

NEA Global Forum on Nuclear Education, Science, Technology and Policy



The NEA Global Forum on Nuclear Education, Science, Technology and Policy is an inclusive network of organisations involved in the education of the next generation of nuclear scientists and engineers. As the first-ever international standing body of nuclear science and technology academics, the Global Forum on Nuclear Education leverages resources in nuclear academia to confront some of the most significant policy, educational, and human capacity building challenges that the global nuclear technology sector faces today.

Objectives

It is of primary importance to improve nuclear education programmes, practices and curricula; share knowledge; foster inclusiveness and diversity; and create learning opportunities for the next generation of nuclear professionals.

The Global Forum on Nuclear Education achieves its objectives by:

- Engaging with global academic and research institutions responsible for developing the next generation of nuclear science and technology experts.
- Bringing long-term, creative thinking to address international policy challenges that nuclear energy faces today and as an input to NEA processes.
- Providing academic institutions around the world with a framework for interaction, co-operation, and collective action.
- Holding symposia to serve as a venue for the world's nuclear academic experts, as well as other stakeholders, to identify emerging issues and find creative solutions for the strategic challenges identified.

The Global Forum on Nuclear Education: New thinking to address global challenges

Active participation in the Global Forum on Nuclear Education allows educators around the world to partner with academic institutions and education networks in other countries to share expertise, successes and plans for the future.

Since its establishment in January 2021, the Global Forum has counted many important accomplishments. Among them are the first-ever Rising Stars workshop and three successful nuclear education national workshops that have offered fundamental insights and tangible steps towards promoting nuclear engineering and technology programmes, as well as addressing in the national context the challenges of nuclear education and workforce development.

The publication of an NEA Working Paper on The Perception of Science, Risk and Nuclear Energy (NEA, 2024, <https://oe.cd/5AP>), based on the completion of an international survey, was also finalised to help explore relevant links of these topics and support the next step of finding the best path towards articulating and discussing nuclear technology's attributes.



Participants of the first 'Rising Stars' workshop at the Massachusetts Institute of Technology (MIT), United States, 20-21 September 2023.

Over the course of its work, the Global Forum on Nuclear Education has proven itself highly flexible and capable of adapting to the needs of member countries. For example, the Global Forum recently launched two new working groups; one to address the need across member countries to develop graduate-level nuclear law programmes and another to support focused efforts on building the Science, Technology, Engineering and Mathematics (STEM) pipeline by engaging with upper secondary school students and their teachers. Through these channels, the Global Forum will bring vitally-needed focus to nuclear expertise challenges that all countries face.

Working areas

The Global Forum on Nuclear Education has established six working groups to address pressing areas:

- i. Achieving gender equity in the nuclear engineering and technology and in academic workforces:** Promotes gender balance and female leadership in the nuclear energy sector by addressing the women cohort from the early stage of their academic career.
- ii. Future of nuclear engineering education:** Establishes approaches and best practices to attract more students to nuclear science and engineering courses and build a talent pipeline from university to careers in nuclear energy.
- iii. Relationship between nuclear energy and society:** Focuses on improving the public perception, engagement, trust and understanding of nuclear energy.
- iv. Future requirements for the competitiveness of nuclear energy:** Focuses on instilling a culture of innovation in nuclear curricula.
- v. Re-establishing nuclear law education programmes:** Assists in the development of graduate-level nuclear law programmes and works to expand the number of qualified educators to recruit a new generation of nuclear law professionals.
- vi. Building a pipeline of STEM professionals:** Focuses on engaging upper secondary school students and teachers to help countries optimise the pipeline of students who might consider nuclear science and technology careers. This will deliver activities to raise awareness of and generate interest in STEM disciplines and nuclear science and technology among upper secondary school students and their teachers.

Events

Nuclear education national workshops

Nuclear education national workshops examine how to improve the nuclear technology education infrastructure at the national level. Successful workshops have so far taken place in Japan in 2022, and in Korea and Romania in October 2023. These events have brought together stakeholders from the governmental, academic and industrial sector to discuss a particular issue related to nuclear education. The outcome of these workshops produced a clear set of actions to address specific challenges identified; one such example is the establishment of the National School for Nuclear Energy Association in Romania. Additionally, following the Korean workshop, a new Global Forum working group is being established for developing curricula for the back end of nuclear fuel cycle.

Global Forum Rising Stars workshops

These workshops aim to increase gender diversity in the nuclear sector by connecting female rising stars in science, technology, education and policy with resources, people and support to

help integrate them into the global nuclear community. The annual multi-day workshop is designed for female undergraduate, graduate and postgraduates in the nuclear and nuclear-adjacent fields. The programme includes keynote speeches by experts, poster sessions and awards, career development panels and networking opportunities for participants. The first workshop was held at the Massachusetts Institute of Technology (MIT) in the United States in September 2023, with a second event being organised for the fall of 2024.



Rising Stars workshop, MIT, United States, 20-21 September 2023.

Nuclear Education symposia

Professors and students from leading universities are offered a high-level platform upon which to showcase their accomplishments, discuss challenges and pave the way to more attractive and innovation-friendly nuclear curricula and training opportunities. These high-level events are unique in fostering constructive dialogue with key members of academia, government and industry with the expectation of creating a roadmap for international collaboration to support a growing nuclear workforce. The first Global Forum on Nuclear Education Symposium is planned for the fall of 2025, to be held at the University of Michigan, in the United States.



Bill Gates keynote speech, June 2022.

Nuclear science and engineering global commencements

During the COVID-19 pandemic, the Global Forum organised virtual commencements to celebrate the achievements of graduates in nuclear science and engineering disciplines. These events were launched to inspire nuclear graduates entering the workforce during a time when many commencement ceremonies were cancelled or postponed. Keynote talks and panel discussions were held around a thematic topic of a global nature, with nuclear energy professionals sharing their words of advice and encouragement for the graduates.

Participation

The Global Forum on Nuclear Education is poised to engage further with member and non-member countries and their universities who wish to address challenges related to nuclear education.

Through participation in the Global Forum, universities will join an extensive international network of academic institutions delivering undergraduate and postgraduate nuclear education programmes.

Interested universities and academic experts wishing to join Global Forum Working Groups can do so by contacting the NEA: globalforum@oecd-nea.org.

For further information visit www.oecd-nea.org/globalforum.