



European Organisation for Nuclear Research (CERN)

Mr. Purushottam Shrivastava, AD, Proton Accelerator Group, RRCAT, Indore Indian Contributions in CERN



Abstract:

- India is a proud partner of the Large Hadron Collider (LHC) from its nascent stage, in all aspects of science, engineering and technology for the construction and commissioning of LHC machine and two of its detectors ALICE and CMS. India played an important role in GRID Technology through which huge volumes of data are accessed and analysed, which involves sharing and monitoring of computing/storage resources worldwide via high-speed internet (multi-Gbps) under World-wide LHC Computing GRID (WLCG). A large number of high technology components like superconducting corrector magnets, QHPS supplies, and protection units for LHC; 100kV solid state modulator and couplers for Linac 4 (LHC upgrade) were developed and supplied by India. India was accorded Observer State in 2002 and Associate Member in 2016. India has also important role in the construction and operation of two huge detectors viz., ALICE and CMS. The overall participation has critical role in the discovery of the Higgs boson at the LHC in 2012, leading to the Nobel prize in physics in 2013. The present talk includes contributions from the speaker(LHC accelerators), Dr. B. S. Jagdeesh, BARC (GRID), Dr. B. C. Choudhary, University of Delhi (CMS), Dr. S. Chattopadhyay, VECC (ALICE).

About the Speaker:

- Shri Purushottam Shrivastava, Outstanding Scientist, Associate Director, Proton Accelerator Group, Raja Ramanna Centre for Advanced Technology, Department of Atomic Energy, Indore, serves as the member secretary (Sc) for the Joint India CERN collaboration committee and Project Coordinator, International Collaboration in CERN Accelerators. He spearheaded R & D, tests and supply of crucial high technology components for CERN LHC, Linac 4 and CLIC. He was conferred Group Achievement Award as Team Leader for his contribution of 100 kV solid state modulator for Linac 4. He has served as expert in various national and international committees including ISRO, India; ESS, Sweden. He had served in the Scientific Advisory Board of International Particle Accelerator Conference, IPAC'14 Germany, IPAC'15, USA, and IPAC'18 Canada ; Organisation Committee member IPAC'19 Australia, IPAC'20 France. He had played important role in getting 1MW CW klystrons, 1MW CW circulators and high power RF hardware for Indian proton accelerator programs at RRCAT, Indore and BARC, Mumbai, from CERN. He has over 161 publications.

