



**INSTITUTE of NUCLEAR
MATERIALS MANAGEMENT**

Investing in Tomorrow | Responsible for Today

Managing Nuclear Materials: How the INMM is Supporting Advanced Nuclear Deployment

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INMM Membership Committee Chair

Argonne National Laboratory

ABOUT NUCLEAR MATERIALS MANAGEMENT

Nuclear materials management involves the production, use, storage, transport, handling, protection, and accounting involved with the essential elements of civilian nuclear fuel cycle, most notably, uranium, plutonium, and other isotopes for use in medical, industrial, and research and development applications.



Global Leadership

in Nuclear Materials Management

INMM brings together leading technical experts to develop strategic policies and requirements for governments and organizations worldwide, helping to advance innovation, scientific knowledge, and best practices.

Integration

of the US Nuclear Community with International Partners

INMM serves as a mechanism for the United States' most advanced and impactful nuclear materials management government agencies and organizations (national laboratories, DOE, NNSA), to leverage and integrate their collective knowledge, expertise, and experience both domestically and globally.





Empowering the Next Generation

Through strong ties with universities, INMM supports government agencies, organizations and industry by nurturing, developing, and preparing the next generation of nuclear materials management professionals.



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1958

Established in 1958

1300+
members

1300+ members representing
more than 60 countries

400-600+
participants

Annual Meeting draws a wide,
international attendance

2026-2027 INMM Executive Committee



Laura Rockwood



Sunil Chirayath

President

Laura Rockwood

*Vienna Center for Disarmament and
Non-Proliferation*

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Market Trends, policy insights and analysis

INMM provides members with in-depth analysis and insights on nuclear material management through its flagship publication, newsletters, and workshops.

Journal of Nuclear Materials Management

- Official peer-reviewed journal of INMM published quarterly
- Focuses on technical, policy, and research advancements in nuclear materials management

Quarterly Newsletters

- Periodic updates on INMM activities, industry news, upcoming events, and policy changes

Workshops and Professional Training

- In-person and virtual technical workshops led by industry experts, national laboratory researchers, and government officials

Monthly Virtual Seminars

- Open to all members worldwide to participate in real-time INMM conversations and discussions

Executive Networking & Events

INMM offers high-level events and networking opportunities, enabling professionals to connect and collaborate across the industry.



INMM Annual Meeting

Topics Include:

- Best practices in nuclear security
- Nonproliferation
- Arms control
- Nuclear transport
- International safeguards
- Material accounting and control
- Facility operations
- Cross cutting topics
- **400-500** papers ranging from highly technical to policy-focused
- **400-600+** participants, including technicians, scientists, engineers, managers, political scientists, students, and college professors
- **30%** of participants from outside of the United States
- Educational opportunities for students and professionals, information exchange, professional development, and networking

Publications/Proceedings

A Case Study of 3S Interfaces in a Generation IV Advanced Modular Reactor

Type: Annual Meeting Proceedings
Author(s): Bryan M. van der Ende, L. Ammirabile, L.Y. Cheng, Christopher Chwasz, Ben Cipiti, G. G. M. Cojazzi, D. Hummel, G. Renda, Ryan Stewart, G. Strydom
Abstract: The Generation IV International Forum (GIF) was established as a co-operative international endeavor aimed at developing the research...

A Preliminary Study of Used Fuels in the Conceptual Design of Indonesian Pebble Bed Reactor

Type: Annual Meeting Proceedings
Author(s): Dany Mulyana
Abstract: A study has been done in investigating some potential engineering issues with the used fuels of Indonesian Pebble Bed Reactor (PBR)...

Gamma Spectroscopy Performance for Irradiated Solid-Form TRISO Fuel

Type: Annual Meeting Proceedings
Author(s): Emily Stark Teti, Mark Croce, Matthew Carpenter, S. Dede, Callie Goetz, Craig Gray, Jason Harp, Jianwei Hu, Christine Mathew, Robert D. McElroy, Daniel McNeel, Rico Schoenemann, Katherine Schreiber, Sophie L. Weidenbenner
Abstract: Characterization of fuel burnup is necessary for a reactor operator to determine whether an individual pebble has reached its target burnup...

Measurement Strategies for Nuclear Material Holdup in Liquid-Fueled Molten Salt Reactors with Circulating Fuel

Type: Annual Meeting Proceedings
Author(s): Manik D. Shah, Sunil Chirayath, K.C. Goetz, Susan K. Smith
Abstract: Liquid-fueled molten salt reactors (MSRs) with circulating fuel will require a material control and accounting approach to meet the...

Nuclear Material Accounting through Application of Molten Salt Reactor Experiment to Marine Reactors

Type: Annual Meeting Proceedings
Author(s): Chul Young Lee
Abstract: The integration of MSRs into marine reactor applications is advancing, primarily due to their potential to offer safer and mobile energy...

Safeguardability: the Dark Horse of Proliferation Resistance

Type: Annual Meeting Proceedings
Author(s): Jeremy Whitlock
Abstract: Proliferation resistance is a cornerstone need for the sustainable deployment of advanced nuclear technologies. Some confusion exists...

The Development of a Higher-Fidelity Monte Carlo Simulation Model for Used Fuel Classification of Advanced Reactors

Type: Annual Meeting Proceedings
Author(s): Cameron A. Wojtowicz, James Cahill, Braden Goddard, Kyle C. Hartig
Abstract: Currently, the challenge of nuclear safety, security, and safeguards (3S) exists with both the Molten Salt Reactor (MSR) and the Pebble Bed...

Economics of Safeguards and Security by Design for an Advanced Micro-reactor

Type: Annual Meeting Proceedings
Author(s): I.A. Wood
Abstract: Economics of Safeguards and Security by Design (S²BD) for an Advanced Micro-reactor
 Thomas Wood (1), Joanna Bredenkamp (2), and Tom...

Radioisotope Production Feasibility Study for the eVinci Microreactor

Type: Annual Meeting Proceedings
Author(s): Aamer Bashir, Marek Flaska
Abstract: From 1995 to 2020, the revenue from radioisotope production has increased from a hundred million to a multi-billion-dollar industry [1]. As...

Safety and Security by Design Evaluation for Sodium Fast Reactors

Type: Annual Meeting Proceedings
Author(s): Robby Christian, Christopher Chwasz, Ed Arthur
Abstract: Deploying small modular reactors and microreactors necessitates a revised security strategy considering their compact form factors, unique...

Executive Networking & Events

INMM offers high-level events and networking opportunities, enabling professionals to connect and collaborate across the industry.



Six Divisions of INMM

Global Network

INMM fosters a global network that facilitates the sharing of best practices and lessons learned, drawing from diverse experiences in nuclear materials management worldwide. Our vibrant organization includes engineers, scientists, technicians, managers, policymakers, analysts, industry partners, educators, and students.



Facility
Operations



International
Safeguards



Materials Control
and
Accountability



Nonproliferation
and Arms Control



Security and
Protection



Packaging,
Transportation
and Disposition

PARTNER ORGANIZATIONS



Events in partnership with Universities, DOE National Laboratories, and numerous international organizations

Activities Supporting Advanced Nuclear

- INMM's Building Bridges Initiative: Creating Lasting Connections between Maritime-Nuclear and INMM (INMM + TAMU) – *UPCOMING (February 2027)*
 - AI-Enabled Nuclear Regulation for an Evolving Nuclear Industry: Transforming Safeguards, Security, and Export Control (INMM + INMM-Korea) – *UPCOMING (May 2027)*
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- Advances in Digital Twins for Nuclear Safeguards Webinar (INMM/ISG + ANS)
 - Advancing Nuclear Technology: A Deep Dive into SMRs, Microreactors, and Non-LWRs Webinar (INMM/FO)
 - Joint Workshop on Safeguards by Design on SMRs and AMRs (INMM/ISG + ESARDA and INMM-Japan)
 - Security of Advanced Reactors and Fuel Facilities Workshop (INMM/S&P + PSU)

Joint Workshop on SBD on SMRs and AMRs

- Co-hosted by INMM, ESARDA, and INMM-Japan
- Sessions:
 - International and regional SMRs/AMRs initiatives
 - Safeguards and verification challenges for advanced SMR/AMR designs
 - Frameworks for early stakeholder engagement
 - Training and knowledge management
 - Cross-cutting safeguards challenges
- Key outcomes to be presented at *2026 IAEA Safeguards Symposium*:
 - Value of SBD – incorporation of safeguard considerations during the reactor design process
 - Raising (international) safeguards awareness and culture
 - Interaction with emerging technologies
 - Safeguardability and proliferation resistance must be considered for all novel design and deployment aspects
 - Trade control is vital for effective deployment strategies and should be considered as early as possible
 - Transportable and FNPPs pose significant challenges across nuclear and maritime issues/laws

Connect with INMM

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**Institute of Nuclear
Materials Management**



67th Annual Meeting

AUGUST 8 - 12, 2027

A wide-angle photograph of the Orlando skyline at sunset. The sky is a mix of orange, yellow, and blue. The city's buildings, including several tall skyscrapers, are reflected in the calm water of a lake in the foreground. A fountain with multiple jets of water is visible in the middle ground. The word "ORLANDO" is superimposed in large, white, bold, sans-serif capital letters across the bottom half of the image.

ORLANDO