

## N.1: Celebration of Foundation Day of RRCAT:

Raja Ramanna Centre for Advanced Technology (RRCAT) celebrated its Foundation Day on Thursday, 19<sup>th</sup> February 2015. Dr. Anil Kakodkar, Member, Atomic Energy Commission, and former Secretary, Department of Atomic Energy, was the Chief Guest of the function. Dr. P.D. Gupta, Director, RRCAT, presided over the function. Dr. P.K. Gupta, Associate Director and Head, Laser Bio-medical Applications & Instrumentation Division and Laser Materials Development & Devices Division, welcomed the gathering.



*Dr. P. D. Gupta, Director, RRCAT, welcoming Chief Guest Dr. Anil Kakodkar, Member, Atomic Energy Commission, and former Secretary, Department of Atomic Energy.*

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 were functioning very well and operated in round the clock mode. Six beamlines on Indus-1 and twelve beamlines on Indus-2 have been made available to researchers from universities, research institutes and national institutions. He informed that during the last year Indus-2 achieved the target goal of operation at 2.5 GeV, 200 mA in June 2014. Solid state amplifiers of 225 kW, operating at frequency higher than 500 MHz, have been developed successfully for the first time in the world 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. 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 the 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. Kakodkar 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 the researcher 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.

Dr. S.M. Oak, Head, Solid State Laser Division proposed the vote of thanks. The programme was conducted by Shri S.C. Joshi, Head, ProtonLinac & Superconducting Cavity Division.

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