

N.3: Celebration of RRCAT Foundation Day

RRCAT celebrated its 36th Foundation Day on Tuesday, 19th February 2019. Dr. R. Chidambaram, former Chairman, Atomic Energy Commission, former Secretary, Department of Atomic Energy and former Principal Scientific Advisor to Government of India was the Chief Guest on the occasion. Dr. P. A. Naik, Director, RRCAT, presided over the function. Shri S. C. Joshi, Director, Proton Accelerator Group, delivered the welcome address. Shri A. C. Thakurta, Director, Electron Accelerator Group introduced the Chief Guest to the audience.



Dr. P. A. Naik, Director RRCAT welcoming Dr. R. Chidambaram.

Dr. P. A. Naik presented an overview of scientific activities of the Centre and highlighted important accomplishments of past one year. Dr. Naik informed that the national facility of Indus-1 and Indus-2 Synchrotron Radiation Sources are in regular use by students and researchers from all over the country. He informed that researchers from about 150 institutes carried out 855 user experiments in the year 2018, which is significantly higher than the previous years. He mentioned that testing of Horizontal Test Stand cryostat was completed and integral helium leak rate $\sim 10^{-9}$ mbar.l/s has been achieved at room temperature and at liquid nitrogen temperature as well. He informed that two 10 MeV, 5 kW electron linear accelerators (Linac-1 and Linac-2) have been indigenously developed for agricultural, medical, and industrial irradiation applications. He mentioned that a new technology, as a spinoff of the cryogenics technology, has been developed at RRCAT for transportation of fruits and vegetables. He informed that laser systems developed at RRCAT have provided crucial support in the nuclear reactor maintenance and 1 kW (average) has been achieved in Nd:YAG laser (dual cavity, dual flash lamp, ceramic reflector pump chamber). He informed that new High Performance Computing Cluster (HPCC), named Kshitij-5, has been installed as part of centralised computing facility and aggregate centralised computing power at RRCAT is enhanced to 240 teraflops. This newly commissioned HPCC is among the fastest computing facility in R&D units of DAE. Many technologies have been transferred in last year,

including technology for *TuBerculoScope*, which is a low cost device for rapid diagnosis of tuberculosis.



Dr. P. A. Naik presenting an overview of the scientific accomplishments of the Centre.

Dr. Chidambaram delivered an engrossing and captivating talk on 'Technologies for Future'. He talked about technologies which can help India for economic growth and security. He nicely elucidated that energy security and climate change are the two biggest challenges that the world is facing today and explained how nuclear power is the answer to these challenges. He stated that technologists and scientists in India should try to achieve self-reliance for enhancing India's immunity against technology denials. While we may need help from developed countries for short term, but developed countries will need us in the long term. He further mentioned that India's nuclear programme is reliable and anti-fragile, which means it grows stronger under stress. He elaborated on the need of e-connectivity for knowledge sharing, where National Knowledge Network established by Government of India is being used extensively for this purpose. He urged scientists to use artificial intelligence and machine learning without fear of having machines overpowering human intelligence. Dr. Chidambaram also congratulated RRCAT fraternity for its accomplishments.



Chief Guest Dr. R. Chidambaram delivering his talk.

RRCAT staff members along with many distinguished guests from universities and other institutes attended the function. The program concluded with vote of thanks proposed by Shri P. K. Kush, Director, Technology Development and Support Group. The programme was conducted by Dr. Alpana Rajan, Head, Computer Centre.

Reported by:
Alpana Rajan (alpana@rrcat.gov.in)