



# ANS

# 2017 Winter Meeting

October 29-November 2, 2017 | Washington, D.C. | Marriott Wardman Park

## CALL FOR PAPERS

### Generations in Collaboration: Building for Tomorrow

#### CONFERENCE CHAIRS:

##### General Chair

Ty Troutman, Bechtel Nuclear, Security and Environmental

##### Technical Program Chair

Kenneth J. Geelhood, Pacific Northwest National Laboratory

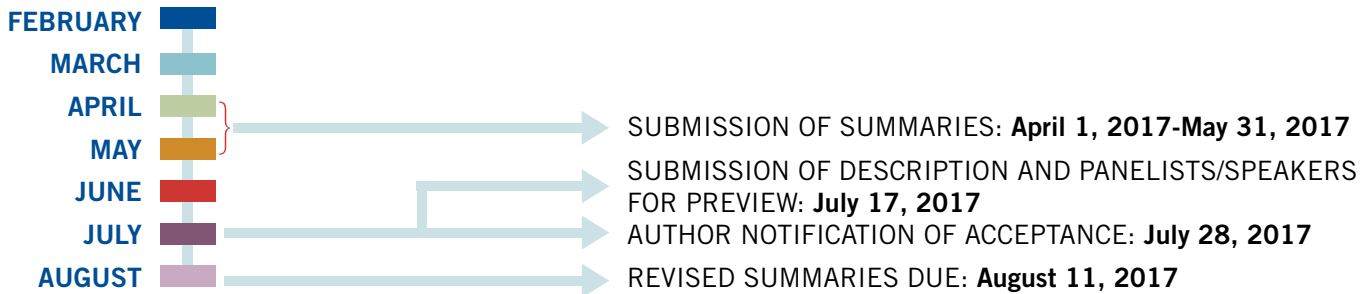
##### Assistant General Chairs

Desmond W. Chan, Bechtel Nuclear, Security and Environment  
James Haldeman, Bechtel

##### Assistant Technical Program Chair

Elia Merzari, Argonne National Laboratory

### SUMMARY DEADLINE: MAY 31, 2017



#### FORMAT

Authors are now REQUIRED to use the ANS Template and Guidelines for TRANSACTIONS Summary Preparation provided on the ANS Web site. 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. 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.

#### REQUIRED TEMPLATE AND GUIDELINES FOR TRANSACTIONS SUMMARY PREPARATION

[www.ans.org/pubs/transactions](http://www.ans.org/pubs/transactions)

#### SUBMIT A SUMMARY

[www.ans.org/meetings](http://www.ans.org/meetings)

#### TRANSACTIONS COORDINATOR

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## 2017 WINTER MEETING: SESSION TITLES BY DIVISION

(P) = Panel

### 1. ACCELERATOR APPLICATIONS (AAD)

1a. Accelerator Applications: General

### 2. AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANSTD)

2a. Aerospace Nuclear Science and Technology: General

### 3. BIOLOGY AND MEDICINE (BMD)

3a. Radiation Therapy, Standards, and Effects

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

4a. U.S. Environmental Protection Agency Superfund Radiation Risk Assessment Calculator Training

4b. Ongoing Nuclear Decommissioning Projects in U.S. and Canada: An Executive Leadership (P)

4c. Decommissioning Rulemaking Committee (P)

4d. International Decommissioning (P)

4e. DOE Decommissioning (P)

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

5a. Student Design Competition

5b. Education, Training and Workforce Development: General

5c. Cutting Edge Techniques in Education, Training and Distance Education

5d. Focus on Communications—I (P)

5e. Focus on Communications—II (P)

5f. Innovations in Fuel Cycle Research Awards

5g. Research by the U.S. DOE NEUP Sponsored Students

5h. Best of ANS Student Conference

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

6a. Molten Salt Processing—Online Processing Redox

6b. Yucca—Technical Assessments (P)

6c. Used Fuel Management Status (P)

6d. Fuel Cycle Analysis

6e. Technical Grand Challenges for Fuel Cycle and Waste Management (P)

6f. Progress in DOE's Nuclear Technology Research and Development Program (P)

6g. Medical/Industrial Isotope Recovery from Recycling of UNF

6h. Updates on Transportation Activities for Used Nuclear Fuel

6i. R&D HOT Cells—Why we Need Them, Current and Future Status and Key Challenges (P)

6j. Fuel Cycle and Waste Management: General

6k. Commercializing New Reactor Technologies—Fuel Cycle Implications and Challenges

6l. Blue Ribbon Commission Assessments—5yrs Later (P)

6m. The Waste Isolation Pilot Plant

6n. Addressing the Challenge of Advanced Reactor Commercialization

6o. Challenges Related to Integrating the Back End of the Fuel Cycle

### 7. FUSION ENERGY (FED)

7a. Reactors and Advanced Nuclear Systems using Thorium-Based Fuels

7b. High-Temperature Materials in Advanced Reactors, Gen-IV, Fusion and Accelerator Systems

7c. Thermal-Hydraulics in Advanced Reactors, Gen-IV, Fusion and Accelerator Systems

7d. Neutronics/Physics Modeling and Design in Gen-IV, Fusion and Accelerator Systems

7e. Advanced Materials for Nuclear Reactors, Fusion Systems, and Accelerator Applications

7f. Best of 2016 TOFE—Technology Update

7g. Research Opportunities in Advanced Fission and Fusion Materials

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

8a. Human Factors, Instrumentation, and Controls: General

### 9. ISOTOPES AND RADIATION (IRD)

9a. Advancements in Radiation Measurement and Imaging Technology

9b. Production and Applications of Isotopes and Radiation

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

10a. Transient Fuel Performance

10b. Advanced Manufacturing

10c. Post-Irradiation Examination

10d. Advanced Measurement Techniques

10e. Nuclear Science User Facilities (P)

10f. Nuclear Fuels and Materials in Fast Reactors

10g. Accident Tolerant Fuels

10h. Nuclear Fuels

### 11. MATHEMATICS AND COMPUTATION (MCD)

11a. Advanced Methods for Reactor Transient Analysis

11b. Uncertainty Quantification and Sensitivity Analysis

11c. Mathematical Modeling

11d. Computational Methods

11e. Transport Methods

11f. Current Issues in Computational Methods—Roundtable

### 12. NUCLEAR CRITICALITY SAFETY (NCSD)

12a. Current Spent Fuel Pool Nuclear Criticality Safety Issues for NRC Licensees

12b. ANS-8 Poster Session

12c. Recent Nuclear Criticality Safety Program Technical Accomplishments

12d. ANS-8 Standards Forum

12e. Data, Analysis and Operations in Nuclear Criticality Safety

12f. Past, Present and Future Methods in International Criticality Safety Assessment

### 13. NUCLEAR INSTALLATIONS SAFETY (NISD)

13a. Digital I&C Cyber Security Research

13b. Standardized Safety Design Considerations for Advanced Reactors

13c. NRC Level 3 PRA

13d. Technical Approach for Defense in Depth for Advanced Reactors

13e. Highlights from PSA 2017

13f. Nexus Between Ethics and Nuclear Safety Culture

13g. Emergent Topics in Consensus Standards

13h. Current Topics in Probabilistic Risk Analysis

13i. Nuclear Installations Safety: General

13j. Technical Issues with Proposed Revision to NRC Regulatory Guide 1.59, "Design Basis Floods for Nuclear Power Plants"

## 2017 WINTER MEETING: SESSION TITLES BY DIVISION

### 14. NUCLEAR NONPROLIFERATION POLICY (NNPD)

- 14a. Best of Paper Session from ANTPC
- 14b. Critical and Subcritical Experiments
- 14c. Advancing Global Nuclear Energy and Strengthening National Security (P)
- 14d. Eisenhower Award Special Session (P)

### 15. OPERATIONS AND POWER (OPD)

- 15a. Nuclear Hybrid Energy Systems
- 15b. Thermal Energy Storage Systems and their Integration with NPPs
- 15c. Water Chemistry of Nuclear Reactor Systems
- 15d. New Nuclear Construction around the World—Status Report
- 15e. Advanced/Gen-IV Reactors
- 15f. The DNP Initiative for U.S. Nuclear Power Plants
- 15g. The GAIN Initiative for Advanced Nuclear Power Plants
- 15h. Operations and Power: General
- 15i. Human Resources and Personnel—Qualification and Financial Challenges for Nuclear Infrastructure

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

- 16a. Radiation Protection and Shielding: General
- 16b. Computational Tools for Radiation Protection and Shielding
- 16c. Advanced Reactors/SMR Shielding and Dose Assessment Evaluations
- 16d. A Survey of Charged Particle Transport: Codes and Applications
- 16e. Radiation Protection and Shielding—Roundtable

### 17. REACTOR PHYSICS (RPD)

- 17a. Reactor Physics: General
- 17b. Reactor Analysis Methods
- 17c. Reactor Physics Design, Validation and Operational Experience
- 17d. Reactor Physics Challenges in Molten Salt Reactor Design
- 17e. U.S. and UK International Collaboration on Nuclear R&D: Highlighting Progress during the First Year of a New International Agreement [FCWMD]
- 17f. Reactor Physics Challenges in Molten Salt Reactor Design (P)
- 17g. Reactor Physics Challenges in Current LWRs Fleet

### 18. ROBOTICS AND REMOTE SYSTEMS (RRSD)

- 18a. Robotics in Hazardous Environments

### 19. THERMAL HYDRAULICS (THD)

- 19a. Thermal Hydraulic Collaborations in Industry, Academia and Labs (P)
- 19b. Thermal Hydraulics in Non-Power Applications
- 19c. Thermal Hydraulics of Advanced Reactors
- 19d. Computational Thermal Hydraulics
- 19e. Thermal Hydraulics for Nuclear Space Applications (P)
- 19f. Showcase of Thermal-Hydraulics Experimental Capabilities in the U.S.
- 19g. Severe Accident Modeling and Experiments for Advanced Reactor Safety
- 19h. Two-Phase Flow Fundamentals
- 19i. Experimental Thermal Hydraulics
- 19j. Computational Thermal Hydraulics
- 19k. General Thermal Hydraulics

## 2017 WINTER MEETING: TECHNICAL DIVISIONS

### ACCELERATOR APPLICATIONS (AAD)

Peter Hosemann, peterh@berkeley.edu

### AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANST)

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### DECOMMISSIONING AND ENVIRONMENTAL SCIENCES (DESD)

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

Lisa Marshall, lisa.marshall@ncsu.edu

### FUEL CYCLE AND WASTE MANAGEMENT (FCWMD)

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### FUSION ENERGY (FED)

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

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### ISOTOPES AND RADIATION (IRD)

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### ROBOTICS AND REMOTE SYSTEMS (RRSD)

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### YOUNG MEMBERS GROUP (YMG)

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# ANS

# Embedded Topical

October 28, 2017 | Washington, D.C. | Marriott Wardman Park

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## CALL FOR PAPERS

### Young Professionals Congress 2017

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#### EMBEDDED TOPICAL MEETING CHAIRS:

*General Chair*

Brett Rampal, NuScale Power, LLC

*Technical Program Chairs*

Jitesh Kuntawala, Duke Energy

Catherine Perego, Westinghouse Electric Co.

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#### MEETING HIGHLIGHTS

- Gain Insights into the Major Policy and Economic Issues Impacting the Nuclear Industry
- Boost your Career with Advice from Successful Young Professionals Representing Academia, National Labs and Industry
- Network with ANS Division and NAYGN Experts and Leaders
- Learn the Latest on a Broad Range of Topics including:
  - o Nuclear Advocacy
  - o Advanced Reactors
  - o Analysis Codes
  - o Regulatory Roles and Interfaces
  - o Effective Communication
  - o Getting the Most out of a Professional Society*Have fun at the post-YPC social event*
- Anyone interested in participating can contact Brett Rampal at [brett.rampal@gmail.com](mailto:brett.rampal@gmail.com).