



भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान तिरुपति

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH TIRUPATI

(An Autonomous Institute under Ministry of Human Resource Development, Govt. of India)

Transit Campus : Sree Rama Engineering College Campus, Karakambadi Road,

Mangalam B.O., Tirupati – 517 507, Andhra Pradesh, India

COLLOQUIUM AT IISER TIRUPATI

Title: Science, Technology and the Quantum

12th August 2016, 3:00-4:00 PM, Seminar Hall, IISER Tirupati

Speaker: Professor Ganapathy Baskaran

The Institute of Mathematical Sciences

Chennai 600 113

Abstract

A flash, an insight into one of nature's secrets, the quantum nature of light and matter started at the beginning of 20th century. It continues to shine. It is impacting science, technology and society in ways unimaginable. This lecture will give a brief tour of this phenomenon. First i will trace key changes that have taken place in science from this perspective in a pedagogic fashion. It will be followed by few remarks on technology and consequences on health of society and governance. What is remarkable is a hope that science offers - a wise and prudent use of modern science and the enormous power it wields through its 'quantum insight', can make the world better and happier to live, not only for humanity but for all lives around.

Biography

Professor Ganapathy Baskaran is world-renowned theoretical physicist, known for his work on condensed matter physics and strongly correlated materials. He is an Emeritus Professor of Physics at the Institute of Mathematical Sciences in Chennai, India and a Distinguished Research Chair at the Perimeter Institute for Theoretical Physics in Waterloo, Canada.

In 1987–88, Prof Baskaran, along with P.W. Anderson at Princeton University, developed the resonating valence bond theory to describe the behavior of high-temperature superconductors. Professor Baskaran is also known for his discovery of emerging gauge fields in strongly correlated systems, and for his predictions of p-wave superconductivity in strontium ruthenate and of high-temperature superconductivity in graphene; predictions which were later experimentally verified. In 1983, Prof Baskaran was the first recipient of the ICTP Prize awarded by the International Center for Theoretical Physics, Trieste to young scientists in developing countries for work in physics and mathematics. He was awarded the Shanti Swarup Bhatnagar Prize by the Government of India in 1990.