

2016 Winter Meeting

November 6–10, 2016 | Las Vegas, NV | Caesars Palace

CALL FOR PAPERS

Nuclear Science & Technology: Imperatives for a Sustainable World & Embedded Topical Meeting: HTR2016

CONFERENCE CHAIRS:

General Chair Raymond J. Juzaitis, National Security Technologies, LLC (Retired President)

Assistant General Chair Steven Curtis, Senior Program Manager, Readiness Resource Group Technical Program Chair Charles (Chip) Martin, National Security Technologies, LLC

Assistant Technical Program Chair Elia Merzari, Argonne National Laboratory Piyush Sabharwall, Idaho National Laboratory

SUMMARY DEADLINE: JUNE 10, 2016 | NO EXCEPTIONS FOR DEADLINES



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 (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 Ellen Leitschuh Tel: 708/579-8253 Fax: 708/352-8313 eleitschuh@ans.org

INFORMATION SERVICES Joe Koblich, Director Tel: 708/579-8237 Fax: 708/352-8274

2016 WINTER MEETING: SESSION TITLES BY DIVISION

1. ACCELERATOR APPLICATIONS (AAD)

- 1a. Accelerator and Fusion Driven Sub-Critical Systems
- 1b. Best of AccApp'15
- 1c. Production and Processing of Radioisotopes for Medical and Industrial Application

2. AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANSTD)

2a. Tutorial on Radiation Protection and Shielding in Aeronautics and Space Applications

3. BIOLOGY AND MEDICINE (BMD)

3a. Biology and Medicine: General

4. DECOMMISSIONING AND ENVIRONMENTAL SCIENCES (DESD)

- 4a. General Session—Hot Topics and Emerging Issues
- 4b. State of the Industry: Perspectives from Nuclear Decommissioning Projects in the U.S. (P)
- 4c. Decommissioning Rulemaking (P)
- 4d. Progressive Application of World -Best in Class Security and Safeguards Standards for 21st Century DDER (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 (P1)
- 5e. Focus on Communications (P2)
- 5f. The Innovations in Fuel Cycle Research Awards Program
- 5g. Research by U.S. DOE NEUP-Sponsored Students

6. FUEL CYCLE AND WASTE MANAGEMENT (FCWMD)

- 6a. Fuel Cycle and Waste Management: General
- 6b. Transition to a New Fuel Cycle—Needs and Challenges
- 6c. Geologic Disposal Systems and Technologies
- 6d. Recent Development in Material Accountancy Techniques for Pyroprocessing Facilities (IRD, NNPD)
- 6e. Advanced Aqueous Fuel Cycles- International Perspectives (P)
- 6f. Yucca Mountain—Is There a Pulse? (P)
- 6g. Progress in DOE's Fuel Cycle Technologies Program (P)
- 6h. International Activities on Used Nuclear Fuel Reprocessing Regulatory Framework (P)
- 6i. Used Fuel: Once Through OR Recycle—Who is Right? (P)
- 6j. University Research in Fuel Cycle and Waste Management
- 6k. Used Nuclear Fuel Dry Storage Canister Inspection
- 61. Chemistry R&D in Radioactive Waste Management

7. FUSION ENERGY (FED)

7a. Fusion Energy: General

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

8a. Human Factors, Instrumentation and Controls General Session

9. ISOTOPES AND RADIATION (IRD)

- 9a. Actinides Measurement Techniques for Safeguarding Nuclear Fuel Cycle
- 9b. Advances in Technical Nuclear Forensics: Methods and Analysis

10. MATERIALS SCIENCE AND TECHNOLOGY (MSTD)

- 10a. Nuclear Fuels
- 10b. Transient Fuel Performance
- 10c. Advanced Manufacturing
- 10d. Post-Irradiation Examination
- 10e. Advanced Measurement Techniques
- 10f. Welding and Joining
- 10g. Nuclear Science User Facilities: University Capabilities
- 10h. Accident Tolerant Fuels
- 10i. Nuclear Fuels and Materials in Fast Reactors
- 10j. Development of Metallic Fuels for Next Generation Reactors

11. MATHEMATICS AND COMPUTATION (MCD)

- 11a. Computational Methods: General
- 11b. Transport Methods
- 11c. Uncertainty Quantification and Sensitivity Analysis Methods
- 11d. Current Issues in the Computational Methods Roundtable (P)
- 11e. The Nuclear Energy Advanced Modeling and Simulation Program (P) (THD)

12. NUCLEAR CRITICALITY SAFETY (NCSD)

- 12a. Recent Nuclear Criticality Safety Program Technical Accomplishments
- 12b. Data, Analysis and Operations in Nuclear Criticality Safety
- 12c. The Impact of Chemistry in Nuclear Criticality Safety Evaluations (P)
- 12d. ANS-8 Standards Forum (P)

13. NUCLEAR INSTALLATIONS SAFETY (NISD)

- 13a. Nuclear Installations Safety: General
- 13b. Current Topics in Probabilistic Risk Analysis
- 13c. Emergent Topics in Consensus Standards
- 13d. Safety Oversight of Nuclear Facilities in Construction
- 13e. Lessons Learned Over My Career (P)
- 13f. Nuclear Safety R&D at the Department of Energy

14. NUCLEAR NONPROLIFERATION POLICY (NNPD)

- 14a. Nuclear Nonproliferation Policy:
- 14b. Intersection of Policy Development and Technical Innovation for Nuclear Nonproliferation and Security
- 14c. Critical and Subcritical Experiments

(P) = Panel

2016 WINTER MEETING: SESSION TITLES BY DIVISION

15. OPERATIONS AND POWER (OPD)

15a. Hybrid Energy Systems (P)

15b. New Nuclear Constructions Around the World —Status Report (P)

15c. Advanced Gen IV Reactors

15d. Operations and Power: General

16. RADIATION PROTECTION AND SHIELDING (RPSD)

- 16a. Radiation Protection and Shielding: General
- 16b. Computational Tools for Radiation Protection and Shielding
- 16c. Software Sustainability in Radiation Protection and Shielding Data and Codes
- 16d. Tools for Complex Shielding Model Development
- 16e. Novel Detection Methods
- 16f. Radiation Protection and Shielding-Roundtable (P)

17. REACTOR PHYSICS (RPD)

- 17a. Fast Reactors
- 17b. TREAT
- 17c. Reactor Physics: General
- 17d. Reactor Physics Design, Validation and Operational Experience
- 17e. Reactor Analysis Methods

18. ROBOTICS AND REMOTE SYSTEMS (RRSD)

18a. Robotics and Remote Systems: General

19. THERMAL HYDRAULICS (THD)

- 19a. General Thermal Hydraulics
- 19b. Experimental Thermal Hydraulics
- 19c. Computational Thermal Hydraulics
- 19d. Two-Phase Flows
- 19e. Subchannel Thermal-Hydraulic Analysis
- 19f. Uncertainty, Scaling and Global Sensitivity Methods in Thermal Hydraulics
- 19g. Advanced Instrumentation in Reactor Thermal Hydraulics
- 19h. Severe Accident Modeling and Experiments for Advanced Reactor Safety
- 19i. Young Professional Thermal-Hydraulics Research Competition (YMG)
- 19j. Challenges in Computational Tools for Reactor Thermal Hydraulics (P)

20. YOUNG MEMBERS GROUP (YMG)

- 20a. The Impacts of Decommissioning Plants (P)
- 20b. Roles of Regulatory Organizations (P)
- 20c. Nuclear Politics: Advocacy (P)
- 20d. ANS Congressional Fellowship (P)
- 20e. Potent Policies: Understanding ANS Position Papers (P)
- 20f. Your Role in ANS National Committees (P)

2016 WINTER MEETING: TECHNICAL DIVISIONS

ACCELERATOR APPLICATIONS (AAD) Peter Hosemann, peterh@berkeley.edu

AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANST) Robert O'Brien, robert.obrien@inl.gov

BIOLOGY AND MEDICINE (BMD) Brian P. Bednarz, bbednarz2@wisc.edu

DECOMMISSIONING AND ENVIRONMENTAL SCIENCES (ESD) Brooke Traynham, brooke.traynham@us.pwc.com

EDUCATION, TRAINING, AND WORKFORCE DEVELOPMENT (ETWDD) Lisa Marshall, lisa.marshall@ncsu.edu

FUEL CYCLE AND WASTE MANAGEMENT (FCWMD) Jared A. Johnson, johnsonja@ornl.gov

FUSION ENERGY (FED) Arnold Lumsdaine, lumsdainea@ornl.gov

HUMAN FACTORS, INSTRUMENTATION, AND CONTROLS (HFICD) Kathryn McCarthy, Kathryn.McCarthy@inl.gov

ISOTOPES AND RADIATION (IRD) Kenan Unlu, K-unlu@psu.edu

MATERIALS SCIENCE AND TECHNOLOGY (MSTD) Kenneth Geelhood, Kenneth.Geelhood@pnl.gov

MATHEMATICS AND COMPUTATION (MCD) Jeff Densmore, jeffery.densmore@unnpp.gov

NUCLEAR CRITICALITY SAFETY (NCSD) Deborah A. Hill, Deborah.a.hill@nnl.co.uk

NUCLEAR INSTALLATIONS SAFETY (NISD) Virginia Cleary-Ivanoff, vdcleary@gmail.com

NUCLEAR NONPROLIFERATION POLICY (NNPD) Rian Bahran, Bahran@gmail.com

OPERATIONS AND POWER (OPD) Piyush Sabharwall, piyush.sabharwall@inl.gov

RADIATION PROTECTION AND SHIELDING (RPSD) Peter Caracappa, caracp3@rpi.edu

REACTOR PHYSICS (RPD) Cristian Rabiti, cristian.rabiti@inl.gov

ROBOTICS AND REMOTE SYSTEMS (RRSD) Mark W. Noakes, noakesmw@ornl.gov

THERMAL HYDRAULICS (THD) Elia Merzari, pcchair@thd-ans.org

YOUNG MEMBERS GROUP (YMG)

Catherine Perego,peregocm@westinghouse.com, Jitesh Kuntawala, jiteshkuntawala@ufl.edu



Embedded Topical

November 6–10, 2016 | Las Vegas, NV | Caesars Palace

CALL FOR PAPERS

8th International Topical Meeting on High Temperature Reactor Technology (HTR2016)

OFFICIALS:

General Chair Finis Southworth, Areva

Assistant General Chair David Petti, Idaho National Laboratory Technical Program Chair Finnis Southworth, Areva Assistant Technical Program Chairs Margaret Harding, Four Factor Consulting W. David Pointer, Oak Ridge National Laboratory Farshid Shahrokhi, Areva



SUBMIT PAPERS

All abstracts and papers must be submitted electronically using Adobe Acrobat (PDF) files or Microsoft word documents and the ANS Electronic Submission System. Papers must be written in English and authors are required to use the HTR2016 templates for abstracts and full papers.

PAGE CHARGES

Page charges will be \$25.00 per page under 14 pages and \$40.00 per page over 14 pages.

ABOUT THE MEETING

The International Topical Meeting on High Temperature Reactor Technology is the sole international conference focused on high-temperature gas-cooled reactor including heat application technology. Inaugurated in 2002 by the European High Temperature Reactor Technology Network HTR-TN at Petten, the Netherlands, successive meetings were held in Asia (Beijing, China, 2004), Africa (Johannesburg, South Africa, 2006), North America (Washington DC, USA, 2008), Europe (Prague, Czech Republic, 2010), Asia (Tokyo, Japan, 2012 and Weihai, China, 2014). The attendees included experts from research and industry and decision makers of interest including utilities, user industries, nuclear venders and governments.

HTR2016 aims to accelerate research and development on HTGR and heat application technologies, and make practical use of HTGR systems, through discussing and exchanging on the latest results and information on the above technologies and user requests as well as future perspectives and plans.

This embedded topical meeting will provide a forum for sharing of peer-reviewed, full-length technical papers covering recent advances in high temperature reactor technology. Authors and presenters are invited to participate in this event to exchange ideas and knowledge.

TECHNICAL TRACKS

TECHNICAL TRACK-1: National Research Programs and Industrial Projects TECHNICAL TRACK-2: Industrial Applications and Markets TECHNICAL TRACK-3: Fuel and Waste TECHNICAL TRACK-4: Materials and Components TECHNICAL TRACK-5: Reactor Physics Analysis TECHNICAL TRACK-6: Thermal-Hydraulics, Structural and Multiphysics Analyses TECHNICAL TRACK-7: Development, Design and Engineering TECHNICAL TRACK-8: Safety and Licensing

Paper acceptance will be based upon originality of the work, strictly implemented methods or models, quality of results, impact of the scientific advances to the field of thermal hydraulics, conclusions supported by data, proper citing of references, and use of correct grammar and spelling.

For more information about the meeting and technical program, visit http://htrconference.org