

# Report

on

## *Nuclear Security for Scientists, Technicians and Engineers*

### *National training course hosted by Amity University for Amity University students*

*(23-24-25 May 2022. Live online sessions between 17.30 – 20.30 IST, each day)*

Nuclear safety and security have common goals which are to protect people, property and the environment from the harmful effects of ionising radiation. For many years, nuclear facility managers have integrated the different elements of safety, such as radiation protection, fire and environmental safety. Dr Alpana Goel, Director & Head, AINST, AUUP is a WINS Academy Alumni as well as a WINS Ambassador and an active participant in the IAEA International Nuclear Security Education Network (INSEN). Amity University is one of the largest educational networks for young professionals who will enter the nuclear programme in India.

As a part of awareness program, Amity Institute of Nuclear Science and Technology (AINST), Amity University Uttar Pradesh, Noida, India and World Institute of Nuclear Security (WINS) Academy, Vienna, Austria jointly organized training course on “*Nuclear Security for Scientists, Technicians and Engineers*”

**Training Course Purpose and Objectives:** To deliver a 3-day interactive training programme for Amity students, alumni, and members of the technical workforce of the nuclear industry in India to achieve the following objectives:

•Provide participants with an understanding of the interfaces between nuclear safety and nuclear security. Participants will apply their knowledge, skills and professionalism as Scientists, Technicians and Engineers (STE) through interactive sessions, exercises, and quizzes. In particular, they will:

- ✓ Understand the differences between nuclear security and nuclear safety
- ✓ Understand why security and safety risks require a different approach and thinking
- ✓ Understand and describe the threats in the context of nuclear security
- ✓ Understand the role and responsibilities of an STE professional in nuclear security and how to communicate with security professionals in security functions

**Proposed Focus for the Nuclear Security training programme are the following**

- ✓ A structured, interactive, approach to delivery will be adopted. The main themes for each day will complement the learnings of previous days, providing continuity to the objectives and learning outcomes. The participants will be encouraged to participate into exercises so that they understand how to apply the learning to real situations. They will also understand their role as an STE within the nuclear industry as well as potential career opportunities in the nuclear industry in India.
- ✓ The content for the training course is based on the WINS Academy Elective Module: Nuclear Security for Scientists, Technicians and Engineers, previous training courses successfully conducted by WINS and Amity University and other international partners and recent conversations between WINS and Amity.
- ✓ The themes for the content are presented in a modular form below and will be agreed and further refined and then included in a detailed agenda for each.

The speakers were from Oak Ridge National Laboratory, USA, WINS Academy Vienna Austria, Amity University Uttar Pradesh and Centre for Air Power Studies, New Delhi, India. The total number of participants were 40 from Amity University Uttar Pradesh and other Indian universities and organizations

1<sup>st</sup> day of the event was started as per the legacy of our Indian Tradition and formal inauguration of the training program was conducted by lighting of lamp with the chanting of Saraswati Vandana.

Event Welcome remarks were given by Lars Van Dassen, WINS Executive Director and by Dr. Alpana Goel, Director, AINST, Amity University Uttar Pradesh, India. WINS executive director also introduced STE during the event. After the opening remarks, Ms. Archana Yadav, AINST, AUUP, India introduced ZOOM platform to the participants. Facilitator of the event, Dr. Arpita Datta, AINST, AUUP introduced subject matter experts of the event followed by discussion on training course agenda, session Topics and learning objective one by one.

After that, there was a lecture on “Concept of Nuclear Security & Nuclear Safety and the Differences Between Nuclear Security & Nuclear Safety followed by discussion by speaker Dr. Karen Kaldenbach, Project Manager, Oak Ridge National Laboratory.

In day 2 of the event, there were two lectures. 1<sup>st</sup> lecture was on understanding the concept of threat in the context of nuclear security followed by Case study that illustrates threat as a concept by Dr. Manpreet Sethi, Distinguished Fellow at the Centre for Air Power Studies, New Delhi. 2<sup>nd</sup> lecture was on Insider threat: How are they different from external adversaries and what makes them of particular concern and focus for STE to be aware of followed by Case study/role play on insider threat. The lecture was deliver using Presentation+ interactive discussion. Speaker was Dr. Karen Kaldenbach, ORNL, USA.

3<sup>rd</sup> day of the event was started with a lecture on “The role of an STE in strengthening nuclear security” by Mr. Fred Marcussen. After the lecture, there was a panel discussion on “role of STE” by Amity Alumni. There were five panellists during the panel discussion.

- Hemantika Sengar, Erasmus Mundus Master's Student in Nuclear Physics, University of Padova, Italy
- Aswin kumar, Post-Doctoral Fellow, National Tsing Hua University, Taiwan
- Omkar Acharya, Amity Alumni
- Abhyuday Sharma, Compliance deputy manager - part time & applying for master's, Fitzroy consultancy, Australia
- Archita Rajkumari, Research Assistant, FH Aachen, Germany

Each panellist shared their experiences, journey and challenges on nuclear technology specifically to nuclear security.

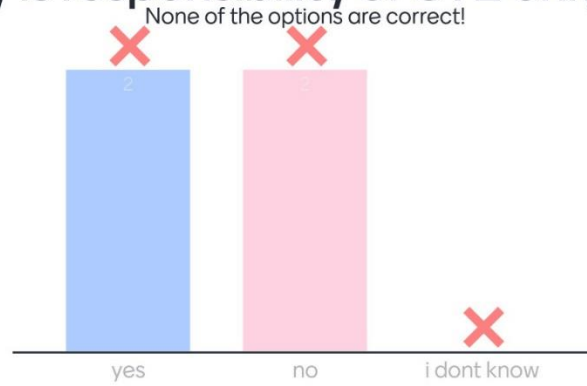
After that there were three presentations on “Example of STE professional- his or her experience that illustrates their relationship with security professionals and their interactions in an occupational setting in nuclear security” by Guest professional’s speakers.

- Amit Nautiyal, Nuclear Physicist, Cromwell Hospital, London
- Deeksha Gupta, Security Consultant, Accenture, Germany
- Jehaan Nicolson, PhD, Nuclear Physics



# Security is responsibility of STE only!

Mentimeter



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## Some of the pictures

Day 2 Tuesday 24 May 2022

You are viewing Arpita Datta's screen

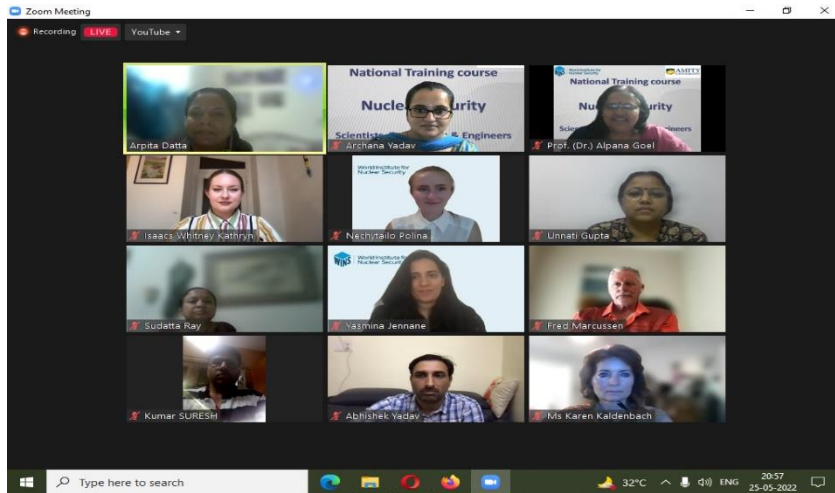
17:30 - 17:35 5 minutes	<ul style="list-style-type: none"> <li>17:30-17:35 Introduce the daily programme and expectations</li> </ul>	Ms Arpita Datta
Understanding the threat 17:35 - 19:30	<ul style="list-style-type: none"> <li>17:35 .18:35 Understanding the concept of threat in the context of nuclear security?</li> <li>18:35. 19:30 Exercise/Case study that illustrates threat as a concept</li> </ul>	Manpreet Distinguish Centre for Studies (C
Break 10 min		
Insider threat 19:30 - 20:30	<ul style="list-style-type: none"> <li>19:30.20.15 - Focus on Insider threat: How are they different from external adversaries and what makes them of particular concern and focus for STE to be aware of. (Presentation+ interactive discussion)</li> <li>Case study/role play on insider threat</li> <li>20:15-20:30 - Follow up discussions and Q&amp;A</li> </ul>	Ms Karen

Unmute Stop Video Participants 23 Chat Share Screen Reactions screenrec Leave

Amity University

The image shows a Zoom meeting interface. The main video window displays Ms. Karen Kaldenbach. At the top, there are four smaller video thumbnails for Unnati Gupta, Prof. (Dr.) Alpina Goel, Arpita Datta, and Sudatta Ray. The bottom toolbar includes icons for Unmute, Stop Video, Participants (23), Share Screen, Chat, Reactions, Settings, and More, along with a red Leave button. On the right side, a 'Participants (23)' list is visible, containing the following entries:

Participant Name	Audio Status	Video Status
UG Unnati Gupta (Me)	On	On
AU Amity University (Host)	REC	Off
PI Prof. (Dr.) Alpina Goel (Co-host)	REC	Off
AD Arpita Datta (Co-host)	REC	Off
MA Ms Archana Yadav (Co-host)	REC	Off
MA Ms Archana Yadav (Co-host)	REC	Off
MK Ms Karen Kaldenbach	Off	Off
YJ Yasmina Jennane	Off	Off
FM Fred Marcussen	Off	Off
NP Nidhi Pandey	Off	Off
DD Deepika dasgupta	Off	Off
SR Sudatta Ray	Off	Off
MO Mr. Omkar Archarya	Off	Off
ST Shrikant Thorat	Off	Off




Zoom Meeting

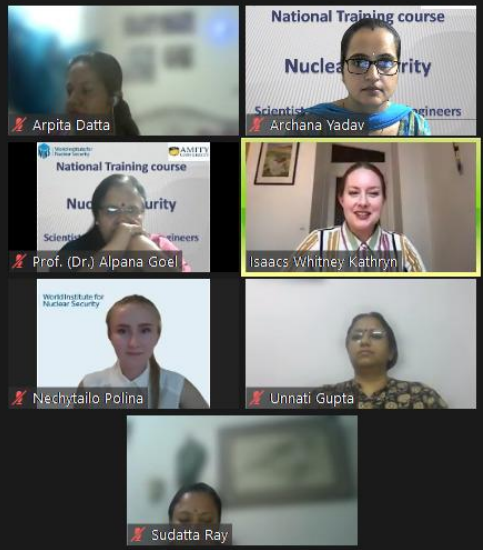
Recording **LIVE** YouTube

**CNSP** Certified Nuclear Security Professional  
World Institute for Nuclear Security

### Nuclear Security for Scientists, Technicians and Engineers

- Basic threats to nuclear and other radioactive material
  - Insider threats
  - Cyber threats
- Role of scientists, technicians and engineers in helping to decrease threats
- Basic physical security concepts
- Interface between safety and security





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32°C ENG 20:50 25-05-2022