

### N.2: National Science Day celebration at RRCAT under DAE-DoS Dr. Vikram Sarabhai Centenary Celebrations

National Science Day (NSD) is celebrated in India each year on 28<sup>th</sup> February to commemorate the discovery of the Raman Effect by Prof. C. V. Raman who was awarded Nobel Prize in Physics in the year 1930 and Bharat Ratna in 1954. RRCAT is celebrating the Birth Centenary Year of Dr. Vikram A. Sarabhai who took charge of Atomic Energy Commission (AEC) at a very crucial juncture in 1966 after the sad demise of Dr. Homi J. Bhabha.



*Shri Debashis Das, Director, RRCAT addressing the students during celebration of NSD-2020.*

To remember the extraordinary contributions of the great Indian scientists, RRCAT celebrated the National Science Day (NSD-2020) on February 28 and 29, 2020 by holding an open house for the school and college students, teachers, family members and guests of RRCAT staff and invitees from public. A dedicated pavilion of “Women in Science” in-line



*Director, RRCAT visiting “Women in Science Pavilion” during celebrations of NSD-2020.*

with the theme of this year's National Science Day was set up with active participation of women scientists and engineers of RRCAT. The pavilion highlighted the contributions of women in science and engineering with an aim to encourage girl students to plan their career in science.

In all 1410 students of Class XI and teachers from 100 schools of Indore and nearby villages visited RRCAT for a full day on February 28, 2020. The inauguration and introduction program of NSD-2020 was solely organised and conducted by women scientists, engineers and girl students of the Centre. Shri Debashis Das, Director, RRCAT addressed the audience and gave a very lucid presentation on the basic principles of working of accelerators, lasers and related activities, in simple Hindi language. He displayed movies clips about the scientific and technical details of the exhibits arranged for the students in different laboratories of RRCAT. Short movies depicting importance of hygiene and cleanliness were shown under “Swachcha Bharat Abhiyaan”.

Arrangements were made for the fifty hearing and speech impaired students, invited from special schools and accompanied by interpreter-teachers. Director, RRCAT and senior members of organizing committee interacted with them in an exclusive interaction session and addressed their queries with the help of the interpreters. The students took keen interest and actively participated in this interactive session. They were presented with souvenir pens and caps on this occasion.



*Enthusiastic participation of specially-abled students.*

In all 43 exhibits related to technologies of accelerators, lasers, cryogenics, superconductivity, RF and microwave, magnets, along with demonstration of fire & safety aspects were set up at RRCAT Convention Centre and in different laboratories to explain the scientific and technical activities of RRCAT as well as to demonstrate a few concepts in basic sciences and engineering. All invitees were taken to exhibits

under the escort of enthusiastic and dedicated RRCAT volunteers. Working exhibits on lasers for biomedical applications, laser cutting and marking, laser additive manufacturing, and Nd:YAG and fiber lasers etc. were displayed. Special experiments related with Raman Effect, Michelson interferometer, glow discharge, laws of motion, gas laws, conservation of momentum, change in physical properties of materials at low temperature, etc. had been set up to explain basic science concepts. Live demonstration of superconducting magnetically levitated vehicle model, CNC machining, induction heating, glass blowing etc. were also arranged. Videos on Indus Synchrotrons and their uses, development of SCRF cavities, indigenous 10 MeV linear accelerator, optical diagnosis of cancer, laser additive manufacturing, laser cutting, detection of RF and microwave signals etc. were shown. The exhibits of special attraction for the students were formation of artificial clouds using liquid nitrogen (LN<sub>2</sub>), cutting of steel sheet using laser and taking ride on magnetically levitated vehicle.



Students visiting “Make in India Gallery”.

In addition to the exhibits mentioned above, about twenty advanced technology achievements of RRCAT were exhibited with the help of posters, working models, and actual components in the exclusive “Make in India Gallery”. These included instruments like TuBerculoScope, Raman Probe, Oncodiagnoscope, laser micro welding machine for Brachytherapy sources and development of laser technologies related with maintenance of Indian PHWRs, diode pumped laser marker, technology for LN<sub>2</sub> based REEFER, SCRF cavity, superconducting corrector magnets, solid state RF amplifier, high stability power converters, non-evaporable getter coating, crystal growth, mask-less fabrication of semiconductor devices, Fiber Bragg grating sensor and machine for fiber polishing etc. which greatly enthused the young visitors.

The overall response of the students and teachers was very

enthusiastic as they took keen interest in the exhibits and had lively discussions with the RRCAT scientist and engineers. “Ask-a-Question” event was organized for the students, with an aim to create an opportunity for free discussion between them and working scientists. The event also encouraged the accompanying teachers to express their views in teaching concepts of science. Participation prizes were also given to curious students. The specially-abled students also visited various laboratories and took part in “Ask-a-Question” activity with great enthusiasm.



Visitors experiencing an interesting demonstration with liquid nitrogen.

All the students and accompanying teachers were offered refreshments and lunch in the morning and afternoon, respectively. Souvenir cap and brochure covering recent achievements and developments carried out at RRCAT were presented to all. Transport arrangements were made to take the students to various exhibits and labs.

Through the celebration of National Science Day, awareness about DAE and RRCAT activities towards the service of the nation could be created effectively with the remembrance of Indian Scientists and Engineers - Prof. C.V. Raman and Dr. Vikram Sarabhai, in particular. Visitors appreciated cleanliness, greenery and lakes in the RRCAT picturesque campus.

The whole event was managed under keen supervision of Shri Debashis Das, Director, RRCAT, by an Apex Organizing Committee with Shri Purushottam Shrivastava as Chairman and Shri Rajesh Arya as the Convener. The committee members, enthusiastic volunteers, exhibitors, administrative officials, security and CISF personnel, with their dedicated support made the event a grand success.

*Reported by:  
Rajesh Arya (rajarya@rrcat.gov.in) & Purushottam  
Shrivastava on behalf of committee members*