

<https://inmm.org/inmmesarda2023>

#INMMESARDA23



INMM & ESARDA JOINT ANNUAL MEETING

atoms for peace

EVOLUTION OF TECHNOLOGIES
FOR THE FUTURE

22-26 MAY, 2023 | AUSTRIA CENTER
VIENNA, AUSTRIA

CALL FOR

papers

Submit Your Abstract for the INMM & ESARDA Joint Annual Meeting
ABSTRACTS DUE 9 DECEMBER 2022

Letter FROM THE TECHNICAL PROGRAM CO-CHAIRS

On behalf of INMM and ESARDA, we encourage you to submit an abstract for the Technical Program of the **INMM & ESARDA 2023 Joint Annual Meeting**, to be held in Vienna, Austria from May 22–26. Our theme for this meeting is *Atoms for Peace: Evolution of Technologies for the Future*.

This will be our first in-person meeting in three years! We are delighted to be having this meeting jointly between INMM and ESARDA in Vienna, the city of 'Atoms for Peace and Global Nonproliferation'. Its central location we hope will attract a diverse audience from all corners of the globe. Be a part of this unique event!

The Technical Program is seeking contributions that reflect the **diverse scope and common goals of our organizations**, on all aspects of nuclear materials management – from nuclear material control, safeguards, nonproliferation, materials disposition, and nuclear security to advancements in the nuclear fuel cycle, strategic trade control and the growing contributions of nuclear techniques used for to sustainable development around the world. We are engaging our partner organizations such as World Institute of Nuclear Security, the International Atomic Energy Agency, Comprehensive Test Ban Treaty Organization, the World Nuclear Transport Institute, and Women in Nuclear, to increase the breadth and depth of this year's technical program. Let your voice be heard!

Our theme acknowledges the importance of cooperation and community in advancing peaceful uses of nuclear materials, policies, and technologies; a fitting venue for sharing information about evolving innovations and advancing peaceful uses. Come to Vienna and join the discussion!

The Technical Program will feature sessions on cross cutting topics, such as international and regional cooperation, advanced fuel cycles and small modular reactors, data science and machine learning, strategies for virtual engagement and capacity building, and emerging and disruptive technology. A wide range of topics will be shared within our Technical Divisions, Committees, and Working Groups of INMM and ESARDA. Special sessions and panel discussions are also encouraged – submission instructions are provided for both in the following pages.

As in previous years, we will have the student paper competition, with a substantial monetary prize. We also will continue to support several initiatives that promote geographic and gender diversity, including opportunities for travel stipends, family stipends, and a competition for the best submission by a participant from among the least developed countries.

We expect that this Call for Papers will inspire a rich and diverse program with topics of interest to our collective community.

We look forward to seeing you and hearing about your work in Vienna!



TINA HERNANDEZ,
INMM Vice President,
Annual Meeting Oversight



WILLEM JANSSENS
ESARDA Past President



MARI LAHTI
ESARDA President



CHRIS PICKETT
INMM Technical Program Chair

The INMM & ESARDA Joint Annual Meeting is the *premier* opportunity to share your work with your colleagues from around the world.

Be part of this unique international venue for nuclear materials management professionals! Presenters will be allowed to pre-record their presentations if unable to attend in person.

MORE THAN **1,000 ATTENDEES** FROM **30 COUNTRIES** SAW CLOSE TO **500 ORAL AND POSTER PRESENTATIONS** DURING THE INMM ESARDA 2021 JOINT VIRTUAL ANNUAL MEETING – WE EXPECT **EVEN MORE** IN 2023, FOCUSED ON TECHNOLOGIES FOR THE FUTURE!

PANEL AND SPECIAL SESSIONS ARE

encouraged!
(Details on page 5)

prizes
FOR STUDENT PAPER COMPETITION!

2023 DIVERSITY INITIATIVE

TARGETING GREATER GEOGRAPHIC AND GENDER DIVERSITY! FINANCIAL SUPPORT AVAILABLE FOR QUALIFIED ATTENDEES. (Details on page Y)

"Where the world meets to address the challenges of managing nuclear materials and discusses peaceful uses."

"Best smorgasbord of nuclear material management presentations available anywhere!"

"A great opportunity to meet international colleagues and get up to date on new ideas."

Who Should Submit an Abstract?

- Nuclear Facility Designers, Managers and Operators
- National Laboratories and Research Institutes
- Private Industry Professionals
- Think Tanks and Non-Governmental Organizations
- Consultants and Analysts
- International and Regional Organizations
- Government Employees and Contractors
- Regulators and Licensees
- Academics, Educators/Instructors, Fellows
- Students

important dates

December 9, 2022

Abstract Submission Deadline

February 15, 2023

Email Notification of Abstract Acceptance

April 7, 2023

Presentation Changes and Withdrawals Deadline

April 30, 2023

Pre-Recorded Presentations Due

May 1, 2023

Final Papers Due

To find detailed guidance on submitting an abstract, presenting a paper, registration, and more – please visit the Annual Meeting website. Check for updates over the coming months!

INDUSTRY PROFESSIONALS – *this is the meeting for you!*

DEMONSTRATING OR PRESENTING COMMERCIAL PRODUCTS AND SERVICES

Organizations wishing to promote the sale or use of instruments, apparatus, equipment, software, processes, services and capabilities are invited to present and exhibit their commercial products during established program times and during opportunities for lunch and learn sessions. This program is being offered as a benefit to all meeting exhibitors (depending on level). Look for the Exhibitor Prospectus to be published on the Annual Meeting webpage for more details, and we look forward to learning about your products and services during the Meeting!

SPECIAL SESSIONS AT THE ANNUAL MEETING

Special and Panel Sessions are Encouraged!

This is an opportunity to organize a full session on a topic of interest to the nuclear materials management community. This type of session does not need to adhere to a predefined format and is a great avenue to creatively try new methods for engagement with meeting participants. Past special sessions have included everything from traditional presentations to a data science hackathon where participants attempted a challenge problem.

Submission Requirements:

- Submit an abstract with co-chairs/organizers identified
 - » Indicate the abstract is for a special session in the submission system.
- Co-chairs organize the special session and communicate with the technical program committee about scheduling and session content.
- Co-chairs submit a final paper/executive summary within (1) one month after the conclusion of the annual meeting providing information on the special session.

PANEL SESSIONS AT THE ANNUAL MEETING

Panel Discussions are a great way to extend sessions beyond the presentation format, and to encourage engagement between panelists and audience! If the organizer plans to include a panel or discussion as part of the session it will be limited to that one session. There are few things to keep in mind when requesting a panel discussion.

Submission Requirements:

- Submit an abstract for the panel discussion, as if it were a separate paper.
- Capture the essential elements discussed by the panel, in an executive summary document.
- Submit a final paper/executive summary of the panel discussion, along with all written papers included in the session, within (1) one month after conclusion of the annual meeting.

INDUSTRY PROFESSIONALS – *this is the meeting for you!*

2023 DIVERSITY, EQUITY, INCLUSION AND ACCESSIBILITY INITIATIVE

The INMM's Diversity, Equity, Inclusion and Accessibility (DEIA) initiative seeks to attract a rich variety of Annual Meeting participants from all around the world. Grants will be provided to students and professionals from underrepresented constituencies from developing and least developed countries to help defray the cost of in-person and virtual attendance for qualified candidates. The first and most important step in qualifying for a grant is to submit an abstract for a paper or a poster to be presented at the Annual Meeting. When submitting an abstract, be sure to indicate whether a grant is being requested. Abstracts will be reviewed and assessed based on relevance to the nuclear materials management community and diversity criteria. Abstracts from qualified female candidates and people of color are encouraged.

Additional details will be provided on the INMM website.

J.D. WILLIAMS STUDENT PAPER AWARD

Students who enter this competition will be judged on their written papers and oral presentations. Winners will be determined by judges composed of the Awards Committee and Technical Division Chairs or their designees. To qualify, students must:

- Be a full-time student in an accredited educational institution.
- Have submitted an abstract by the submission deadline.
- Accept the speaking engagement.
- Register for and attend the Annual Meeting.
- Submit a final paper no later than the established deadline (no exceptions).
- Not have won student paper awards at past meetings.

Additional details are provided on the INMM website.



INMM AND ESARDA *committees*



**Facility
Operations**



**International
Safeguards**



**Materials Control &
Accountability**



**Nonproliferation
& Arms Control**



**Nuclear Security
& Physical Protection**



**Packing, Transportation
& Disposition**



**Education, Training &
Knowledge Management**



**Cross Cutting
Topics**



**Training and Knowledge
Management**



Export Control



**Verification Technologies &
Methodologies**



**Material Balance
Evaluation**



**Techniques of Non-
Destructive Analysis**



**Techniques of
Destructive Analysis**



**Containment and
Surveillance**



**Implementation of
Safeguards**

abstract topics

Abstract submissions are sought in a variety of topical areas, listed below by technical division or committee. Papers featuring practical applications and solutions, or reflecting experiences, that are aligned with the meeting theme are especially welcome.

Acceptance is based on relevance to topical areas, originality, clarity and significance to the nuclear materials community. Redundant submissions from the same organization will not be accepted. Papers describing updates or progress from previously presented work must contain substantially new and significant information.

Papers suited for poster presentation are very welcome. Demonstrations of instruments, apparatus, equipment, software, processes and capabilities by researchers are encouraged, including those augmenting or demonstrating concepts described in oral presentations at the meeting.

When submitting the abstract, authors must select a technical division or committee, a topical area, presentation format, etc. using the dropdown menus in the abstract submission system.

Technical Division and Committee Topics

EDUCATION, TRAINING AND KNOWLEDGE MANAGEMENT

- Going Virtual: Experiences with Digital Training Platforms, Augmented and Virtual Reality
- International Cooperation in Education and Training
- Innovative Approaches to Capacity Building
- Knowledge Management and Succession Planning
- Engaging the Next Generation
- Sustainability in Academia during a Global Pandemic
- Professional Qualification and Certification Programs

FACILITY OPERATIONS

- Tracking Low Quantity Nuclear Materials
- Inventory Management and Forensics
- Future Facilities and Processing Technologies
- Robotics and Unmanned Vehicles and Operating Facilities
- Tracking Nuclear Material Across Programs
- Advanced Reactor Operations
- Advanced Reactor Fuel

- Tracking Low Quantity Nuclear Materials
- Nuclear Archives and Forensics
- Supply Chain Issues

INTERNATIONAL SAFEGUARDS

- Lessons Learned from Safeguards Implementation at the State Level
- Strengthening Safeguards – CSAs, AP, mSQP, Universalization
- SSAC Capacity Building, Peer-to-Peer Information Exchange, Staff Qualification Programs
- Safeguards in States with Small Quantities Protocols
- Resilience in Safeguards – Mitigating Challenges in Pandemic Situations, Difficult-to-Access Areas and Preparing for the Future
- IAEA Safeguards and New Innovative Reactors (e.g., Safeguards-by-Design, Access to Remote Locations, etc.)
- IAEA Safeguards for the Back End of the Nuclear Fuel Cycle (e.g., Spent Fuel, Interim Storage, Repositories)
- IAEA Safeguards for Different Facility Life Cycle Phases (e.g., Design Information Submission and Verification, Decommissioning)

abstract topics

INTERNATIONAL SAFEGUARDS (CONTINUED)

- Material Accountancy and IAEA Safeguards: Challenges, Approaches, and Tools
- Advancements in Safeguards Approaches, Measurements and Novel Techniques (e.g., Non-Destructive Assay and Destructive Assay)
- Emerging Technologies and Impacts to Safeguards
- New and Novel Approaches for Strengthening Effectiveness and Improving Efficiency of Safeguards
- Advanced Data Analytics in Safeguards: (e.g., IT Tools and Applications, Machine Learning/Deep Learning, etc.)
- Safeguards Information Management and Reporting
- Novel Uses and Applications of Open Source and Geospatial Data
- Containment and Surveillance: Current Challenges and Prospects for the Future
- Prospects for Further Projecting 'Verification Presence' into the Field (e.g., Remote Data Transmission, Unattended Systems, Sensors, Remote Monitoring, Wide-Area Environmental Monitoring/Sampling)
- Communication and Cooperation, the Human Factor
- Interfaces Between Safeguards and Strategic Trade controls
- International Safeguards Issues Associated with Naval Nuclear Propulsion
- Synergies with Other Verification Regimes

MATERIAL CONTROL AND ACCOUNTABILITY

- MC&A Approaches for Advanced Reactors and SMRs
- Advancements and Challenges in Non-Destructive Assay Techniques
- Advancements and Challenges in Destructive Assay Techniques
- Material Balance Evaluation for Advanced Reactors and Fuel Cycle Facilities (includes NDA/DA with focus on existing facilities)
- Materials Accountancy Technologies for Advanced Reactors and SMRs
- Materials Accountancy Technologies for Fuel Cycle Facilities
- Containment, Tamper Indication and Monitoring

- MC&A and Facility Operations
- MC&A for item and bulk facilities
- MC&A and Information Management
- MC&A IT Tools and Applications
- Reactor Codes for Spent Fuel Management
- Reference Materials and Standards, Spikes for NDA/DA, Particles, Nuclear Forensics
- Differences and Interactions in Uses of MC&A Systems for Security and for International Safeguards

NONPROLIFERATION AND ARMS CONTROL

- Outcomes, Lessons and Future Directions Following NPT10 (10th Review Conference)
- NPT and Peaceful Uses Initiatives
- Late-Breaking Nonproliferation Topical Events (e.g. Iran, DPRK, TPNW, etc.)
- Verification Technologies and Techniques, Games and Exercises
- Strategic Trade Controls
- International Cooperation
- Systems Analysis for Nonproliferation and Arms Control
- Cooperative Opportunities for New Treaties and Agreements
- New Weapons Systems and Technical/Policy Implications for Disarmament, Arms control, and Nonproliferation
- Impact of New and Emerging Technologies on Arms Control and Nonproliferation
 - » Cyber
 - » Artificial Intelligence
- Strengthening and Learning from the Nonproliferation Regime
 - » Lessons from Other Regimes
 - » Opportunities for New Treaties and Agreements
 - » Providing an Example for Other International Governance Regimes

abstract topics

NONPROLIFERATION AND ARMS CONTROL (CONTINUED)

- Future Arms Control Treaties and Regimes
 - » Arms Control and Disarmament in the Post New Start Era
 - » The Strategic Environment Necessary for Disarmament: NWS–NNWS Cooperation, Other Sub–Areas
 - » Arms Control Verification Technologies and Techniques
- CTBTO Technologies, Methodologies and New Developments
- Inspection Capabilities – Status, Gaps and Synergies
- Human Capital Development and Arms Control
 - » How do We Recruit, Train, and Empower the Next Generation of Arms Control Specialists?
 - » How do We Maintain the Technical Expertise Required for Future Disarmament and Disarmament Verification?
- Nonproliferation and Arms Control Issues Associated with Naval Nuclear Propulsion

NUCLEAR SECURITY AND PHYSICAL PROTECTION

- Performance Testing
- Vulnerability Assessment
- Cyber Security
- Unmanned Aerial Vehicles (UAVs)
- Advanced Reactors and Associated Fuel Fabrication Facilities
- Security-by-Design
- Insider Threat Mitigation
- Embarking on New Nuclear Power Programs
- Radioactive Material Security
- Transport security for nuclear and radioactive material
- Nuclear Security Training Program
- Alternative Technologies for Radioactive Sources
- Material Outside of Regulatory Control

PACKAGING, TRANSPORTATION AND DISPOSITION

- The design, operations, testing, programs, solutions and challenges associated with:
 - » Packaging, Transportation, Processing, Consolidation and Disposition of Sources and Other Radioactive Materials
 - » Fresh Fuel and Production Material Packaging and Transportation
 - » Spent Fuel Packaging, Transportation and Disposition
- Regulatory Impact on the Transport, Packaging and Disposition of Sources, Fresh and Spent Fuel
- End-of-Life Management of Disused Radioactive Sources
- Safety Analysis and Safeguards for Packaging, Transportation and Disposition, including Designing Packages to Facilitate Measurement, Tracking and Sealing

CROSS CUTTING TOPICS

- International and Regional Cooperation, Forums and Networks
- Advanced Reactors and Fuel Cycle Facilities, SMRs
- Intersections of Safeguards, Physical Security, Cyber Security and Safety, and 3S by Design
- Emerging Technologies
- Increasing Diversity in Nuclear Fields
- Technology-policy intersections
- Learning from Others: CTBTO, Chem/Bio, Counterproliferation Finance and Strategic Trade Controls
- Nuclear Materials Management in Wartime

Basic Guidelines for Papers

Final papers must be submitted via the **INMM Abstract Submission Website** by May 1, 2023.

Upload instructions will be sent with acceptance notifications. Final papers are limited to 10 full, single-spaced, single-column pages (including charts and photos). Authors of papers will be charged a fee of \$200 USD per page for each additional page after 10 pages.

Basic Guidelines for Oral and Poster Presentations

Check the Annual Meeting website for detailed guidance on file formats, submissions, and tips and tricks for preparing effective papers, posters and presentations. Oral presentations will be 15 minutes, with 5 minutes for Q&A. Chairs and Moderators will facilitate discussion and ensure time keeping.



General Information

Interpreters

The official language of the conference is English. It is preferred that all presentations be delivered in English. If this is not possible, and you need to use an interpreter, you must provide for your own interpreter and notify INMM Headquarters by April 15, 2023, so arrangements can be made. Serious scheduling problems may arise for presenters using interpreters. The use of interpretation can add significant time to the presentation.

What You Can Expect from the Meeting Organizers

- Acceptance/Rejection emails will be sent in mid-February 2023. All submitters will be contacted by email. **If you do not receive an email, contact meetings@inmm.org to ensure your email was not blocked by your server.**
- Presenting authors of accepted abstracts will receive session information and a speakers' manual by email with detailed information for presenting their papers or posters and guidelines for the preparation of the final paper. **The presenting author is responsible for updating co-authors of presentation details and informing INMM Headquarters immediately of any changes affecting the program.**
- A Preliminary Program with a tentative agenda and other meeting information will be published in March 2023.
- A Final Program containing the meeting schedule and paper presentation times will be available in April 2023.

Registration

Registration details will be available on the INMM website by January 2023.

Registration Fees

The registration fees will be announced by December 2022. All speakers, session chairs, moderators and meeting attendees are required to pay the registration fee for the Annual Meeting. Registration and fee schedules apply even when the speaker attends the Annual Meeting for a short time only to present his/her paper or poster or participate in a panel discussion. Daily registration fees are available. Visit the Annual Meeting webpage for the most current meeting information. A benefit of INMM membership is a discounted price for Annual Meeting registration. Visit inmm.org to become a member.

Questions

Questions regarding the Call for Papers or general meeting information may be directed to INMM. Please check the website for contact details or go to the Annual Meeting website. You may also email meetings@inmm.org.

