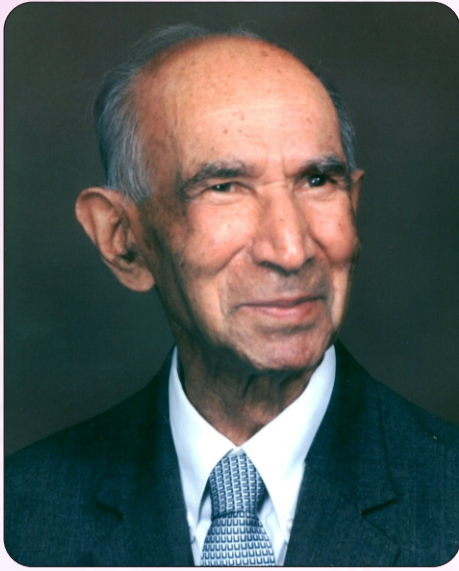


# Department of Physics, Panjab University, Chandigarh

## 5<sup>th</sup> Prof. B.M. Anand Lecture



**Prof. B.M. Anand**  
(1905 – 1998)

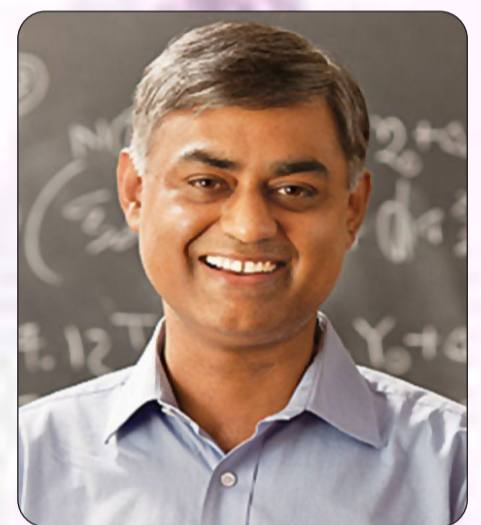
Prof. Bal Mokand Anand was history's choice for establishing Panjab University's Physics Department in its permanent campus at Chandigarh and initiating research activity there. He published original research in the 1930s and 1940s and had the distinction of working for his doctorate, in the 1950s, under the supervision of Professor Cecil Frank Powell who a few years previously (1947) had been awarded physics Nobel Prize for his discovery of a subatomic particle pion (or pi meson), using nuclear emulsion technique. Anand's 20-page research paper, based on his Ph. D. work, and published by the Royal Society, London, in 1953 is still considered relevant. Bal Mokand was born in a village, Domel, in the Bannu district of what is now the Khyber Pakhtunwa province of Pakistan. An only child who lost his mother at birth, he was raised by an aunt until the age of seven. With a view to be with his son and educating him, his father gave up his job as a travelling salesman, and moved to Peshawar where he opened a small grocery store, the back portion of which was improvised to serve as the family's modest living quarter.

### SPEAKER

**Prof. Sandip P. Trivedi, TIFR, Mumbai**

*Speaks on*

**“Quantum Entanglement”**



**Prof. Sandip P. Trivedi**

#### Abstract

Although Quantum Mechanics is about a century old we are only slowly beginning to grasp how truly strange it is. It is now clear that there is an essential weirdness in Quantum Systems which makes them very different from classical ones. This weirdness is responsible for many things such as the violation of Bell's inequalities, and it is also the reason to hope that we can build quantum computers which are much more powerful than their classical counterparts. Entanglement entropy has emerged as an important quantitative measure of this weirdness. In the Lecture we will discuss the concept of Entanglement and show how it can be defined in Gauge Theories which underlay our description of the fundamental forces of nature.

#### About the Speaker

The fifth Prof. B. M. Anand Memorial Lecture is being delivered by Prof. Sandip P. Trivedi, Director, Tata Institute of Fundamental Research, Mumbai. Prof. Trivedi is an internationally renowned theoretical physicist whose research areas include, string theory, cosmology and particle physics. In particular, his research contributions span Superstring theories, Quantum Gravity, Black holes and their thermo-dynamical properties, Holography of Black Holes and Entanglement Entropy in Gauge Theories. His most talked about research concerns resolution in string theory of the cosmological problem of an accelerating universe and providing a credible mechanism for generating a small, positive cosmological constant.

Dr. Sandip P. Trivedi did M.Sc., Physics (1985) from Indian Institute of Technology, Kanpur, and Ph.D. (1990) in Theoretical Physics with Professor John Preskill from California Institute of Technology, USA. Prof. Sandip P. Trivedi was Post-Doctoral Research Fellow (1990-1992) at Institute for Advanced Study, Princeton, USA; John A. McCone Research Fellow (1992-1994) at Department of Physics, California Institute of Technology; Associate Scientist (1994-1999) at Department of Theoretical Physics, Fermi National Accelerator Laboratory, Illinois, USA; He served as Reader (1999-2002), Associate Professor (2002-2006) and Professor (2006-2012) at Department of Theoretical Physics, TIFR, Mumbai. He is Senior Professor since 2013. He has taken the charge as Director of TIFR, Mumbai on January, 2015.

Prof. Sandip P. Trivedi has been with awarded various distinguished prizes – Third World Academy of Sciences (TWAS) Prize for Physics (2015); J.C. Bose Fellowship (DST), (2012); Distinguished Alumnus Award, IIT Kanpur (2010); Infosys Prize in Physical Sciences (2010), Shanti Swarup Bhatnagar Award in Physical Sciences (2005); Swarnajayanti Fellowship (DST), (2002). Prof. Sandip P. Trivedi is Fellow, Indian Academy of Sciences, Bangalore (2006), Fellow, Indian National Science Academy, New Delhi (2012), and Editor, Annals of Physics, 2004-2006.

**Venue: Prof. B.M. Anand Auditorium, Department of Physics, Panjab University.**

**Date: 23<sup>rd</sup> April 2019**

**Time: 2:30 pm**