

# टाटा मूलभूत अनुसंधान संस्थान Tata Institute of Fundamental Research

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## ASET Colloquium

Speaker : Prof. Shalabh Gupta (IIT Bombay)  
Topic : High-speed data communication links for high energy physics experiments  
Day, Date & Time : Friday 06 October 2017 *from* 16:00 *to* 17:00  
Place : *room* AG-66.

### ***Abstract :***

High energy physics experiments generate enormous amounts of data. This data has to be moved efficiently from the large number of sensors from which it originates to compute nodes for storage and processing. For future upgrades in the experimental setups, high-speed optical and electrical links that can support throughput rates of 100-Gbps (and beyond) will be required to carry out this operation efficiently. In this talk, an overview of these high-speed data communication links will be presented. In particular, the talk will focus on the advances made in the area of high-speed optical communication links in recent years, and briefly on the work being carried out in the area in our group at IIT Bombay. About the speaker: Shalabh Gupta received B. Tech degree from the Indian Institute of Technology Kanpur in 2001, and M.S. and PhD degrees from UCLA in 2004 and 2009, respectively, all in electrical engineering. For his PhD, he worked on the development of high-resolution high-speed analog-to-digital converters using photonic time stretch technique. From 2003-2006, he worked in industry on the design of analog integrated circuits for high-speed serial links and RFICs for wireless communications. Since 2009, he has been with the Indian Institute of Technology Bombay, where he is currently an Associate Professor of Electrical Engineering. His current research interests include the design high-speed integrated circuits for wired, wireless and optical communication systems.

( DR.SATYANARAYANA BHEESETTE )