



Opening Ceremony

The International Year of Quantum Sciences and Technology (IYQ 2025)

The importance of Quantum Science and its applications in achieving Agenda 2030 and its 17 Sustainable Development Goals was highlighted by Resolution A/RES/78/287, adopted by the United Nations General Assembly on 7 June 2024, proclaiming 2025 as the “International Year of Quantum Science and Technology (IYQ).” This follows Resolution 216 EX/37, adopted by the Executive Board of UNESCO on 14 April 2023.

As the lead agency for IYQ, UNESCO, along with its partners, is organising the opening ceremony and preparing for the year’s activities. These events will emphasise the significance of quantum science, foster international and interdisciplinary cooperation, and focus on sustainable development applications, featuring inspiring keynote addresses, engaging panel discussions, and cultural performances to celebrate this milestone in science and technology.

Venue: UNESCO Headquarters, Room I & Room II

Dates: 4–5 February 2025. Doors open at 8:30 AM.

Interpretation: French, English, and Spanish will be available throughout the event.

Event Highlights of Day 1

4 February, Room I

1. High-Level Opening Remarks:

- Start the event with powerful words from global leaders who champion science and innovation as drivers of progress. Their perspectives will set the stage for an exciting exploration of quantum science’s potential to transform the future.
- Delivered by distinguished figures, policy makers and UNESCO high-level management.

2. Keynote Address “Watching the Quantum World With Ultrashort Light Pulses”:

- Step into the fascinating world of ultrashort light pulses and their role in unveiling the mysteries of quantum phenomena. Prof. Anne L’Huillier, Physicist and 2023 Nobel Laureate in Physics, will guide us through her groundbreaking research, shedding light on how these technologies are transforming our understanding of the quantum realm and paving the way for future innovations.

3. Fireside Chat “Shaping a Sustainable Future for Global Development.”

- This engaging fireside chat will delve into the ways quantum technologies can contribute to a more inclusive and equitable world. Panelists will discuss strategies to bridge the global divide and ensure that the benefits of quantum advancements are shared widely.
- Moderated by Ms Catarina Rolfsdotter-Jansson, the discussion features leading voices in science, including Prof. Samia Charfi Kaddour, Prof. Ana Maria Cetto, and Prof. John Doyle, who will share their insights on building an accessible future through quantum innovation.

4. Roundtable Discussions:

1) Pushing the Frontiers of Quantum Science and Technology

- Discover groundbreaking research and innovations that are pushing the boundaries of quantum science. This discussion will highlight the latest advancements and how they are shaping tomorrow's technologies
- Moderated by Ms Maricela MUNOZ, the panel featured H.E. Ms Aisén Etcheverry ESCUDERO, Minister of Science, Technology, Knowledge and Innovation of the Republic of Chile, Prof. Alain ASPECT, Physicist and 2022 Nobel Laureate in Physics, Prof. Jian Wei PAN, and Prof. Stephanie SIMMONS to share their perspectives on the latest breakthroughs in quantum science and discuss their far-reaching implications for technology, innovation, and global progress.

2) “Public Engagement and Education in Quantum Science and Technology”:

- Explore the critical role of public engagement and education in demystifying quantum science and inspiring the next generation. Panelists will discuss initiatives that make quantum concepts accessible to diverse audiences and highlight the importance of inclusivity in science education.
- Moderated by Prof. Emily Edwards, the panel features policymakers and esteemed guests, including Prof. Jacqueline Romero, Dr Yaseera Ismail, Ms Elisa Torres Durney, and Dr John Donohue, each bringing unique perspectives and expertise to the conversation.

3) “Policy and Innovation in Quantum Science for Advancing Global Goals for Sustainable Development”

- This session will explore how policies and innovation in quantum science can be aligned with the United Nations' Sustainable Development Goals. The discussion will focus on harnessing quantum advancements for climate action, economic growth, and societal well-being.

- Moderated by Prof. Luiz Davidovich, the panel includes Prof. Serge Haroche, Physicist and 2012 Nobel Laureate in Physics, Najwa Araj, Prof. Tommaso Calarco, and Dr. Cathy Foley, offer a comprehensive look at the intersection of policy, technology, and sustainability.

5. Insight Talk by Nobel Laureate on Quantum Mechanics 2025: Incredible Past, Amazing Present, Magnificent:

- Be inspired by the insights of Prof. William D. Phillips, 1997 Nobel Laureate in Physics, as he shares his unique perspective on the wonders of quantum science.

6. Voices from the Industry: “The Challenge of Developing Quantum at Scale”

- This panel will address the challenges and opportunities of scaling quantum technologies for practical use. Industry leaders will share their experiences in bringing quantum research to market, showcasing groundbreaking developments in this field.
- Moderated by Dr Celia Merzbacher, Executive Director of the Quantum Economic Development Consortium, the panel features 6 representatives from leading quantum companies, such as Dr Jay M. Gambetta, IBM Fellow and VP of IBM Quantum, Prof. Euk Jin LING, Co-founder of SpeQtral & S-Fifteen Instruments, and Dr Grégoire Ribordy, CEO of ID Quantique.

7. UNESCO’s Role in Reducing the Quantum Divide: Advancing Global Innovation and Inclusion

Moderated by Sir Peter Knight, Professor at Imperial College London and Co-chair of the Steering Committee of the International Year of Quantum Science and Technology, featured by ADGs from UNESCO, this session highlights UNESCO’s commitment to reducing the global quantum divide by fostering innovation, building capacities, and advancing inclusion between the Global North and South. It emphasizes the transformative potential of quantum science and technology while ensuring its ethical and responsible applications. By bridging technical gaps and promoting equity, UNESCO reaffirms its dedication to leveraging quantum technologies for sustainable and inclusive development.

Sir Peter Knight will then give the concluding note of Day 1.

8. Networking and Side Exhibitions:

Networking opportunities and an IYQ exhibition showcasing quantum achievements, held at Salle des Actes and Salle des Pas Perdus from 3–7 February 2025.

Event Highlights of Day 2

4 February, Room II

1. Introductory Session:

Begin the day with reflections on the importance of ethics in quantum science and its role in shaping responsible innovation and inclusive governance, setting the tone for the day's discussions.

- Introductory Remarks: Ms. Gabriela Ramos, Assistant Director-General of Social and Human Sciences, UNESCO.
- Scene-Setting Allocution: Prof. Yasser Omar, Theoretical Physicist, President of IST, University of Lisbon & PQI – Portuguese Quantum Institut.

2. Panel Discussion

1) Ethics of Quantum Technology

- This panel will explore the ethical challenges of quantum advancements and the need for an anticipatory approach and a global reflection to understand the potential benefits and risks of these powerful technologies. Panelists will discuss why an ethical and human rights-based framework is essential to ensure ethical guardrails while enabling responsible innovation.
- Moderated by Mr Diederick CROESE, Director of the Centre for Quantum and Society, Quantum Delta NL; featured with Prof. Emma Ruttkamp-Bloem, Professor Sang Wook YI, Prof. Karina Garay Palmett, Prof. Shohini Ghose, and Prof. Anil Prabhakar, advocating for diversity and equity in quantum sciences.

2) Responsible Quantum Innovation

- This panel will discuss strategies, challenges, and opportunities for integrating responsibility into the research and deployment of quantum technologies. Panellists will focus on concrete ways to create responsible and inclusive innovation systems and how open-source applications can be promoted to prevent further widening digital divides.
- Moderated by Ms Gabriela Ramos, Assistant Director-General of Social and Human Sciences at UNESCO, the panel features Dr Mira Luca Wolf-Bauwens, Dr Prince Osei, Prof. Farida Fassi, and Prof. Matthias Kettemann, representatives from fronting scientists in the field of quantum science and technologies.

3. Closing of Day 2 and the Launch of the International Year

Celebrate the successful completion of Day 2 of the Opening Ceremony and the launch of the International Year of Quantum Science and Technology with reflections from UNESCO's leadership and closing cultural performances.



- Ms Claudia REINPRECHT, Focal point of the Austrian Ministry of Foreign Affairs in digital and tech diplomacy and for the EU Digital Diplomacy Network, and Ms Gabriela RAMOS, Assistant Director-General for Social and Human Sciences, UNESCO, will give the concluding notes of Day Two
- Ms. Lidia Brito, Assistant Director-General of Natural Sciences will give the closing remarks to emphasise the global importance of quantum advancements and the collaborative efforts needed to harness their full potential.