

# DST-INSPIRE INTERNSHIP SCIENCE CAMP - 2013



Department of Science & Technology  
Govt. of India

*In association with*



Jagadis Bose National Science Talent Search  
Govt. of West Bengal

**Science Camp Entitled:**

**“Enjoying Science”**

**March 19 – 23, 2013**

**At JB Centre of Excellence for Student – Scientists**



**Jagadis Bose National Science Talent Search,**

1300, Rajdanga Main Road, Kasba, Kolkata – 700 107

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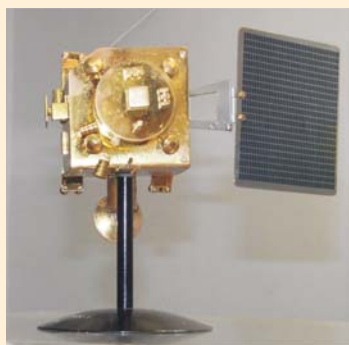
## “Enjoying Science”

### **About JBNSTS**

Jagadis Bose National Science Talent Search (JBNSTS), Kolkata was conceptualized in 1958 by visionaries such as Dr. B C Roy, Sir J J Ghandy and others to commemorate the Birth Centenary Celebration of India's first modern scientist, Acharya J C Bose. The program was inaugurated by Pandit Jawaharlal Nehru. JBNSTS is an autonomous institute promoted by the Department of Higher Education, Government of West Bengal. It is administered by a Governing Body with representatives from the State Government, academia and industry. Since 1961, JBNSTS is awarding the prestigious Jagadis Bose Scholarships to selected group of undergraduate students of science, engineering and medicine.



In the last five decades, JBNSTS has grown to become a premiere institute of non-formal science education in the eastern and northeastern States of India with the objective towards pursuit of excellence through motivation, identification and nurture of young talented science students. It helps students to realize the importance of excellence in the scientific world and try to cultivate this in their own lives as students of science. JBNSTS also encourages students towards the learning of basic sciences and inculcates scientific spirit in the minds of young high school and undergraduate students. Focus has been given on unconventional and dynamic methods of non-formal accelerated learning through "out-of-class" activities, which have led to the recognition of intellectually sensitive and inquisitive minds. Since 2004, JBNSTS has launched an innovative middle school science Teachers Training Program which has brought into its ambit motivated teachers from the districts of West Bengal. JBNSTS has developed science kits and distributed to the teachers for demonstrating scientific principles to the middle school students in the classroom. The financial support for most of the activities of



JBNSTS is provided by the Department of Higher Education & Department of Science & Technology, Government of West Bengal. In addition, Council of Scientific & Industrial Research (CSIR), Department of Science & Technology (DST), Government of India & Industries also collaborates with JBNSTS activities.

### **About DST-INSPIRE Program**

Innovation in Science Pursuit for Inspired REsearch (INSPIRE) is an innovative programme being implemented by the Department of Science and Technology (DST), Govt. of India. The basic objective of INSPIRE is to communicate to the youth of the country the excitement of creative pursuit of science, attract talent to the study of science at an early age and thus build the required critical human resource pool for strengthening and expanding the Science & Technology System and Research & Development base. Under the INSPIRE project 'Scheme for Early Attraction of Talents for Science' (SEATS) is a program to inspire talented Science students (top 1% performers in class-X board examination) into basic science streams.



A striking feature of the programme is that it does not believe in conducting competitive exams for identification of talent at any level. It believes in and relies on the efficacy of the existing educational structure for identification of talent and builds on opportunities that can be derived within the systems.

Science camps are a great way for children to explore the principles and methods of scientific research and strive to get young people interested in science at an early age. They are based on concepts of facilitated self-learning, holistic education, group activities, exchange of cross-cultural ideas, motivation towards independent thought and action and forming life-long friendships with similar minded people and established scientists. Leadership, passion and appreciation of the nature around us are invaluable characteristics for future scientists, and the Science Camp activities strive to encourage these traits.



## Organizing Committee

### Academic Committee:

Prof. (Dr.) Papiya Nandy, Hony. Director, JBNSTS  
Dr. Paromita Roy, Dy. Director, JBNSTS  
Dr. Abhijit Kar, Scientific Officer, JBNSTS  
Dr. Smarajit Manna, Student Advisor, JBNSTS

### Camp Coordinators:

Shri Joydip Das, Asst. Director (Admin), JBNSTS  
Shri Dipankar Sarkar



### Mentors

#### **Prof. Smritikumar Sarkar**

Vice Chancellor  
Burdwan University, Burdwan

#### **Dr. Subhrangsu Aditya**

School of Bio Science & Engineering  
and School of Cognitive Science  
Jadavpur University, Kolkata

#### **Dr. Sanghamitra Sen**

Santa Barbara  
California, USA

#### **Dr. Jayanta Sthanapati**

Former Deputy Director General  
National Council of Science Museums, Kolkata

#### **Dr. A. N. Lahiri Majumder**

Senior Professor  
Plant Molecular & Cellular Genetics  
Bose Institute, Kolkata

#### **Dr. Partha Ghose**

Senior Scientist Platinum Jubilee Fellow  
National Academy of Sciences, India  
Bose Institute, Kolkata

#### **Dr. Arnab Chakraborty**

Assistant Professor  
Applied Statistics Unit (ASU)  
Indian Statistical Institute, Kolkata

#### **Dr. Bimalendu Bhusan Bhattacharya**

INAE Distinguished Professor  
S. N. Bose National Centre for Basic Sciences  
Salt Lake, Kolkata

#### **Mr. Dipankar Ghosh**

Hitrek, Bally, Howrah

#### **Dr. Paromita Roy**

Deputy Director  
JBNSTS, Kolkata

#### **Dr. Soumya Chakravarti**

Professor Emeritus  
Department of Physics  
California State University, USA

#### **Mr. Pranab Nath Chakraborty**

Retd. Regional Engineer-in-charge (Eastern Region)  
Wireless Monitoring Organization  
Ministry of Communication, Govt. of India

#### **Dr. Abhijit Kar**

Scientific Officer  
JBNSTS, Kolkata

#### **Dr. Smarajit Manna**

Student Advisor  
JBNSTS, Kolkata

#### **Mr. Soumen Mukherjee**

Observation Secretary  
Sky Watchers' Association, Kolkata

#### **Dr. D. P. Duari**

Director, Research & Academics  
M. P. Birla Institute of Fundamental Research  
M. P. Birla Planetarium, Kolkata

#### **Prof. Saugata Roy**

Member of Parliament  
Government of India



## “Enjoying Science”

### CAMP RULES

#### Welcome to the Science Camp “Enjoying Science”

Here you will have a unique experience of learning science through active interaction with great scientists and be encouraged to share your ideas with others. No test / grade-only learning science in a different way.

#### Please note the following points carefully:

1. The camp hours are from **09:30 a.m. to 5:00 p.m.** You are to attend all the sessions in your school uniform. **MOBILE PHONES MUST BE KEPT IN SWITCHED OFF MODE DURING ALL ACADEMIC SESSIONS.**
2. Each participant has to make registration twice daily, once in the morning and other in the afternoon before starting of post lunch session.
3. You are required to submit an attested copy of your 10<sup>th</sup> Standard Board Examination Mark Sheet, held in 2012 and filled-in STUDENT'S INFORMATION SHEET during the afternoon registration on **19<sup>th</sup> March, 2013** at registration desk.
4. Travel bills (local, as per norms) are to be submitted on **22<sup>nd</sup> March, 2013 during 9.30 a.m. – 10.00 a.m. (during morning registration)**. Your reimbursement will be made on **23<sup>rd</sup> March, 2013 between 01.00 p.m. to 02.00 p.m.**
5. All students of the Science Camp will receive a library membership of British Council Library (BCL) (with 1 year validity). During that period you will be able to borrow book(s) from BCL and search /read books online. You will be given a registration form (**19<sup>th</sup> March, 2013**) for the library membership which you need to fill up and submit to us on **20<sup>th</sup> March, 2013 at registration desk during afternoon registration**. Your membership card will be given to you on **23<sup>rd</sup> March, 2013**.
6. All the participants will be divided into groups. There will be a group leader for each group *selected by group members of each group*. On **23<sup>rd</sup> March, 2013**, there will be a session on 'Toy making'. (Presentation / Demonstration)
7. You are required to fill up the FEED BACK SHEET and submit it on **23<sup>rd</sup> March, 2013 at registration desk during afternoon registration**.
8. You will not be given any home work, but you are expected to interact freely with the experts, your group members and other groups.

On the last day i.e. **23<sup>rd</sup> March, 2013** you will receive the Participation Certificate.

#### Name of the participating schools:

- Khalsa Model Sr. Secondary School, Baranagar
- St. Stephen's School, Dumdum
- La Martiniere for Boys, Kolkata
- Kendriya Vidyalaya, Ballygunge
- The Heritage School, Kolkata
- Bhavan's Gangabux Kanoria Vidya Mandir, Salt Lake
- M C Kejriwal Vidyapeeth, Howrah
- St. Xavier's Institution, Panihati
- Apeejay School, Salt Lake
- St. Xavier's Collegiate School, Kolkata
- South Point High School, Kolkata
- Birla High School, Kolkata (Sr. Section)
- Calcutta Boys' School, Kolkata
- W.W.A. Cossipore English School, Kolkata
- LakshmiPat Singhanian Academy, Kolkata



## **BRIEF INTRODUCTION TO THE EXPERTS**

### **DR. PAPIYA NANDY**

Prof. Papiya Nandy received her Masters degrees in Physics from University of Calcutta and University of California at Santa Barbara and Ph.D. on Liquid Crystals from Kent State University, USA. Her post-doctoral work was in Experimental Biophysics from Max Planck Institute, Göttingen, Germany. Later she was Associate Professor of Physics in University of Ulm, Germany. She joined Physics department in Jadavpur University and besides teaching for more than 35 years in the Science and Engineering faculties, she was and still is in charge of several research projects. Her field of research encompasses membrane biophysics, numerical analysis of DNA and protein sequences and application of Nanomaterials in ceramics and bio systems. She has more than hundred research publications in peer reviewed journals and 3 patent awards. She has guided 12 Ph.D. Thesis and 20 Masters Thesis. She is currently the Emeritus Fellow of Jadavpur University and the Hony. Director of JBNSTS, of which she is a scholar from the first batch in 1960. Here her objective is to make JBNSTS a vibrant and dynamic institute and to motivate, identify and nurture young talented science students and establish the base of scientific enquiry and culture of tomorrow.

### **DR. SMRITIKUMAR SARKAR**

Dr. Smritikumar Sarkar is presently the Hon'ble Vice-Chancellor, University of Burdwan. He did M.A in 1973 and Ph. D. in 1992 from Calcutta University. During his academic career, he was the recipient of several scholarships i.e. National Loan Scholarship, DPI Merit Scholarship, UGC Junior Research Fellowship and UGC Teacher Fellowship. His present research interest lies on Social & Economic History of Modern India, Indian Artisans, Blacksmith Tribes, Traditional Technology and Rural Economy & Society. He has supervised several major research project funded by different funding authority, Govt. of India. Dr. Sarkar has acted as a resource person in some prestigious universities and institutes in India and abroad. He has published nos. of research papers in national and international journals. He is also a Freelance Writer in all leading Newspapers published from Kolkata such as The Statesman, Anandabazar, Bartaman, Dainik Statesman etc.

### **DR. SUBHRANGSU ADITYA**

Subhrangsu Aditya, M.B.B.S. from NRS Medical College (2000), senior JBNSTS scholar (1995) is currently pursuing his research at School of Bio Science & Engineering, Jadavpur University. Besides, He is a guest faculty for the M. Phil. Course in Cognitive Science in the School of Cognitive Science, Jadavpur University. He is also a guest faculty for the Advanced Diploma Course in Stress Management in the Center for Counselling Services and Studies in Self-Development, Jadavpur University (CCSSS-JU). He is an associate member of SAMIKSHANI Centre for Psychoanalytical Studies and Mental Therapy. He has publications in various international journals (such as *International Journal of Artificial Intelligence and Soft Computing*, 2012; *International Journal of Computational Vision and Robotics*, 2009) and conference proceedings (such as *2010 IEEE Students' Technology Symposium*; *International Joint Conference on Artificial Intelligence: IJCAI-2007*; *International Workshop on Spatial Issues in Language and Vision: SLIV-2005*); authored a bilingual book entitled “*Ragaragir paristhiti kibhabe samlano jay*” (“*Managing anger provoking situations*”) published from Jadavpur University Press (JUP), 2012 and book chapters (such as “*Ethical Issues in Mental Health Services from Consumers' Perspective*” published in the book *Ethical Issues in Mental Health Services*, 2009; “*Determinants of Perception: A Neurophysiological Perspective*” published in the book *Determinants of Perception*, 2009). He participated as a resource person in the UGC Sponsored Refresher Course “*Art and Science of Mechatronics and its Application in Robotics*” held at Electrical Engineering Department, Jadavpur University. He was invited to present a paper entitled “*Protecting Children in Cyberspace*” at the *Institute of Engineers (India)*, West Bengal State Centre, on the *World Telecommunication and Information Society Day*, May 17, 2009 and a talk on “*Brain Mapping and Brain Computer Interfacing (BCI)*” in the “*Faculty Development Programme under TEQUIP-II*” at College of Engineering and Management, Kolaghat, January 18, 2013. His current areas of interest are Cognitive Neuroscience, Biosignal Processing, Artificial Intelligence, Psychological Counselling, Stress Management, Cyber-relationship etc.

### **DR. JAYANTA STHANAPATI**

Dr Jayanta Sthanapati is born and brought up in Kolkata. After completing schooling at Jadavpur Vidyapith, he earned B.Sc. (Physics) and M.Sc. (Physics) degrees from Jadavpur University. He carried out research work at the Indian Association for the Cultivation of Science and received Ph.D. (Physics) degree of the University of Calcutta. Besides formal studies he used to take keen interest in scientific model making. For such work he received prizes from Jadavpur University, BITM and JBNSTS. He started his service career at National Council of Science Museums in 1978 as a Curator and finally retired from NCSM as its Deputy Director General in 2011. During this period he has established ten new science museums and science parks in various parts of India.

## “Enjoying Science”

### DR. A. N. LAHIRI MAJUMDER

Dr. A. N. Lahiri Majumder is a *Senior Professor, Division of Plant Molecular & Cellular Genetics at Bose Institute, Kolkata. He has received his Ph.D. in Botany and D.Sc. in Biochemistry. His present research interest lies on:*

- Molecular mechanism of stress-tolerance in plants; Comparative genomic & proteomic approaches towards bioprospecting for stress-tolerant genes and their regulatory elements from wild sources.
- Metabolic engineering of inositol/pinitol biosynthesis for raising transgenic stress-tolerant crop plants
- Phylogenetic studies on inositol synthase: A genomic and proteomic approach.
- Probing of active-site of eukaryotic inositol synthase : Biochemical & molecular studies.

He has received several awards such as SB Saksena Medal Award from Indian National Science Academy, Parija Memorial Lecture Award, Sadakharaswamy Endowment Award, SBC(I) & Career Development Award, UGC etc. He is currently Life member of the Society of Biological Chemists, India, Indian Society of Cell Biology, Association of DNA Technologies, Society for Plant Biochemistry and Biotechnology, International Society for Plant Molecular Biology, USA & American Society for Plant Biology, USA.

### DR. PARTHA GHOSE

Dr. Ghose is a Senior Scientist, Platinum Jubilee Fellow (National Academy of Sciences, India) and is associated with Center for Astro Particle Physics & Space Science, Bose Institute. He was also a former faculty of SN Bose National Centre for Basic Sciences, Kolkata. He did his graduation and doctorate from Calcutta University. He has occupied distinguished positions in different academic institutions in India and abroad. Prof Partha Ghose has written many popular science articles in Bengali and English for various Journals and magazines and dailies. He was associated with the production of videocassette series on 'Classical Mechanics' and 'Quantum Theory' for UGC Country—wide Classroom series. Prof Ghose was associated with many episodes of the popular television science serial titled 'Quest'. He has also been a part of different science programs involving students from various levels. Prof. Ghose was the joint conductor of the first Science Camp of JBNSTS and held in November, 2006.

### DR. ARNAB CHAKRABORTY

Dr. Chakraborty is presently the Assistant Professor at Applied Statistics Unit, Indian Statistical Institute, Kolkata. He did B. Stat and M. Stat from Indian Statistical Institute, Kolkata and Ph.D. from Stanford University, USA. He loves to confuse people, so he love puzzles and teaching.

### DR. B. B. BHATTACHARYA

Dr. Bimalendu Bhusan Bhattacharya did his B.Sc. (Physics) and M.Sc. (Geophysics) from Banaras Hindu University and Ph.D (Physico-Mathematical Sciences) from Leningrad State University, USSR (Presently St. Petersburg University, Russia). His some of the major research interests is Geoelectromagnetism, Mining Geophysics, Engineering Geophysics, Environmental Geophysics and Interpretation of Geophysical Data using Nonlinear Inversion, Computer Simulation and Modeling. He has done pioneering work during Indian Antarctica Expedition as leader. He has worked as Scientist in National Geophysical Research Institute (NGRI), Hyderabad and Director in Indian School of Mines (ISM), Dhanbad. Currently he is Emeritus Professor (CSIR Emeritus Scientist) and INAE Distinguished Professor in S. N. Bose National Centre for Basic Sciences, Kolkata. He has worked different parts of the globe and held distinguished positions such as Visiting Professor, Department of Physics in University of Alberta Edmonton, Canada, Leader, Fourth Scientific Indian Antarctica Expedition, Government of India; Visiting Professor (Fulbright) Department of Geology & Geophysics in University of Wisconsin, Madison Wisconsin, USA and Guest Faculty in Bengal Engineering and Science University, Sibpur, Howrah, W.B. Among many distinguished awards, he has got National Mineral Award, Dept. of Mines, Govt. of India, Distinguished Service Award Indian School of Mines, Dr. Coggin Brown Gold Medal on Earth Sciences, MGMI; Decennial Award, Association of Exploration Geophysicists, ect. He is Member of the Editorial Committee of The Journal of Geological Society of India, Recipient of Distinguished Professor's Chair by Indian National Academy of Engineering (INAE).

### MR. DIPANKAR GHOSH

Mr. Ghosh is a well known mountaineer of Kolkata. After completing graduation from Calcutta University, he has taken several mountaineering course during 1992 – 1997. He has organized more than 60 Rock climbing courses, attended several trekking programs and took part in 39 mountaineering expeditions. Mr. Ghosh has already summated 27 peaks in Himalayas mostly as Leader, Climbing Leader or Deputy Leader. He is the first Indian summiter of Mt. Pologongka (6632 meter) in Ladakh. He has concurred two virgin peaks in Spiti, Himachal Pradesh and climbed Mt. Everest in 2011 & Mt. Lhotse in 2012. Besides mountaineering, he has interest in Photography and videography.

**DR. PAROMITA ROY**

Dr. Paromita Roy did her Bachelors in Psychology (with special paper in family counseling), as well as in Masters in Industrial Psychology and Organizational Behavior from Delhi University. She received her Ph.D. from Delhi University in Clinical Psychology and worked in the field of cognitive deficits in schizophrenia from Delhi University. Dr. Roy has extensive field experience in the area of clinical psychology. Her expertise is in educational psychology, soft skill training, human resource development, curriculum planning, strategy development, pedagogy, teacher training and student counseling. She has been with JBNSTS since 1993. Her focus is on educational paradigms with a socio-holistic view. With her long experience with creative science students and teachers, she has been instrumental in designing tailor made science enrichment programs.

**DR. SOUMYA CHAKRAVARTI**

Dr. Soumya Chakravarti did his B.Sc. in Physics (Honours) from Presidency College, Kolkata, M.Sc. in Physics from the University of Delhi, and Ph.D. in Physics from the University of Chicago. At Chicago he was trained in theoretical nuclear physics, and had the privilege of learning from many outstanding physicists, notably Subrahmanyan Chandrasekhar. He taught in Jadavpur University, in Visva Bharati, Santiniketan, and for 23 years in California State University, Pomona, USA. He did research at Argonne National Laboratory and Los Alamos National Laboratory, both in the USA. His interests are in Nuclear Physics, Astrophysics and Relativity. He is retired and lives in Kolkata.

**MR. PRANAB NATH CHAKRABORTY**

Mr. P.N. Chakraborty is Regional Engineer-in-Charge (Eastern Zone) (Retd.) of Wireless Monitoring Organization; Wireless Planning & Coordination Wing; Ministry of Communications; Govt. of India. At the same time he worked also as Engineer-in-Charge, Radio Noise Survey (Eastern Zone), Ministry of Communications; Govt. of India. He has operated most advanced Radio Noise measuring equipments and Spectrum Analyzers. Several times he acted as Chief Examiner for Certificate of Proficiency (COP) Exam held by the Govt. of India for Radio Officers. Mr. Chakraborty was selected for "Fellowship Study" by the International Telecommunication Union to study "Modern Technique of Radio Direction Finding". As per the United Nation Development Program (UNDP) Project, he visited F R Germany for the period of one month in the year 1983. During that period he has got the chance for training at Darmstad, Krefeld, Ulm and Munich to operate many types of most advanced communication and DF equipments.

**DR. ABHIJIT KAR**

Dr. Abhijit Kar received his PhD (Science-Chemistry & Material Science) from Jadavpur University. Dr. Kar carried out his post doctoral research in different parts of the world e.g., South Korea, Switzerland etc. He has also worked as visiting scientist at Ruhr Universität, Germany. His current research interest includes application of nanotechnology for micro-electronics, thin film and nanomultilayer structure for advanced materials. He has expertise on different materials characterization using electron microscopic techniques and simulating materials property. He has published 33 research papers in SCI Journals and authoring book chapter on Transmission Electron Microscopy. He serves as reviewer of many International Peer Reviewed Journals and Editorial Board Member of Journals from Science Publishing group. He is recipient of National Scholarship, CSIR SRF, Scientist Fellow-CSIR etc. He has been honored as most distinguished person by Marquis Who's Who in the world, USA-2008. He is currently working as Scientific Officer of JBNSTS and looking after different academic and research activities and laboratory set up of JBNSTS.

**DR. SMARAJIT MANNA**

Dr. Smarajit Manna is currently the Student Advisor, JBNSTS. He got his Ph.D. degree from Jadavpur University. His area of research interest is biophysics more precisely the dynamics of cell membranes including ion channels. He has six research publications in international journals. He loves to pursue research as well as to interact with the students.

**DR. DEBIPRASAD DUARI**

Dr. D. P. Duari is presently the Director, Research & Academic of M. P. Birla Institute of Fundamental Research, M. P. Birla Planetarium, Kolkata and Honorary Faculty, Physics Department, Presidency University. He did his B.Sc. & M.Sc. in Physics from Jadavpur University and Ph.D. from Inter University Centre for Astronomy & Astrophysics, Pune. He was a Post Doctoral Fellow of Tata Institute of Fundamental Research. He was associated with a number of distinguished academic institutions including Institute for Advanced Studies, Iran, University of Cambridge, U. K., and Manchester Institute of Science & Technology, U. K. He is a fellow of Royal Astronomical Society and a member of International Astronomical Union.

**PROF. SAUGATA ROY**

Prof. Sougata Roy is not just an MP or a Minister, he is a successful academician as well. He is a National Science Talent Search Scholar. He did his M.Sc. in Physics from Presidency College, Kolkata. Prof. Roy has yet another degree of law from the University of Calcutta. He used to teach in the Asutosh College. Having retired from Asutosh College, he involved himself more and more in the active politics.



## “Enjoying Science”

### Day to Day Program

#### Day 1 : Tuesday, March 19, 2013

09:30 a.m. – 10:30 a.m.	Registration
10:30 a.m. – 11:30 a.m.	Welcome Address by the Director, JBNSTS and Orientation
11:30 a.m. – 12:30 p.m.	<b>Inaugural Lecture</b> <b>Prof. Smritikumar Sarkar</b> , Vice Chancellor, Burdwan University, Burdwan
12:30 p.m. – 01:00 p.m.	<b>“BCL Forum”</b> <b>Ms. Aparna Bhattacharya</b> , Manager, Projects Library Services East India, British Council Library
01:00 p.m. – 02:00 p.m.	Lunch & Interaction
02:00 p.m. – 03:30 p.m.	<b>“How to choose your career?”</b> <b>Dr. Subhrangsu Aditya</b> , School of Bio Science & Engineering and School of Cognitive Science, Jadavpur University, Kolkata
03:30 p.m. – 04:30 p.m.	<b>Interactive Session</b> <b>Dr. Sanghamitra Sen</b> , Santa Barbara, California, USA
04:30 p.m. – 05:00 p.m.	<b>Discussion on Project Preparation</b>

#### Day 2 : Wednesday, March 20, 2013

09:30 a.m. – 10:00 a.m.	Registration
10:00 a.m. – 11:30 a.m.	<b>“Museums in India and Abroad”</b> <b>Dr. Jayanta Sthanapati</b> , Former Deputy Director General, National Council of Science Museums, Kolkata
11:30 a.m. – 01:00 p.m.	<b>Interactive Session</b> <b>Dr. A. N. Lahiri Majumder</b> , Senior Professor, Plant Molecular & Cellular Genetics, Bose Institute, Kolkata
01:00 p.m. – 02:00 p.m.	Lunch & Interaction
02:00 p.m. – 05:00 p.m.	<b>“What is a Higgs Boson?”</b> <b>Dr. Partha Ghose</b> , Senior Scientist Platinum Jubilee Fellow, National Academy of Sciences, India; Bose Institute, Kolkata

#### Day 3 : Thursday, March 21, 2013

09:30 a.m. – 10:00 a.m.	Registration
10:00 a.m. – 11:30 a.m.	<b>“Defying logic”</b> <b>Dr. Arnab Chakraborty</b> , Assistant Professor, Applied Statistics Unit, Indian Statistical Institute, Kolkata
11:30 a.m. – 01:00 p.m.	<b>“Exploration Antarctica: Science &amp; Adventure”</b> <b>Dr. Bimalendu Bhusan Bhattacharya</b> , INAE Distinguished Professor S. N. Bose National Centre for Basic Sciences, Salt Lake, Kolkata
01:00 p.m. – 02:00 p.m.	Lunch & Interaction
02:00 p.m. – 05:00 p.m.	<b>“Where there is a Will, there is a Way”</b> <b>Mr. Dipankar Ghosh</b> , Hitrek, Howrah

#### Day 4 : Friday, March 22, 2013

09:30 a.m. – 10:00 a.m.	Registration
10:00 a.m. – 11:30 a.m.	<b>“The Strange Structure of Space-time”</b> <b>Prof. Soumya Chakravarti</b> , Professor Emeritus, Dept. of Physics, California State University, USA
11:30 a.m. – 01:00 p.m.	<b>“How Machine Reads and Writes”</b> <b>Mr. Pranab Nath Chakraborty</b> , Retd. Regional Engineer-in-charge(ER) Wireless Monitoring Organization, Ministry of Communication, Govt. of India
01:00 p.m. – 02:00 p.m.	Lunch & Interaction
02:00 p.m. – 05:00 p.m.	<b>“Spectroscopy, Microscopy, Properties of Fundamental Elements”</b> – Hands on activity at JBNSTS Laboratory – <b>Dr. Abhijit Kar</b> , Scientific Officer, JBNSTS & <b>Dr. Smarajit Manna</b> , Student Advisor, JBNSTS
03:30 p.m. – 05:00 p.m.	<b>“Parents’ Counseling”</b> <b>Dr. Paromita Roy</b> , Deputy Director, JBNSTS

#### Day 5 : Saturday, March 23, 2013

09:00 a.m. – 09:30 a.m.	Registration
09:30 a.m. – 10:30 a.m.	<b>“Astronomical Telescope and Telescope Mount”</b> <b>Mr. Soumen Mukherjee</b> , Observation Secretary, Sky Watchers' Association, Kol.
10:30 a.m. – 12:00 noon	<b>“Challenges in Modern Astronomy”</b> <b>Dr. D. P. Duari</b> , Director, Research & Academics M. P. Birla Inst. of Fundamental Research, Kolkata
12:00 noon – 01:00 p.m.	<b>Valedictory Lecture</b> <b>Prof. Saugata Roy</b> , Member of Parliament, Govt. of India
01:00 p.m. – 02:00 p.m.	Lunch & Interaction
02:00 p.m. – 05:00 p.m.	<b>Project Presentation</b>