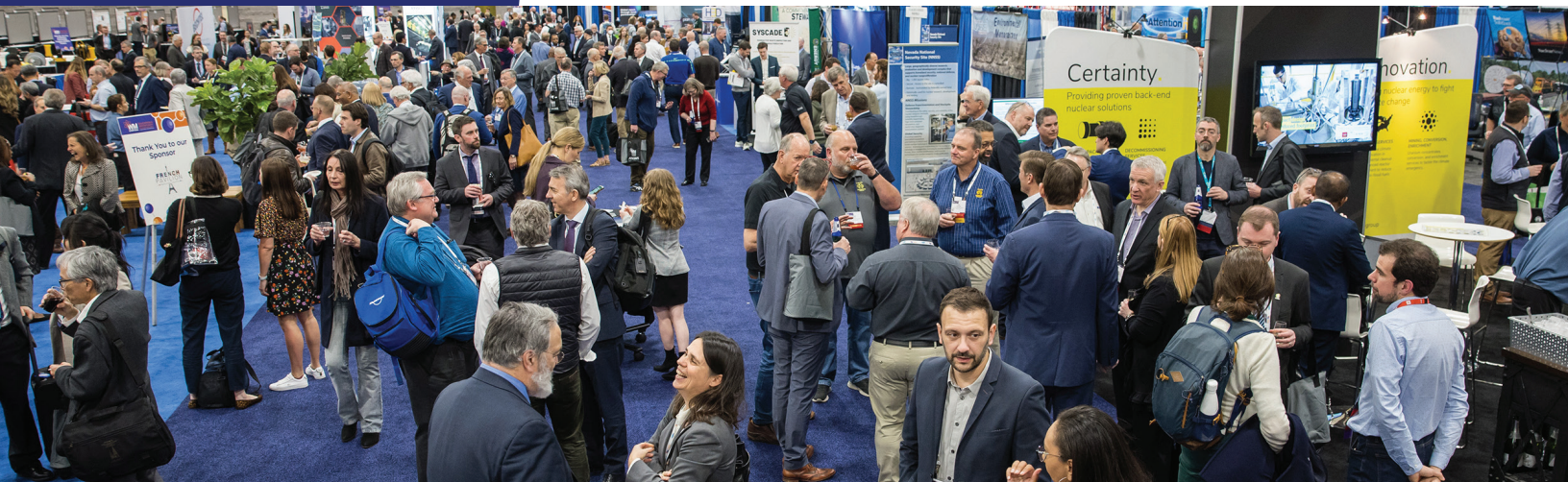




MARKING

50  
1974  
2024  
YEARS

PROUD OF OUR PAST,  
POISED FOR THE FUTURE



## CALL FOR PARTICIPATION PRESENTER, EXHIBITOR, SPONSOR & ATTENDEE!

**WM2024 – THE PREMIER AND ONE OF THE MOST ANTICIPATED CONFERENCES WITH SUPERIOR TECHNICAL TRACKS AND NETWORKING ON RADIOACTIVE WASTE AND MATERIAL MANAGEMENT.**

The nuclear material handling and radiological waste industry has made significant strides in safe handling, clean-up, and technology-with the dedication of our diverse community of professionals and students. Facilitating information sharing for 50 years, we celebrate our strong heritage, pay tribute to our predecessors, and spring forward.

You are invited to launch the next 50 years with us as you perform work of national and international significance, solving crucial challenges, and securing the sustainability and livelihood of future generations. Your contributions shape the outcomes, and your experiences inform the future. No matter your job title – engineer, project communicator, waste manager, federal project director, student, researcher, or any other-this is the most prestigious, collaborative forum to present and network across the globe.

Join us and interact with 2,800+ attendees, 900+ organizations (federal, state, and contractor community), 30+ countries, and 175+ exhibitors in 180+ technical sessions. Explore the many ways to participate, with many levels available to include everyone and every size organization.

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## WM2024 IMPORTANT DATES

June, 2023	Technical Program submission site and returning exhibitor reservations open
July 28, 2023	Deadline for returning exhibitors to secure the discounted booth rate with 50% deposit
August 25, 2023	Deadline to submit abstracts NOTE: Abstracts submitted after this date will be subject to a second review prior to acceptance.
Fall 2023	Attendee registration, exhibit booth selection and hotel room reservations open
October 9, 2023	Authors notified of acceptance
November 1, 2023	Roy G. Post Foundation scholarship application deadline
November 10, 2023	Deadline for full-length draft papers, student poster abstracts & financial aid requests NOTE: Extensions beyond this date are subject to PAC Chair and Paper Reviewer approval.
December 15, 2023	Deadline for Paper Reviewer comments to authors
December 29, 2023	Deadline for early bird registration payment & cancellations for exhibitors and attendees
January 12, 2024	Deadline for student housing requests, final papers, copyrights, non-paper poster abstracts, exhibit & sponsor final payments
January 31, 2024	Deadline for receipt of standard registration payments
February 9, 2024	PowerPoint presentations and posters due
March 10 – 14, 2024	WM2024 Conference at the Phoenix Convention Center

## ACHIEVE INCREASED VISIBILITY WITH THE WMS EXHIBITION AND SPONSORSHIP

Experience the largest annual exhibition, showcasing all aspects of products and services related to the nuclear radwaste industry at WM2024. Areas of interest include robotic handling, remote systems, emerging technologies, treatment systems, transportation, characterization instrumentation, engineering design and construction, environmental laboratories, decontamination, decommission and environmental remediation. Inquire about exhibiting in the Technology and Innovation Zone and highlight how you are enhancing progress

### WM2024 Exhibit Rates

Booth Size	Price	Registrations Included
10' x 10'	\$5,400	2 Exhibit Hall Registrations
10' x 20'	\$9,465	3 Exhibit Hall Registrations
20' x 20'	\$15,615	1 Full Technical & 3 Exhibit Hall Registrations
20' x 30'	\$17,215	1 Full Technical & 4 Exhibit Hall Registrations
30' x 40'	\$24,335	1 Full Technical & 5 Exhibit Hall Registrations
Trailer / Large Equipment	\$9,100	3 Exhibit Hall Registrations
Small Business Pavilion	Call for pricing and qualification	1 Exhibit Hall Registration

### WM2024 Sponsor Information

WMS offers five different sponsorship levels allowing you to showcase your company before thousands of radwaste professionals. Sponsor levels begin at Bronze and increase to Diamond, each offering a range of opportunities to choose from such as scholarships, receptions, advertising, and promotional items. STEM sponsorship is also available and ranges from \$500 - \$5,000.

For Sponsorship, Exhibits, and Advertising information contact:

Jean Cadwell, Exhibits, Sponsorship & Advertising Manager, [jean@wmarizona.org](mailto:jean@wmarizona.org).

## FOUR DAY TECHNICAL PROGRAM INCLUDES 180+ SESSIONS AND 600+ PRESENTATIONS

Topics of interest include research, development, and operational experience over the spectrum of nuclear waste activities, which are categorized by 12 tracks. There will be featured panel and paper sessions focusing on special topics such as:

- WM2024 Theme: Marking 50 Years: Proud of our Past, Poised for the Future
- Special country sessions with the UK, France, Canada, Germany, Japan, and also IAEA organized “Developing Countries” sessions
- Highlighted DOE site sessions including Hanford, SRS, INL, Oak Ridge, LANL, Portsmouth/Paducah and others
- Comprehensive topics in all 12 tracks on the latest technology, clean-up, waste management and contracting opportunities

WM2024 Thursday Afternoon Special BOD Panel: “International Perspectives: Achieving Consensus and Support for Nuclear Waste Repositories” will be held with Global experts from IAEA, United Kingdom, Japan, Finland, US DOE, and other Countries engaged in permanent deep geological repositories and will provide a lively and informative discussion with the audience.

## WM2024 WILL CONTINUE THE GROWTH AND FOCUS OF YOUNG PROFESSIONALS SUPPORTING THE FUTURE OF THE RADWASTE MANAGEMENT INDUSTRY

**Student Poster Competition:** Open to full-time students enrolled in secondary educational programs in technical or policy fields with the objective of contributing to the safe management of nuclear materials. Student poster abstracts must be submitted online at [www.wmsym.org](http://www.wmsym.org). Students participating in the Student Poster Competition will be eligible for complimentary conference housing. Visit the STUDENTS page on our website for more details or contact Lisa Parenti, Technical Program Coordinator, [lisa@wmarizona.org](mailto:lisa@wmarizona.org).

**Scholarships:** The Roy G. Post Foundation awards scholarships to help students achieve their academic goals and provide financial support for students to attend the conference. WMS and the Roy G. Post Foundation have given over \$4.7 Million in scholarships and student support. Those interested in a scholarship or contributing, contact Meg Pratt, Registration Manager and Roy G. Post Administrator, [meg@wmarizona.org](mailto:meg@wmarizona.org).

**STEM at WM2024:** WMS highlights Science, Technology, Engineering, and Math (STEM) as an integral part of our overall mission to promote technical excellence and education by fostering STEM engagement through grades K-12. Plan to get involved and attend the STEM focused panels and interact with the STEM Zone Exhibit Resources. Have questions about STEM at WM2024? Contact Susan Walter, Managing Director, [swalter@wmarizona.org](mailto:swalter@wmarizona.org)

**Program Advisory Committee (PAC):** PAC Members and Supporters are leaders in their field and advise on and organize the technical program for the annual conference. As a PAC Supporter, you also support organizing activities and are eligible to become a PAC Member after two years. Take this opportunity to be on the front line of advancements in our field.

Young Professionals (YP) are encouraged to participate in the PAC as a Supporter and Member. Industry can support and sponsor a YP to become a PAC Supporter by sponsoring YP PAC travel costs and mentoring them while a PAC Supporter. By getting involved, companies can foster healthy workforce development and future WMS conference technical development. Contact Gary Benda, PAC Chair, [gbenda@wmarizona.org](mailto:gbenda@wmarizona.org) to support a YP.

## PARTICIPATE IN THE TECHNICAL PROGRAM

WM2024 offers 12 technical tracks with many opportunities to present your work, successes, and lessons learned to your colleagues at the conference. Select a topic from the Tracks and Topic Numbers that best represents your work and submit an abstract for consideration to present. Approved abstracts are selected to participate in either an oral or poster session. The criterion for determining conference placement is designed to ensure each abstract is properly reviewed and assigned to the most appropriate Track/Session.

## HOW TO SUBMIT AN ABSTRACT FOR CONSIDERATION

Abstracts should be between 400 - 800 words and should be submitted online at [www.wmsym.org](http://www.wmsym.org) before Friday, August 25, 2023. When submitting an abstract, you must select the topic from the list of Tracks and Topic Numbers that best correspond to your abstract. Authors unsure of the best topic number can assign their abstract to Track 12.0, where your abstract will be reviewed and reassigned. Please note that WMS and the PAC have the authority to reassign an abstract if an appropriate topic number is not selected. Any abstract received after August 25, 2023, will be subject to a second review prior to acceptance.

The abstract is required to have the following content:

1. A descriptive title (100 characters or less) that reflects the paper and presentation content.
2. A summary that includes the background of the problem, the methods used, the results and conclusions.
3. A brief description of this study's application/benefit to others should be addressed within the summary.
4. Contact information for all authors must include organization, mailing addresses, email addresses and phone numbers.
5. A condensed summary (50 - 100 words) that will be added to the WMS online program after the abstract is evaluated and accepted.

Registrants/presenters are limited to two (2) abstract submissions for oral presentations and will be restricted to two (2) oral presentations at the conference. There is no limit on the number of abstracts one person can co-author. Presenters are expected to attend the live conference and must submit registration and payment no later than January 12, 2024.

For full abstract submission requirements and instructions as well as the selection process details, please visit [www.wmsym.org](http://www.wmsym.org). Abstract rating criterion and abstract preparation guide are posted on the WMS website under the Technical Program – Resources & Forms page.

## REQUESTS FOR FINANCIAL AID OR LETTER OF INVITATION / VISA REQUESTS

All conference participants are required to register and complete payment prior to attending the conference. WMS offers a limited number of discounts for the conference. To request financial aid or a Letter of Invitation to apply for a travel visa, please complete and return the form located under the Register - Rates & Information menu option on our website. Forms must be sent to Meg Pratt, Registration Manager [meg@wmarizona.org](mailto:meg@wmarizona.org) by November 10, 2023. All deadlines for authors must be met to be eligible. Please note that WMS does not offer financial aid for travel costs.

## MAXIMIZE YOUR TIME AND INVESTMENT WITH US!

Earn Professional Development Hours (PDHs) and accredited Continuing Education Units (CEUs) for most sessions and workshops. As an IACET Accredited Provider, WM Symposia offers IACET CEUs for its learning events that comply with the ANSI/IACET Continuing Education and Training Standard. Topics proposed for IACET CEUs are designated with an \*.



For Technical Program questions, contact: **Gary Benda**, PAC Chair [gbenda@wmarizona.org](mailto:gbenda@wmarizona.org) V: +1 803-345-2170; **Al Freitag**, Deputy PAC Chair, [afreitag@wmarizona.org](mailto:afreitag@wmarizona.org), V: +1 914-475-1170; **Lisa Parenti**, Technical Program Coordinator, [lisa@wmarizona.org](mailto:lisa@wmarizona.org); **Wendy Lambert**, IACET Director, [wlambert@wmarizona.org](mailto:wlambert@wmarizona.org); or the relevant Track Co-Chair listed with the track information.



## LISTING OF THE 12 TRACKS AND THE ASSOCIATED TOPICS

### 1 - CROSSCUTTING POLICIES AND PROGRAMS

**Ray Clark**, US EPA (Lead Co-Chair), V: +1 202-343-9198, E: clark.ray@epa.gov

**Craig Michaluk**, Atomic Energy of Canada Limited (Co-Chair), V: +1 204-470-1665, E: cmichaluk@aecl.ca

**Eric Knox**, Amentum (Co-Chair), V: +1 571-232-2897, E: eric.knox@amentum.com

This Track includes overall crosscutting policies and major programs. Similar topics that are not Track crosscutting and thus specific to a single waste type (e.g., HLW, SNF, LLW, etc.) or program (e.g. ER, D&D, etc.) should be submitted to the specific Track for that waste type or program. Presentations of waste management programs and policies at the national, multi-national and international level are particularly encouraged. Other potential crosscutting or general topics include crosscutting regulatory issues, contracting, legal aspects, permitting (licensing) and compliance activities, criteria and standards development, privatization issues, legislation, enforcement agency and state issues (including multiparty agreements), interface, and other high-level crosscutting issues that involve multiple waste types/programs or Tracks.)

- 1.0 Crosscutting Policies and Programs - Non-specified Abstracts
- 1.1 Crosscutting Policies and Programs - Posters
- 1.2 WM2024 Featured Theme – Marking 50 Years: Proud of Our Past, Poised for the Future
- 1.3 Student Poster Competition: Future Industry Leaders
- 1.4 Worldwide Regulatory and Oversight Programs for Waste Management - Challenges and Solutions\*
- 1.5 Worldwide Perspectives of Radioactive Waste Management - Challenges and Solutions\*

### 2 - HIGH-LEVEL RADIOACTIVE WASTES (HLW), SPENT/USED NUCLEAR FUEL (SNF/UNF) AND LONG-LIVED ALPHA/TRANSURANIC RADIOACTIVE WASTE (TRU)

**Tom Brouns**, Pacific Northwest National Laboratory (Lead Co-Chair), V: +1 509-372-6265, E: tom.brouns@pnnl.gov

**Thilo von Berlepsch**, BGE Technology GmbH (Co-Chair), V: +49-5171431517, E: thilo.berlepsch@bge.de

**Steven Thomson**, National Nuclear Laboratory (Co-Chair), V: +44-1946779333, E: steven.thomson@uknnl.com

**J.R. Stroble**, US DOE (Co-Chair), V: +1 575-234-7313, E: j.r.stroble@cbfo.doe.gov

**Robert Jubin**, Consultant (Co-Chair), V: +1 865-924-1568, E: RTJubin1@comcast.net

This Track covers all long-lived alpha/TRU waste, SNF/UNF and HLW operations from generation and storage through characterization, treatment, and disposal. It also covers associated technology development and deployment; recycling/reprocessing strategies and technologies; periodic progress updates oriented to specific achievements in waste removal and disposal activities, and overlapping issues including: interim and final disposition strategies for SNF/UNF and HLW, associated environmental permitting and monitoring of stored waste, waste processing alternatives, waste form, deep geologic disposal and operating facility performance and risk assessment, and the impacts of directly associated regulations and standards.

- 2.0 HLW, SNF/UNF and Long-lived Alpha/TRU Waste - Non-Specified Abstracts
- 2.1 HLW, SNF/UNF and Long-lived Alpha/TRU Waste - Posters
- 2.2 HLW, SNF/UNF and Long-Lived Alpha/TRU Programs and Policies
- 2.3 Storage and Retrieval of Spent/Used Nuclear Fuel\*
- 2.4 Storage and Retrieval of HLW\*
- 2.5 TRU Waste Disposition\*
- 2.6 Update on Salt and Supernate Tank Waste Processing
- 2.7 Current and Future Reprocessing/Recycling and Separation of HLW, SNF/UNF and Long-lived Alpha/TRU
- 2.8 Advanced Fuel Cycle Program Update\*
- 2.9 Stabilization/Immobilization of HLW, SNF/UNF and Long-lived Alpha/TRU\*
- 2.10 Geological Disposal of HLW, SNF/UNF and Long-lived Alpha/TRU\*
- 2.11 Containment Materials for HLW/SNF/TRU Long-Term Geologic Isolation\*
- 2.12 Global Insights into HLW/SNF/TRU Disposal Site Selection
- 2.13 Operational Safety Issues in the Implementation of Deep Geological Repositories (DGR)\*
- 2.14 Recent Developments in Underground Research Laboratory (URL) Activities
- 2.15 Closure and Monitoring of HLW, SNF/UNF and Long-lived Alpha/TRU Facilities\*
- 2.16 Infrastructure Improvements in HLW, SNF/UNF and Long-Lived Alpha/TRU Aging Facilities

### 3 - LOW-LEVEL WASTE (LLW), INTERMEDIATE LEVEL WASTE (ILW), VERY LOW-LEVEL WASTE (VLLW), MIXED WASTE (MW), BY PRODUCT MATERIAL, TENORM, NORM RESIDUES, ENRICHED AND DEPLETED URANIUM (DU)

**Linda Suttora**, Consultant (Lead Co-Chair), V: +1 240-460-9360, E: lcsuttora@gmail.com

**Stephen Halliwell**, VJ Group (Co-Chair), V: +1 516-768-9776, E: shalliwell@vjt.com

**Kapila Fernando**, ANSTO (Co-Chair), V: +61-297179488, E: kfernando@wmarizona.org

This track consists of many waste categories including LLW, ILW, VLLW, MW (radioactive & hazardous), Naturally Occurring Radioactive Material (NORM), Enriched and Depleted Uranium (DU) and Technologically Enhanced NORM (TENORM). The track encompasses: Operations from generation through treatment and disposal; Technology development, demonstration, and deployment; Overlapping issues including waste minimization, waste characterization and analysis, effluent monitoring, waste form and facility performance assessment, regulations and standards; and for all types of facilities from hospitals, accelerators, research reactors, government facilities, disposal sites, etc. This Track covers waste management of uranium or thorium ores as well as US NRC defined "Greater than Class C - LLW", byproducts or tailings, NORM residues and waste, and NRC defined TENORM. This track also includes radioactive materials, articles and consumer products. (NPP operational waste is covered in Track 4. TRU and similar long-lived alpha waste is covered in Track 2.)

- 3.0 LLW, ILW, MW, NORM, TENORM and Depleted Uranium - Non-specified Abstracts
- 3.1 LLW, ILW, MW, NORM, TENORM and Depleted Uranium - Posters
- 3.2 Selected Key Topics in US Commercial LLW Management
- 3.3 Regulatory Issues and Solutions for LLW/ILW Worldwide\*
- 3.4 Waste Generation Issues and Solutions for LLW/ILW Worldwide
- 3.5 Waste Characterization Methods and Data Analysis for LLW/ILW Worldwide\*
- 3.6 Treatment and Processing Experience of LLW/ILW Worldwide\*
- 3.7 Storage and Disposal Experiences for LLW/ILW Worldwide\*

#### 4 - NUCLEAR POWER PLANT (NPP) WASTE MANAGEMENT AND ON-SITE SNF/UNF STORAGE

**Myron Kaczmarzsky**, Holtec Government Serv. (Lead Co-Chair), V: +1 856-797-0900 x3657, E: m.kaczmarzsky@holtec.com

**Dale Vines**, Dominion Engineering (Co-Chair) V: +1 225-305-3428, E: dvines@domeng.com

**Andreas Roth**, Atkins SNC-Lavalin (Co-chair) V: +49 40 303339606, E: Andreas.Roth@atkinsglobal.com

The Nuclear Power Plant (NPP) Waste Management track encompasses waste characterization and minimization, treatment, packaging and management of NPP operational wastes and NPP SNF/UNF storage and management.

- 4.0 Nuclear Power Plant (NPP) Waste Management and On-Site SNF/USF Storage - Non-specified Abstracts
- 4.1 Nuclear Power Plant (NPP) Waste Management and On-Site SNF/USF Storage - Posters
- 4.2 Advances in the Management of Nuclear Power Plant Dry Waste from Around the World\*
- 4.3 Perspectives on Management of Nuclear Power Plant Liquid and Wet Waste\*
- 4.4 Nuclear Power Plant Onsite SNF/UNF Storage ISFSIs and Failed Fuel Handling at NPPs\*
- 4.5 Aging Management of On-Site Spent Nuclear Fuel in Extended Storage and Transportation

#### 5 - PACKAGING AND TRANSPORTATION (P&T)

**Anna Wikmark**, Swedish Nuclear Fuel and Waste Management Co. (Lead Co-Chair), V: +46-704597608, E: anna.wikmark@skb.se

**Ed Ketusky**, NAC International (Co-Chair), V: +1 404-268-5236, E: eketusky@NACINTL.com

**Paul Jones**, Perma-Fix Environmental Services (Co-Chair), V: +1 865-591-8632, E: pjones@perma-fix.com

The Packaging and Transportation Track includes all activities and issues related to the safe, secure, and economical packaging and transportation of radioactive materials. This includes HLW, TRU, LLW, ILW and MW; fresh and irradiated nuclear fuel; contaminated media and debris; isotopes and radioactive sources; uranium hexafluoride, etc. Topic areas include: International regulatory activities, issues, and initiatives; packaging development and related issues; logistics and transportation operations, including large items from decommissioning; integrated planning and scheduling; status and issues for large shipping campaigns; and stakeholder and public interactions and issues.

- 5.0 Packaging and Transportation - Non-Specified Abstracts
- 5.1 Packaging and Transportation - Posters
- 5.2 Worldwide Experience in Packaging and Transportation of Radioactive and Other Hazardous Materials
- 5.3 Radioactive Material Packaging and Transportation Regulatory Issues Worldwide\*
- 5.4 Global Advances in Packaging for Interim Storage, Transport and Disposal\*
- 5.5 State, Tribal and Regional Groups Perspectives in Resolving Radiological Transportation Issues
- 5.6 Packaging and Design Analysis\*
- 5.7 Transportation Security Advances and Challenges\*
- 5.8 The Best of the PATRAM 2023 Conference

#### 6 - DECONTAMINATION AND DECOMMISSIONING (D&D)

**Al Freitag**, Globalpundits Technology (Lead Co-Chair), V: +1 914-475-1170, E: aafreita@aol.com

**Rick Demmer**, MARCOM (Co-Chair), V: +1 208-589-4858, E: decondude@gmail.com

**Anthony Banford**, UK National Nuclear Laboratory (Co-Chair), V: +44 7715 043778, E: anthony.w.banford@uknnl.com

This Track includes all aspects of D&D from shutdown and planning to license termination, Brownfield, and/or Greenfield, including characterization, decontamination, storage/SAFESTOR, dismantling, demolition, waste handling, final survey, and associated new technology development for both government and commercial nuclear power and non-power facilities. It also includes D&D technologies and program strategies worldwide, as well as the regulatory aspects.

- 6.0 D&D - Non-specified Abstracts
- 6.1 D&D - Posters
- 6.2 D&D of Nuclear and Non-Power Generating Facilities Both Large and Small\*
- 6.3 D&D of Nuclear Power Plants\*
- 6.4 D&D of US DOE Facilities\*
- 6.5 Plans for and Experience in Transitioning from Operations to Decommissioning
- 6.6 International Experience in Waste Optimization/Minimization, Recycling and Clearance from D&D\*
- 6.7 Application of Innovative D&D Technologies Including Application of Virtual Reality\*
- 6.8 Fast Track D&D Technology Development and Demonstration
- 6.9 Planning for Decommissioning of SMRs in the Future

**7 - ENVIRONMENTAL REMEDIATION (ER)****Kurt Gerdes**, Consultant (Lead Co-Chair), V: +1 301-330-1457, E: kurtgerdes1@gmail.com**Vicky Freedman**, Sealaska Technical Services (Co-Chair), V: +1 509-546-1679, E: vicky.freedman@gmail.com**Margaret MacDonell**, Argonne National Laboratory (Co-Chair), V: +1 630-252-3243, E: macdonell@anl.gov

This track includes all activities associated with the assessment, cleanup, and closure of contaminated sites. The topics will explore how to restore and protect human health and the environment through investigation, cleanup, closure, and long-term site management. The focus is on above and below ground remedial actions and cleanup activities including site inspection, characterization and evaluation, sampling and analysis, compliance monitoring, resolving regulatory issues that impact cleanup, aquifer and soil remediation, managing waste resulting from cleanup activities, remedial design and implementation, accelerating cleanup through technological or process improvements, closure, sustainable green remediation processes and legacy management/long-term stewardship.

- 7.0 Environmental Remediation - Non-specified Abstracts
- 7.1 Environmental Remediation - Posters
- 7.2 Environmental Remediation Progress Toward Closure of Contaminated Sites Around the World
- 7.3 Technical Innovations in Environmental Remediation and Site Closure\*
- 7.4 Innovative Field Monitoring for Environmental Remediation\*
- 7.5 ER Post Closure Challenges and Long-Term Stewardship/Legacy Management
- 7.6 Formerly Utilized Sites Remedial Action Program (FUSRAP) and US Army Corps of Engineers Projects
- 7.7 Groundwater Remediation Projects - Worldwide Experiences\*
- 7.8 Characterization and ER Technologies for Complex and Comingled Contaminants\*
- 7.9 Environmental Remediation in Urban and Suburban Environments - Examples from Around the World
- 7.10 Environmental Remediation of Abandoned Uranium Mines and Mills
- 7.11 Modeling Applications and Risk/Dose Analysis in Environmental Remediation\*
- 7.12 Emerging Contaminant Issues
- 7.13 Modeling Applications and Risk/Dose Analysis in Environmental Remediation\*
- 7.14 Approaches to Overcome Challenges in Environmental Data Management, Access, and Analysis

**8 - COMMUNICATION, STAKEHOLDERS & INDIGENOUS ENGAGEMENT, TRAINING AND PROFESSIONAL DEVELOPMENT (CS&TPD)****Robert Seifert**, US DOE HQ (Lead Co-Chair), V: +1 301-250-5239, E: robert.seifert@em.doe.gov**Robert Berry**, Foxfire Scientific Inc (Co-Chair), V: +44-1612927990, E: berry@foxfirescientific.com**Joceline Nahigian**, US DOE (Co-Chair), V: +1 301-250-3409, E: joceline.nahigian@hq.doe.gov

This track covers communications, stakeholders & indigenous engagement, training and professional public involvement, and education and training development for technical and management issues in the nuclear waste-management industry, such as used nuclear fuel; and high-level, low-level and TRU waste management.

- 8.0 Communications, Stakeholders & Indigenous Engagement, Training and Development - Non-Specified Abstracts
- 8.1 Communications, Stakeholders & Indigenous Engagement, Training and Development - Posters
- 8.2 Communication of Technical Issues: Worldwide Experiences
- 8.3 Advancements in Technical Education and Training to Improve and Sustain Institutional Knowledge\*
- 8.4 The Stakeholder's Voice – Stakeholder and Tribal Perspective Related to Environmental Cleanup
- 8.5 Decision-making Tools and Frameworks that Enhance Communication for ER Cleanup Programs\*
- 8.6 Role of Advisory Boards in Environmental Cleanup
- 8.7 Innovations and Performance Solutions to Workplace Management\*
- 8.8 Social Sciences as a Resource for Improving Public Involvement in HLW Issues\*
- 8.9 Manhattan Project National Historic Park – Legacy Lives On
- 8.10 Implementation Lessons Learned and Novel Approaches for Risk-Informing WM Regulations\*
- 8.11 Global Experience of Records, Knowledge, and Memory (RK&M): Global Marker Systems\*

**9 - SPECIAL TOPICS AND MULTI-TRACK CROSS CUTTING TECHNOLOGY TOPICS (ST)****Ming Zhu**, US DOE (Lead Co-Chair), V: +1 301-903-9240, E: Ming.Zhu@em.doe.gov**Paul Dixon**, Los Alamos National Laboratory (Co-Chair), V: +1 505-699-1744, E: p\_dixon@lanl.gov**Alan Paulley**, Quintessa Ltd (Co-Chair), V: +44 (0)1925 885952, E: alanpaulley@quintessa.org

This track includes all Special Topics including the aspects of US and non-US International Safety, Security, and Safeguards and US Homeland security issues. It also includes technical track crosscutting topics or special WM topics on programs associated with orphan and sealed sources, Integrated Risk Management and decision support analysis in support of Program Management and Project Management inclusive of but not limited to modeling, compliance activities, criteria and standards development, Natural Resource Damage Assessment (NRDA); Technology Deployment and Technical Risk Management; instruments, filtration, advanced technologies, extreme environment operations enabling technologies, technology driven program implications and drivers, and/or other technical crosscutting issues that involve multiple waste forms or radioactive materials and/or risk management.

- 9.0 Special Topics and Track Cross Cutting Technology Topics - Non-specified Abstracts
- 9.1 Special Topics and Track Cross Cutting Technology Topics - Posters
- 9.2 Nuclear and Industrial Robotics, Remote Systems and Emerging Technology\*
- 9.3 Crosscutting Subsurface Mass Transport and Environmental Assessment of Geological Disposal Systems\*

- 9.4 Risk-Informed Performance Based Decision Making for Site Closure\*
- 9.5 Integrated Performance and Risk Assessments, Decision Analyses, and Risk Management\*
- 9.6 Radiological Dispersion Devices and Weapons of Mass Destruction: Detection, Response, and Recovery\*
- 9.7 Global Perspectives on Advances in Nuclear Safety Management\*
- 9.8 Radioactive Containment Ventilation\*
- 9.9 Project Management Improvements - Planning through Completion-Scope, Cost, & Schedule Control\*
- 9.10 Developments in Deep Borehole Disposal Around the World\*
- 9.11 Issues & Recent Developments in Security of Nuclear Sector
- 9.12 UAV Emerging Technology for Safety/Security Inspection Monitoring and Disposal of Nuclear Material\*
- 9.13 Artificial Intelligence (AI) and Machine Learning (ML) Applications in Radioactive WM\*
- 9.14 Digital Engineering – Transforming the Way We Design, Deliver, and Manage Projects\*

## 10 - LEVERAGING SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH (STEM) EDUCATION FOR THE FUTURE

**Judith Connell**, Fluor (Lead Co-Chair), V: +1 509-531-4484, E: Judith.CConnell@fluor.com

**Kristen Ellis**, US DOE (Co-Chair), V: +1 202-586-5810, E: kristen.ellis@hq.doe.gov

**Ann Riedesel**, Sigma Science (Co-Chair), V: +12085696320, E: annriedesel@msn.com

This track is dedicated to the education and promotion of the next generation of STEM (Science, Technology, Engineering and Math) professionals who manage/handle radioactive material and/or waste as well as associated fields that support the nuclear/waste-management industry in general. Panels and sessions will focus on STEM essentials and best practices in both US and non-US settings. Topics will include (a) defining future US and global workforce needs; (b) addressing the imminent gap in a qualified STEM workforce; (c) educating and preparing the potential talent pool; (d) developing and deploying applications and tools to prepare students for careers in the nuclear industry, with a focus on radioactive waste management; (e) supporting K-12 STEM programs through outreach to academics and teachers; (f) understanding STEM workforce needs for DOE's ongoing missions; and (g) the importance of STEM education in technical solutions for worldwide problem solving.

- 10.0 Science, Technology, Engineering, And Math (STEM) Topics - Non-specified Abstracts
- 10.1 Science, Technology, Engineering, And Math (STEM) Topics - Posters
- 10.2 STEM's Pathway to the Future's Workforce\*
- 10.3 Programs and Initiatives that Foster STEM Learning\*

## 11 - ADVANCED NUCLEAR REACTORS FOR ELECTRICAL POWER AND OTHER APPLICATION

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This Track includes advanced nuclear reactors for electrical power and other applications, including seawater desalination, district heating, hydrogen gas production, industrial process heat and power supply, fuel synthesis, etc. The Track includes advancements in research, development and deployment of advanced reactor technologies and programs addressing safety, technical, economics, security, regulations, socio-political and environmental needs. Potential sessions focused on recognizing technical barriers (including waste concerns and minimization concepts) and expanding designs to create improvements in current existing reactor designs. Specific advanced reactor concepts discussed include the traditional base load large reactors, Small Modular Reactors (SMRs), microreactors and mobile/ barge/ ship reactors. It also includes optimizing the economics by reducing costs from fabrication through construction to operations to D&D/ Used Nuclear Fuel and waste disposal.

- 11.0 Advanced Nuclear Reactors for Electrical Power and Other Applications - Non-specified Abstracts
- 11.1 Advanced Nuclear Reactors for Electrical Power and Other Applications - Posters
- 11.2 Advanced Nuclear Reactors for Electrical Power Production\*
- 11.3 Applications of Advanced Nuclear Reactors Including Fusion for Non-Power Production\*
- 11.4 Advanced Micro-Reactors and Mobile/ Barge/ Ship Reactors - Electrical Power and Other Applications\*

## 12 - MISCELLANEOUS AND NON-SPECIFIED ABSTRACTS PENDING TOPIC OR TRACK ASSIGNMENT

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This Track serves two independent miscellaneous functions (MISC). First, authors unsure of the best topic number can assign their abstract to Topic 12.0 where it will be reviewed and reassigned by the WM PAC Chair to the appropriate topic. The second function is to assimilate late abstracts for the only WM poster topic (12.1) besides the Student Poster topic (1.3) that doesn't require a full paper. It will also accept abstracts where the authors do not want to prepare a paper or are delinquent in meeting the deadlines. It will accept abstracts until January 12, 2024. All other poster topics will require an accompanying paper.

- 12.0 Miscellaneous and Non-specified Abstracts Pending Topic or Track Assignment
- 12.1 Non-Paper Poster Topic for Emerging Issues and Late Abstracts



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