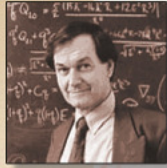


S CHANDRASEKHAR MEMORIAL LECTURE

The Satyendra Nath Bose National Centre for Basic Sciences, Kolkata organizes the S Chandrasekhar Memorial Lectures as a tribute to the Nobel Laureate Astrophysicist Professor S Chandrasekhar.

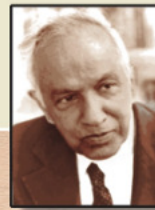


Sir Roger Penrose, Order of Merit and the Fellow of the Royal Society (born 8 August 1931) is a mathematical physicist and Emeritus Rouse Ball Professor of Mathematics at the Mathematical Institute, University of Oxford and Emeritus Fellow of Wadham College. He has received a number of prizes and awards, including the 1988 Wolf Prize for physics which he shared with Stephen Hawking for their contribution to our understanding of the universe. He is renowned for his contributions to general relativity and cosmology. He is also a recreational mathematician and philosopher.



Past Speaker

Professor William David Arnett
Regents Professor, University of Arizona, Tucson, USA
20th February 2008



2nd S Chandrasekhar Memorial Lecture

on
Mathematical Beauty: Its Power in Scientific Research

by
Professor Sir Roger Penrose
Mathematical Institute
Oxford, England

7 January 2011, 5.00 pm

in the
Mini Auditorium
Science City
J B S Haldane Avenue, Kolkata 700 046



S N Bose National Centre for Basic Sciences
Kolkata



In collaboration with the
National Council of Science Museums
Kolkata

Mathematical Beauty: Its Power in Scientific Research

S N Bose National Centre for Basic Sciences

Block JD, Sector III, Salt Lake,
Kolkata 700 098

Abstract

It has been acknowledged by many great scientists, such as Einstein, Maxwell, Dirac, Wigner and Weyl that mathematical beauty provides a powerful guide to the truth, especially in fundamental physics. Subrahmanyan Chandrasekhar, in particular, has used his distinctive aesthetic feeling for equations as a vital ingredient in his many investigations in different areas of astrophysics. He has remarked particularly on the aesthetic qualities of those equations that govern the structure of black holes. In this lecture I shall stress another aspect of mathematics in which beauty plays a crucial role, namely geometry. Particularly noteworthy is conformal geometry, and this turns out to have distinctive applications in Einstein's general relativity. Very remarkably, this guides us to a novel cosmological picture, in which our Big Bang is preceded by a universe aeon similar to our own, in which black-hole encounters leave their characteristic signature on the cosmic microwave background of our own aeon, a signature which appears actually to be present according to recent analysis.

On behalf of the Centre

I have great pleasure in inviting you to the

2nd S Chandrasekhar Memorial Lecture

at 5.00 pm on Friday,

the 7th January 2011

at the

Mini Auditorium, Science City,

J B S Haldane Avenue, Kolkata 700 046.

Arup K Raychaudhuri
Director

On this occasion

An exhibition
Beyond the Limit: Subrahmanyan Chandrasekhar
developed by the National Council of Science Museums

shall also be inaugurated by
Professor Roger Penrose
to commemorate the Birth Centenary of Professor S Chandrasekhar