

## **WINS Academy Training Course for Scientists, Technicians and Engineers on Nuclear Security 25<sup>th</sup> – 27<sup>th</sup> September 2018**

Amity Institute of Nuclear Science and Technology (AINST), Amity University Uttar Pradesh (AUUP) organized “WINS Academy Training Course for Scientists, Technicians and Engineers on Nuclear Security” in collaboration with WINS Academy, Vienna, Austria and financially supported by CRDF Global.

The purpose of this 3-day training was to support the development of nuclear security competence for scientists, technicians and engineers. The training was based on the WINS Academy Elective on Nuclear Security for Scientists, Technicians and Engineers, and complemented by the work of Indian experts who used lectures, discussion, case studies and exercises to further explore areas and issues of direct relevance for the audience. The workshop covered lectures on technical, regulatory and policy aspects of nuclear security.

The subject matter experts were

### **INTERNATIONAL SPEAKERS:**

1. Mr. Carl Reynolds (Facilitator, WINS Academy)
2. Mr. Daniel Johnson (Senior Advisor, WINS Academy)
3. Dr. Manit Shah (Oak Ridge National Laboratory)

### **NATIONAL SPEAKERS:**

1. Prof. A.K. Jain (Honorary Professor AINST)
2. Prof. H.S. Sharma (AINST, AUUP)
3. Dr. K.N. Sabharwal (Ex-IGCAR, DAE)
4. Dr. Manpreet Sethi (Centre for Air Power Studies, New Delhi)
5. Dr. Suresh Kumar (Delhi University)
6. Dr. Sitakanta Mishra (International Relations, The School of Liberal Studies, PDPU)
7. Dr. Kawalpreet Kalra (AINST, AUUP)

### **The workshop was attended by 40 participants from:**

1. University of Petroleum & Energy Studies (UPES), Dehradun
2. Pandit Deendayal Petroleum University (PDPU), Gandhinagar
3. University of Delhi, Delhi
4. Mody University, Rajasthan
5. SDS Life Sciences Pvt. Ltd.
6. Amity Institute of Nuclear Science and Technology (AINST)

**Amity Institute of Nuclear Science and Technology Amity University Uttar Pradesh**

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## **25<sup>th</sup> Septembers 2018**

On 25<sup>th</sup> September, the training program was inaugurated by lighting of lamp by delegates and senior professors with the chanting of Saraswati Bandana followed by the welcome speech delivered by Prof. (Dr.) Alpana Goel, Director & Head, AINST. Mr. Daniel Andrew Johnson, Senior Adviser, WINS Academy briefed about WINS Academy and the various program offered by them. The objectives of the workshop were discussed by Mr. Carl Reynold, Facilitator, WINS academy. Afterward, participants introduced themselves by saying a few words about their academic background, present organization and research interests. Later, the keynote address was delivered by Prof. A.K. Jain, Advisor & Honorary Professor, AINST, AUUP on “Nuclear Security in Indian context”. In his presentation, he shared his views about nuclear security in India. Inaugural session was concluded by announcing high tea.

After high tea, first talk of the 1<sup>st</sup> session was delivered by Mr. Daniel Andrew Johnson on “Introduction to nuclear security – key concepts- Understanding the Threat”. In the presentation, he introduced key concepts of nuclear security among the participants and also discussed about insider threat. Second lecture was delivered by Dr. Manpreet Sethi, CAPS, Delhi on “Key Nuclear Security Concepts of India”. The presentations reflected importance of nuclear security in Indian nuclear program, India’s approach to nuclear security, principle to secure nuclear material, physical security of nuclear facilities, security of nuclear technology, development of proliferation technology, emergency preparedness & response for nuclear security and general challenges on nuclear security. 1<sup>st</sup> session was concluded by announcing lunch break. Second session was on “Table Top Exercise (TTX) on insider threat” and the session was conducted by Dr. Manit Shah, ORNL. All 40 participants were divided into 8 groups containing 5 participants in each group. 1<sup>st</sup> Day’s technical program was closed by welcoming the participants to the dinner.

## **26<sup>th</sup> September 2018**

The 2<sup>nd</sup> day of the training program was focused on policy aspect of nuclear security, security culture and security of nuclear material. Subject matter expert Dr. Sitakanta Mishra, Pandit Deendayal Petroleum University, Gandhinagar covered the topic on “Nuclear Security

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Policy of India”. He discussed elaborately on nuclear security in terms of global and Indian context. He also explained Indian policy to nuclear security. Dr. Kawalpreet Kalra, AINST, AUUP gave lectures on “Nuclear Security and Security culture” in which she explained the importance of nuclear security culture in any nuclear facility and analysis of how to improve it. She also explained about the strategies to be considered by a nuclear power plant facility to minimize the risk of insider threat. Further, she explained the importance of the prevention and protection criteria of nuclear material inside a nuclear power plant. Later, Prof. H.S. Sharma, AINST gave detail information about nuclear materials and nuclear forensic in his lecture.

After the lunch, a very interesting table-top exercise was conducted by Mr. Mani Shah in continuation with the 1<sup>st</sup> day’s table top exercise. All the participants of the workshop had enthusiastically participated in the table-top exercise. The agenda of this exercise was to find out a theft strategy of nuclear materials within a given nuclear power plant layout with a minimum possible probability of getting caught by security persons. This exercise was widely enjoyed by all the participants which provide them a realistic feel of theft situation inside a nuclear power plant. The participants also demanded many more such exercises in the future events.

### **27<sup>th</sup>September 2018**

On the last day, two lectures were covered by Dr. K.N. Sabharwal and Dr. Suresh Kumar on the topics “Nuclear Security in the context of nuclear fuel” and “Nuclear Security in the context of detection instruments” respectively. Dr. K.N. Sabharwal explained the physics behind nuclear energy, characteristics of nuclear fuels and its types, fuel cycles, their strategic significance and human behaviours analysis to maintain nuclear security and security culture in a nuclear facilities. Later, Dr. Suresh Kumar briefed about various detecting system and their importance for nuclear security. Last part of the technical program was on table top exercise in continuation of 2<sup>nd</sup> days. In this session, each group presented their ideas about who should be the insider in nuclear facility.

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Later, all the participants provided their feedback on this workshop. They are interested to participate in the future events and suggested to arrange future workshops. After technical session of the training program, the subject matter experts were felicitated and certificates were distributed to all the participants. The resource person (Mr. Daniel Andrew Johnson, Senior Adviser) from WINS Academy along with Prof. (Dr.) Alpana Goel, AINST had also joined in the certificate distribution. In addition, Dr. Goel provided appreciation certificates to all students and faculty coordinators for organizing the workshop smoothly. Finally, the vote of thanks was given by Dr. Arpita Datta, AINST, AUUP.

After the close of the event, a concluding meeting was done by all the delegates from WINS Academy, ORNL and faculty members of AINST. In this meeting, future plans were discussed. A few points which were discussed are as follows:

1. Future events will be organized for longer durations (1 to 2 weeks) having collaborations with other national universities.
2. Future events will be organized only for Women in nuclear security.
3. More participation for WINS certifications.

### **Outcomes of the Training program:**

- The event constituted a good opportunity to foster the networking among academicians and the sharing of knowledge on nuclear security.
- The workshop met its objectives in promoting awareness on nuclear security.
- It has been decided that the future workshops will be conducted for 1 or 2 weeks to discuss in detail the technical aspects of nuclear security from basic to advanced level.
- More hands-on exercises on nuclear security are planned.
- Participants were encouraged to enroll in the WINS Academy through the WINS Academy scholarship fund and have commenced their study of the WINS Academy Foundation Module and the Elective Module for STEs prior to the training course.

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**Photo of the Event:**





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