

## CALL FOR PAPERS

### International High-Level Radioactive Waste Management Conference

“Creating a Safe and Secure Energy Future for Generations to Come—Driving Toward Long-Term Storage and Disposal Now”

#### TECHNICAL PROGRAM CHAIRS:

Brady Hanson, PNNL    Christi Leigh, SNL

#### CONFERENCE PURPOSE

This conference is an international forum for discussion of the science and engineering needed to push forward with long-term storage and/or disposal options for used fuel and high-level waste (HLW). While science and engineering are certainly the foundation upon which these facilities will ultimately be built, it is clear that “consent-based” processes, especially when it comes to siting, must be employed to bring facility development to fruition. We welcome insights that can be garnered from organizations that have embarked upon the “consent-based” siting process. As reflected in this year’s theme, the conference is also intended to emphasize that used fuel and HLW long-term storage and/or disposal is an immediate, world-wide need that will soon be placed upon the shoulders of generations of individuals born well after the original development of this power source. Transferring information to these generations requires active participation from industry, government, academia, policy-makers, and the interested public. Student participation is strongly encouraged as the conference anticipates a special focus on information sharing with graduating engineers and scientists who will work toward realistic storage and disposal options that benefit their generation.

#### SPONSOR

##### American Nuclear Society

Cooperation is expected from numerous professional and technical societies, national laboratories, federal agencies, and commercial organizations throughout the world.

#### PAPER ACCEPTANCE CRITERIA

Papers are expected to contain descriptions of work that is new, significant, and relevant to the conference purposes. Both abstracts and full papers will be reviewed prior to acceptance. Submissions should contain new data and investigations in scientific or program areas that are of general interest, address problems of interdisciplinary significance, or include in-depth discussions of scientific and technical issues related to public-policy questions.

Criteria for selection include originality of work, relevance of topic, validity of method, clarity and conciseness of communication, and adherence to the scientific method (if appropriate). Compliance with content and length guidelines (following) is also part of the acceptance requirements. Both abstracts and full papers must be submitted electronically to [www.ans.org/meetings/ihlrwm](http://www.ans.org/meetings/ihlrwm). Papers may be submitted for oral or poster presentation; papers may be designated for submission to a refereed journal. All submissions must be in English.

#### ELECTRONIC SUBMISSIONS

Please submit your paper electronically to [www.ans.org/meetings/ihlrwm](http://www.ans.org/meetings/ihlrwm).

#### INSTRUCTIONS TO AUTHORS – FORMAT OF ABSTRACT FOR REVIEW:

1. Abstracts must be submitted electronically in ASCII text, HTML, Word, WordPerfect, and/or PDF (Adobe Acrobat) format.
2. Use SI units (with English units following in parenthesis, if desired). Exceptions are made for ev and barns.
3. List references numerically at the end of the abstract, and use numbers in the text, enclosed within brackets.
4. If using the ASCII text of HTML format, please include tables or figures in GIF or JPEG format. Also, please upload your original source document for use in the printed program, if available.

##### *Please note:*

- The title of your abstract will be used as the title of your presentation in the preview program.
- Authors of accepted papers will be expected to register for the conference. There are no funds available in the conference budget to support travel fees or complimentary conference registration.

#### ABSTRACT LENGTH

1. Title Maximum - 10 words.
2. Text Minimum - 250 words.
3. Text Maximum - 500 words.
4. Figures and Tables - One figure and/or table maximum.

#### CONTENT

The contents of the abstract must include the objectives of the study/investigation and the methodology used. It should also briefly describe the main findings and their potential applications. Sufficient information should be included for an independent reviewer to determine its suitability for the conference.

#### DEADLINE

**Your abstract must be submitted electronically no later than September 30, 2016, in order to ensure that it is included in the review process.**

#### AUTHOR’S ORGANIZATIONAL APPROVAL

- All internal reviews and organization approvals must be completed prior to submittal of the final paper.
- It is the responsibility of the author to protect proprietary information.

## PAPER PREPARATION FOR PUBLICATION IN CONFERENCE PROCEEDINGS IMPORTANT INFORMATION

- Accepted papers will be included in the CD-ROM Proceedings that will be distributed at the beginning of the conference.
- After the abstract review is completed by the Technical Program Committee, there will be information at [www.ans.org/meetings/c\\_2](http://www.ans.org/meetings/c_2) under this meeting on the meeting page.
- Authors of accepted papers will be allowed 8 pages for publication at no charge. Authors who exceed the 8 page limit will be billed a per-page charge of \$150.
- Refer to required template and guidelines at [www.ans.org/meetings/c\\_2](http://www.ans.org/meetings/c_2) under this meeting title.
- Changes to accepted papers must be limited to revisions or changes requested by the Technical Program Committee.

## IMPORTANT DATES

- Abstract Deadline: September 30, 2016
  - Notification to Authors: October 10, 2016
  - Full Papers Due for Review: January 5, 2017
  - Notification to Authors: January 7, 2017
  - Final Paper for CD-ROM Publication: February 7, 2017
  - Conference: April 9-13, 2017
- \*Full paper revisions must be submitted electronically to [www.ans.org/meetings/iHLrwm](http://www.ans.org/meetings/iHLrwm). Full papers will be reviewed

**SUBMIT A SUMMARY:** [www.ans.org/meetings/iHLrwm](http://www.ans.org/meetings/iHLrwm)

## PROCEEDINGS COORDINATOR

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

## INFORMATION SERVICES

Joe Koblich, Director [jkoblich@ans.org](mailto:jkoblich@ans.org)  
Tel: 708/579-8237 Fax: 708/352-8274

## SUBJECT CATEGORIES FOR ABSTRACTS

### 1. Assessment of Geological Disposal Systems (Including mined and Deep Borehole Concepts)

- Post-Closure Safety Assessment
- Interface Between Subsystems
- Modeling Near Field and Far Field Interactions
- Sensitivity Analyses
- Uncertainty Management and Confidence Building
- Performance Demonstration, Confirmation and Safety Research
- Definition, Preparation, and Documentation of a Safety Case
- Data and Information Systems

### 2. Storage & Transportation of Used Nuclear Fuel and High Level Waste

- Cask Integrity Analysis and Testing
- NDE Methods for Detecting Dry Storage Canister Corrosion
- Mitigation Techniques for dry Storage Canister Corrosion
- Transportation (Rail, Road, and Marine)
- High Burn-Up and Mixed Oxide Spent Nuclear Fuel Transportation and Storage
- Dry and Wet Storage, Including Long-Term (>60 years) Developing Consent Based Approaches for Siting
- Site Specific vs. Regional vs. Centralized Storage
- Options for Direct Disposal of Storage Canisters

### 3. Nature Versus Nurture In Management Facilities

- Natural Systems for Disposal (Generic and Site-Specific)
- Hydrologic, Chemical, Thermal, and Mechanical Processes
- Seismic, Volcanic, and Tectonic Processes
- Climate, Environmental, and Natural Hydrogeologic Process
- Modeling
- Natural Analog Studies
- Studies in Underground Research Facilities
- Geo-Scientific Data Synthesis

### 4. Engineered Systems for Disposal

- Surface and Underground Facilities
- Waste Handling, Storage, and Emplacement at Disposal Facility
- Engineered Barriers (e.g., Waste Package, Backfill, etc.)
- Design and Performance
- Near-Field Environment Modeling
- Thermal Load Management
- Pre-Closure Operational Issues (Safety, QA/QC, Constructability)

### 5. Biosphere

- Defining Generic and Site-Specific Biosphere Characteristics
- Estimating Impact on Environment
- Pathway Analysis and Dose Modeling
- Exposure Scenarios

### 6. Site Selection/Characterization for Management of Radioactive Waste

- Site Characterization Techniques
- In-Situ Measurement of Properties and Their Scaling
- Consent-Based Siting
- Science-Based Siting
- Site Selection Criteria

### 7. Requirement Frameworks for Management of Radioactive Waste

- a. Regulatory Requirements
  - International, National and Sub-National Regulations, Requirements and Guidance
  - Time Scales, Safety Measures, and Confidence Measures
  - Safety Margins and Statement of Confidence
  - Quality Assurance, Quality Control, and Inspections
- b. Institutional Requirements
  - Roles and Relationships of Local and State Regulatory and Oversight Authorities
  - Stakeholder Confidence Building/Techniques of Public Involvement
  - National Programs and Policies
  - Retrieval and Reversibility
- c. Security, Safeguards, and Non-Proliferation
  - Implementing Non-Proliferation and Security Measures
  - Transportation Safety and Safeguards
  - Multinational Cooperation in Waste Management
- d. Licensing and Certification of Management Facilities
  - Repository Licensing
  - Storage Facility Licensing
  - Regulatory Review of Safety Cases
  - Safety Case and Regulatory Reviews