

American Nuclear Society: 2008 Annual Meeting

June 8-12, 2008 • Anaheim, California • Disneyland Hotel

“Nuclear Science and Technology: Now Arriving on Main Street”

and EMBEDDED TOPICAL MEETINGS:

- 2008 International Congress on Advances in Nuclear Power Plants (ICAPP'08)
- Nuclear Fuels and Structural Materials for the Next Generation Nuclear Reactors (NFSM)
- Isotopes for Medicine and Industry
(see last page for details)

SUMMARY DEADLINE: JANUARY 11, 2008



Call for Papers

Conference Chairs

General Chair

Richard Rosenblum, *Southern California Edison*

Technical Program Chair

Stephen LaMont, *Los Alamos National Laboratory*

Assistant Technical Program Chairs

Robert Hayes, *National Security Technologies*

Kurshad Muftuoglu, *Westinghouse*

Tom Remick, *San Onofre Nuclear Generating Station*

Track Themes

1. Nuclear Science and Technology: Now Arriving on Main Street
2. Nuclear Power Plant Design, Construction, and Management
3. Fuel Cycle and Waste Management Technology
4. Nuclear Facility and Criticality Safety
5. Environmental Science and Technology
6. Nonpower and Medical Applications of Radiation
7. Nuclear Science and Engineering
8. Advanced Energy Research and Emerging Technologies
9. Education, Training, and Communication with the Public
10. Nuclear Security and Emergency Response
11. Professional Development

Deadlines: NO EXCEPTIONS

SUBMISSION OF SUMMARIES: *November 1, 2007–January 11, 2008*

AUTHOR NOTIFICATION OF ACCEPTANCE: *By February 26, 2008*

REVISED SUMMARIES DUE: *March 11, 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

Submit a Summary: www.ans.org/meetings

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ANS 2008 Annual Meeting: Session Titles for Contributed and Invited Sessions

(I) = Invited, (C) = Contributed, (I/C) = Invited/Contributed, (P) = Panel Sessions; (S) = Student Only; () = Sponsoring Division, [] = Cosponsoring Division

Track 1. Nuclear Science and Technology: Now Arriving on Main Street

- 1a. The Potential for International Collaborations on Closed Fuel Cycle Demonstrations and Implementations (FCWMD) (I/C)
- 1b. Environmental Benefits of Sustainable Nuclear Science and Technology (ESD) (I/C)
- 1c. Nuclear Methods in Materials Research (IRD) (I/C)
- 1d. Reactor Physics Design, Validation, and Operating Experience (RPD) (I/C)
- 1e. Thermal Hydraulics Aspects and Licensing Status of Generation III/III+ Submittals (THD) (I/C)
- 1f. Operations and Training Infrastructure for New Reactors (OPD) (I/C)
- 1g. Early Site Permit Process: Safety Issue Resolutions (NISD) (I/C)

Track 2. Nuclear Power Plant Design, Construction, and Management

- 2a. Advanced Light Water Reactor Design and Construction Advances (OPD) (P)
- 2b. Control Strategies in Next Generation Reactors (OPD) (I/C)
- 2c. Aging Management Issues—"Life Beyond 60" (OPD) (P)
- 2d. Digital Information and Control for New Plants (OPD) (I/C)

Track 3. Fuel Cycle and Waste Management Technology

- 3a. Recycle of Reusable Components in Spent Nuclear Fuel (FCWMD) (I/C)
- 3b. Fuel Cycle Waste Forms and Strategies (FCWMD) (I/C)
- 3c. Low-Level Waste Disposal in the United States (FCWMD) (I/C)
- 3d. Advanced Head End Improvements for Processing Spent Nuclear Fuels (FCWMD) (I/C)
- 3e. Advanced Separation Technologies for Spent Nuclear Fuel or Radioactive Waste Treatment (FCWMD) (I/C)
- 3f. Advances in the Global Nuclear Energy Partnership (GNEP) (OPD) (I/C)
- 3g. Challenges Posed by the Global Nuclear Energy Partnership (OPD) (P)
- 3h. Effects of New Fuel Cycles on Low-Level, Transuranic, and High-Level Waste Repositories (FCWMD) (I/C)
- 3i. Fuel Cycle Impacts from Fast Reactors (FCWMD) (C)
- 3j. Uranium Enrichment and Nonproliferation: Challenges in the Nuclear Renaissance (FCWMD) [SCNN] (P)
- 3k. Process Monitoring and Event Detection for Enhancing Nuclear Nonproliferation (FCWMD) [SCNN] (C)

Track 4. Nuclear Facility and Criticality Safety

- 4a. Safety of Spent Nuclear Fuel Transport (FCWMD) (I/C)
- 4b. Realistic Double Contingency Implementation Practices (NCSD) (I/C)
- 4c. Criticality Safety and Nuclear Packaging (NCSD) (I/C)
- 4d. Advances in Fixed Neutron Absorber Applications (NCSD) (I/C)
- 4e. In Situ Nondestructive Analysis Tutorial for Nuclear Criticality Safety (NCSD) (P)
- 4f. Nuclear Criticality Safety Standards—Forum (NCSD) (P)
- 4g. Data, Analysis, and Operations for Nuclear Criticality Safety (NCSD) (I/C)
- 4h. Advanced/Gen-IV Reactor Safety (OPD) (I/C)
- 4i. Safety in Design of Defense and Commercial Nuclear Facilities (NISD) (I/C)
- 4j. Safety Considerations for Sodium Fast Reactors (NISD) (I/C)

Track 4. Nuclear Facility and Criticality Safety (continued)

- 4k. Human Reliability Assessment and Performance Improvement in Nuclear Installations (NISD) (I/C)
- 4l. Emerging Issues in Nuclear Facility Safety (NISD) (I/C)
- 4m. Modern Analyses and Experiments in Nuclear Facility Safety (NISD) (I/C)
- 4n. Current Issues in Reactor Safety (NISD) (I/C)
- 4o. Innovations in Probabilistic Risk Assessment (NISD) (I/C)
- 4p. Modeling, Analysis, and Licensing Issues Related to Common-Cause Failure in Digital Instrumentation and Control Systems for Digital Upgrades to Analog Systems (NISD) (I/C)
- 4q. Evolution of Quality Assurance Standards to Support Next Generation Reactor Design and Licensing (NISD) (I/C)
- 4r. Safety in Design of Advanced Commercial Nuclear Reactors (NISD) (I/C)
- 4s. Safety Issue Resolution for Hydrogen Production Facilities (NISD) (I/C)
- 4t. Methods, Results, and Interpretations of the PHEBUS-FP Radionuclide Behavior Experiments (NISD) (I/C)
- 4u. Methods, Results, and Interpretations of the ARTISTS Tests of Aerosol Retention in Steam Generator Secondary Systems (NISD) (I/C)
- 4v. Results and Interpretations of RASPLAV MASCAT Tests of Late-Stage Core Degradation Phenomena (NISD) (I/C)

Track 5. Environmental Science and Technology

- 5a. Nonelectrical Applications of Nuclear Power (ESD) (I/C)
- 5b. Impact of Igneous Activity on Yucca Mountain (ESD) (I/C)
- 5c. Environmental Requirements for New Nuclear Power Plant Applications (ESD) (I/C)
- 5d. Environmental Impacts and External Costs of Energy Technologies (ESD) (I/C)
- 5e. Enhancing Environmental Evaluations Using Geographic Information Systems (ESD) (I/C)
- 5f. Current Issues in Environmental Restoration and Decommissioning (ESD) (I/C)
- 5g. Environmental Radiological Monitoring and Analysis Techniques (ESD) (I/C)
- 5h. Life-Cycle Energy Balances of Various Energy Technologies (ESD) (I/C)
- 5i. Environmental Sciences: General (ESD) (I/C)

Track 6. Nonpower and Medical Applications of Radiation

- 6a. Neutron Depth Profiling: Facilities and Applications (BMD) [IRD] (I/C)
- 6b. Biology and Medicine: General (BMD) (I/C)
- 6c. Radiochemical Separations (IRD) [BMD] (I/C)
- 6d. Isotopes and Radiation: General (IRD) (I/C)

Track 7. Nuclear Science and Engineering

- 7a. Current Issues in Computational Methods—Roundtable (MCD) (P)
- 7b. Mathematical Modeling: General (MCD) (I/C)
- 7c. Computational Methods: General (MCD) (I/C)
- 7d. Transport Methods: General (MCD) (I/C)

ANS 2008 Annual Meeting: Session Titles for Contributed and Invited Sessions

Track 7. Nuclear Science and Engineering (continued)

- 7e. Computational and Mathematical Modeling for Radiation Detection and Measurement (MCD) (I/C)
- 7f. ENDF/B-VII.0 and JEFF-3.1: Introduction and Validation (RPD) (I/C)
- 7g. Evaluation and Analysis of New Reactor Physics Benchmarks (RPD) (I/C)
- 7h. Advancements in Multi-Physics Reactor Simulation (RPD) [MCD] (I/C)
- 7i. Current Topics for Reactor Engineers (RPD) [OPD, YMG] (P)
- 7j. Reactor Analysis Methods (RPD) [MCD] (I/C)
- 7k. Reactor Physics: General (RPD) (I/C)
- 7l. Monte Carlo Burnup/Transmutation Tutorial (RPSD) (P)
- 7m. Computational Resources for Radiation Modeling (RPSD) (I/C)
- 7n. Monte Carlo MCNPX Tutorial (RPSD) (P)
- 7o. Current Topics in Radiation Protection and Shielding—Roundtable (RPSD) (P)
- 7p. Radiation Protection and Shielding: General (RPSD) (I/C)
- 7q. Thermal Hydraulics of Spent Fuel (THD) (I/C)
- 7r. Highlights of NURETH-12 (THD) (I/C)
- 7s. Two-Phase Flow Experimentation (THD) (I/C)
- 7t. Computational Fluid Dynamics Analysis of Rod Bundles (THD) (I/C)
- 7u. General Thermal Hydraulics (THD) (I/C)

Track 8. Advanced Energy Research and Emerging Technologies

- 8a. Advanced/Gen-IV Reactor Innovations and Advancements (OPD) (I/C)
- 8b. Advanced/Gen-IV Nuclear Plant Innovations (OPD) (I/C)
- 8c. Nuclear Process Heat Applications (OPD) (I/C)

Track 9. Education, Training, and Communication with the Public

- 9a. Training for New Reactors (ETD) (I/C)
- 9b. Workforce Development and Diversity (ETD) (I/C)
- 9c. Focus on Communications: Nuclear Pop Culture (ETD) (P)
- 9d. Focus on Communications: Pronuclear Activism (ETD) (P)
- 9e. Better than the Best of the Conference on Nuclear Training and Education (CONTE) (ETD) (I/C)
- 9f. Research by U.S. Department of Energy—Sponsored Students (ETD) (I/C)
- 9g. Education and Training: General (ETD) (I/C)

Track 10. Nuclear Security and Emergency Response

- 10a. Emergency Management and Robotics for Hazardous Environments (ESD) (I/C)
- 10b. Detection Technologies for Homeland Security Applications (RPSD) (I/C)

Track 11. Professional Development

- 11a. Neutron Activation Analysis Tutorial: Status After Five Decades (BMD) [IRD] (P)

ANS 2008 Annual Meeting: Technical Divisions

Accelerator Applications (AAD)

Itacil Gomes, icgomes@att.net

Biology and Medicine (BMD)

Sessions 6a, 6b, 11a

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

Decommissioning, Decontamination, and Reutilization (DDRD)

John W. Bowen, johnwbowen@comcast.net

Education and Training (ETD)

Sessions 9a, 9b, 9c, 9d, 9e, 9f, 9g

Peter F. Caracappa, caracp3@rpi.edu

Environmental Sciences (ESD)

Sessions 1b, 5a, 5b, 5c, 5d, 5e, 5f, 5g, 5h, 5i, 5j, 10a

Rebecca L. Steinman, rls@adventengineering.com

Fuel Cycle and Waste Management (FCWMD)

Sessions 1a, 3a, 3b, 3c, 3d, 3e, 3h, 4a

Barry B. Spencer, spencerbb@ornl.gov

Fusion Energy (FED)

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

Human Factors (HFD)

Tyrone S. Tonkinson, ttonkinson@simpleapproachinc.com

Isotopes and Radiation (IRD)

Sessions 1c, 6c, 6d

Stephen LaMont, lamont@lanl.gov

Materials Science and Technology (MSTD)

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

Mathematics and Computation (MCD)

Sessions 7a, 7b, 7c, 7d, 7e

Dmitriy Y. Anistratov, anistratov@ncsu.edu

Nuclear Criticality Safety (NCS)

Sessions 4b, 4c, 4d, 4e, 4f, 4g

Lane S. Paschal, lpaschal@comcast.net

Nuclear Installations Safety (NIS)

Sessions 1g, 4i, 4j, 4k, 4l, 4m, 4n, 4o, 4p, 4q, 4r, 4s, 4t, 4u, 4v

Lawrence M. Zull, larryz@dnfsb.gov

Operations and Power (OPD)

Sessions 1f, 2a, 2b, 2c, 2d, 3f, 3g, 4b, 8a, 8b, 8c

Thomas A. Remick, remickta@songs.sce.com

Radiation Protection and Shielding (RPSD)

Sessions 7l, 7m, 7n, 7o, 7p, 10b

John Hendricks, jxh@lanl.gov

Reactor Physics (RPD)

Sessions 1d, 7f, 7g, 7h, 7i, 7j, 7k

Bojan Petrovic, b_p@att.net

Robotics and Remote Systems (RRSD)

Carl D. Crane, ccrane@ufl.edu

Thermal Hydraulics (THD)

Sessions 1e, 7q, 7r, 7s, 7t, 7u

A. Kurshad Muftuoglu, muftuoak@westinghouse.com

Aerospace Nuclear Science and Technology Technical Working Group (ANST)

J. Boise Pearson, J.Boise.Pearson@nasa.gov

Young Members Group (YMG)

A. Nichole Ellis, ellisan@westinghouse.com

Embedded Topical Meeting: 2008 International Congress on Advances in Nuclear Power Plants (ICAPP'08)

June 8-12, 2008 • Anaheim, California • Disneyland Hotel

Embedded International Topical Meeting Chairs

General Chairs

Amir Shahkarami, *Exelon*

Jean Claude Gauthier, *AREVA-France*

Myung-Jae Song, *Korea Hydro & Nuclear Power Company Ltd.*

Technical Program Chairs

Thomas F. Marcille, *Los Alamos National Laboratory*

Bernard Bonin, *Commissariat à l'Energie Atomique*

Tsutomu Yanagisawa, *Japan Atomic Energy Agency*

Kune Y. Suh, *Seoul National University*

Paper Deadlines

ABSTRACTS: October 15, 2007 • DRAFT PAPERS: January 15, 2008

REVIEW NOTIFICATION: February 15, 2008 • FINAL PAPERS: March 15, 2008

Submit Abstracts

By October 15, 2007, authors should submit a one-page 500-word abstract (text only) with name, affiliation, address, phone, fax, and e-mail information to: www.ans.org/goto/icapp08 or icapp@ans.org. Please include the track number.

About the Meeting

This congress will bring together international experts of the nuclear industry involved in the operation, development, building, regulation, and research related to nuclear power plants. The program will cover the full spectrum of nuclear power plant issues from design, deployment and construction of plants to research and development of future designs and advanced systems.

Topics

1. Water-Cooled Reactor Programs and Issues
2. High-Temperature Gas-Cooled Reactors
3. LMFR & Longer Term Reactor Programs
4. Operation, Performance & Reliability Management
5. Plant Safety Assessment and Regulatory Issues
6. Thermal Hydraulics Analysis and Testing
7. Fuel Cycle and Waste Management
8. Materials and Structural Issues
9. Nuclear Energy and Sustainability
10. Near-Term Deployment
11. Reactor Physics and Analysis
12. Innovative and Space Reactor Systems

Embedded Topical Meeting: Nuclear Fuels and Structural Materials for the Next Generation Nuclear Reactors

June 8-12, 2008 • Anaheim, California • Disneyland Hotel

Embedded Topical Meeting Chairs

General Chairs

Todd Allen, *University of Wisconsin*

Lance Snead, *Oak Ridge National Laboratory*

Paper Deadlines

SUMMARIES DUE: January 11, 2008

AUTHOR NOTIFICATION OF ACCEPTANCE: By February 26, 2008

REVISED SUMMARIES DUE: March 11, 2008

Submit Summaries

Please submit summaries describing work that is new, significant, and relevant to Generation IV fuels and materials development. Submit a summary at www.ans.org/meetings.

ANS will publish all accepted summaries in the TRANSACTIONS. Authors are now REQUIRED to use the ANS Template and "Guidelines for TRANSACTIONS Summary Preparation" provided on the ANS Web site at: www.ans.org/pubs/transactions.

About the Meeting

The Generation IV International Forum has selected six advanced systems for consideration: the gas-cooled fast reactor system, lead-cooled fast reactor system, molten salt reactor system, sodium-cooled fast reactor system, supercritical water-cooled reactor system, and very-high-temperature reactor system. This embedded topical will bring together fuels and materials experts in all areas of Generation IV technologies.

Topics

1. Fuels and Materials for Very High Temperature Reactors (VHTR)
2. Fuels and Materials for Gas-cooled Fast Reactors (GFR)
3. Fuels and Materials for Supercritical Water-cooled Reactors (SCWR)
4. Fuels and Materials for Lead-cooled Fast Reactors (LFR)
5. Fuels and Materials for Sodium-cooled Fast Reactors (SFR)
6. Fuels and Materials for Molten Salt-cooled Reactors (MSR)
7. High-Temperature Design Methodology
8. Microstructural Modeling
9. Materials for Radiation Service

Embedded Topical Meeting: Isotopes for Medicine and Industry

June 9-11, 2008 • Anaheim, California • Disneyland Hotel

Embedded Topical Meeting Chairs

General Chair

Wynn A. Volkert, *University of Missouri, Columbia*

Technical Program Chair

Ralph A. Butler, *University of Missouri, Columbia*

Paper Deadlines

ABSTRACTS DUE: January 11, 2008

AUTHOR NOTIFICATION OF ACCEPTANCE: By February 29, 2008

REVISED SUMMARIES DUE: March 14, 2008

Submit Summaries

Summaries are expected to contain descriptions of work that is new, significant and relevant to the conference purposes. Summaries must be submitted electronically to <http://www.ans.org/meetings/epsr/>. Use the "Guidelines for TRANSACTIONS Summary Preparation" and "Template" from <http://www.ans.org/pubs/transactions/>. Accepted summaries will be included in the TRANSACTIONS CD that will be distributed at the ANS Annual Meeting.

About the Meeting

The continuing rapid growth of radioisotopes for both medical and industrial applications is of national and international interest. The expanding applications and associated production issues surrounding the supply of research, diagnostic, therapeutic, environmental, and industrial radioisotopes will be discussed.

Topics

1. Applications in Nuclear Medicine—Diagnostics
2. Reactor Production of Medical Isotopes
3. Isotopes in Environmental, Industrial and Nuclear Power Applications
4. Applications in Nuclear Medicine—Therapeutics
5. Reactor Production of Research and Industrial Isotopes
6. Cyclotron Production of Biomedical Tracers
7. Radiochemistry
8. High Energy Accelerator/Cyclotron Production of Isotopes
9. Distribution and Transportation Issues
10. Production and Application of Alpha Emitters
11. R&D and Standards Needs for Future Applications in Industry
12. Manpower and Education