

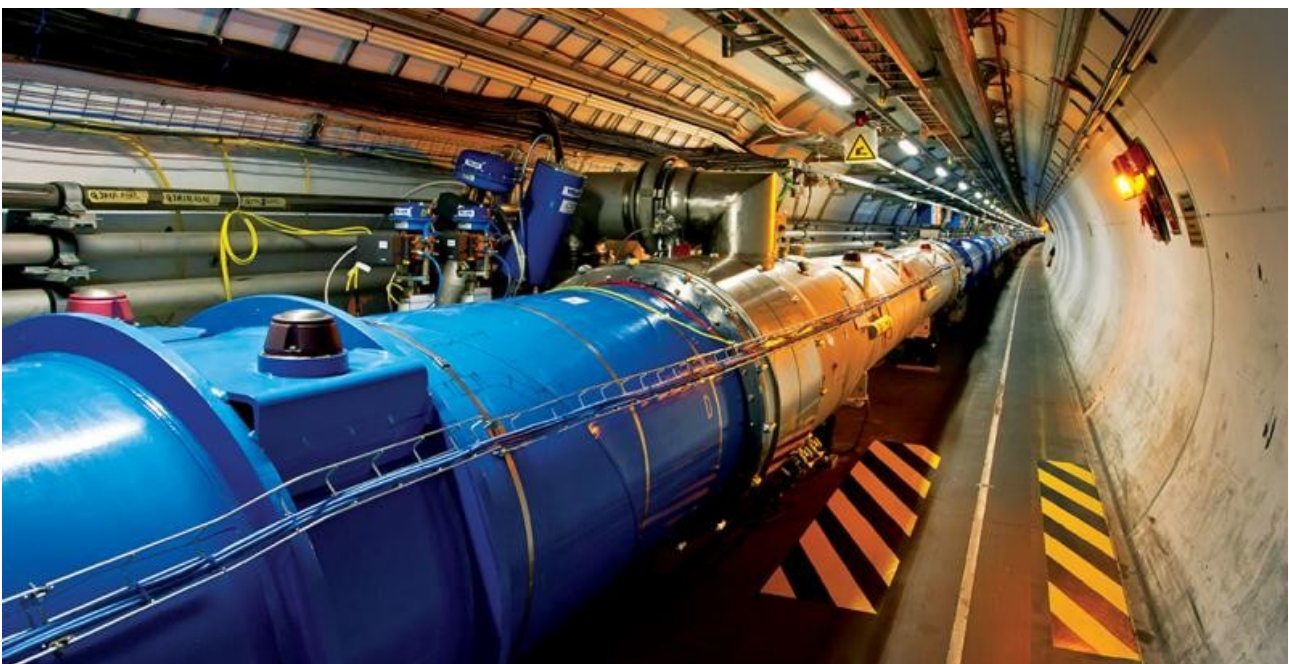
**Quarterly Accomplishment Report of IMSc.**  
**April - June 2017**

**Highlights :**

◆ **Novel signals of New Physics**

The standard model of particle physics is a remarkably successful theory, but questions as to its completeness remain. In recent papers, Rahul Sinha (Contact person ) and students Anirban Karan, Rusa Mandal and Abinash Kumar Nayak have addressed the possibility of new physics (NP) beyond the Standard Model of particle physics in rare decays of beauty quarks to strange quarks and pairs of leptons. The work by the IMSC team has been presented at a number of international particle physics conferences. Their most recent paper (with Tom Browder of the University of Hawaii, Belle II spokesperson), published in Physical Review D, finds a 5 standard deviation signal of new physics in the angular distribution of certain decays of B particles. This work has been covered extensively by the press including in articles in the Hindu and Frontline Magazine .

<http://www.frontline.in/science-and-technology/indian-connection/article9688476.ece>



**The Large Hadron Collider (Image: CERN)**



### ◆ Outreach Workshops for Students and Teachers

IMSc organised two workshops, one for high school students and the other for college teachers in mathematics as part of the outreach activities. The special aspect of the 5 days workshop for high school students was that it was organised fully by IMSc PhD students. The goal of the workshop was to share the curiosity and excitement for mathematics. The students were led through various activities, from making conic sections by cutting clay cones to comparing different infinities. As part of IMSc's Enriching Collegiate Education program, the institute also held a week-long teachers training workshop for mathematics teachers from arts & science colleges to bridge the gap between college and research level mathematics.



**Teachers Enrichment Workshop (May 22-27, 2017, IMSc)**