

10th C. K. Majumdar Memorial Lecture



9th March 2012, at 4.00 PM

Venue

Silver Jubilee Hall, S.N. Bose
National Centre For Basic Sciences

The C. K. Majumdar Memorial Lectures are organized by the Satyendra Nath Bose National Centre for Basic Sciences, Kolkata as a tribute to the late Professor Chanchal Kumar Majumdar, Founder-Director of the Centre.

Speaker

Sir Michael Berry

on

Making Light of Mathematics

About the Speaker



Professor Sir Michael Berry
Department of Physics, Bristol University

Academic History

- 1965-1967 Postdoctoral research in theoretical physics at Bristol University, as Department of Scientific and Industrial Research Fellow.
- 1979-1988 Professor of Physics at Bristol University
- 1988-2006 Royal Society Research Professor at Bristol University.
- 2006-2008 Melville Wills Professor of Physics at Bristol University (Emeritus)

Prizes and Awards

- 1978 Maxwell Medal and Prize of the Institute of Physics.
- 1990 Julius Edgar Lilienfeld prize of the American Physical Society
- 1990 Paul Dirac Medal and prize of the Institute of Physics
- 1990 Royal Medal of the Royal Society
- 1993 Naylor Prize, London Mathematical Society
- 1994 Louis-Vuitton Moët-Hennessey 'Science for Art' prize (Paris)
- 1995 Hewlett-Packard Europhysics Prize
- 1996 Dirac Medal and Prize of the International Centre for Theoretical Physics, Trieste.
- 1996 Knight Bachelor Queen's Birthday Honours, 15 June
- 1997 Kapitza Medal of the Russian Academy of Sciences
- 1998 Wolf Prize in Physics
- 2000 Ig Nobel prize in physics
- 2001 Onsager Medal (Norwegian Technical University, Trondheim)
- 2005 Polya Prize, London Mathematical Society
- 2005 Chancellor's Medal, University of Bristol

Current Research Interest

- Quantum mechanics, chaos and the primes
- Quantum chaology for systems with mixed chaology
- Spin-statistics connection
- Singularities of bright light (caustics).
- Singularities of faint light ('Optical vorticulture')
- Asymptotics and relations between theories
- Nonhermitian operators
- Extreme coherence



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for Basic Sciences

Kolkata

ABSTRACT

Many 'mathematical phenomena' find application and sometimes spectacular physical illustration in the physics of light. Concepts such as fractals, catastrophe theory, knots, infinity, zero, and even when $1+1$ fails to equal 2, are needed to understand rainbows, twinkling starlight, sparkling seas, oriental magic mirrors, and simple observations on interference, polarization and focusing. The lecture is intellectual but nontechnical, and strongly visual.

