Topics in Probabilistic Risk Analysis
- 10c. Emergent Topics in Consensus Standards
- 10d. Safety Topics for the Versatile Test Reactor

### 11. NUCLEAR NONPROLIFERATION POLICY (NNPD)

- 11a. International Safeguards and Treaty Verification
- 11b. Technology and Policy Advancements in Nuclear Nonproliferation

### 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. Supply Chain Workshop for U.S. Nuclear Suppliers (p)
- 12f. Reactor Cost Reduction Strategies (p)

### 13. RADIATION PROTECTION AND SHIELDING (RPSD)

- 13a. Radiation Protection and Shielding: General
- 13b. Computational Methods in Radiation Protection and Shielding
- 13c. Applications of Radiation Dosimetry and Shielding in Atmosphere and Space
- 13e. Radiation Shielding Aspects of Radioactive Material Packaging and Transportation

### 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 Generation IV advanced reactors
- 14f. Versatile Test Reactor—Current Developments
- 14g. Current Issues in LWR Core Design and Reactor Engineering Support
- 14h. Advanced manufacturing in nuclear applications for the Transformational Challenge Reactor
- 14i. Transformational Challenge Reactor—Current Developments
- 14j. Calculations of Energy Deposition in Nuclear Reactors
- 14k. Progress in Molten Salt Reactor development and deployment: modeling advances, enabling instrumentation and materials

### 15. THERMAL HYDRAULICS (THD)

- 15a. Two-phase flow and heat transfer fundamentals
- 15b. Computational Thermal Hydraulics
- 15c. General Thermal hydraulics
- 15d. Experimental Thermal Hydraulics
- 15e. Education in Thermal Hydraulics—Part II (p)
- 15f. Severe Accident Modeling
- 15g. Molten Salt Thermal-Hydraulics
- 15h. Multiphysics Simulation
- 15i. Young Professional Thermal-hydraulic Research competition
- 15j. Options in Small-Modular Reactors (p)
- 15k. 40 years of NURETH: How is NURETH impacting nuclear research, All Invited
- 15l. 40 years of NURETH: Highlights (p)

## 2019 WINTER MEETING: TECHNICAL DIVISIONS

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