

REPORT

104th BRNS-IANCAS National Workshop on “Radiochemistry and Applications of Radioisotopes” held at Khalsa College Amritsar, Punjab during May 02-06, 2022

The 104th BRNS-IANCAS National Workshop on “Radiochemistry and Applications of Radioisotopes” was jointly organized by IANCAS & **PG Department of Physics, Khalsa College Amritsar during May 2 - 6, 2022**. Dr. Satyajeet Chaudhury, Fuel Chemistry Division, BARC was the coordinator for this Workshop. Dr. Taminder Singh, Dean Academic Affairs, Khalsa College Amritsar was the Local Convener. About 75 teachers and students from different colleges participated in this Workshop. Each participant was given a Workshop Participation Certificate and a set of two IANCAS books (i) Fundamentals of Radiochemistry and (ii) Nuclear Materials.



In the inaugural session, Dr. Taminder Singh, local convener of the Workshop welcomed the guests. Principal Dr. Mehal Singh honored the guests and addressed the gathering on the benefits of this Workshop. Dr. Satyajeet Chaudhary coordinator of the Workshop gave a summary of the lectures and practicals to be conducted at this Workshop, while Dr. P.C. Kalsi talked about the aims and objectives of the Workshop. Dr. P.K. Mohapatra, Head Radiochemistry Division, BARC, Mumbai delivered the key note address. The inaugural session concluded with the vote of thanks from Dr. Harvinder Kaur, Head of the Physics Dept., Khalsa College.

In the subsequent days, lectures were delivered by the resource persons who were the well-known scientists from BARC, Mumbai (technical program enclosed). Lectures covered the different aspects of radiochemistry and applications of radioisotopes. All the lectures were held in the morning session, while practicals on the safe handling of radioactivity with nuclear detectors were conducted in the afternoon session.

The valedictory session was presided over by Dr. S. Kannan, Director, RC&I Group, BARC and Vice-President, IANCAS. Dr. Mehal Singh, Principal, Khalsa College Amritsar welcomed Dr. Kannan and expressed his gratitude to IANCAS and BARC for conducting this Workshop. Dr. Kannan emphasised on the peaceful use of

the nuclear radiations and also underlined about the safe handling of the radiations which have the multiple usage particularly in the health sector. Workshop participation certificates were distributed to all the participants by the chief guest. On behalf of IANCAS, Dr. S. Kannan donated one NaI(Tl) scintillation gamma ray spectrometer and one GM Counter to the Khalsa College Amritsar. Dr. Taminder Singh, Dean Academic Affairs presented the vote of thanks, and declared the end of the five days National Workshop.

Each day of the Workshop, including the inaugural and valedictory function, was well covered by the electronic media and various local news papers (Punjabi, Hindi news papers) and English news papers.

Satyajeet Chaudhury

Workshop Coordinator

May 10, 2022

Technical Program

Time	Lecture / Title	Speaker
May 02, 2022 - Monday		
10:00 – 10:30	Inauguration Session	
10:30 – 11:00	Tea break	
11:00 – 12:00	Keynote Address: DAE at a Glance	Dr. P.K. Mohapatra
12:00 – 13:00	L1: Introduction to Radioactivity and Decay	Kum. Debarati Das
13:00 – 14:00	Lunch	
14:00 – 14:30	L2: Introduction to Practicals	Dr. Pranaw Kumar
14:30 – 16:00	Introduction of guests with participants and formation of groups for practicals. Setting up of laboratory for practical.	
May 03, 2022 - Tuesday		
10:00 – 11:00	L3: Nuclear Structure, Nuclear Stability and Introduction to Nuclear Reactions	Kum. Debarati Das
11:00 – 11:15	Tea break	
11:15 – 12:00	L4: Interaction of Radiation with Matters	Shri Nitin Gumber
12:00 – 13:00	L5: Radiation Detection and Measurements	Shri Nilesh Tawade
13:00 – 14:00	Lunch	
14:00 – 16:00	Hands on Experiments with Nuclear Detectors	
May 04, 2022 - Wednesday		
10:00 – 11:00	L6: Nuclear Reactors	Dr. S. Chaudhury
11:00 – 11:15	Tea break	
11:15 – 12:00	L7: Radioisotopes in Research and Development	Dr. Chandan Kumar
12:00 – 13:00	L8: Application of Radioanalytical Techniques in Research	Dr. Pranaw Kumar
13:00 – 14:00	Lunch	
14:00 – 16:00	Hands on Experiments with Nuclear Detectors	
May 05, 2022 - Thursday		
10:00 – 11:00	Radiation processing: A versatile technique for food preservation	Dr. Sumit Gupta
11:00 – 11:15	Tea break	
11:15 – 12:00	L9: Radioisotopes in Health care and Industry	Dr. Chandan Kumar
12:00 – 13:00	L10: Radiation Safety and Setting up a Radiological Laboratory	Dr. Pranaw Kumar
13:00 – 14:00	Lunch	
14:00 – 16:00	Hands on Experiments with Nuclear Detectors	
May 06, 2022 - Friday		
10:00 – 11:00	L11: Chemistry of actinides	Dr. S. Kannan
11:00 – 11:15	Tea break	
11:15 – 12:15	L12: Solid state nuclear track detectors	Dr. P.C. Kalsi
12:15 – 13:00	L13: Value addition of food and agro commodities by radiation processing	Dr. Sumit Gupta
13:00 – 14:00	Lunch	
14:00 – 15:30	Valedictory function, Instrument Donation & Distribution of Participation Certificates.	

Experiments / Practical:

1. GM Counter – by Kum. Debarati Das and Shri Nitin Gumber (Plateau, Dead time & Statistics)
2. NaI(Tl) – by Shri Nilesh S Tawade (Energy Calibration)
3. Radio-immuno Assay – by Dr. Chandan Kumar
4. Separation of uranium and thorium – by Dr. Pranaw Kumar
5. Solid State Nuclear Track Detectors – by Dr. P.C. Kalsi

Resource persons

1. Dr. S. Chaudhury, FCD
2. Dr. P.C. Kalsi, Ex-BARC
3. Dr. Pranaw Kumar, FCD
4. Dr. Chandan Kumar, RPhD
5. Kum. Debarati Das, RCD
6. Shri Nitin Gumber, FCD
7. Dr. Sumit Gupta, FTD
8. Shri Nilesh Tawade, RCD

Guest Speakers

1. Dr. S. Kannan, Director, RC&IG
2. Dr. P.K. Mohapatra, Head, RCD

Glimpses of Workshop



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