

# Special lectures on “Particle Physics Experiments : present and future”

Organised by Dept. of Physics, Mathabhanga College on Mar 06, 2020 at 1:30 pm

Speakers : Prof. Suchandra DUTTA AND Prof. Subir SARKAR

Saha Institute of Nuclear Physics, Kolkata, India

## Report

### INTRODUCTION OF THE SPEAKERS

Prof. **Suchandra DUTTA** is presently a part of the *CMS Collaboration* of the *Large Hadron Collider (LHC)* at *CERN*, the European Organization for Nuclear Research, Geneva. She completed her Ph.D in 1997 from the Tata Institute of Fundamental Research (TIFR), Mumbai. In her Ph.D period, she worked with the *L3 Collaboration* of the *Large Electron Positron (LEP)* experiment at CERN. During her postdoc tenure at the INFN Pisa, Italy, she became a part of the Large Hadron Collider (LHC) experiment at CERN and the association exists till date. Here, during this period, she developed expertise of the *silicon tracker of the Compact Muon Solenoid (CMS) detector*. In various capacities over the years, she performed duties of data collection from the CMS detector as well as their analyses and subsequent publications. In 2011, she joined the group of high energy experimentalists of Saha Institute of Nuclear Physics, Kolkata.



Prof. **Subir SARKAR** is also a part of the *CMS Collaboration* of the *Large Hadron Collider (LHC)* at *CERN*, Geneva. After completion of his Ph.D in 1997 from the Tata Institute of Fundamental Research (TIFR), Mumbai, he went for postdoctoral positions at the INFN Rome, Italy, and subsequently at LPHNE Paris, INFN-CNAF Bologna, INFN Pisa and Scuola Normale Superiore (SNS) Pisa. Until 1999, he worked with the *L3 Collaboration* of the *Large Electron Positron (LEP)* experiment at CERN. Afterwards, in 1999, he joined the *CDF Collaboration* of the *Tevatron* experiment at the *Fermilab*, USA, where he worked until 2006. From 2006 onwards he is a part of the Large Hadron Collider (LHC) experiment at CERN, which he is still associated with. He is an expert in data analysis and performed duties in various capacities over the years for the L3, CDF and CMS Collaborations. In February 2011, he joined Saha Institute of Nuclear Physics, Kolkata, and started working with

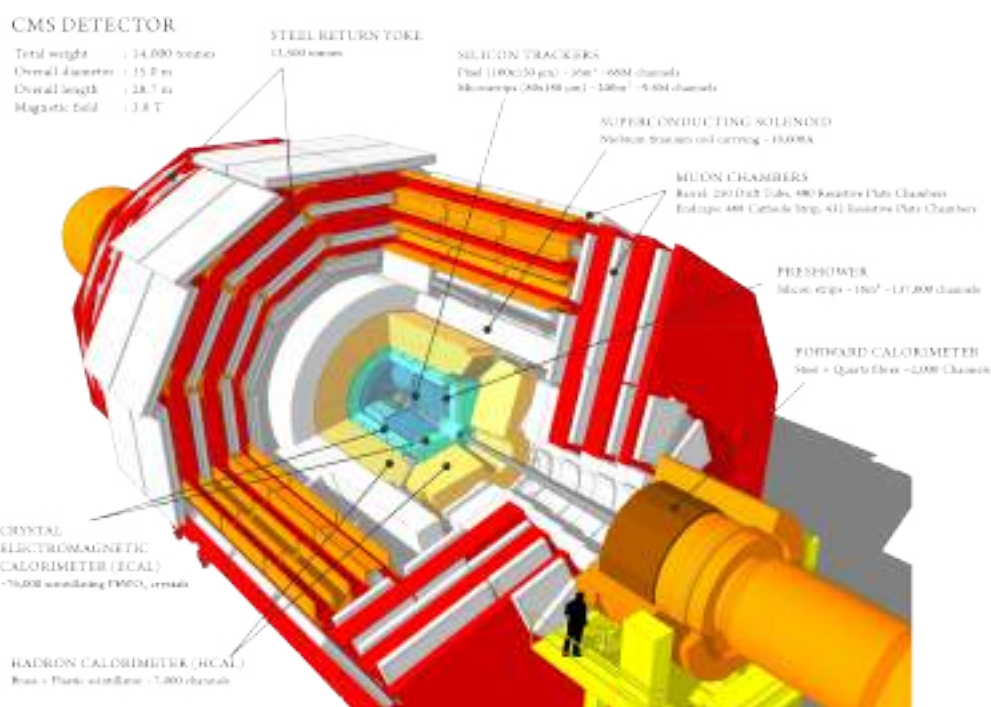
the esteemed group of high energy experimentalists which included at the time Prof. Sunanda Banerjee (presently at Fermilab) and Prof. Satyaki Bhattacharya, among others.

### PROGRAMME

In the presence of Dr. Manoj Majumder, the *Teacher-in-Charge (TIC)* of the Mathabhanga College, the programme was inaugurated by Mr. Jitin Jadav, the honourable SDO of Mathabhanga and the administrator of the college. On this occasion, both Mr. Jadav and Dr. Majumder presented their thoughts and visions on the college in front of a large gathering of students, teachers and non-teaching staffs.



After the inauguration ceremony, Prof. Dutta and Prof. Sarkar presented a very lucid and interactive presentation in front of the audience consists largely of the undergraduate physics students of the Mathabhanga College and some other nearby colleges of the Cooch Behar district. They presented the inner workings of a high energy collider like the one they are currently associated with (see the adjoining schematic diagram of the CMS detector) and the subsequent physics conclusions in a way comprehensible to a undergrads. Finally, we had an intensive question-answer session where the speakers addressed the queries of the audience. Here, the students asked some really probing questions on the theory and experiment particle physics.



Overall, the enthusiasm of the students made our effort successful and hope to organise similar lectures which can motivate the students to pursue higher studies in physics.