

# American Nuclear Society: 2008 Winter Meeting

November 9-13, 2008 • Reno, Nevada • Grand Sierra Hotel

## “Nuclear Power—Ready, Steady, Go”

**SUMMARY DEADLINE: JUNE 13, 2008**



# Call for Papers

## Conference Chairs

### General Chair

David J. Hill, *Idaho National Laboratory*

### Technical Program Chair

Robert B. Hayes, *National Security Technologies*

### Assistant Technical Program Chairs

Bojan Petrovic, *Georgia Institute of Technology*

David Anderson, *Electric Boat Corporation*

## Deadlines: NO EXCEPTIONS

SUBMISSION OF SUMMARIES: May 1, 2008–June 13, 2008

AUTHOR NOTIFICATION OF ACCEPTANCE: By July 29, 2008

REVISED SUMMARIES DUE: August 12, 2008

## 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 and original Microsoft Word documents and the ANS Electronic Submission 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. Use at least 450 words, excluding tables and figures.
2. Use no more than 900 words, including tables and figures.
3. Count tables and figures as 150 words each. Use no more than three tables or figures.
4. Limit title to ten words; limit listing authors to three or fewer if possible.
5. Exclude references from word count.

## Page Charge

ANS charges \$100 per final printed page (prorated) 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)

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# ANS 2008 Winter Meeting: Session Titles by Division

## 1. Accelerator Applications

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- 1a. Accelerator Sources for Active Interrogation
- 1b. Experiments in Accelerator Applications
- 1c. Accelerator Applications: General
- 1d. Medical Applications of Accelerators
- 1e. Spallation Neutron Source Initial Operational Experience

## 2. Biology and Medicine

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- 2a. Advances and Issues in Computational Phantom Modeling
- 2b. (Anti) Coincidence Instruments and Software for Activation Analysis and Other Applications
- 2c. Biology and Medicine: General

## 3. Decommissioning, Decontamination, and Reutilization

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- 3a. Decommissioning and Decontamination of Commercial Nonreactor Facilities
- 3b. Decontamination via Source Term Reduction at Operating Reactors
- 3c. U.S. Department of Energy Site Cleanup
- 3d. Decommissioning, Decontamination, and Reutilization: General
- 3e. Hot Topics and Emerging Issues
- 3f. Planning Decommissioning into the Next Generation of Nuclear Power Plants

## 4. Education and Training

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- 4a. Addressing Public Fear in Nuclear Communications
- 4b. Advocate Nuclear in Your Backyard
- 4c. Cutting Edge Techniques in Education, Training, and Distance Learning
- 4d. Education and Training: General
- 4e. Perspectives on Nuclear Engineering Education from Current Students and Recent Graduates
- 4f. Workforce Planning and Development

## 5. Environmental Sciences

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- 5a. Contributions of Nuclear Science and Technology to Sustainable Development
- 5b. Environmental Aspects of the Next Generation Nuclear Plant (NGNP)
- 5c. Environmental Aspects of Transportation of Radioactive Materials
- 5d. Environmental Impact of Extreme Events
- 5e. Environmental Monitoring at Nuclear Facilities: Monitoring Results and Advances in Techniques
- 5f. Environmental Requirements/Siting Concerns for New Nuclear Power Facilities
- 5g. Environmental Sciences: General
- 5h. Implications of National Election Results on Nuclear Energy
- 5i. Renewable Energy—The Role of Nuclear Technology
- 5j. Use of Nuclear Energy for Hydrogen Production: Interface of Nuclear and Chemical Plants, Safety, Materials, and Storage
- 5k. Water Resource Issues for Nuclear Facilities

## 6. Fuel Cycle and Waste Management

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- 6a. Advanced Head End Improvements for Processing Spent Nuclear Fuels
- 6b. Advanced Separation Technologies for Spent Nuclear Fuel or Radioactive Waste Treatment
- 6c. Fuel Cycle Waste Forms and Strategies
- 6d. Future Safeguards and Associated Policies for Enrichment Implementation and Reprocessing Plants—the Present through 2020
- 6e. Fuel Cycle and Waste Management: General
- 6f. Mixed Oxide Fuel Fabrication Facility: Construction Issues and Programmatic Changes
- 6g. Non-Proliferation Policy—Should the Non-Proliferation Treaty Further Restrict Non-Nuclear Weapons States from Having Civilian Fuel Cycle Facilities?
- 6h. Potential Recycle of Minor Actinides in Thermal Reactors
- 6i. Promoting and Sustaining a Nonproliferation Culture Through Education and Training: Sharing the Experience/Preparing the Future
- 6j. Recycle of Reusable Components in Spent Nuclear Fuel
- 6k. Status of Low-Level Waste Disposal in the U.S.
- 6l. The Potential for International Collaborations on Closed Fuel Cycle
- 6m. The U.S. Advanced Fuel Recycle Research Program: Pace and Direction
- 6n. Transportation of Radioactive Materials

## 7. Fusion Energy

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- 7a. Fusion Energy: General

## 8. Human Factors

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- 8a. Human Factors: General

## 9. Isotopes and Radiation

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- 9a. Isotopes and Radiation: General
- 9b. Neutron Beam Techniques Applications at University Research Reactors
- 9c. Portable Neutron Sources
- 9d. Radiochemistry Research and Applications

## 10. Materials Science and Technology

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- 10a. Advanced Fuels and Materials Characterization Methods
- 10b. Computational Modeling of Fuels and Material
- 10c. Fuel Performance
- 10d. Materials Science and Technology: General
- 10e. Reactor Fuels and Materials

## 11. Mathematics and Computation

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- 11a. Computational Methods: General
- 11b. Current Issues in Computational Methods—Roundtable
- 11c. Mathematical Modeling: General
- 11d. Transport Methods: General

# ANS 2008 Winter Meeting: Session Titles by Division

## 12. Nuclear Criticality Safety

- 12a. Data, Analysis, and Operations for Nuclear Criticality Safety
- 12b. Nuclear Criticality Safety: General
- 12c. Nuclear Criticality Safety Standards–Forum
- 12d. Nuclear Criticality Safety Standards Poster Session
- 12e. Recent Nuclear Criticality Safety–Related Events and Associated Lessons Learned
- 12f. Strengths, Weaknesses, Similarities, and Differences of Expert-Based and Compliance-Based Criticality Safety Programs
- 12g. Validation Methods

## 13. Nuclear Installations Safety

- 13a. Cost and Benefit of Main Streamline Isolation Valve Testing for Appendix J
- 13b. Current Issues in Reactor Safety
- 13c. Emerging Issues in Nuclear Facility Safety
- 13d. Nuclear Installations Safety: General
- 13e. Highlights of PSA '08
- 13f. Innovations in Probabilistic Risk Assessment
- 13g. Integration of the American Society of Mechanical Engineers and American Nuclear Society Probabilistic Risk Assessment Methodology Standards
- 13h. Modern Analyses and Experiments in Nuclear Facility Safety
- 13i. Safety in Design of Advanced Commercial Nuclear Reactors
- 13j. Safety in Design of Defense and Commercial Nuclear Facilities
- 13k. Safety Issues for the Yucca Mountain Surface Facilities
- 13l. Safety Lessons Learned from the Japanese Earthquake of June 2007
- 13m. Safety of CANDU-type Reactors
- 13n. Safety of Gas-Cooled Reactors
- 13o. Severe Reactor Accident Analysis

## 14. Operations and Power

- 14a. Advanced/Generation-IV Reactors
- 14b. Application of International Codes and Standards in New Nuclear Plants—Harmonization versus Reconciliation
- 14c. Highly Enriched Uranium to Low-Enriched Uranium Conversions of Research Reactors
- 14d. Highlights of the Utility Working Conference
- 14e. Introduction to 10CFR Part 21 Requirements and Their Application Under Part 52
- 14f. New Plant Siting Topics–Tutorial
- 14g. Nuclear Knowledge Management—Our Way to the Future
- 14h. Research Reactor: General
- 14i. The "50.59 Like Process" for New Reactors
- 14j. The Global Nuclear Energy Partnership—Advances and Innovations

## 15. Radiation Protection and Shielding

- 15a. Best of RPSD2008
- 15b. Computational Resources for Radiation Modeling
- 15c. Current Topics in Radiation Protection and Shielding–Roundtable
- 15d. Detection Technologies for Homeland Security Applications
- 15e. Dose Conversion Coefficients
- 15f. Introductory Monte Carlo Tutorial
- 15g. Radiation Protection and Shielding: General
- 15h. Recent Work with Gamma Ray Buildup Factors
- 15i. Deterministic versus Stochastic Modeling Approaches in Radiation Transport and Shielding
- 15j. Attila Tutorial

## 16. Reactor Physics

- 16a. Benchmark of Design Code Systems Against Plant Measurements
- 16b. Boiling Water Reactor Stability
- 16c. Current Topics for Reactor Engineers
- 16d. Innovations in Reactor Core Design
- 16e. International Collaboration in Reactor Physics and Energy Technology Education
- 16f. Nuclear Data Uncertainty Needs
- 16g. Reactor Analysis Methods
- 16h. Reactor Physics Design, Validation, and Operating Experience
- 16i. Reactor Physics: General
- 16j. Use of Coupled Three-Dimensional Transport Theory and Depletion Methods in Reactor Physics

## 17. Robotics and Remote Systems

- 17a. Robotics and Remote Systems: General

## 18. Thermal Hydraulics

- 18a. Computational Thermal Hydraulics
- 18b. General Thermal Hydraulics
- 18c. General Two-Phase Flow
- 18d. NUTHOS-7 Highlights
- 18e. Thermal Hydraulics of High-Temperature Gas-Cooled Reactor Technology
- 18f. Young Professional Thermal-Hydraulics Research Competition

## 19. Aerospace Nuclear Science and Technology Technical Group

- 19a. Application of Nuclear Power in Space Environments
- 19b. Critical Technologies for Space Reactor Development
- 19c. Aerospace Nuclear Science and Technology: General
- 19d. Lessons Learned and Knowledge Retention with Applications in Space Nuclear Power
- 19e. Novel Fuel Concepts for Advanced Reactor Systems

# ANS 2008 Winter Meeting: Technical Divisions

## Accelerator Applications (AAD)

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## Biology and Medicine (BMD)

William D. James, wd-james@tamu.edu

## Decommissioning, Decontamination, and Reutilization (DDRD)

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## Education and Training (ETD)

Peter F. Caracappa, caracp3@rpi.edu

## Environmental Sciences (ESD)

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## Fuel Cycle and Waste Management (FCWMD)

James Hardeman, jim.hardeman@dnr.state.ga.us

## Fusion Energy (FED)

James P. Blanchard, blanchard@enr.wisc.edu

## Human Factors (HFD)

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## Isotopes and Radiation (IRD)

Stephen LaMont, lamont@lanl.gov

## Materials Science and Technology (MSTD)

Kenneth J. Geelhood, kenneth.geelhood@pnl.gov

## Mathematics and Computation (MCD)

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## Nuclear Criticality Safety (NCSD)

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## Nuclear Installations Safety (NISD)

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## Operations and Power (OPD)

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## Radiation Protection and Shielding (RPSD)

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## Reactor Physics (RPD)

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## Robotics and Remote Systems (RRSD)

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## Thermal Hydraulics (THD)

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## Aerospace Nuclear Science and Technology Technical Group (ANST)

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## Young Members Group (YMG)

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