

Inspiring Young Minds

Outreach Programs by BARC in Madhya Pradesh

Beamline Development & Application Section (BDAS), Physics Group, BARC camped at RRCAT, Indore organized a series of outreach programs across three locations in Madhya Pradesh during January and February 2025. These initiatives aimed to educate and inspire students about nuclear science, radiation safety, and career opportunities within the Department of Atomic Energy (DAE).

The outreach initiatives were conducted at the following locations: a. PM Shri Shaskiy Kanya Uchhtar Madhyamik Vidyalay at Barela in Jabalpur during January 21–22, b. Shri Sitaram Jaju Govt Girls College, at Neemuch during February 18–19, c. Jawaharlal Nehru Smriti Govt. P.G. College at Shujalpur during February 24–25. The target audience included school students from grades 6 to 12, as well as undergraduate and postgraduate students and their teachers.

Topics Covered

The sessions were designed to cater to diverse educational levels and included the following topics.

Basics of Synchrotron Radiation - An introduction to the nature of synchrotron radiation and its production.

Applications of Synchrotron Radiation - Real-world applications such as X-ray imaging of mosquitoes, analyzing gold jewelry composition, and experiments at the Indus synchrotron facility at RRCAT in Indore.

Basics of Nuclear Reactors - An overview of nuclear fission, reactor components like turbines and generators, and their role in electricity production.

Radiation Safety - Insights into radiation types, safety measures for public and workers, and monitoring protocols near nuclear facilities.

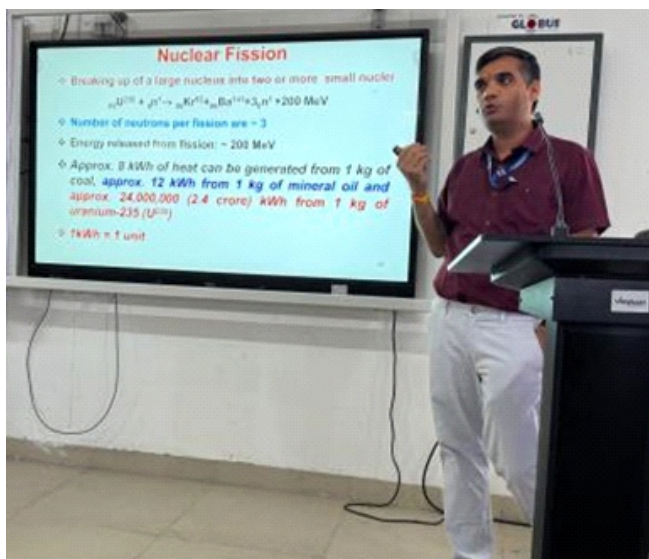
Career Opportunities in DAE - Guidance on eligibility criteria, qualifications required, and application processes for careers in DAE.

Engagement Approach

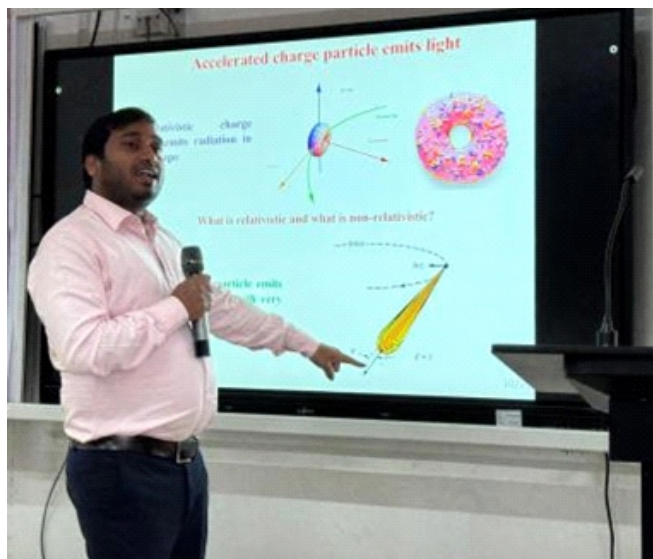
The programs were tailored to suit the audience's educational background. For school students (grades 6–12), sessions were simplified and delivered primarily in Hindi to ensure better understanding. For college students, a mix of Hindi and English was used with more advanced technical content. Interactive engagement methods were employed to engage students effectively. Simple questions were posed during lectures to encourage participation. Students were motivated to focus on their studies and consider careers in nuclear science.

Speakers at the Programs

Four young officers from the ranks of Beamline Development & Application Section (BDAS), Physics Group, BARC camped at Indore led these sessions. Their relatable approach helped bridge the gap between complex scientific concepts and student comprehension.



Dr. Yogesh Kumar interacting with the students at Jawaharlal Nehru Smriti Govt. P.G. College.



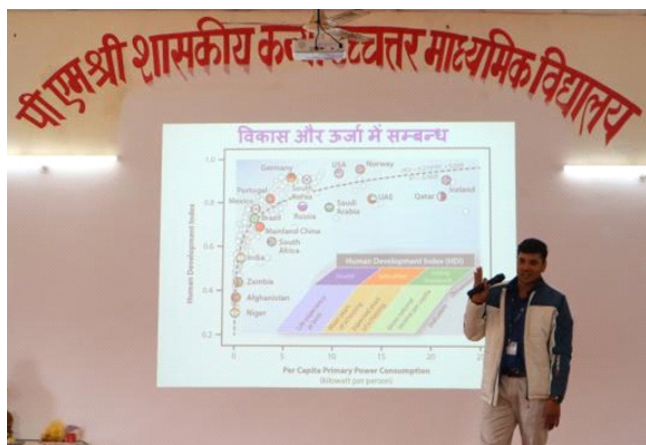
Shri Kiran Kumar Gorai speaks during an interactive session with the students of Jawaharlal Nehru Smriti Govt. P.G. College.

Reports from conferences, theme meetings, symposia, and outreach

Program Impact

These outreach programs served as a platform for fostering scientific curiosity among students from rural and urban areas alike. By addressing misconceptions about radiation safety and highlighting diverse career opportunities in nuclear

science, the initiative aimed to inspire the next generation of scientists and engineers. The Bhabha Atomic Research Centre and the Department of Atomic Energy continue to play a pivotal role in advancing nuclear science while simultaneously promoting public awareness through such outreach efforts.



Dr. Mangla Nand interacting with the students of PM Shri Shaskiy Kanya Uchhtar Madhyamik Vidyalay.



Dr. Shilpa Tripathi speaks during an interactive session with the students of Shri Sitaram Jaju Govt Girls College.