

American Nuclear Society: 2009 Winter Meeting

November 15-19, 2009 • Washington, DC • Omni Shoreham Hotel

“Nuclear Power: Crafting Energy Solutions”

and EMBEDDED TOPICAL MEETINGS:

- Risk Management
- 2009 Young Professionals Congress (YPC2009)
(see last page for details)

SUMMARY DEADLINE: JUNE 12, 2009



Call for Papers

CONFERENCE CHAIRS

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Carl Rau, *Bechtel Nuclear Power*

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John Metzger, *Bechtel Marine Propulsion Corp*

Larry L. Wetzel, *B&W Nuclear Operations Group*

DEADLINES: NO EXCEPTIONS

SUBMISSION OF SUMMARIES: *May 1, 2009–June 12, 2009*

AUTHOR NOTIFICATION OF ACCEPTANCE: *By July 28, 2009*

REVISED SUMMARIES DUE: *August 12, 2009*

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. Appendixes: If any, must be called out in the text. Equations, figures, and tables are listed with letters corresponding to each respective appendix.
5. References: If any, must be closely related published works. Minimize the number of references.
6. 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

TRANSACTIONS COORDINATOR INFORMATION SERVICES

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ANS 2009 Winter Meeting: Session Titles by Division

(I) = Invited, (C) = Contributed, (I/C) = Invited/Contributed, (P) = Panel Session;
[] = Cosponsoring Division

1. Accelerator Applications

- 1a. Accelerator Applications in National Security (I/C)
- 1b. Highlights of AccApp09 (IAEA International Topical Meeting on Nuclear Research Applications and Utilization of Accelerators) (I)
- 1c. Medical Accelerator Research and Progress (I/C)
- 1d. Experiments in Accelerator Applications (I/C)
- 1e. Nuclear Applications of Particle Accelerators: General (I/C)

2. Biology and Medicine

- 2a. Nuclear Analytical Methods for the 21st Century—Role of Neutron Sources from Nonreactor Facilities (I/C)
- 2b. Nuclear Analytical Methods for the 21st Century—Gamma Rays and Neutrons in Physics and Engineering (I/C)
- 2c. Nuclear Analytical Methods for the 21st Century—Upholding Quality Assurance and Metrology (I)
- 2d. Nuclear Analytical Methods for the 21st Century—Innovations in Activation Analysis: A Session in Honor of Dr. Rolf Zeisler (I)
- 2e. Nuclear Analytical Methods for the 21st Century (P)
- 2f. Biology and Medicine: General (C)

3. Decommissioning, Decontamination, and Reutilization

- 3a. Hot Topics and Emerging Issues (C)
- 3b. Finding Common Ground with Multiple Regulatory Agencies (I/C)
- 3c. The Current Planned Path for Disposal of Radioactive Waste: Low-Level Radioactive Waste—Class A, B, and C; and High-Level Waste [FCWMD] (P)
- 3d. Three Mile Island 30 Years Later (P)
- 3e. Future of Decommissioning Funds (P)
- 3f. What is Decommissioning, Decontamination, and Reutilization and What Does it Teach Us? (P)

4. Education and Training

- 4a. Training, Human Performance, and Workforce Development (C)
- 4b. Cutting-Edge Techniques in Education, Training, and Distance Learning (I/C)
- 4c. Changes in Accreditation Board for Engineering and Technology: How Will Your Nuclear Educational Program Accreditation be Affected? (I/C)
- 4d. Best of CONTE (I)
- 4e. Student Design Competition (I)
- 4f. Perspectives on Nuclear Engineering Education from Current Students and Recent Graduates (I/C)
- 4g. Education and Training: General (C)

5. Environmental Sciences

- 5a. Hydrogen Production, Interface of Nuclear and Chemical Plants, Safety, Materials, and Storage (C)
- 5b. Environmental Applications of Geographical Information Systems (GIS) (C)
- 5c. Current Issues in Environmental Restoration (P)
- 5d. U.S. Nuclear Regulatory Commission Regulatory Policy Issues (P)
- 5e. Environmental Impact of Extreme Events (P)
- 5f. Uranium In Situ Leach Mining (P)
- 5g. Environmental Monitoring at Nuclear Facilities: Monitoring Results and Advances in Techniques (C)
- 5h. Environmental and Safety Aspects of International Nuclear Energy Development (I/C)
- 5i. Contributions of Nuclear Science and Technology to Sustainable Development (C)
- 5j. Emergency Planning and Response for Small Modular Reactors (P)
- 5k. Environmental Sciences: General (C)

6. Fuel Cycle and Waste Management

- 6a. Nuclear Fuel Cycle Codes and Applications (I/C)
- 6b. Update on the Fuel Cycle Front End (P)
- 6c. Promoting and Sustaining a Nonproliferation Culture Through Education and Training: Sharing the Experience/Preparing the Future (I)
- 6d. Opportunities in Nuclear Safeguards and Nonproliferation (I)
- 6e. International Programs to Enhance Safeguards Education for the Next Generation of Future Safeguards Professionals (I/C)
- 6f. Summer Internship Projects from the Next Generation Safeguards Initiative (I/C)
- 6g. The Sustainable Nuclear Fuel Cycle (P)
- 6h. U.S. Commitment to Implement and Promote Adherence to the International Atomic Energy Agency Additional Protocol—Domestic and International Efforts (I)
- 6i. New Developments in Neutron Absorber Materials for Spent Fuel Storage (P)
- 6j. Solid Waste from Recycling (P)

7. Fusion Energy

- 7a. Fusion Energy: General (C)

8. Human Factors, Instrumentation, and Controls

- 8a. Human Factors, Instrumentation and Controls: General (C)

9. Isotopes and Radiation

- 9a. Nuclear Analytical Methods for the 21st Century—Solutions for Nuclear Forensics (I/C)
- 9b. Isotopes and Radiation: General (C)

10. Materials Science and Technology

- 10a. Materials Science of Advanced Reactor Instrumentation (C)
- 10b. Reactor Fuels and Materials (C)
- 10c. Multiscale Modeling of Fuel Performance (C)
- 10d. Materials Science and Technology: General (C)

11. Mathematics and Computation

- 11a. Advanced Energy (Frequency) Discretizations and Acceleration Techniques for Transport (I/C)
- 11b. Global Variance Reduction Methods for Monte Carlo Transport (I/C)
- 11c. Current Issues in Computational Methods—Roundtable (P)
- 11d. Computational Methods: General (C)
- 11e. Transport Methods: General (C)
- 11f. Mathematical Modeling: General (C)

12. Nuclear Criticality Safety

- 12a. Improvements in Nuclear Criticality Safety Controls (C)
- 12b. Highlights from the NCSD2009 Topical Meeting (I)
- 12c. Nuclear Criticality Safety Standards—Forum (P)
- 12d. Data, Analysis, and Operations for Nuclear Criticality Safety (C)

13. Nuclear Installations Safety

- 13a. Proactive Management of Light Water Reactor Materials Degradation (P)
- 13b. Net Positive Suction Head Safety Issues (C)
- 13c. GSI-191: Sump Screen Blockage (C)
- 13d. Safety in Design of Advanced Commercial Nuclear Reactors (C)
- 13e. Next Generation Nuclear Plant Safety Case (C)
- 13f. Modern Analyses and Experiments in Nuclear Facility Safety (C)
- 13g. Safety in Design of Nuclear Facilities (C)
- 13h. Highlights from 2008 Sessions on Severe Accidents (I)
- 13i. Integration of American Society of Mechanical Engineers and American Nuclear Society Probabilistic Risk Assessment Methodology Standards (I/C)
- 13j. Advances in Probabilistic Risk Assessment (C)
- 13k. Current and Emerging Issues in Reactor Safety (C)
- 13l. Benchmarks for Analytical and Simulation Codes Used in Safety Analysis and Design of Nuclear Power Plants and Other Nuclear Facilities (C)

ANS 2009 Winter Meeting: Session Titles by Division

14. Operations and Power

- 14a. Americanization of Foreign-Designed Reactors (I/C)
- 14b. Gas Reactor Licensing (P)
- 14c. Cooling Options—Issues for New Reactors (I/C)
- 14d. Grid Appropriate Reactor Deployment Status Around the World (I/C)
- 14e. Reliability and Asset Management Progress at Nuclear Reactors (P)
- 14f. Report from the Committee on New Construction (P)
- 14g. Insights, Preparations, and Challenges from New Nuclear Build Constructors (P)
- 14h. Ensuring the Long-Term Safe and Sustainable Nuclear Energy Option (P)
- 14i. Status of Closure of GSI-191—Regarding Sump Strainer Design and Chemical and Downstream Effects (I/C)
- 14j. The Economics and Projects for Small Power Reactors (P)

15. Radiation Protection and Shielding

- 15a. Computational Resources for Radiation Modeling (I/C)
- 15b. Radiation Protection and Shielding: General (I/C)
- 15c. Current Topics in Radiation Protection and Shielding—Roundtable (P)
- 15d. Current Nuclear Power Issues in Radiation Protection and Shielding (I/C)
- 15e. Special Tutorial Session: MCNP/MCNPX with High Energy and Heavy Ions (P)

16. Reactor Physics

- 16a. Experiences with International Collaborations in Nuclear Engineering Research and Educational Exchanges (P)
- 16b. Fuel Isotopic Benchmarks and Applications to Code Validation (C)

16. Reactor Physics (continued)

- 16c. Validation of Advanced Depletion Approaches for High-Temperature Gas-Cooled Reactor Fuel Designs (C)
- 16d. Advanced Burnable Poison Designs and Analysis Methods (C)
- 16e. Reactor Analysis Methods (C)
- 16f. Reactor Physics Design, Validation, and Operating Experience (C)
- 16g. Reactor Physics: General (C)

17. Robotics and Remote Systems

- 17a. Robotics and Remote Systems: Research and Deployment (C)
- 17b. Robotics and Remote Systems Panel (P)

18. Thermal Hydraulics

- 18a. Thermal Hydraulics: General (C)
- 18b. Special Session on Research Contributions of Professor Larry Hochreiter (I)
- 18c. Panel on Status of Next Generation Nuclear Plant (P)
- 18d. Fundamentals of Multiphase Flow (I/C)
- 18e. Panel of 10CFR50.46 Loss-of-Coolant Accident Criteria Revision (P)

19. Aerospace Nuclear Science and Technology Technical Group

- 19a. Aerospace Nuclear Science and Technology: General (C)

20. Computational Medical Physics Working Group

- 20a. Innovations in Medical Physics (Poster)

ANS 2009 Winter Meeting: Technical Divisions

Accelerator Applications (AAD)

Denis Beller, bellerd@unlv.nevada.edu

Biology and Medicine (BMD)

Rolf Zeisler, rolf.zeisler@nist.gov

Decommissioning, Decontamination, and Reutilization (DDRD)

Nadia S. Glucksberg, nsglucksberg@mactec.com

Education and Training (ETD)

Peter F. Caracappa, caracp3@rpi.edu

Environmental Sciences (ESD)

Rebecca L. Steinman, rls@adventengineering.com

Fuel Cycle and Waste Management (FCWMD)

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

Fusion Energy (FED)

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

Human Factors, Instrumentation, and Controls (HFICD)

Richard Wood, woodrt@ornl.gov

Isotopes and Radiation (IRD)

Kenan Ünli, kxu2@psu.edu

Materials Science and Technology (MSTD)

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

Mathematics and Computation (MCD)

Todd Urbatsch, tmonster@lanl.gov

Nuclear Criticality Safety (NCSD)

A. Nichole Ellis, ellis_9899@msn.com

Nuclear Installations Safety (NISD)

Stephen Schultz, spschultz@duke-energy.com

Operations and Power (OPD)

Thomas A. Remick, thomas.remick@sce.com

Radiation Protection and Shielding (RPSD)

Charlotta E. Sanders, sander59@unlv.nevada.edu

Reactor Physics (RPD)

Fausto Franceschini, francef@westinghouse.com

Robotics and Remote Systems (RRSD)

Carl D. Crane, ccrane@ufl.edu

Thermal Hydraulics (THD)

Kurshad Muftuoglu, pcchair@thd-ans.org

Aerospace Nuclear Science and Technology Technical Working Group (ANST)

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

Young Members Group (YMG)

A. Nichole Ellis, ellis_9899@msn.com

Embedded Topical Meeting: Risk Management

November 15–19, 2009 • Washington, D.C. • Omni Shoreham Hotel

EMBEDDED TOPICAL MEETING CHAIRS

General Chair

Ronald Knief, *XE Corporation*

Technical Program Chair

Mark Prelas, *University of Missouri, Columbia*

Deputy Program Chair

Greg Krueger, *Exelon Nuclear*

Jim Petrosky, *Air Force Institute of Technology*

PAPER DEADLINES

SUMMARIES DUE: The ANS submission site will be accepting summaries
from May 1, 2009–June 12, 2009

AUTHOR NOTIFICATION OF ACCEPTANCE: By July 28, 2009

REVISED SUMMARIES DUE: August 12, 2009

FINAL FULL-PAPERS DUE: November 15, 2009

SUBMIT SUMMARIES

Authors should submit summaries describing work that is new, significant, and relevant to the risk management meeting. The summaries will be published in the ANS TRANSACTIONS and submitted full-papers will be published in a book post-meeting. For the summaries, use the “Guidelines for TRANSACTIONS Summary Preparation” and “Template” available from the ANS Web site. For further information see the 2009 Risk Management Embedded Topical Meeting—“Risk Management for Tomorrow’s Challenges” Web site (<http://www.ans.org/meetings/riskmanagement>), which will be accessible by April 1, 2009. Check the risk management Web site frequently as updates will be posted thereafter.

ABOUT THE MEETING

The 2009 risk management embedded topical meeting will address the

broadest possible perspective on the wide range of risks that face the nuclear industry and other high-hazard industries. The objective of the meeting is to provide a forum for management, safety-specialist, and risk personnel to come together and discuss issues and share ideas regarding risk management and to engage a broader community dealing with risk management in a world with ever increasing risk.

TOPICS

This meeting will address topics that include the following prospective sessions:

1. Opening Plenary Session
2. Facility Risk Management Applications
3. Quantitative Methods for Managing Risk
4. Quantitative Measures of the Benefits of Risk Management
5. Organization Culture Issues of Risk Management
6. Software Support and Computer Tools for Risk Management
7. Risk of, and Countering, Nuclear, Biological, and Chemical Terrorism/Dirty-Bomb Terrorism Risks and Countermeasures—Panel
8. Standards that Support Risk Management
9. Military Risk Management Applications
10. “Green-ness”—Technical and Political Risk Management Applications
11. Risk Management for Emerging Technologies (e.g., Nanotechnology)
12. Proliferation Resistance and Physical Protection
13. Nuclear Terrorism
14. Closing Plenary Session

In the interim, for additional information contact:

Mark Prelas, prelasm@missouri.edu, (573) 882-9691

Ron Knief, raknief@sandia.gov, (505) 284-6593

Embedded Topical Meeting: 2009 Young Professionals Congress (YPC2009)

November 15–19, 2009 • Washington, D.C. • Omni Shoreham Hotel

EMBEDDED TOPICAL MEETING CHAIRS

General Co-Chair (ANS YMG)

David Pointer, *Argonne National Laboratory*

General Co-Chair (NA-YGN)

Amy Buu, *Westinghouse Electric Company*

Technical Program Co-Chair (ANS YMG)

George Tsakanikas, *Bechtel Nuclear*

Technical Program Co-Chair (NA-YGN)

Jennifer Tobin, *U.S. Nuclear Regulatory Commission*

PAPER DEADLINES

SUMMARY DEADLINE: May 29, 2009

ACCEPTANCE NOTIFICATION: By July 24, 2009

SUBMIT SUMMARIES

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ABOUT THE MEETING

The Young Professionals Congress is jointly organized by the Young Members Group of the American Nuclear Society and the North American Young Generation in Nuclear (NA-YGN) to provide a forum for young professionals from across the nuclear industry to come together to discuss the challenges facing the next generation of nuclear professionals. The YPC2009 contributed summary sessions are organized into five Tracks. Each YPC2009 contributed summary session is sponsored by the professional divisions, technical groups, and affinity groups of ANS. The professional development program is being organized by NA-YGN.

TOPICS

- Track 1: Chart a Course for Your Career
- 1a. Paths to Success: Navigating the Early Years of Your Career (PWANS)
 - 1b. Opportunities in Nuclear Safeguards and Nonproliferation (FCWMD)
 - 1c. Human Factors Instrumentation and Controls Career Paths in the Nuclear Industry (HFICD)
- Track 2: Build a Foundation for the Future
- 2a. Accelerator Applications: Past, Present, and Future (AAD)
 - 2b. Evolutions in Nuclear Plant Safety (NISD)
 - 2c. Space Nuclear Technologies—Passing Knowledge to the Next Generation (ANST)
 - 2d. Lessons Learned and Best Practices—Environmental Modeling (ESD)
 - 2e. Reactor Fuels and Materials Science: A Historic Perspective on Important Issues and Recent Young Member Activities (MSTD)
 - 2f. Next Generation Nuclear Power Plants for Next Generation Professionals: Technology Transfer and Advancements (RPD)
- Track 3: Light the Path to Innovation
- 3a. Innovation in Thermal Hydraulics (THD)
 - 3b. Innovations in Modeling and Simulation (MCD)
 - 3c. Innovations in Medical Physics (BMD)
 - 3d. Next Generation of Nuclear Criticality Safety Professionals (NCSD)
- Track 4: Expand Your Toolbox
- 4a. Pro-Nuclear Advocacy (ETD)
 - 4b. Staying Connected Within Your Industry (FED)
 - 4c. Knowledge Management (OPD)
 - 4d. Workforce Planning, Recruiting, and Retention (YMG)
 - 4e. Maintaining Work/Life Balance (YMG)
 - 4f. Challenges Facing the Young Generation in Nuclear (YMG)
 - 4g. Who Do You Know?—Networking Tools and Techniques (YMG)
 - 4h. Engaging the Next Generation of Engineers (NA-YGN)
- Track 5: Train for Tomorrow (Tutorial Sessions)
- 5a. Introductory Monte Carlo Tutorial (RPSD)
 - 5b. MAVRIC Tutorial: New Shielding Methods in SCALE (RPSD)