

101th DAE BRNS-IANCAS NATIONAL WORKSHOP on Radiochemistry & Applications of Radioisotopes held at Department of PHYSICS, Guru Nanak Dev University, Amritsar during Feb 17-23, 2020

The 101th DAE BRNS-IANCAS NATIONAL WORKSHOP on Radiochemistry & Applications of Radioisotopes was jointly organized by IANCAS & Department of Physics, Guru Nanak Dev University, Amritsar during Feb 17-23, 2020. Dr. Arnab Sarkar, FCD and Dr. P.C. Kalsi, Ex-BARC served as the Workshop coordinators and Dr. Ankita Rao, RACD served as the Practical coordinator. Prof. Jaspal Singh Sandhu, Vice Chancellor, GNDU, Amritsar, served as Chief Patron, Local Organizing Committee, Dr.) B.S. Bajwa served as Workshop Director and Dr. Inderpreet Kaur served as Workshop Convenor. The Workshop was attended by 45 shortlisted participants from various University/Colleges all over India. Each participant was given a set of three books (IANCAS publications) (i) Fundamentals of Radiochemistry and (ii) Nuclear Materials (iii) Experiments in Radiochemistry.

The workshop was inaugurated by the Chief Guest Dr. S.S. Chahal, Ex-Vice Chancellor of Maharana Pratap University of Agriculture & Technology, Udaipur and Prof. Emeritus Panjab University, Chandigarh. In his address as the chief guest, Dr. Chahal spoke in length and details regarding the radioactivity origin and its wide range of applications in different fields like biology, agriculture, and in physics. Prof. Chahal felt himself privileged to be present here in workshop. He suggested young minds should be vigilant and alert regarding the societal issues. Dr. P.K. Pujari, Director, RC&IG and Vice-president of IANCAS and Shri Vivek Bhasin, Director, NFG, BARC were Guest of Honour at this function. Dr. Pujari gave an excellent review about the activities of IANCAS in his inaugural address. Shri Bhasin, delivered the address of Guest of Honour where he elaborated about the Indian nuclear reactors and their safety aspects. Dr. Sarkar said that the workshop will provide an excellent platform for the participants to receive hands on training from the eminent scientists which will help them update their knowledge and understanding of the latest developments in the field of Radiochemistry and Radioisotopes. He informed the contents of technical program to the audience. Dr. Kalsi, also gave a brief about the association and IANCAS and GNDU. Prof. Hardeep Singh, DSW assured the dignitaries about providing all the possible facilities to the IANCAS team. The keynote address was given by Prof. H.S. Virk, the founder Head of Physics Department. He thrilled the audience with his rich experience in these fields with an enthusiastic talk. The inaugural function was highlighted in electronic media and various local and English newspapers.

The technical program of the Workshop comprised of 15 Lectures and Five practical experiments. A total of 6 resource persons conducted the workshop. The lectures were held during the morning sessions whereas experiments were conducted in the afternoon sessions. Experiments included (1) GM Counter dead time, (2) radioactive statistics (3) Gamma-ray Spectrometry using NaI(Tl) Detector, (4) Shielding Experiment using NaI(Tl) Detector and (5) Solid State Nuclear Track Detection.

Valedictory function was held on Feb 23, 2020. A quiz competition was organized on the final day based on lectures and experiments conducted, which was highly appreciated by the participants. 6 participants were honoured with a gift for their excellent performance in quiz competition. A few participants, including students and faculty, shared their impressions about the workshop. Dr. S. Kannan responded to the feedbacks and gave an overview of research opportunities at BARC and BRNS and emphasized the participants to apply radioisotopes in their research work. Dr. B.S. Tomar,

RRF, DAE, and President, IANCAS was the Chief Guest. All the participants were given participation certificates. On behalf of IANCAS, Dr. B.S. Tomar donated one instrument, a NaI(Tl) scintillation gamma ray spectrometer to the institute (GNDU, Amritsar). The Valedictory function was begun with the welcome speech by Dr. B.S. Bajwa. In his address, Dr. B.S. Tomar as Chief Guest reiterated the main aim of the workshop and thanks all the participants for their sincerity and successful completion of the 7 day workshop. Dr. Ankita Rao, Practical coordinator presented the vote of thanks by from IANCAS team. Dr. D.P. Singh Head, Physics Department, GNDU concluded with a vote of thanks from GNDU.

Resource Persons

Dr. Arnab Sarkar (Co-ordinator)	FCD
Dr. P.C. Kalsi (Co-ordinator)	Ex-BARC
Dr. Ankita Rao (Practical Co-ordinator)	RACD
Sh. Tarak Nath Nag,	RCD
Sh. Shishu Kant Suman,	RPhD
Mr. Sandip C. Vishwasrao,	PDD
Prof. R.C. Ramola	Department of Physics. H.N.B. Garhwal University
Prof. B.S. Bajwa	GNDU

List of Lectures	
Address by Guest of Honour: Indian Nuclear reactor safety aspect	Sh. Vivek Bhasin, Director, Nuclear Fuel Group
Keynote address: From Radioactivity to Nuclear & Environmental Radiation	Prof. H.S. Virk
Introduction to Experiments	Dr. Ankita Rao
L1: Radioactivity and Decay	Dr. Arnab Sarkar
L2: Interaction of radiation with matter	Sh. Tarak Nath Nag
L3: Radiation detection and Measurement	Mr. Sandip C. Vishwasrao
L4: Radiation chemistry	Dr. Ankita Rao
L5: Solid State Nuclear Track Detection: Theory and Applications	Dr. P.C. Kalsi
L6: Natural Radiation - Characteristic, Exposure and Health effects	Prof. R.C. Ramola
L7: Production of Radioisotopes	Sh. Shishu Kant Suman
L8: Application of Radioisotopes in Industry and Research	Dr. Arnab Sarkar
L9: Nuclear structure and Stability	Sh. Tarak Nath Nag
L10: Nuclear Waste Management	Dr. Ankita Rao
L11: Application of Radioisotopes in Health care and Agriculture	Sh. Shishu Kant Suman
L12: Nuclear Reactions	Sh. Tarak Nath Nag
L13: Environmental Radioactivity Study in SW Punjab : a Potential Threat	Prof. B.S. Bajwa, GNDU
L14: Nuclear reactors	Dr. Arnab Sarkar
L15: Radiological Safety	Prof. B.S. Tomar, President, IANCAS
5 Practical experiments daily	