

Report

Hands-on Training

on

“Radiological Emergency: Response and Preparedness”

Date: 30th Nov. - 1st Dec. 2023

Venue: Amity University Uttar Pradesh, Noida Campus, India
(G06, B Block, Amity Institute of Nuclear Science and Technology)

Radiation detection systems are integral part of nuclear and radiological emergency response and preparedness which plans to handle and respond to any kind of emergency involving malicious act like unauthorized access, sabotage, illegal transfer and theft involving nuclear and other radioactive materials. Therefore, it is important to have trained personnels who can handle various radiation detection systems to prevent any such incident and respond in emergency. This can be achieved by education and training.

To enhance the capabilities of 1st responder, “Hands-on Training on Radiological Emergency: Response and Preparedness,” was organized for officer and Jawan of State Disaster Response Force “(SDRF). This hands-on training program included lectures, demonstrations and hands-on exercise.

Participants: 10 participants from State Disaster Response Force (SDRF)

Workshop Objectives

1. To impart knowledge of the Nuclear Security Detection and Measurement systems
2. To train the trainers in radiation detectors and handling nuclear and radiological emergencies.
3. To provide first-hand experience on nuclear safety and security equipment.
4. Awareness about the nuclear security education program of AINST.

The resource persons of the workshop:

- ✓ Faculty members of AINST, Amity University Uttar Pradesh.

Inauguration of the workshop:

Hands-on Training on “Radiological Emergency: Response and Preparedness” was commenced on 30th Nov 2023 with the lighting of lamp along with Saraswati-Vandana by a dignitaries from Amity University Uttar Pradesh and SDRF. Prof. (Dr.) Alpana Goel, Director & Head welcomed all the participants from SDRF. She also mentioned that first time Amity University organized training program for SDRF officers and Jawans. After that participants from SDRF introduced themselves. Before starting the technical program, Dr. Arpita Datta briefed about the objectives of this hands on training program.

During the technical session of the 2 days hands on training event, following lectures were delivered

- Basics of radiation physics and its applications
- Nuclear radiation detection & measurement
- Radiation protection
- Nuclear Contamination & Decontamination: Case study

After each sessions, delivered lectures were also summarized by subject expert Prof. A.K. Jain, Advisor, AINST.

Following list of experiments were performed by participants

a) Verification of ALARA principle

- Effectiveness of shielding materials to attenuate gamma radiations: Determination of HVT/TVT (using GM)
- Verification of variation of intensity of radiation with the inverse of the square of distance

b) Hands on training on RIIDs:

- Radioactive Sources Search in Lab
- Building search
- Vehicle search

Following list of experiments were demonstrated for the participants

- Radiation detection
- Nuclear Contamination and Formulations for Decontamination and De-corporation

Apart from the lectures and lab demonstration, laboratory visit of all the laboratories of Amity Institute of Nuclear Science and Technology was conducted for the SDRF participants.

Concluding ceremony of the hands on training event was on 1st Dec 2023, where the participants shared their views regarding the training program. Later on a google form was circulated among the participants, and they provided their feedback. After that Mr. Brijesh Sing, Inspector from SDRF was felicitated and finally certificates along with gift were distributed among the participants of the training program. At the end, closing speech was delivered by Prof. Alpana Goel and Prof. A. K. Jain. The training program was concluded with National Anthem.

Expected Outcomes of the workshop are:-

- Knowledge of the Nuclear Security Detection and Measurement systems was imparted to the participants
- The Trainers from SDRF was trained on radiation detectors
- Hand on experience on Radiation detector was provided for emergency response and preparedness
- Decontamination procedure was demonstrated.
- Visibility of facility and utilization for the future hands on training event.
- Opportunity for Internship/Dissertations/Projects for UG/PG students at AINST
- Awareness about the nuclear security education program of AINST was created

Program Schedule (30th Nov.-1st Dec. 2023)

DAY 1 ; Venue: B block, G06

TIME	AGENDA ITEM/ ACTIVITY	Proposed Implementer
10:00-10:05	Lighting of lamp & Welcome Address	Dr. Alpana Goel <i>Director & Head, AINST, AUUP</i>
10:05-10:15	Participants Introduction	
10:15 – 11:15	Basics of radiation physics and its applications	Dr. Alpana Goel <i>Director & Head, AINST, AUUP</i>
11:15- 11:30	Tea Break	
11:30-12:00	Nuclear radiation detection & measurement	Ms. Archana Yadav <i>Assistant Professor, AINST, AUUP</i>
12:00-13:30	Exercise: Radiation detection	Dr. Sudatta Ray <i>Assistant Professor, AINST, AUUP</i>
13:30-14:30	Lunch	
14:30 - 16:30	ALARA Principle: Verification of variation of intensity of radiation with the inverse of the square of distance	Dr. Unnati Gupta <i>Assistant Professor, AINST, AUUP</i>
	Summarization of each lecture followed by Q & A	Prof. A.K. Jain <i>Advisor & Honorary Professor, AINST, AUUP</i>

DAY 2 Venue: B block, G06

TIME	AGENDA ITEM/ ACTIVITY	Proposed Implementer
10:00 – 10:05	Briefing of previous lectures and exercises	
10:05-11:05	Radiation protection	Dr. Arpita Datta <i>Assistant Professor, AINST, AUUP</i>
11:05-11:20	Tea	
11:20 -12:20	Nuclear Contamination & Decontamination: Case study	Dr. Unnati Gupta <i>Assistant Professor, AINST, AUUP</i>
12:20-13:00	Briefing of diverse types of radiation monitors and using it for search purpose, room search/field search/vehicle search	Dr. Sudatta Ray <i>Assistant Professor, AINST, AUUP</i>
13:00 – 14:00	Lunch	
14:00-16:00	Hands on training on RIIDs: 1. Radioactive Sources Search in Lab 2. Building search 3. Vehicle search	Ms. Archana Yadav, AINST Dr. Arpita Datta, AINST Dr. Sudatta Ray, AINST Dr. Unnati Gupta, AINST
16:00-16:45	Exercise: Nuclear Contamination and Formulations for Decontamination and De-corporation	Dr. Arpita Datta, AINST
	Summarization of each lecture followed by Q & A	Prof. A.K. Jain <i>Advisor & Honorary Professor, AINST, AUUP</i>
16:45-17:00	Feedback and distribution of certificates and closing remarks	
National Anthem		
Networking Tea		

Glimpses of the training:







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Day 2: 1st Dec. 2023

Sr. No.	Name	Organization	* Email ID	Phone no	Signature
1	Mr. Brijesh Singh	State Disaster Response Force (SDRF)	Brijeshsing110@gmail.com	9450495930	
2	Mr. Akash Choudhary		choudharyakash1081096@gmail.com	7078149020	
3	Mr. Akash Bansal		Gujjarbaisla2525@gmail.com	8171919282	
4	Mr. Alvendra		Agurjar21593@gmail.com	7302269416	
5	Mr. Puran Singh		ypuran78@gmail.com	7251882828	
6	Mr. Dharendra Kumar		Dhirendra98935@gmail.com	8925071682	
7	Mr. Amit Mishra		amitkumarmishra1581996@gmail.com	9971927168	
8	Mr. Dipak Sharma		Dkumarsharma460@gmail.com	9568046118	
9	Mr. Ajay Baghel		Baghelajay.26nov@gmail.com	7078564670	
10	Mr. Ajay Kumar Pal		ajaypal.1441@gmail.com	6394023875	
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Dhananjay Yadav

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रिन-जय पदित

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Day 1: 30th Nov. 2023

Sr. No.	Name	Organization	Email ID	Phone no	Signature
1	Mr. Brijesh Singh	State Disaster Response Force (SDRF)	Brijeshsingh12@gmail.com	9450495930	
2	Mr. Akash Chaudhari		chaudhariakash1011096@gmail.com	7078149020	
3	Mr. Akash Bansal		Gujjarbaisls2525@gmail.com	8171919282	
4	Mr. Alvendra		Agurjar21593@gmail.com	7302269416	
5	Mr. Puran Singh		ypuran78@gmail.com	7251882828	
6	Mr. Dharendra Kumar		Dhirendra98935@gmail.com	8935071682	
7	Mr. Amit Mishra		amitkumarmishra1581996@gmail.com	9971927168	
8	Mr. Dipak Sharma		Dkumarsharma460@gmail.com	9568046118	
9	Mr. Ajay Baghel		Baghelajay.26nov@gmail.com	7078564670	
10	Mr. Ajay Kumar Pal		ajaypal.1441@gmail.com	6394023875	
11	Mr. Abhishek Kumar		abhishek.kumar25091996@gmail.com	8853182698	

Feedback:

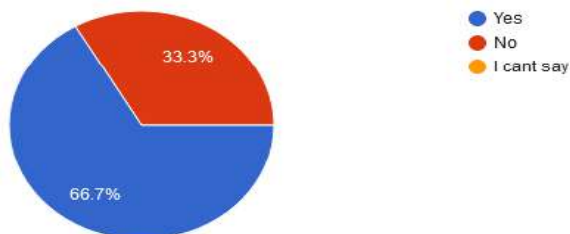
Was the technical information provided to you in the lecture useful and added to your knowledge ?

3 responses



Have you ever used and seen the NaI(Tl), CeBr, HPGe used in the practical training?

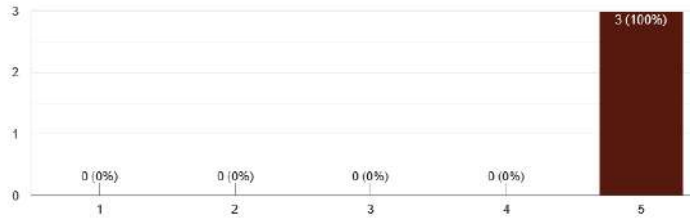
3 responses



How would you rate the Hands on training part of the hands-on training?

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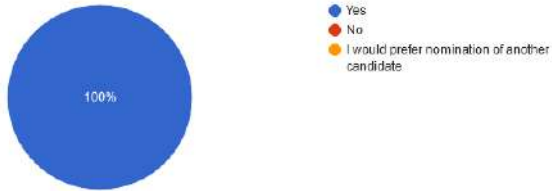
3 responses



Would you be interested in participation in such upcoming hands-on training?

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3 responses



What would be the preferred time for hands-on training.

3 responses

- one week
- Minimum 2 weeks... 🙌🙌🙌🙌
- Good

Did the hands-on training achieve the laid down objectives?

3 responses

