



Institute Colloquium

S. N. Bose National Centre for Basic Sciences

(An Autonomous Research Institute established under DST, GOI)

Title:

THE ACCELERATING EXPANDING UNIVERSE: DARK MATTER, DARK ENERGY, AND EINSTEIN'S COSMOLOGICAL CONSTANT

Abstract:

Dark energy is the leading candidate for the mechanism that is responsible for causing the cosmological expansion to accelerate. Prof. Bharat Ratra will describe the astronomical data which persuade cosmologists that (as yet undetected) dark energy and dark matter are by far the main components of the energy budget of the universe at the present time. He will review how these observations have led to the development of a quantitative "standard" model of cosmology that describes the evolution of the universe from an early epoch of inflation to the complex hierarchy of structure seen today. In this non-technical talk, he will also discuss the basic physics, and the history of ideas, on which this model is based.

Speaker: Prof. Bharat Ratra

Professor of Physics, Kansas State University

Short Biography of the Speaker:

Professor Bharat Vishnu Ratra is an Indian-American physicist, theoretical cosmologist and astroparticle physicist who is currently a university distinguished professor of Physics at Kansas State University.

He graduated with a Master of Science in physics from the Indian Institute of Technology Delhi in 1982 and completed his doctorate in physics at Stanford University in 1986 under the supervision of Leonard Susskind and Michael Peskin.

Ratra was a postdoctoral fellow at the Stanford Linear Accelerator Center, Princeton University, the California Institute of Technology and the Massachusetts Institute of Technology. He joined Kansas State University in 1996 as an assistant professor of physics. He was promoted to associate professor in 2001 and professor in 2004.

He is known for his work on dynamical dark energy and on the quantum-mechanical generation of energy density and magnetic field fluctuations during inflation.



14th August, 2023



12.00 noon



At Silver Jubilee Hall



YouTube Link



Webinar Link

