

# VIJYOSHI - 2016



National Science Camp

5 - 7 December 2016

A Program of  
Department of Science and Technology  
Govt. of India

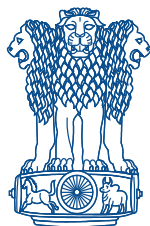
Organized by

Kishore Vaigyanik Protsahan Yojana (KVPY)  
IISER Kolkata and INSPIRE Program



Venue: Room No. 107 (First Floor), Lecture Hall Complex (LHC), IISER Kolkata

## FUNDED BY



सत्यमेव जयते

Department of Science and Technology  
Government of India

## ORGANISERS



Kishore Vaigyanik Protsahan Yojana (KVPY), IISc Bangalore



IISER KOLKATA

Indian Institute of Science Education and Research Kolkata



INSPIRE Program, Govt. of India

## COORDINATORS

**Prof. R. N. Mukherjee**

Director

Indian Institute of Science Education and Research Kolkata, Mohanpur – 741 246

&

**Prof. G. Mugesh**

Convener

Kishore Vaigyanik Protsahan Yojana (KVPY)  
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## CONTACT INFORMATION

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### Kolkata Camp

#### Co-ordinators

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#### Programme Venue

Lecture Hall Complex (LHC)

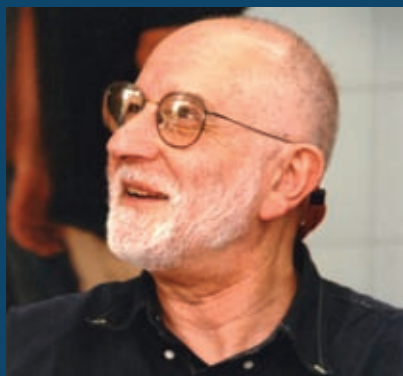
Indian Institute of Science

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**Prof. Sir Michael Victor Berry**

Melville Wills Professor of Physics  
(Emeritus), University of Bristol

Sir Michael Victor Berry, FRS FRSE FRSA, is a mathematical physicist at the University of Bristol, England. He was elected a fellow of the Royal Society of London in 1982 and knighted in 1996. He is known for the Berry phase, a phenomenon observed in quantum mechanics and optics. He specialises in semiclassical physics (asymptotic physics, quantum chaos), applied to wave phenomena in quantum mechanics and other areas such as optics. He is also currently affiliated with the Institute for Quantum Studies at Chapman University in California



**Prof. Manindra Agrawal**

Department of Computer Science  
and Engineering,  
Indian Institute of Technology  
Kanpur

Professor Manindra Agrawal, FNA, FASc, FNASc, FTWAS, FNAE is presently N. Rama Rao Chair Professor in the Department of Computer Science and Engineering in IIT Kanpur. His research interests include Complexity Theory and Computational Number Theory. He has peripheral interests in Cryptography, Complex Analysis and Combinatorics. He is recipient of numerous awards that include Padma Shri in 2013, Shanti Swarup Bhatnagar award in Mathematical Sciences in 2003, Gödel Prize in 2006, Fulkerson Prize in 2006, J. C. Bose Fellowship (2006 - 2015).



**Prof. Uday Maitra**

Department of Organic Chemistry  
Indian Institute of Science Bangalore

Professor Uday Maitra, FNA, FASc is currently Chairman of the Department of Organic Chemistry at IISc Bangalore. His research interests include Chemistry of Bile acids, Hydrogels and Organogels, Dendrimers and Nanomaterials. He is recent of Shanti Swarup Bhatnagar Prize in Chemical Sciences in 2001, Materials Research Society of India Medal in 2009, Millennium medal in 2000 and Prof. T. Navaneeth Rao National Best Chemistry Teacher Award in 2005.



**Dr. Suvendra Nath  
Bhattacharyya**

Principal Scientist and Head,  
Human Genetics Division,  
Indian Institute of Chemical Biology,  
Kolkata

Dr. Suvendra Nath Bhattacharyya, FAScT, is currently Principal Scientist and Head of Human Genetics Division at Indian Institute of Chemical Biology, Kolkata. His research interests include studies on mechanism of exosomal export of miRNA and its role in disease process, to look into importance of subcellular structures and organelles in post-transcriptional regulation of gene expression in human cells, to study the effect of cellular microenvironment on miRNA-mediated gene regulation in mammalian cells and to investigate the role of host cell miRNAs and other post-transcriptional factors in regulation of parasitic infection of mammalian cells. He is recipient of Shanti Swarup Bhatnagar Prize for Biological sciences in 2016, SwarnaJayanti Fellowship in 2015, NASI-Scopus Young Scientist Award in 2015, WellcomeTrust, London International Senior Research Fellowship in 2008, INSA Young Scientist Award in 2004 and many more.



**Prof. Partha Pratim Chakrabarti**

Department of Computer Science and Engineering and Director, Indian Institute of Technology Kharagpur

Professor Partha Pratim Chakrabarti, FNA, FNAE, FASc, is currently Director of IIT Kharagapur. His areas of interest include AI, CAD for VLSI, Embedded Systems, Algorithm Design, and Reliable & Fault Tolerant Systems. He is recipient of several honours, including the President of India Gold Medal in 1985, the Swarnajayanti Fellowship in 1998, the Shanti Swarup Bhatnagar Prize in 2000 and J. C. Bose National Fellowship in 2013.



**Prof. Pushpak Bhattacharyya**

Department of Computer Science and Engineering at IIT Bombay and Director, Indian Institute of Technology Patna

Professor Pushpak Bhattacharyya, FNAE, is presently Director of IIT Patna. His research interests include Natural Language Processing, Machine Learning, Cross Lingual IR, Information Extraction. He is recent of Vijay and Sita Vashee Chair Professorship at IIT Bombay, P. K. Patwardhan Award for Technology Development in 2008, IBM Innovation Award in 2007, VNMM Award 2014, etc.



**Prof. Rabindra Nath Mukherjee**

Department of Chemistry Sciences and Director, Indian Institute of Science Education and Research Kolkata

Professor R. N. Mukherjee, FNA, FASc, is presently Director of IISER Kolkata. His areas of research include synthetic coordination chemistry of transition metal ions with designed organic ligands, molecular (X-ray structure) and electronic structural (magnetic and spectroscopic) characterization, investigation of reactivity (chemical and redox), and understanding of metal-ligand bonding characteristics. He is recipient of special honours that include Poonam and Prabhu Goel Chair Professorship at IIT Kanpur in 2011, J. C. Bose Fellowship in 2008, CRSI Silver Medal in 2011, CRSI Bronze Medal in 2001, member of the Editorial Board of Inorganic Chemistry, Dalton Transactions, Inorganica Chimica Acta.



**Prof. D. D. Sarma**

Solid State and Structural Chemistry Unit Indian Institute of Science Bangalore

Professor D. D. Sarma, FASc, FNASc, FNA, FTWAS is presently Chairman of the Solid State & Structural Chemistry Unit of IISc Bangalore. His research interest includes investigation of strongly correlated electronic systems and semiconductor nanoparticles. He is recipient of many awards that include Shanti Swarup Bhatnagar Award in 1994, H K Firodia Awards for Excellence in Science & Technology in 2013, National Research Award in Nano Science and Technology in 2009, FICCI Award 2006-07 for Innovative R&D in Life Sciences/Material Sciences/Applied Research/Space Sciences in 2008, J. C. Bose National Fellowship in 2006, G. D. Birla Award for Scientific Research in 2005, MRSI Medal in 1990, etc.



**Prof. Asok Kumar Mallik**  
Honorary Distinguished Professor,  
Indian Institute of  
Engineering Science and Technology  
Shibpur

Professor Asok Kumar Mallik, FNAE, FNASc, FASc, FNA, is presently honorary distinguished professor at IEST, Shibpur. His areas of specialization are Mechanical Engineering, Vibration Engineering and Mechanisms. He is recipient of Distinguished Teacher Award (IIT Kanpur), INSA.



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### National Science Camp

**cordially invites you to a Cultural Evening**

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DOHAR a group of young energetic people came together to present the songs of the soil of Bengal and the North-East in 1999. DOHAR the Bengali word, which means Chorus, following a solo lead voice, is a manifestation of the basic spirit with which this singing group was formed. Their mission is to cater the rustic songs of the soil to the urban and rural mass in its original form and flavour. They are thus the chorus of those illustrious bauls and fakirs of greater Bengal and northeast. We are also involved in an endeavour to form an archive of this treasure chest of tunes and philosophy. DOHAR also present Tagore songs accompanied with various ethnic folk instruments like DUBKI, DOTARA, BANJO, FLUTE, SHINGA, MANDIRA, KASHI. In brief, DOHAR is an endless journey of music having strong connections with the root, on one hand and going beyond all boundaries, on the other.

# PROGRAMME SCHEDULE

## Sunday, 4 December 2016

Registration of participants at IISER Kolkata Hostel

Time: 3 PM to 8:30 PM

## Monday, 5 December 2016

7.00 AM – 8.00 AM		Breakfast
<b>8:30 AM – 9:30 AM</b>		<b>Registration at the Venue</b>
9.30 AM – 10.00 AM		Inaugural Ceremony
10.00 AM – 10.30 AM		High Tea
10:30 AM – 11:00 AM		Group Photo Session
11.00 AM – 12.20 PM	<b>Lecture 1</b>	<b>Prof. Partha Pratim Chakrabarti</b> <b>Title:</b> TBA   <b>Chair:</b> Dr. Pradip Ghorai
12.20 Noon – 1.40 PM		Lunch
1.40 PM – 3.00 PM	<b>Lecture 2</b>	<b>Prof. Pushpak Bhattacharyya</b> <b>Title:</b> The Intrigue, Excitement and Use of Natural Language Processing and Machine Learning   <b>Chair:</b> Prof. Supriyo Mitra
3.10 PM – 4.30 PM	<b>Lecture 3</b>	<b>Dr. Suvendra Nath Bhattacharyya</b> <b>Title:</b> Molecular Understanding of Life <b>Chair:</b> Prof. Jayasri Das Sarma
4.30 PM – 5.00 PM		Tea
5.00 PM – 6.20 PM	<b>Lecture 4</b>	<b>Prof. Rabindra Nath Mukherjee</b> <b>Title:</b> Hydrolytic Enzymes: Molecular - Level Understanding <b>Chair:</b> Prof. Prasanta Sanyal
6.30 PM		Leave for accommodation
8.00 PM – 10.00 PM		Dinner

## Tuesday, 6 December 2016

7.00 AM – 8.00 AM		Breakfast
9.30 AM – 10.50 AM	<b>Lecture 5</b>	<b>Prof. Sir Michael Berry</b> <b>Title:</b> Nature's Optics and Our Understanding of Light <b>Chair:</b> Prof. P. K. Panigrahi
10.50 AM – 11.10 AM		Tea
11.10 AM – 12.30 PM	<b>Lecture 6</b>	<b>Prof. Asok Kumar Mallik</b> <b>Title:</b> Magical Mathematics of Ramanujan <b>Chair:</b> Dr. Punyasloke Bhadury
12.30 PM – 2.00 PM		Lunch
2.00 PM – 3.20 PM	<b>Lecture 7</b>	<b>Prof. Uday Maitra</b> <b>Title:</b> Chemistry is Fun!   <b>Chair:</b> Prof. Samaresh Bhattacharyya
3.30 PM		Tea
6.00 PM – 7.00 PM		Cultural Programme
8.00 PM – 10.00 PM		Special Dinner for speakers, students, officials and invited guests

## Wednesday, 7 December 2016

7.00 AM – 8.00 AM		Breakfast
9.00 AM – 11.00 AM		Scientific Demonstration
11.30 AM – 1.00 PM		Lunch
1.00 PM – 2.20 PM	<b>Lecture 8</b>	<b>Prof. D. D. Sarma</b> <b>Title:</b> Small is Beautiful: Glimpses into Nano Science and Technology <b>Chair:</b> Dr. Pradipta Purkayastha
2.30 PM – 3.00 PM		Tea
3.00 PM – 4.20 PM	<b>Lecture 9</b>	<b>Prof. Manindra Agrawal</b> <b>Title:</b> The $P \neq NP$ Hypothesis <b>Chair:</b> Prof. R. N. Mukherjee
4.30 PM – 5.30 PM		Concluding Ceremony: Students' / Speakers' Feedback
5.30 PM		End of Camp

## Contact Details

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