



Students visiting various RRCAT labs during NSD-2013

After his address all the students were taken to different laboratories in organized groups under the guidance of volunteers from RRCAT. Elaborated arrangements were made by Sh. Rajesh Arya, Sh. M P Kamath, Sh. N S Benerji and Dr. C P Paul to take students to different laboratories in organized groups under the guidance of enthusiastic volunteers from RRCAT. The students and teachers were greatly enthused by the interesting exhibits. Students visited Synchrotron Radiation Sources (SRS) Indus-1 and Indus-2, laser laboratories, cryogenic laboratory, workshop, magnet laboratory, fire safety, industrial accelerator lab and other interesting laboratories. Snacks and lunch were served to all the students and accompanying teachers from various schools and colleges by the team of volunteers led by Sh. P Bhatnagar. Aroused scientific queries of the students were addressed by a team of senior scientists during the lunch break. This yearly effort brought an enthusiasm among the students. They admired the scientific activities being pursued by DAE in general and RRCAT in particular.

In the afternoon, families and friends of RRCAT officials visited the laboratories and witnessed exhibits.

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### N.3: Interaction Meet on Utilization of Synchrotron Based X-ray fluorescence and related Techniques

A two-day interaction meet on "Utilisation of Synchrotron Based X-ray Fluorescence and Related Techniques" was organized during 19th- 20th, March 2013 at Raja Ramanna Centre for Advanced Technology, Indore. The meet was organized by the Indus Synchrotrons Utilisation Division (ISUD) with an aim to foster active interaction

between different X-ray fluorescence spectroscopy research groups of the country and to showcase a micro-focus XRF spectroscopy beamline (BL-16), which has been recently commissioned at Indus-2 synchrotron radiation facility. The BL-16 beamline provides an interactive research platform to X-ray fluorescence spectroscopy users covering atomic physics, fundamental parameters evaluation for quantitative X-ray fluorescence analysis, environmental, archaeological, geology, biomedical and material science applications involving heavy metal speciation and their localization. The BL-16 beamline works in the X-ray energy range 4-20 keV and offers a combination of different analytical probes, e.g. X-ray fluorescence mapping, X-ray microspectroscopy and total-external reflection fluorescence characterization.



Participants of the Interaction meet on Utilisation of Synchrotron Based X-ray fluorescence and related Techniques

The meet was inaugurated by Dr. P. D. Gupta, Director, RRCAT Indore. He briefed an overview of accelerator and laser programs at RRCAT. He also accentuated why focused interaction theme meetings are important for effective utilization of Indus synchrotron facility. The welcome address to participants of the interaction meet was presented by Dr. S. K. Deb, Head ISUD. Dr. G. S. Lodha presented a brief account on X-ray fluorescence activities of the ISUD group. The meet was attended by 30 participants from different part of the country. There were seven invited tutorial talks delivered by the experts from different Indian universities and national research laboratories.

In the forenoon session of the first day, first invited talk was delivered by Prof. Devindra Mehta, Panjab University Chandigarh. He described various fundamental aspects of the X-ray fluorescence technique including resonant X-ray Raman scattering effects in chemical speciation. Dr. K. Shiva Kumar, Mineralogy, Petrology Group, Atomic Minerals Directorate for Exploration and Research, Hyderabad, explained importance of XRF technique in the analysis of geological samples. In the afternoon session, Dr. M. Sudarshan, UGC-DAE CSR, Kolkata Centre, presented the

biomedical applications of X-ray fluorescence technique, followed by a visit to Indus synchrotron complex. On the second day, invited presentations were made by Prof. Sanjeev Puri, Prof. Raj Mittal Singla from Panjabi University, Patiala, Prof. N. M. Badiger, Karnatak University, Dharwad, followed by short presentations from different participants of the meet. The meet was concluded with a group discussion session chaired by Dr. G. S. Lodha. The discussion with the participants ended up with few general suggestions. There was a strong demand to form an "X-ray fluorescence spectroscopy users group" that can help to universities users in enhancing the utilization of BL-16 XRF beamline of Indus-2. Also, development of a SR based WDXRF spectrometer on the BL-16 beamline was requested especially for the analysis of ultra-trace elements such as (rare earth elements) under the influence of strong transition elements background. In the same vein, Dr. M. Sudarshan, suggested that UGC-IUC Kolkata Centre can work as a nodal agency for BL-16 micro-focus beamline especially to fulfil the requirements of XRF spectroscopy users of the North-east universities (e.g. Manipur, NEHU, etc.). It was also strongly felt to organize such meeting at regular intervals.

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#### **N.4: Observance of Fire Service Week-2013 at RRCAT**

To inculcate and promote the fire safety awareness among RRCAT employees, students and RRCAT colony residents, Fire Service Week-2013 from 14th April to 20th April was organized by Fire & Safety Section RRCAT. Every year 14th of April is observed as the National Fire Service Day to commemorate the brave firemen who laid their life while fighting with the fire in the 1944 Bombay dock yard. During this week various activities/programme/competitions were organized. On the first day, 14th April 2013, RRCAT employees paid homage to those brave Fire Fighters at Fire Station RRCAT. Chief Guest of the function Dr. S M Oak released a fire safety brochure on this occasion which will definitely serve the purpose of fire safety awareness among the RRCAT employees.

A fire quiz completion for women was conducted at RRCAT Family Welfare Center to inculcate the fire safety awareness. Fire extinguisher operation training was also imparted to women during this program. 25 Nos. women participated in fire quiz. To inculcate the sense of fire safety among the students of Atomic Energy Central School RRCAT, a drawing competition on fire safety was organized. 403 students took part actively in this competition. A fire extinguisher competition for RRCAT employees was organized to enhance the interest and competitive nature

towards fire safety. 24 RRCAT employees participated in this competition. Also, 10 employees participated in Hindi essay competition on fire safety slogan as "आग तो आग है.... दोस्त या दुश्मन, फैसला हमें करना है।"

On the day of closing ceremony of fire service week, a fire demonstration on rescue and fire-fighting techniques while fire emergency in high rise buildings was exhibited by fire staff RRCAT at Fire Station during which various rescue & fire-fighting techniques were shown. It includes - descending of casualty from high rise building to ground level by flying fox technique, search & rescue of casualty by means of breathing apparatus set from smoke logged room, application of high expansion foam generator & foam making branch to control oil fire, demonstration of various types of fire branches as short branch, diffuser branch, pistol grip hand control branch, revolving branch and water curtain branch.



*AECST students and employees participating in Fire Service Week*

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#### **N.5: Women's Day celebrated at RRCAT**

This year it was decided that no usual celebration will be organized on Women's day to show solidarity with all gender biased victims in the society in the wake of nationwide support for the Delhi rape victim. A discussion was arranged on 18th April 2013 on the topic "Safety of Women: causes, precautions and solutions". Three guest speakers along with women employees participated in the discussion. The guest speakers Ms Sonali, and Ms Aalia Tayyabba are faculty members at National Institute for Public Cooperation and Child development, Indore. The third guest speaker Ms Anupa is a social activist working with NGO "Pahal Jan