

- 1600-1700 **Business Meeting of Fellows**  
 1700 High Tea break  
 1730-1830 **Public Lecture**  
**D Subbarao**, Former Governor, RBI  
*India – Mega trends*  
 1900-2030 **Cultural Programme**

## 9 NOVEMBER 2014 (SUNDAY)

- 0900-0940 **Special Lecture**  
**Ashok Jhunjhunwala**, IIT, Chennai  
*Can decentralised solar enable 24x7 power to every home in India?*  
 0940-1300 **Lectures by Fellows/Associates**  
 0940 **Tarun Souradeep**, IUCAA, Pune  
*Hints of 'Beyond Standard Model' cosmology in the cosmic microwave background*  
 1000 **R Mahalakshmi**, IISER, Bhopal  
*Membrane protein folding and stability: Underlying similarities in bacteria and humans*  
 1020-1050 Tea break  
 1050 **Eknath Ghate**, TIFR, Mumbai  
*Number theory via representation theory*  
 1110 **Santanu Mukherjee**, IISc, Bangalore  
*Controlling stereochemistry at the quaternary center through olefin functionalization and desymmetrization*  
 1130 **Annapurni Subramaniam**, IIA, Bangalore  
*Exploring the nearby galaxies – present and future*  
 1150 **M Subba Reddy**, CDFD, Hyderabad  
*Canonical vs non-canonical ubiquitination: Control of protein fate*  
 1210 **Naveen Garg**, IIT, New Delhi  
*Approximation algorithms for hard optimization problems*  
 1230 **Angshuman Nag**, IISER, Pune  
*Colloidal semiconductor nanocrystals with magneto- and opto-electronic properties*  
 1300-1400 Lunch



INDIAN ACADEMY OF SCIENCES

Bangalore 560 080

# 80<sup>TH</sup> ANNUAL MEETING

Chennai

7–9 November 2014

Hosted by Institute of Mathematical Sciences  
 in association with IIT-M, CLRI, CMI, MSSRF, IGCAR

VENUE: Central Lecture Theatre, IIT-M, Chennai

# PROGRAMME

## 7 NOVEMBER 2014 (FRIDAY)

- 0900–0930 Registration
- 0930–1100 **Inauguration & Presidential Address**  
**Dipankar Chatterji**, IISc, Bangalore  
*Inhibition of bacterial transcription: Action of antibiotics*
- 1100–1200 Tea break and Group Photograph
- 1200–1300 **Lectures by Fellows/Associates**
- 1200 **Balaji R Jagirdar**, IISc, Bangalore  
*Activation of unreactive chemical bonds in small molecules*
- 1220 **K V Adarsh**, IISER, Bhopal  
*Ultrafast light-induced effects in amorphous chalcogenide thin films*
- 1240 **Nahid Ali**, IICB, Kolkata  
*Visceral leishmaniasis: Strategies to combat the disease*
- 1300–1400 Lunch break
- 1400–1500 **Lectures by Fellows/Associates**
- 1400 **P P Mujumdar**, IISc, Bangalore  
*Hydrologic impacts of climate change: Quantification of uncertainties*
- 1420 **S Shivaji**, L V Prasad Eye Institute, Hyderabad  
*Cold-loving microbes: Biodiversity, genes and genomes*
- 1440 **K Manjunath**, IISc, Bangalore  
*Hope probabilities in certain point processes*
- 1500–1530 Tea break
- 1530–1730 **Symposium – X-ray Crystallography**
- 1530 **T N Guru Row**, IISc, Bangalore  
*The nature of a chemical bond involving elements in Group 14–17 from experimental charge density studies*
- 1600 **Dhananjai Pandey**, IIT (BHU), Varanasi  
*Complementary role of X-ray, neutron and electron diffraction in materials research*
- 1630 **Shekhar C Mande**, NCCS, Pune  
*Early Indian contributions to crystallography*
- 1700 **T P Singh**, AIIMS, New Delhi  
*Structural basis for therapeutic applications of innate immunity proteins as protein antibiotics*
- 1730–1800 Tea break
- 1800–1900 **Public lecture**  
**Gopalkrishna Gandhi**, Former Governor of West Bengal  
*Who knows India?*

## 8 NOVEMBER 2014 (SATURDAY)

- 0900–0940 **Special Lecture**  
**R L Karandikar**, CMI, Chennai  
*Power and limitations of opinion polls*
- 0940–1020 **Lectures by Fellows/Associates**
- 0940 **C V Ramana**, NCL, Pune  
*Inspirations from natural products: New catalytic methods by metal complexes*
- 1000 **Abha Misra**, IISc, Bangalore  
*Carbon nanomaterials and engineering applications*
- 1020–1050 Tea break
- 1050–1300 **Symposium – Neutrinos and the India-based Neutrino Observatory**
- 1050 **Amol Dighe**, TIFR, Mumbai  
*The world of neutrinos*
- 1120 **Vivek Datar**, BARC, Mumbai  
*Current status and future prospects of neutrino mass measurement*
- 1150 **D Indumathi**, IMSc, Chennai  
*Neutrino oscillation, global status and role of INO*
- 1220 **N K Mondal**, TIFR, Mumbai  
*India-based neutrino observatory project*
- 1250 Discussion
- 1300–1400 Lunch break
- 1400–1600 **Lectures by Fellows/Associates**
- 1400 **Nisanth N Nair**, IIT, Kanpur  
*Supercomputers against superbugs: Unveiling the molecular details of antibiotic resistance through multiscale modeling*
- 1420 **B Gopal**, IISc, Bangalore  
*Studies on sigma factor/anti-sigma complexes reveal a molecular rationale for Mycobacterium tuberculosis persistence*
- 1440 **C Vineeth**, VSSC, Thiruvananthapuram  
*Optical remote sensing of the terrestrial upper atmosphere*
- 1500–1520 Tea break
- 1520 **Nikhil Tandon**, AIIMS, New Delhi  
*Epidemiology of non-communicable diseases in India – Across the life course*
- 1540 **Thomas J Pucadyil**, IISER, Pune  
*Membrane fission: Analyses using novel assay systems*