



INSEN
International
Nuclear Security
Education Network

**ANNUAL MEETING OF THE INTERNATIONAL NUCLEAR SECURITY
EDUCATION NETWORK (INSEN)**

**Vienna, Vienna International Centre
17 – 23 July 2023**

Chair's Report



The International Nuclear Security Education Network (INSEN) Annual Meeting was held in Vienna at Vienna International Centre on 17-21 July 2023. Attendance included 94 registered participants from 45 countries. (The list of participants is available on the INSEN portal).

BACKGROUND

The need for human resource development programs in nuclear security was underlined at several IAEA General Conferences and Board of Governors Meetings. Successive IAEA Nuclear Security Plans (the Plans), the most recent of which was approved by the Board of Governors in September 2021 and covers the period 2022-2025, gives high priority to assisting States in establishing educational programs in nuclear security to ensure the sustainability of nuclear security regimes. Equally, the Ministerial Declaration from the 2013, 2016, and 2020 International Conferences on Nuclear Security emphasized the importance of collaborative networks in nuclear security education, particularly INSEN.

In the course of implementing the Plans, the IAEA developed — together with academics and nuclear security experts from Member States — a guide entitled Educational Programme in Nuclear Security that consists of a model of a Master of Science (M.Sc.) and a Certificate Program in Nuclear Security. This guide was published as IAEA Nuclear Security Series No.12 - Educational Programme in Nuclear Security (NSS 12) in April 2010 and aimed at assisting universities or other educational institutes in developing academic programs in nuclear security. The NSS 12 technical guidance document was revised to include practical feedback from INSEN members and align it with the other nuclear security guidance and recommendations. The revised guide was published as IAEA Nuclear Security Series No. 12-T (Rev.1) – Model Academic Curriculum in Nuclear Security¹ in August 2021.

In order to better address current and future requests for assistance in this area, the IAEA organized a workshop in March 2010. The objectives of the workshop were to discuss current and future nuclear security academic programs/courses of different universities worldwide, to share lessons learned in the development and implementation of nuclear security academic programs, and to establish a collaboration network among universities that are providing nuclear security education or which are interested in starting an academic program/course(s) in nuclear security.

During that workshop, the participants agreed to facilitate collaboration among universities, research institutes, and other stakeholders. They established the International Nuclear Security Education Network (INSEN), a collaboration network for higher education in nuclear security. The network counts 204 members institutions from 71 countries and 14 observers as of 17 July 2023.

¹ For download: <https://www.iaea.org/publications/13608/model-academic-curriculum-in-nuclear-security>



DAY 1

OPENING

The meeting was opened by Ms Elena Buglova, (Director, Division of Nuclear Security, IAEA), who welcomed the participants to the meeting and expressed her sincere appreciation to all members and the Leadership for INSEN's contribution to enhancing nuclear security education. She emphasized the importance of nuclear security education considering the increasing number of nuclear applications in our daily lives and the need to develop and maintain effective nuclear security wherever nuclear or other radioactive material is in use, storage, and/or transport, in nuclear and associated facilities. In this regard, INSEN comes to the frontline of this vision by contributing to build well educated, skilled and motivated personnel at all levels. Ms Buglova added that professionals with knowledge, expertise and understanding of the importance of nuclear security is key to strengthen national nuclear security regimes around the world. In addition, the 66th IAEA General Conference Nuclear Security Resolution "underlined the importance of Agency programme for education and training in nuclear security, as well as other international, regional and national efforts to this end".

Ms Buglova went further to recognize the numerical growth within the network in the last year and congratulated INSEN for its support in different areas of nuclear security education. These include, among others; the development and review of teaching materials of the NSS12-T (Rev.1) Model Academic on Nuclear Security, the development of the IAEA non-serial publication on "Ensuring Sustainability and Assessing Impact of Nuclear Security Education Programmes", gender considerations observed in its activities and INSEN members' participation in diverse capacities at the IAEA nuclear security schools.

Ms Buglova, invited INSEN to apply to participate at the IAEA International Conference on Nuclear Security, known as ICONS 2024 and to provide its feedback on how early career professionals and students could be actively engaged in the conference.

Finally, Ms Buglova acknowledged the continuous efforts of INSEN to ensuring the sustainability of nuclear security education through training of early career professionals, commended INSEN for making concrete actions towards gender equality by ensuring gender parity within the leadership. She thanked the outgoing leadership for their efforts, congratulated the new leadership, recognized the presence of both virtual and in-person participants and wished the attendees a successful meeting.

The incoming INSEN chair, Ms Alpana Goel (Amity University Uttar Pradesh, India), recalled the mission of INSEN and its three working groups and provided an outline of the agenda. Ms Goel thanked the outgoing chairs for their work and proceeded to introduce the new Vice- Chairs of the network and the Working Groups (WGs). Mr Ayoade Kuye (University of Port Harcourt, Nigeria) was nominated as the new INSEN Vice-Chair. Mr Shafiqul Islam (University of Dhaka, Bangladesh) was nominated as the new Vice Chair of WG I. Ms Zenobia Homan, (Kings College London, UK) was nominated as the new Vice Chair of WG II and Ms Tendai Thatha (National University of Science and Technology, Zimbabwe) was nominated as the new



Vice Chair of WG III. All the nominees were approved by the annual meeting.

Ms Goel then outlined the meeting agenda and its objectives. The meeting aimed at:

- Discussing programmatic activities carried out by INSEN members;
- Reviewing the progress of the action plans set out in 2022-2023;
- Discussing the role of research in enhancing nuclear security;
- Discussing nuclear security from the international security perspective;
- Discussing programs and initiatives to support gender equality at the IAEA, INSEN and beyond;
- Sharing experiences and lessons learned among international networks for higher education;
- Discussing the progress made on the development of the TECDOC on ensuring Sustainability and Impact Assessment of Nuclear Security Education Programmes;
- Discussing the Academic Partnership Programmes on Nuclear Law;
- Reporting on the outcomes of the International Conference on Computer Security: Security for safety;
- Discussing the Nuclear Security of Small Modular Reactors (SMRs);
- Developing action plans for 2023-2024;
- Planning for the 2024 INSEN Leadership and Annual meetings.

The agenda was adopted as presented and is attached to this report (Attachment 1).

Mr Matteo Gerlini (Italy), outgoing INSEN Chair took the floor to report on the outcomes of the leadership meeting held in February 2023. He stressed the need for INSEN to support the renewed framework for nuclear security education provided by the Agency. He expressed his appreciation for the progress made by the different working groups on the 2022-2023 action plan and the updates made on the INSEN member's page on NUSEC portal, which is the main communication tool of the network. In conclusion, he expressed appreciation also for the growing number of INSEN members during the last twelve months.

Following the break, the working groups took turns to present their progress reports. Ms Cristen Ford (USA), outgoing Working Group I Chair shared accomplishments over the last year, including the review and development of teaching materials of new modules, the update of the Working Group page on NUSEC, and participation in the Consultancy Meeting for development of the TDL. Finally, Working Group I solicited volunteers to develop the remaining teaching materials for the remaining courses.

Mr Claudio Fiel (Brazil), outgoing working group II Chair, during the last 12 months, accompanied the members of INSEN, in the elaboration of personalized curricula, in the sharing of academic experiences about nuclear security, in the supply of materials/information and updates to be uploaded on INSEN portal. Some of these guidelines were done by email and others by videoconference meetings. He equally presented the results of the survey on nuclear security education needs conducted with the various members of INSEN, to better understand the WG II needs in the development and implementation of its action plan.

The outgoing working group III Chair, Ms Marina Dabetic (Serbia), highlighted the progress of the group



and the achievements of all INSEN members from July 2022. The progress report was comprehensive including over 45 INSEN members events. Ms Dabetic thanked INSEN members for their work, promoting nuclear security education and the network. She commended INSEN members for uploading information about their activities on NUSEC to facilitate information sharing and strengthen cooperation among INSEN members.

Ms Oum Keltoum Hakam, Education Officer, IAEA, updated the participants on the nuclear security education activities carried out by the IAEA, including the progress made regarding the development of the IAEA non-serial publication on “Ensuring Sustainability and Assessing Impact of Nuclear Security Education Programmes”, the review and development of INSEN teaching materials in line with the IAEA Nuclear Security Series No. 12-T (Rev.1) – Model Academic Curriculum in Nuclear Security, the schools on nuclear security including the school for the fellows of the IAEA’s Marie Skłodowska-Curie Fellowship Programme (NSCFP), and continued support to Master’s programs in nuclear security.

The meeting proceeded with presentations, after the break, from INSEN members from Germany, Canada, UAE, Malaysia, UK, Egypt and Russia (in place of Bangladesh), in this order, on programmatic activities in the field of nuclear security education. A question-and-answer session ensued following the presentations. The first day ended with a reception that allowed participants to network and socialize. All presentations and reports for day 1 are available for download on the INSEN portal.

DAY 2

The second day featured four panel discussions and a plenary discussion on the progress made on the development of the TECDOC on “Ensuring Sustainability and Impact Assessment of Nuclear Security Education Programmes”.

The first panel discussion facilitated virtually by Mr Christopher Hobbs (UK), gathered experts from Nigeria, the USA, and the UK, who discussed the “Role of Research in Enhancing Nuclear Security”. The panel members presented several articles written by INSEN members and published in “The Oxford Handbook of Nuclear Security”. These publications were inspired to a large extent by national experiences and best practices shared by INSEN members, amongst other stakeholders, on nuclear security. These case studies and lessons learned are elaborated across several thematic chapters of the book.

The second panel was comprised of experts from Ghana, Turkey, Singapore, USA, Serbia and was facilitated by Mr. Matteo Gerlini (Italy). The panel members took turns to present “Nuclear Security from the International Security Perspective”. They dwelled on regional concerns from the different continents and attempts made by these regions to advance nuclear security through transparency, collaborative efforts, and continuous mitigation of potential risks.

In the third panel, Mr James Larkin (South Africa) chaired the session with experts from Ghana, the USA, WIN-IAEA, the IAEA Gender Equality Office and the Marie Skłodowska-Curie Fellowship Program (IAEA) and WINSI (IAEA). The members were briefed on the programmes and initiatives to support gender equality at the IAEA, INSEN and Beyond.



Ms Alpana Goel (India), chaired the last panel that brought together experts from different sections and networks of the IAEA. The speakers shared experiences and lessons learned among international networks, notably; the “International Nuclear Management Academy (INMA)”, the “International Network for Education and Training on Emergency Preparedness and Response (INET-EPR Network)”, and the “International Nuclear Science and Technology Academy (INSTA)”. The network members were encouraged to join these networks as partnership with INSEN will contribute to strengthening global nuclear security and nuclear security education in particular.

Before closing the second day, Ms Hakam together with Ms Ford and Mr Kuye, co-facilitated a plenary discussion on the progress made on the development of the IAEA Non-Serial publication on “Ensuring Sustainability and Assessing Impact of Nuclear Security Education Programmes”. Ms Hakam provided a presentation to update the INSEN annual meeting members on the progress following the consultancy meeting held in April 2023 and the launch of the call for submission of case studies on nuclear security education programmes in May 2023. The annual meeting members had a good discussion and requested the INSEN Secretariat to postpone the deadline in order to allow further INSEN members to share their experiences in establishing and implementing nuclear security education programmes. All presentations for day 2 are available for download on the INSEN portal.

DAY 3

The third day was dedicated to discussing the planning and implementation of 2023-2024 nuclear security education activities in the different working groups. Furthermore, INSEN members discussed how to engage students and young professionals in the upcoming IAEA International Conference on Nuclear Security: Shaping the Future (ICONS 2024) and their proposals are uploaded to the INSEN portal and will be submitted to the Conference’ Scientific Secretary for consideration. The discussions were organized in breakout sessions. Mr Christophe Pilleux, Division of Nuclear Security, IAEA briefed WG I members on the revision of the INSEN textbook NS 22 “Nuclear Security: NS 22 Cyber Security for Nuclear Security Professionals”. The working groups Chairs presented their discussion on day 5 of the INSEN annual meeting and the presentations are available on the INSEN portal.

DAY 4

The day kicked off with presentations from INSEN members from Malaysia, Belarus, and Greece.

Following the break, participants were enlightened on a series of presentations on diverse topics by INSEN members from Singapore, Egypt, Bangladesh (exchanged with Russia) and Kenya.

After lunch break, the discussions continued with presentations from the IAEA. The first presentation was from Ms Sara Mroz, Scientific Secretary of ICONS 2024, on updates on the international conference on Nuclear Security (ICONS) 2024: Shaping the Future. Mr. Christophe Pilleux, provided a presentation on the



“Outcomes of the International Conference on Computer Security: Security for Safety”. And the last presentation of the day was delivered by Mr Jonathan Herbach, Office of Legal Affairs, IAEA on “Academic Partnership Programmes on Nuclear Law”.

Afterwards, meeting participants broke out in four regional groups to explore opportunities for regional collaboration. All the regional groups produced a report on their discussion, which were delivered on day 5 and are available for download on the INSEN portal.

DAY 5

The last day of the meeting opened with a presentation by Mr Kristof Horvath, IAEA, on “Nuclear Security of Small Modular Reactors (SMRs)”.

Participants then considered possible dates for the 2024 INSEN Annual Meeting and agreed that the next meeting would be held on mid July 2024 (tentatively 15th -19th July 2024). The leadership agreed to meet by the end of January or early February 2024 to review the progress of the INSEN action plan (2023-2024).

This was followed by the reports of WG Chairs on the 2023-2024 Action Plans and by the reports of regional groups on opportunities for cooperation.

In closing of the meeting, Ms Goel thanked the INSEN leadership and INSEN members for the productive week and their valuable contributions to the network. She also thanked the Secretariat for their ongoing support and coordination of the INSEN activities. The participants agreed that the meeting had accomplished its tasks, discussing all the proposed points. Finally, Ms Goel asked INSEN members to stay in touch with their respective WG Chairs by email and keep their member pages on the NUSEC portal up-to-date.

Ms Hakam thanked the participants for a their engagement in INSEN and other IAEA-related activities. She added that the expertise of INSEN members is needed at the national level to develop human resources in nuclear security, to strengthen the national nuclear security regimes, and also at the international level to share lessons learned and good practices in nuclear security. Ms Hakam wished all the participants safe travels and closed the meeting at 12:15h Vienna Time.



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Attachment 1

2023 INSEN Annual Meeting

Agenda

17 - 21 July 2023

*Vienna International Centre (VIC), Board Room A (M-Building) and WebEx (Hybrid)
Breakout rooms: MOE 79 & MOE 100*

Day 1, Monday, 17 July 2023

- 09:00 – 10:00 **Registration in front of Board Room A**
*Tin Ling Loi, IAEA
Brenda Njinembo, IAEA*
- 10:00 – 10:15 **Opening remarks**
Elena Buglova, Director, Division of Nuclear Security, IAEA
- 10:15 – 10:45 **Adoption of the agenda, objectives of the meeting, introduction of new Vice Chairs, introduction of new members**
Alpana Goel, INSEN Chair, Amity University Uttar Pradesh, India
- 10:45 – 11:00 **Report of the 2023 INSEN Leadership Meeting**
Matteo Gerlini, outgoing INSEN Chair, University of Siena, Italy
- 11:00 – 11:30 **Progress reports from outgoing Working Group Chairs**
*WG I: Cristen Ford, DOE/NNSA, USA
WG II: João Claudio Fiel, IME, Brazil
WG III: Marina Dabetic, University of Belgrade, Serbia*
- 11:30 – 12:00 **IAEA Nuclear Security Education Activities**
Oum Keltoum Hakam, IAEA



- 12:00 – 13:30 *Group picture and lunch break*
- 13:30 – 15:00 **Presentations from INSEN members**
- Establishing cyber security culture, *Swantje Westpfahl, Germany*
 - Experience Teaching a Stand-alone Introduction to Nuclear Security course in Nuclear Engineering and Health Physics Graduate Programs, *Edward Waller, Canada*
 - Practice oriented training of International Students in the field of nuclear security at the Global Nuclear Safety and Security Institute, *Egor Bologov, Russia*
 - Education and Training on Nuclear Security at Khalifa University, *Francois Foulon, UAE*
- 15:00 – 15:30 *Coffee break*
- 15:30 – 17:15 **Presentations from INSEN members**
- Challenges impacting the sustainability of Malaysia's MSc in Nuclear Safety, Security and Safeguards, *Irman Abdul Rahman, Malaysia*
 - Nuclear Transport Solutions' activities in nuclear security promotion and capacity-building, *Alex Barrow, UK*
 - Culture of Nuclear Security at The Universities community: Challenges and Opportunities", *Ashraf Hemeida, Egypt*
 - Nuclear security challenges for the deployment of a plug and play micro modular reactor, *Shafiqul Islam, Bangladesh*
- 17:15 – 17:30 **Summary of day 1**
- 17:30 – 19:00 **Reception in front of Board Room A**

Day 2, Tuesday, 18 July 2023

- 09:30 – 11:00 **Panel session #1: Role of Research in Enhancing Nuclear Security**
- Chair, *Christopher Hobbs, UK*
Speakers: *Sarah Tzinieris (UK), Craig Marianno (USA), Zenobia Homan (UK), Jason Harris (USA), Sunday Jonah (Nigeria)*



- 11:00 – 11:30 *Coffee break*
- 11:30 – 12:30 **Panel session #2: Nuclear Security from the International Security Perspective**
Chair, Matteo Gerlini (Italy).
Speakers: Marina Dabetic (Serbia), Margarita Kalinina-Pohl (USA), Sebnem Udum (Turkey), Julius Trajano (Singapore), Hubert Foy (Ghana)
- 12:30 – 13:30 *Lunch break*
- 13:30 – 14:45 **Panel session #3: Programmes and Initiatives to support Gender Equality at the IAEA, INSEN and Beyond**
Chair: James Larkin (South Africa)
Speakers: Rachel Loper (IAEA), Maria Naydenova (IAEA), Janette Donner (WiN-IAEA), Oum Keltoum Hakam (IAEA), Jason Harris (USA), Hubert Foy (Ghana)
- 14:45 – 15:45 **Panel session #4: Sharing Experiences and Lessons Learned among International Networks**
Chair, Alpana Goel, INSEN Chair
Speakers:
 - “International Nuclear Management Academy (INMA)”, *John W. Roberts, IAEA*
 - “International Network for Education and Training on Emergency Preparedness and Response (iNET-EPR Network)”, *Muzna Assi, IAEA*
 - “International Nuclear Science and Technology Academy (INSTA)”, *Marina Mishar, IAEA*
- 15:45 – 16:15 *Coffee break*
- 16:15 – 17:15 **Plenary session: Progress made on the development of the TECDOC on Ensuring Sustainability and Impact Assessment of Nuclear Security Education**
Facilitated by: Oum Keltoum Hakam (IAEA), Cristen Ford (USA), Ayo Kuye (Nigeria)
- 17:15 – 17:30 **Summary of day 2**



Day 3, Wednesday, 19 July 2023

09:30 – 12:30 **Working Groups Breakout Session: Implementation and Planning 2023-2024**

led by WG Chairs

Walid Metwally, WG I Chair, USA – BR A

Alexandra Ioannidou, Greece, WGII Chair, MOE 79

Mohammed Sallah, WG III Chair, Egypt, MOE 100

12:30 – 13:30 *Lunch break*

13:30 – 17:15 **Continuation of Working Groups Breakout Sessions: Implementation and Planning 2023-2024**

Led by WG Chairs

Walid Metwally, WG I Chair, USA – BR A

Alexandra Ioannidou, WGII Chair, Greece – MOE 79

Mohamed Salah, WG III Chair, Egypt, MOE 100

17:00 – 17:15 **Summary of day 3**

Day 4, Thursday, 20 July 2023

09:30 – 10:30 **Presentations from INSEN members**

- “Establishing National Strategy on E&T in Nuclear Security”, *Sabariah, Sabariah Bt. Kader Ibrahim, Malaysia*
- “Nuclear security education in Belarusian State University: state of art and plans for the future”, *Olga Khajynava & Andrey Timoshchenko, Belarus University* “Comparing dosimetric and spectroscopic capabilities of handheld Na(Tl) γ -spectrometers”, *Alexandra Ioannidou, Greece*



10:30 – 11:00	<i>Coffee break</i>
11:00 – 12:30	Presentations from INSEN members <ul style="list-style-type: none">• Examining Southeast Asian Diplomacy on Nuclear Disarmament and Nuclear Security: Shared Norms and a Regional Agenda, <i>Mely Caballero-Anthony, Singapore</i>• Radioactive sources security under conditions of unrest, <i>Mostafa Kofi, Egypt</i>• “The use of virtual and mockup simulators to enhance the efficiency of the students training in the field of nuclear security: experience of Tomsk Polytechnic University”, <i>Vera Verkhoturova, Russia</i>• Nuclear professional association role in improving nuclear security, <i>Collins Omondi, Kenya</i>
12:30 – 13:30	<i>Lunch break</i>
13:30 – 14:00	“Academic Partnership Programmes on Nuclear Law” , <i>Jonathan Herbach, IAEA</i>
14:00 – 14:30	International Conference on Nuclear Security (ICONS) 2024: Shaping the Future , <i>Sara Mroz, IAEA</i>
14:30 – 15:00	Outcomes of the International Conference on Computer Security: Security for Safety , <i>Christophe Pilleux, IAEA</i>
15:00 – 15:30	<i>Coffee break</i>
15:30 – 17:15	Regional breakout Session <i>Board Room A</i> <i>MOE 79</i> <i>MOE 100</i>
17:15 – 17:30	Summary of day 4



Day 5, Friday, 21 July 2023

09:30 – 10:15 **Nuclear Security of Small Modular Reactors (SMRs),**
Kristof Horvath, IAEA

10:15 – 10:45 **Preparation for the 2024 INSEN Leadership and Annual Meetings**
Alpana Goel, INSEN Chair

10:45 – 11:00 *Coffee break*

11:00 – 11:45 **Reports of Working Group Chairs on 2023-2024 Action Plans**
Walid Metwally, WG I Chair
Alexandra Ioannidou, WG II Chair
Mohammed Sallah, WG III Chair

11:45 – 12:15 **Reports of Regional Group Representatives**

Africa
Americas
Asia & Pacific
Europe

12:15 – 12:30 **Final remarks and Closing of the meeting**

Alpana Goel, INSEN Chair
Oum Keltoum Hakam, IAEA