International Workshop on Artificial Intelligence for Scientific Platforms

AI-driven Innovation in Safety-Critical Applications

The Essential Role of Experiments, Data and Expert Interpretation



16 MARCH 2027 | BRUSSELS, BELGIUM

Organized by the French Authority for Nuclear Safety and Radiation Protection (ASNR)
Co-organized with CEA and CNRS

To be held at the Maison Irène et Frédéric Joliot-Curie
Rue du Trône 100, Brussels, Belgium

Background and Rationale

Artificial intelligence can accelerate scientific analysis, modelling, discovery of new knowledge and innovation. However, its scientific value depends on the quality, relevance and traceability of the data used.

In high-risk applications and complex systems, relevant data are often rare, costly to produce, heterogeneous or sensitive. They may come from complex experiments, long-term monitoring, clinical trials, operational experience or exceptional events.

The collaboration of domain experts, data scientists, experimental platforms and digital infrastructures is necessary to leverage the power of AI to support scientific discovery and innovation in this context.

The seminar will explore how these assets can be used to develop scientifically robust and trustworthy AI systems, in connection with the European Strategy for AI in Science.

Objectives

The objectives of the seminar are:

- to share the results of impactful scientific projects which have successfully integrated the capacities of AI;
- to show the importance of experimental and observational data (environmental monitoring, clinical trials, epidemiologic studies…) for AI;
- to identify synergies and cross-cutting issues between various scientific disciplines, including nuclear safety, radiation protection, environmental monitoring, biology and health;
- to develop new cooperations with academics, research organisations, scientific infrastructure providers and AI specialists;
- to contribute to future European policies supporting AI in science.

Key Messages

Rare, quality-assured data are a strategic scientific resource. Their relevance, traceability and context are as important as their volume.

Data become valuable when combined with expertise. Scientists are essential to prepare data, define relevant variables, interpret results and evaluate AI models.

Experimental platforms are key to trustworthy AI. They generate data under controlled conditions and can reproduce rare events accurately.

AI requires both technical and human resources. Computing power, storage, secure data access, interoperable tools and skilled staff must be developed together.

Cooperation increases the value of existing assets. Pooling data, facilities, experts and European programmes can accelerate innovation and avoid duplication, especially for high-risk applications and complex systems.

Targeted Audience

- European Commission, European Parliament, European Economic and Social Committee and Joint Research Centre;
- Permanent Representations of EU Member States, especially research attachés;
- National contact points, Research Liaison Offices;
- Research and technology organisations, technical safety organisations, universities and European research infrastructures;
- Specialists in AI & data science;
- Nuclear experts and researchers (SNETP, ETSON, IAEA, NEA).

Proposed Content and Format

The event will be a one-day, in-person seminar combining short scientific presentations, institutional contributions and a round-table discussion.

Scientific case studies will cover a large variety of applications in physical, health and environmental sciences, as well as engineering. They will combine nuclear and non-nuclear applications.

The seminar will also address:

- access to and governance of scientific data;
- computing, storage and data-transfer infrastructures;
- opportunities for international organisations.

The round table will discuss the practical conditions, partnerships and policy instruments needed to support trustworthy AI in science.

About ASNR

The French Authority for Nuclear Safety and Radiation Protection (ASNR) is an independent administrative authority responsible for the oversight of civil nuclear activities in France.

ASNR also carries out expert assessments, research, training and public information activities in nuclear safety and radiation protection. It participates in European and international programmes and cooperates with scientific organisations, technical safety organisations and international institutions.

About the Maison Irène et Frédéric Joliot-Curie

MAISON IRÈNE ET FRÉDÉRIC JOLIOT-CURIE

The Maison Irène et Frédéric Joliot-Curie is a shared platform for French higher education, research and innovation organisations in Brussels.

It connects the French scientific community with European institutions and research networks, supports participation in European programmes and promotes French scientific expertise at European level.

Practical Information

Date: 16 March 2027

Venue: Maison Irène et Frédéric Joliot-Curie, 100 Rue du Trône, 1050 Brussels, Belgium

Format: One-day, in-person seminar

Working language: English

Organizer: French Authority for Nuclear Safety and Radiation Protection (ASNR), in collaboration with the French Alternative Energies and Atomic Energy Commission (CEA) and the French National Centre for Scientific Research (CNRS).

Contacts:

Mr Bastien POUBEAU

ASNR Representative at the Maison Irène et Frédéric Joliot-Curie

100 Rue du Trône

1050 Brussels, Belgium

✉: bastien.poubeau@asnr.fr

✆: +33(0)6 08 81 45 66

Scientific Committee:

DATA AND AI INFRASTRUCTURES: **Cecilia DAMON** (ASNR)

HEALTH AND LIFE SCIENCES:

Sophie ANCELET / **Mohamedamine BENADJAOUD** (ASNR)

ENVIRONMENT AND MONITORING: **Damien DIDIER** (ASNR)

NUCLEAR SAFETY: **Jérôme RICHARD** (ASNR)

EMERGENCY PREPAREDNESS AND CRISIS MANAGEMENT:

Olivier ISNARD (ASNR)

Workshop webpage:

Please visit the workshop webpage regularly for new information regarding this event.

Register here