

## Reports from conferences, theme meetings and workshops



# 46<sup>th</sup> Training Course

Participants of Training Course pose for a group photo during the valedictory function.

## on Safety and Regulatory Measures for BARC Facilities

The BSC Secretariat (BSCS) conducts short-term training courses for the personnel working at BARC facilities as part of its mandate. One such regular training course is on “Safety and Regulatory Measures for BARC Facilities”. The 46<sup>th</sup> course in this series was conducted during October 11-14, 2023 at BARC(F) Auditorium, Atchutapuram, Visakhapatnam. Seventy-four participants from ESS(V), CES(V), CAD(V), PP&EMD, ALWRD, NCCCM (Hyderabad), REPMP, and A&MPD(V) attended the course.

During the inauguration of the training course, Rajvir Singh welcomed the Chief Guest, senior officers, invitees and participants. Clement C. Verghese, Chairman, BARC Safety Council (BSC) introduced the course and explained its relevance to the participants. The Chief Guest of the function, K. Srinivas, Director, ESG & PD, BARC(F), Visakhapatnam explained the importance of safety and emphasized on the various safety aspects considered during the construction of the facilities. He elaborated the role of BSC for ensuring safety in BARC Facilities. He also appreciated the efforts of BSCS for conducting this safety program at BARC(F). C. L. R. Yadav, Course coordinator, proposed the vote of thanks.

The training course was conducted through classroom lectures and video displays. It covered topics, such as regulatory framework of BARC; radiation basics and natural radiation; construction, industrial, accelerator and electrical safety; regulatory inspections; event reporting and improvement of safety culture in the facilities.

In addition to the faculties from BSCS, experts from AERB; NPCIL, Mumbai, Industrial Hygiene & Safety Section and faculties from BARC(F) have shared their knowledge and experiences to the participants. The valedictory function was graced by Chief Guest D. Venkateswarlu, Former PD, BARC(F), Guest of Honor M.S. Rao, Head, TL-5 Visakhapatnam, N. S. Joshi, Head, BSCS and senior officers of BARC (F). The training program was well appreciated by the participants and other dignitaries.

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## National Workshop on Atomistic Modeling of Molecules and Materials

A four-day national workshop 'Atomistic Modeling of Molecules and Materials' (AMMM-2023) was organized during December 11-14, 2023 at Multipurpose Hall, TSH, BARC, Mumbai under the auspices of DAE-BRNS. Chemical Engineering Group, BARC and the Society for Atomistic and Continuum Modeling (SACM) spearheaded the workshop activities. The welcome address at the workshop was made by Dr. Sulekha Mukhopadhyay, Head, Chemical Engineering Division, BARC. K.T. Shenoy, Director, Chemical Group and Chairman, AMMM-2023 made the introductory remarks. Prof. A.K. Tyagi, Director, Chemistry Group and Bio-science Group, BARC as the program chief guest delivered the workshop inaugural address. In his inaugural speech, Prof. Tyagi highlighted the need of atomistic modeling based multi-scale approach for advanced scientific research. He also stressed the importance of synergy between Atomistic Modeling aspects such as theory, computation and experimentation in different branches of sciences and engineering for proper outcomes. The proceedings copy of the workshop was released by the chief guest. The inaugural program vote of thanks was delivered by Dr. Sk. Musharaf Ali, Head, AMCAS, ChED and Convener, AMMM-2023. Close to 175 delegates from DAE and non-DAE institutes participated in the 4-day workshop. A total of 36 invited lectures and 56 flash presentations were covered in the field of atomistic modeling comprising electronic structure calculations such as density functional theory, equilibrium and non-equilibrium statistical mechanics, molecular dynamics and Monte Carlo simulations. Machine learning-driven atomistic modeling was also discussed. Experts from various institutes, including IISc, TIFR, IACS (Kolkata), JNCASR, IITs (Mumbai, Chennai, Patna, Hyderabad, Jodhpur), ICT (Bhubaneswar), IISER (Pune), CEBS (Mumbai), IGCAR (Kalpakkam) and BARC made presentations on several aspects of atomistic modeling. Participants of the workshop were presented with certificates by the prestigious Royal Society of Chemistry.

Dr. Pooja Sahu, Scientific Officer, Chemical Engineering Group, BARC, was awarded Atomistic Modeler of the Year-2023 plaque by the Royal Society of Chemistry at the workshop.

## 33<sup>rd</sup> Annual Conference & Exhibition on Non-Destructive Evaluation & Enabling Technologies

The 33rd Annual Conference & Exhibition on Non-Destructive Evaluation and Enabling Technologies (NDE-2023) was organized by Indian Society for Non-Destructive Testing (ISNT), at Pune during 7-9 December, 2023. The conference was inaugurated by Dr. Samir V. Kamat, Secretary, DD, R&D and Chairman, DRDO.

Dr. V. Narayanan, Director, LPSC, ISRO was the guest of honour. Dr. P. P. Nanekar, Head, PIED, BARC chaired the session on Advances in Ultrasonics. Dr. V. H. Patankar, Head, UIEFS, ED, BARC delivered an invited talk on 'Challenges in the development of Ultrasonic Imaging systems for NDT of critical components and structures'. Dr. Lakshminarayana Yenumula, SO/F, ITIS, BARC, Anant Mitra, SO/E, ITIS, BARC, Jyoti Gupta, SO/D, RMD, BARC, Jothilakshmi N., SO/F, QAD, BARC, Rakesh Kumar Pal, SO/D, QAD, BARC presented research papers in the conference.

Around 200 research papers were presented by Indian and international researchers and the conference was attended by more than 900 participants. Chief Guest of NDE-2023 conference emphasized the need to generate a roadmap for Non-Destructive Evaluation policy for the Indian Industry, for the Amrit-Kaal-India@2047.

## Outreach Program in Jammu

As part of pan-India outreach on atomic energy activities in India, a team of scientists & engineers of BARC visited various colleges of Jammu during 9-13 October, 2023. The BARC team visited Central University of Jammu, University of Jammu, Maulana Azad Memorial Cluster University in Jammu, Shri Mata Vaishno Devi University in Katra and IIT- Jammu. At each of these colleges, the visiting BARC officials organized a range of student-centric activities, including quiz program on science and technology topics, lectures on a range of ongoing research and development activities in atomic energy field, and edutainment skits on nuclear energy.

The BARC team present in Jammu during the entire 5-day program included S.K. Mondal, S.P. Prabhakar, Heema Rao, R.K.B Yadav, R.K. Mishra, Yatin Thakur, Ram Badade, Atul Likhite, Umesh Gulane, Pradeep Pawar and Samruddhi Patil. Dr. S. Adhikari, Associate Director, Knowledge Management Group, BARC, functioned as the program convener.

On the final day of the program, Dr. Archana Sharma, Director, Beam Technology Development Group, BARC, delivered a talk on Beam technology for the benefit of the participants.

The 5-day program witnessed participation of more than 1200 students.