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Cover Page Footnote

Assoc.Prof.Dr. Sebnem Udum served as the Chair of INSEN in 2018-2019 term.

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Abstract

This short piece presents an insider's view of the International Nuclear Security Education Network (INSEN) and shows that the Network is not only a part of the evolving nuclear security regime, but also it drives the regime forward through academic research, teaching, and cooperation, which are facilitated by the meetings at the IAEA and networking and learning opportunities in extracurricular time in Vienna.

The efforts for physical protection of nuclear material evolved as a result of political developments since September 11, 2001 with the impact of the debate on terrorist interest in obtaining weapons of mass destruction from insufficiently guarded facilities or with assistance from state and non-state actors. The first couple of years following September 11, 2001 and the revelations of the issues with Iran's nuclear program resulted in international efforts to adapt or align existing frameworks or agreements in a way that they can address these new threats or to come up with new ones. The Convention on the Physical Protection of Nuclear Material (CPPNM) [1] was amended in 2005 as a result of the threat assessment and high-risk environment. It expanded the area of physical protection efforts and equipped the efforts with a new look so as to assess the new threats to nuclear and radiological material.

In 2009, at the NATO Summit in Prague, the former U.S. President Barack Obama highlighted the possibility of a terrorist attack with the use of nuclear or radiological material [2]. The United States proposed having Nuclear Security Summits in various countries to raise awareness and to place this issue at the top of the international security agenda. One of the fundamental goals of the developing nuclear security regime is to establish national nuclear security regimes as set forth in the Amended CPPNM. In this sense, education is a powerful tool in the establishment and strengthening of such a regime. A regime develops on the basis of principles, rules, and norms on a specific issue [3], and this requires continuity. For the development of nuclear security regimes at the national level, awareness and an accurate assessment of the threat is necessary. Then, governments should embark upon strategies to cope with this threat by establishing relevant divisions, enacting and implementing laws, developing a nuclear security culture in nuclear facilities, and training personnel. Education in nuclear security raises people to serve in the cadres in civilian and military bureaucracies with an accurate basis of nuclear security and provides for the continuity needed to sustain the regime.

The International Nuclear Security Education Network (INSEN) is significant not only because it helps states at the national level, but also, it has a multiplier effect for the international level with its ability to bring together academics and researchers from around the world, help them to cooperate in curriculum development, provide opportunities for faculty exchange, and organize faculty/professional development courses to multiply the knowledge that is created. Membership to INSEN is through educational or research institutions, and it connects professors and researchers working on nuclear security. The network has three working groups: Working Group I - Curriculum development, Working Group II - Faculty Development and Faculty Exchange, and Working Group III - Promotion of INSEN.

The main contribution and impact of INSEN on nuclear security is to raise awareness through equipping and supporting faculty to educate students. One of the fundamental principles of the Convention of the Physical Protection of Nuclear Material and its 2005 Amendment is to establish national nuclear security regimes. A regime rests on principles which provide the ground for rules, decision-making procedures, and norms. Regime formation is a process that takes time. Education has two uses in this regard: first, it raises new generations on a specific topic, and second, it creates and maintains awareness on this topic. The risks associated with nuclear security need to be studied globally, and INSEN has worldwide membership. It helps connect institutions and raise awareness at the regional level through the use of common languages, such as with PDCs in Africa or Latin America in French, Arabic, and Spanish.

One of the main tools for developing knowledge and skills of faculty in nuclear security education is professional development courses (PDC) and faculty development courses (FDCs).¹ In Turkey, two PDCs on nuclear security were organized by King's College London with the support of Hacettepe University and Istanbul Technical University in 2018 and 2020. The main challenges in the organization of the PDC/FDCs were cultural and mainly at the bureaucratic level: the urgency of nuclear security related threats may not be felt at the bureaucratic level, and necessary funds may not be distributed to relevant government and academic institutions for the organization of PDCs/FDCs. In addition, the bureaucratic competition or culture may slow down the organizational process. At this point, with the efforts of the local INSEN member institutions, which facilitate mutual understanding and underline the urgency of nuclear security, the challenges can be overcome. Bureaucratic and academic cultures are one of the underestimated challenges to global education and training in nuclear security because they could impede the organizational processes: the requirements of funders/organizers may at times clash with local bureaucratic cultures to the extent that they could block the participation of potential participants at key positions. Academically, the challenge may both be at the national and global level because few disciplines receive training in policy and do not have a "bird's-eye view" of nuclear security risks and threats at the technical, political, and international levels. Furthermore, the links between academia and government may be weak. Language is also a challenge, particularly at the national level in terms of terminology in the local language. In several languages, like Russian, Arabic, Dutch, and Turkish, the meanings of safety and security may denote different things, or different cases may be explained with the same word. [4] This presents a problem in inter-agency correspondence as well as education. Dr. Zenobia Homan (from King's College London) and I are working on this issue in a joint research project [5], which we presented at the INSEN 2019 Annual Meeting, and which received quite the attention from members. The difference in the meaning of the words "safety" and "security" in different languages deviate or change the meaning of "nuclear security" if they are translated verbatim. Various INSEN members have been through similar problems at the national level, so we received numerous questions and comments from the audience.

¹ The FDCs have previously been introduced as PDCs, where not only academics but also professionals received education on nuclear security. FDCs are designed mainly for academics to improve their background and skills of nuclear security education.

Another challenge of teaching nuclear security is the discrepancy of the backgrounds of the educator and student as nuclear security straddles both natural and social sciences, most notably, physics, nuclear engineering, forensics, political science and psychology. INSEN has contributed to my academic progress because the nature of nuclear security education is interdisciplinary. Coming from a background of nuclear non-proliferation, I have technical knowledge. However, teaching nuclear security was another task, in which there were some four possibilities of instructor/student interaction. Two possible cases are formed when the instructor belongs to a technical field (such as engineering or physics) and students come from social or technical sciences. The other two possible cases are when the instructor has a social science background and students are from either social or technical sciences. Since becoming an INSEN member, I have had instances of teaching as a scholar of International Relations to both audiences, and I could observe the issues when an instructor from a technical field would teach about nuclear issues to an audience with social science background. In 2018, I delivered a presentation at the INSEN Annual Meeting about education methods and topics that could be covered for the instructor-audience background matrix which create these four cases [6].

The distinguishing feature of INSEN is that during the annual and technical meetings, participants from member institutions have developed close academic and personal connections thanks to working group activities that contribute to the goals of the Network and thanks to the physical environment that the Vienna International Center and the IAEA provides for networking. They have used the coffee and lunch breaks for deepening their collaboration, discussing the remaining issues in working groups, cooperating with working group chairs and vice-chairs for their assigned tasks, and finding new ideas for INSEN institution cooperation. Furthermore, as the network requires “networking,” they used the extracurricular time for socialization. Notably in the socializing are group and leadership dinners, unofficial dinner programs, or sightseeing tours.

I am a scholar of International Relations who has studied the role of socialization through culture, sports, and art on cooperation both in theory and in practice. Throughout our INSEN meetings, I observed that if the group enjoyed each other and the environment they were in, they could socialize much more easily. Our informal dinner programs in restaurants offering country-specific delicacies drew attention through time, and I came up with the humorous idea of a “Working Group IV” (considering the already existing three working groups), which referred to “networking by gastronomy and sightseeing in Vienna.” The task of the WG IV is to choose a restaurant that is based on a member’s national/cultural food, take the interested members to this restaurant, and introduce the culture while enjoying this time with delicacies. I can safely argue that I have observed increasing levels of cooperation and collaboration among members after these extra-curricular activities.

At INSEN, we tended to concentrate on the terms “nuclear security” and “nuclear security education,” but focused less on “education” and “network” as a subject matter in themselves. With this focus on the education methods to teach nuclear security to diverse audiences, I raised awareness on the needs and cognitive processes of our audiences as instructors.

Similarly, the so-called Working Group IV addresses the network element of INSEN. So, in time, INSEN has grown to be an academic case itself for International Relations that can explain the interaction of national academic communities in terms of teaching and research on nuclear security and how they could become instrumental in enhancing/contributing to the development of national nuclear security regimes and beyond.

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