

about various programs being conducted under umbrella of the department and stressed the need pioneering research in advanced technologies.

*Reported by:  
G S Lodha (lodha@rrcat.gov.in)*

### **N.6: Theme meeting on Structure determination using X-Ray diffraction**

An interaction meeting on Synchrotron Utilization with the theme: “Structure determination using X-Ray diffraction” was held in RRCAT from 23<sup>rd</sup> to 25<sup>th</sup> day of July 2012. This was the fourth in the series of the meetings held in the calendar year 2012, where the principal emphasis was to bring researchers from different universities and other research organizations to RRCAT and make them aware of the facilities at the Indus synchrotrons - a national research facility. The present meeting was primarily focused on the utilization of X-Ray diffraction beamlines at Indus-2 namely the Angle dispersive and Energy dispersive X-Ray diffraction beamlines for measurements at ambient and high pressures. The function was inaugurated by Dr. P D Gupta, Director RRCAT. The first talk was delivered Prof. Dhananjai Pandey, Director IIT BHU. He explained the various issues related to X-Ray diffraction and the role of symmetry in determining the diffraction selection rules and the pattern. He also explained the methods used for structure determination from X-Ray diffraction. The other talks presented in this meeting were by Dr. V S Shastri, (UGC DAE CSR, Kalpakkam), Dr. A K Sinha (RRCAT), Shri H Poswal (BARC) and Dr. N Chandrashekhar (IGCAR). Dr. V S Shastri talked on Pair distribution function approach for crystal structure determination, Dr. A K Sinha talked on the available facilities at the ADXRD beamline on Indus-2, Shri H Poswal talked on the facilities available at the EDXRD beamline on Indus-2 and some of the high pressure experiments that have been performed at this beamline. Dr. N Chandrashekhar explained the basics of high pressure physics and the instrumentation relate to high pressure measurements that have been developed at IGCAR. The meeting was attended by about 20 students from different institutes outside RRCAT. Two practical sessions on the basics of Rietveld refinement were also conducted on the afternoons of the first and the second day of the meeting. These were coordinated by Dr. C Upadhyay from IITBHU and RRCAT scientists. These training sessions and all the talks were very useful for young researchers who plan to make a career in materials

synthesis and structure determination using X-Ray diffraction.

*Reported by:  
Tapas Ganguly (tapas@rrcat.gov.in)*

### **N.7: Theme meeting on Synchrotron based EXAFS: Techniques and Applications**

A much awaited theme meeting on “Synchrotron based EXAFS: Techniques and Applications” was held at RRCAT during Sept 27-28, 2012 with an objective to bring together users as well as experts in the field of EXAFS, to present an overview of results, activities and to provide a platform for discussing emerging new applications and future trends. Meeting had a overwhelming response amply justifying the interest in this emerging field. More than 115 participants, from various universities (12), national institutes (6) and other Synchrotron facilities (Elettra, Italy & Soleil, France) attended the meeting. The two-day theme meeting was organized into four sessions, including practical sessions for experimental demonstration at Dispersive EXAFS beamline (BL-8) and hands-on-training on EXAFS data analysis.



*The participants of Theme meeting on Synchrotron based EXAFS posing for a group photograph*

Dr. P D Gupta, Director, RRCAT, presided over the inaugural function held on 27th Sept. 2012. Dr. Gupta, in his inaugural address, informed the participants that a series of focused theme meeting are being organized to promote the utilization of Indus Synchrotron Facility by increasing the user base in the country. Dr. N K Sahoo, Head, Applied Spectroscopy Division, BARC welcomed the delegates, invited speakers and students and invitees attending the function and also gave an overview of EXAFS facilities at Indus-2 synchrotron radiation source.