

## N.2: Celebration of Foundation Day of RRCAT

Raja Ramanna Centre for Advanced Technology (RRCAT) celebrated its Foundation Day on Monday, 29<sup>th</sup> February 2016. Dr. R Chidambaram, Principal Scientific Adviser to Government of India and DAE Homi Bhabha Chair Professor was the Chief Guest of the function. Dr. P.D. Gupta, Director, RRCAT, presided over the function. Dr. P.A. Naik, Head, Laser Plasma Division and Indus Synchrotron Utilization Division welcomed the gathering. Shri S.C. Joshi, Head, Proton Linac & Superconducting Cavities Division proposed the vote of thanks. The programme was conducted by Dr. S.B. Roy, Head, Materials and Advanced Accelerator Sciences Division.



*Dr. P. D. Gupta, Director, RRCAT, welcoming Chief Guest Dr. R Chidambaram, Principal Scientific Adviser to Government of India and DAE Homi Bhabha Chair Professor.*

Dr. P.D. Gupta presented an overview of the scientific activities of the Centre and highlighted the important achievements made during the last one year. He informed that both Indus-1 and Indus-2 Synchrotron Radiation Sources are functioning very well and were operated in round the clock mode. Six beamlines on Indus-1 and thirteen beamlines on Indus-2 are made available to researchers from universities, research institutes and national institutions. He informed that Indus-2 is being operated at its target goal of operation at 2.5 GeV, 200 mA since June 2014.

Solid State amplifiers of 225 kW operating at frequency higher than 500 MHz have been developed successfully to overcome the difficulties faced in importing Klystrons. Dr. Gupta also informed the Indus-2 is being upgraded with five

insertion devices to enhance the synchrotron radiation brightness for the users, and new ID based beamlines will be built on them. With this up-gradation, Indus-2 will become third generation light source. Dr Gupta also mentioned about the developmental activities related to Proton Accelerator for long term program on Indian Spallation Neutron Source. He informed progress made on setting up of a large infrastructure development activities for SCRF cavity development. An International patent has been granted to the innovative laser welding technology developed for welding of superconducting cavity at RRCAT. Single-cell 650 MHz and 1.3 GHz five-cell SCRF cavities developed indigenously have performed satisfactorily at 2 K. Dr. Gupta also informed on important activities of indigenously built helium liquefier, compact ultrafast THz free electron laser development, and electron linac for radiation processing.

Dr. Gupta also highlighted the significant advances made in the R&D on lasers and their applications in basic research, biomedical applications, material processing etc. Lasers developed in RRCAT are playing an important role in their refurbishment of components of nuclear power plants through remote cutting and welding operations. He informed that the Centre has also developed laser-based R&D for biomedical imaging, diagnosis and therapeutic applications including deployment of a system for scanning of oral cancer. He informed on the development of laser based rapid manufacturing for small engineering components with expensive materials, and materials R&D for superconducting cavity. He also informed on advancement of high performance scientific computer clusters and human resource development programs at RRCAT.

In his address, Dr. Chidambaram expressed his happiness over the progress made by the scientists of RRCAT in the areas of lasers and accelerators. He praised the reliable round the clock operation of Indus-2 and the keen interest shown by their searcher community in India on utilization of the Indus facility. He also appreciated the world-class scientific and technological infrastructure setup at the Centre for development of superconducting proton linacs.

*Reported by:  
S. C. Joshi (scjoshi@rrcat.gov.in)*