

المعهد الهندي للتكنولوجيا
أبوظبي

INDIAN INSTITUTE OF TECHNOLOGY DELHI
ABU DHABI



AiMS2025
AI & MATERIALS FOR SUSTAINABILITY

International Conference on **AI and Materials for Sustainability**

15th – 17th December, 2025

Fairmont Bab Al Bahr, Abu Dhabi

Organised by IIT Delhi - Abu Dhabi



About the Conference

The **International Conference on Artificial Intelligence and Materials for Sustainability (AIMS 2025)**, hosted by the **Indian Institute of Technology Delhi – Abu Dhabi**, brings together experts from around the world to explore the intersection of AI and materials science in addressing global sustainability challenges.

This three-day conference provides a platform for leading researchers, scientists, and engineers to present peer-reviewed research, share insights, and engage in discussions on the latest advancements in sustainable technologies. As the flagship international conference of IIT Delhi's first overseas campus, **AIMS 2025** highlights cutting-edge research and innovation aimed at creating a more sustainable future for society and the environment.



Conference Objectives

AIMS 2025 is predicated on the scientific consensus that breakthroughs in energy, water, and environmental systems are intrinsically linked to the integration of Artificial Intelligence, which is accelerating the cycle of material discovery, design, and aiding sustainability.

The primary objectives of the conference are:

- **To disseminate original, high-impact research findings** through plenary, keynote lectures, invited talks, peer-reviewed oral and poster presentations.
- **To bridge fundamental scientific discovery** with industrial application by connecting academic researchers with industry practitioners and policymakers.
- **To foster the next generation of scientists** by providing a platform for presentations and networking.



Core Scientific Themes

AIMS 2025 showcases breakthroughs in sustainable materials, hydrogen, carbon capture, and AI-driven energy solutions. Overall themes of the conference listed below highlights the importance of using AI in solving problems related to water, energy and climate future.

- 1. Carbon Capture and Beyond (CCB):** Materials, processes, and decarbonization of hard-to-abate sectors, CO₂ capture & CO₂ valorisation.
- 2. Innovations in Hydrogen Production and Management:** Innovations in green and blue hydrogen, and materials for hydrogen storage.
- 3. Materials for Sustainable Energy:** Energy storage materials and solutions, water purification, water splitting, and methane abatement.
- 4. Materials and AI in Circular Energy Transitions:** Advances in AI methods, life cycle assessment, and techno-economic evaluation, AI based approach in circular economy & sustainable materials.
- 5. AI for Material Design:** AI in materials discovery and design for a sustainable future, AI-quantum mechanical integration, and high-throughput material screening.
- 6. Digital Sustainability:** Data-driven models, research database management, and decarbonising data centers.
- 7. The Water-Energy-Climate Nexus:** Predictive modelling, AI-powered accelerated modelling for water, energy and climate futures.
- 8. Industry-Academia Collaboration for AIMS:** Bridging the gap for sustainable innovation.
- 9. Integrating Science, Engineering, and Policy for AIMS**

Organized by

IIT Delhi - Abu Dhabi

The **Indian Institute of Technology Delhi** (IIT Delhi) is one of India's premier institutions for education and research in science, technology, and engineering. **IIT Delhi - Abu Dhabi**, its international campus, represents a visionary step in extending IIT Delhi's legacy to the dynamic innovation ecosystem of the UAE.

Located in Khalifa City B, Abu Dhabi, this campus is the result of a strategic collaboration between India and the UAE, aimed at advancing excellence in education, research, and innovation. With a focus on cutting-edge fields such as artificial intelligence, sustainable technologies, and advanced computing, **IIT Delhi - Abu Dhabi** is poised to emerge as a global hub for transformative academic and industry-led initiatives.



Pioneering **Speakers**

Join visionary leaders shaping the global sustainability agenda - where science meets innovation, and ideas become action.



50+ Distinguished and Invited Speakers

Pre-Conference **Workshops**

The workshops will provide an interactive platform for participants to engage and offers direct engagement with attendees and will enhance your organization's visibility in the academic and professional community.

Workshop 1: Hands-on with Data-Driven Approaches to Accelerate Catalysis and Materials Research

Workshop 2: Capacity Building Workshop on How to Prepare and Deliver an Effective Oral or Poster Presentation

Workshop 03: Innovation-Focused Programming - From lab to market, strategies for translating research into real-world innovations

Workshop 04: Research Data Management in Materials Research and Related Sciences



Journal Special Issues

In collaboration with leading journals, the **AIMS 2025** conference will provide unparalleled visibility and recognition in the scientific community.

Computers & Chemical Engineering

Computers & Chemical Engineering

Publisher: Elsevier

Special Issue Title: International Conference on AI and Materials for Sustainability (AIMS-2025)

Focus: Integration of AI tools in chemical engineering and materials sustainability

ACS Sustainable Chemistry & Engineering

ACS Sustainable Chemistry & Engineering

Publisher: American Chemical Society (ACS)

Virtual Special Issue: Artificial Intelligence Tools - A New Frontier for Sustainability

Focus: Innovative AI-driven approaches for sustainable chemistry and engineering

ACS Sustainable Resource Management

ACS Sustainable Resource Management

Publisher: American Chemical Society (ACS)

Virtual Special Issue: Artificial Intelligence Tools - A New Frontier for Sustainability

Focus: Advances in AI applications for resource optimization, recycling, and circular economy

Awards and Recognition

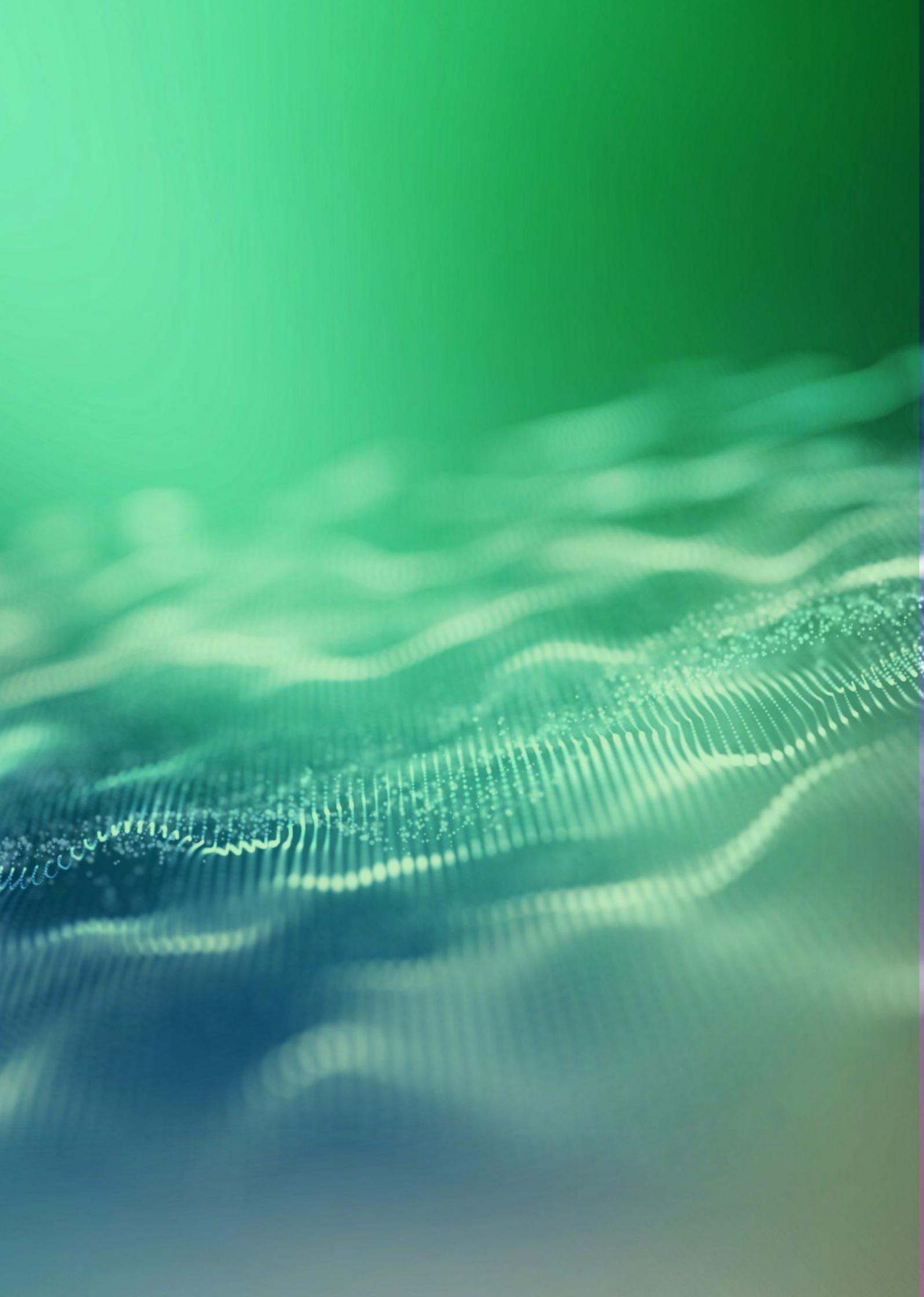
AIMS 2025 celebrates excellence in research and innovation by recognizing outstanding contributions from participants across oral and poster presentations. These awards will highlight the creativity, impact, and quality of work presented during the conference.

Best Oral Presentation Awards: Recognizes presenters who deliver original, high-impact research with clarity and engagement. Multiple awards are given across different themes.

Poster Presentation Awards: Honors exceptional poster presentations that demonstrate innovation and scientific rigor.

Oral and Poster Sponsors: ACS Sustainable Chemistry & Engineering, Industrial & Engineering Chemistry Research, Energy & Fuels, ACS Applied Energy Materials, ACS Omega, ACS Engineering Au, ACS Sustainable Resource Management, ACS Physical Chemistry Au, ACS Materials Au and ACS Environmental Au.







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