



Advanced Nuclear Material Technologies' impetus to Aatmanirbhar Bharat

By SIRD Newsletter Editorial Team

The Bhabha Atomic Research Centre (BARC) hosted a three-day National Technology Day (NTD) celebration during May 11-13, 2025 with the theme “**Transition to Clean, Green Viksit Bharat: Advanced Materials & Nuclear Technology**” at the picturesque DAE Convention Centre. The event drew around 1000 students from Atomic Energy Central Schools situated in Anushakti Nagar besides those from several Mumbai-based schools, who constituted the core audience for the program, offering them a unique opportunity to explore and experience India's nuclear science and technology landscape, and understand the role of advanced materials and nuclear energy in building a developed India (Viksit Bharat).

Program Inaugural Session

The opening day set the tone for the 3-day technology fest with distinguished speakers highlighting the importance of nuclear science and technology in India's sustainable development journey and the role of disruptive technological innovations in India's transformation into the future.

Shri. K. N. Vyas, Distinguished Homi Bhabha Chair Professor and Former Chairman, AEC was the program Chief Guest. His keynote address provided insights into India's seven-decade atomic energy journey and the key role of material innovations in addressing complex technological challenges.

In his address, Dr. Ajit Kumar Mohanty, Chairman, AEC & Secretary, DAE inspired the young minds by outlining the vital role of students in realizing the vision of Viksit Bharat. DAE's recent milestones in global science and technology arena, including the 'Breakthrough Prize' in Fundamental Physics, and the launch of Brahmos Aerospace Integration and Testing Facility in defense industrial sector were the main points of his address.

Shri Vivek Bhasin, Director, BARC, underscored the need for carbon-free electricity to achieve sustainable development and highlighted the critical role of special materials in nuclear technology in his address.

Dr. Raghvendra Tewari, Director, Materials Group, gave a compelling insight into how materials science transforms lives, citing the Nobel Prize-winning innovation of the blue LED.

Dr. Alok Awasthi, Chairman of NTD-2025 offered the chief guest's introduction while Dr. Bikas Chandra Maji, Convenor of NTD-2025 proposed the 'Vote of Thanks' for the session.

Technology Exhibition

The inaugural session was soon followed by the opening of the technology exhibition pavilion by the Chief Guest, Shri K.N. Vyas, who was accompanied by other dignitaries on an in-depth tour of the various exhibits, amplifying the range of activities in BARC and other constituent units of DAE. Students, educators, science enthusiasts and family members of DAE units residing in Anushakti Nagar visited the exhibition and also appreciated the working models.

Student Engagements

One of the major draws of the program - Scientific Quizzes - took the centrestage with the enthusiastic participation of students. It was interspersed with a highly immersive edutainment skit, performed by a dedicated team of artists from BARC. To enhance the overall experience of the participants, feedback forms were created and distributed using Google Forms. This approach allowed attendees to easily provide their insights and suggestions in a convenient, accessible, and organized manner.



NTD 2025 Inaugural Day Program Chief Guest, Shri K.N. Vyas (Distinguished Homi Bhabha Chair Professor, DAE), inaugurated the exhibition gallery on BARC-DAE technologies.

Social media engagement was shaped by several key elements - Highlights of advanced technology development, vibrant multi-colored portraits reflecting the program's theme, and a poetic tribute underscoring the significance of commemorating National Technology Day and the milestone achievements of BARC Materials Group.

Program Leadership

The National Technology Day 2025 celebration was spearheaded by BARC Materials Group, under the distinguished leadership of Dr. Alok Awasthi, Outstanding Scientist, who served as Chairman of the Program. He was assisted in his efforts by Dr. Bikas Chandra

Maji, Scientific Officer/H, Materials Group, who acted as the Program Convenor. The event's success was further enhanced through valuable collaborative efforts from various Groups of BARC.

Significance of the Event

The commemoration of National Technology Day served multiple important purposes, which include

- Honoring India's vibrant science and technology culture
- Highlighting the significance of nuclear energy in India's transformation towards becoming self-reliant (Aatmanirbhar Bharat) and developed nation (Viksit Bharat)
- Demonstrating how nuclear energy contributes to a clean, green, and sustainable future
- Emphasizing the role of advanced materials in successfully harnessing nuclear energy
- Inspiring the next generation of scientists and innovators who will steer India's scientific progress
- Fostering critical thinking and creativity among the citizenry

Additionally, the program saw unveiling of iGOT (Mission Karmanyogi) course content on atomic energy activities such as the Life and achievements of nuclear pioneer Dr. Homi J. Bhabha, Isotope applications in water resources management among others.

Finally, this immersive three-day program emphasized technology development and innovation, providing students with hands-on experiences in nuclear science and advanced materials to equip them for future scientific and technological breakthroughs.

Popular Lectures

To spark students' curiosity about the science and technology that shape our everyday lives, the program featured engaging lectures delivered by experienced scientists of DAE. On Day One, the lecture on 'The World of Men and Materials' by Dr. Raghvendra Tewari, Director (Materials Group, BARC) opened the doors to the fascinating realm of materials, captivating and inspiring the students.

The Day 2 engagement with students on the topic 'Advanced Materials and Technologies for Nuclear Waste Management' by Dr. G. Sugilal, Associate Director (Nuclear Recycle Group, BARC) showcased robust nuclear waste management practices in the department.

Finally, Dr. S.K. Satpati, Chairman & Managing Director, UCIL captivated students with his lecture on 'Uranium Technology in India: An Overview' on the final leg of the program.

Audio-Visual Screenings and Social Media Outreach

Engaging young minds through audio, video, and social media is crucial in today's digital era. A short film showcasing the remarkable contributions of materials science research to India's atomic energy expansion alongside lifetime contributions of noted scientists, was screened during the program. Materials Group and SIRD (Knowledge Management Group) have joined hands in making this resourceful video. Additionally, social media was leveraged to reach out to a broader audience.