

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:

‘বিজ্ঞান ভাবনা’

April 25 – 29, 2013

At JB Centre of Excellence for Student – Scientists



Jagadis Bose National Science Talent Search,

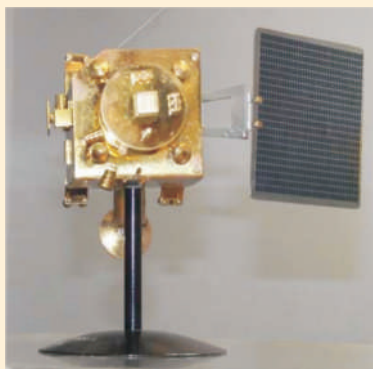
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About JBNSTS

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
Ms. Sucharita Kundu

Mentors

Prof. Nitin Chattopadhyay
Senior Professor
Department of Chemistry,
Jadavpur University, Kolkata

Dr. Anjan Ghosh
Vice President
Total Quality Management
Exide Industries Ltd, Kolkata

Prof. Souvik Bhattacharyya
Vice Chancellor
Jadavpur University, Kolkata

Dr. Paromita Roy
Deputy Director
JBNSTS, Kolkata

Dr. Bhupati Chakrabarti
Former Associate Professor
Department of Physics
City College, Kolkata

Dr. Parthasarathi Mukhopadhyay
Associate Professor
Department of Mathematics
Ramkrishna Mission Residential College,
Narendrapur, Kolkata



Dr. Punarbasu Chaudhuri
Associate Professor
Department of Environmental Science
Calcutta University, Kolkata

Shri Sabyasachi Mitra
Teacher
Calcutta International School, Kolkata

Smt. Soma Bhattacharjee
Mountaineer, Kolkata.

Prof. Partha Deb Ghosh
Senior Professor
Department of Botany, Kalyani University, Nadia

Prof. Krishnendu Sengupta
Department of Theoretical Physics
Indian Association for the Cultivation of Science
Jadavpur, Kolkata

Dr. Saroj Ghosh
Former President of ICOM, Paris
Former Director General, NCSM, Kolkata.

Dr. Abhijit Kar
Scientific Officer, JBNSTS, Kolkata

Dr. Smarajit Manna
Student Advisor, JBNSTS, Kolkata

CAMP RULES

Welcome to the Science Camp ‘বিজ্ঞান ভাবনা’

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 7:30 p.m.** Evening sessions are not mandatory for non-residential candidates. In order to get Participation Certificate, you are required to attend all the sessions. You are to come in your school uniform.
2. You are required to submit an attested copy of your Xth Standard Board Examination Mark Sheet, held in 2012 during the morning registration on **26th April, 2013** at registration desk.

You are required to fill up the STUDENT'S INFORMATION SHEET with one Passport Size Photograph and submit it on **27th April, 2013** during morning registration at registration desk. You are also required to fill up the FEED BACK SHEET & submit it on **29th April, 2013 between 01.00 p.m. to 02.00 p.m.**

3. **TRAVEL BILL :**

Residential Students & Accompanying Teachers: Travel bills (bus, auto and / or train fare only) are to be submitted along with relevant documents (tickets) on **24th April, 2013** by the escorting teachers. Your reimbursement will be made on the **same day**. In case, any assistance / clarification are needed, you may contact our accounts section.

Non-residential Students: Travel bills (bus, auto and / or train fare only) are to be submitted on **28th April, 2013** during morning registration at registration desk. Your reimbursement will be made on **29th April, 2013 between 01.00 p.m. to 02.00 p.m.**

4. **BOOKGRANT :** You will get a bookgrant of Rs. 1,500/-. For that you have to purchase books and submit the bills at JBNSTS office :-

Residential Students: Book bill(s), authorized by respective Headmaster/ Headmistress, are to be submitted on **24th April, 2013**. Your reimbursement will be made on **28th April, 2013 between 01.00 p.m. to 02.00 p.m.**

Non-residential Students: Book bill(s), authorized by respective Headmaster/ Headmistress, are to be submitted on **28th April, 2013** during morning registration at registration desk. Your reimbursement will be made on **29th April, 2013 between 01.00 p.m. to 02.00 p.m.**

5. 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 28th April, 2013, there will be a session for **Project Presentation** from 02:00 p.m. – 05:00 p.m.
6. 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. **29th April, 2013** you will receive the Participation Certificate.

Name of the participating schools:

- Purulia Zilla School, Purulia
- Chittaranjan High School, Purulia
- Purulia Ramkrishna Mission Vidyapith, Purulia
- Manbhum Victoria Institution, Purulia
- Bolpur High School, Birbhum
- Bankura Zilla School, Bankura
- Bankura Christian Collegiate School, Bankura
- Hooghly Branch High School, Hooghly
- Hooghly Collegiate School, Hooghly
- Narendrapur R. K. M. Vidyalyaya, Kolkata
- Bidhannagar Govt. High School, Kolkata
- Ananda Ashram Sarada Vidyapith, Kolkata
- Hare School, 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, Gottingen, 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 30 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. NITIN CHATTOPADHYAY

Dr. Chattopadhyay is a Professor of Chemistry in Jadavpur University, Kolkata. He has completed his M.Sc. from Calcutta University in the year 1983; Ph.D. from Jadavpur University in 1990. Since 1991, Prof. Chattopadhyay is associated with Jadavpur University as a Faculty. He has completed Post Doctoral Fellowship from Katholieke Universiteit Leuven, Belgium (1996 – 1997); Coimbra University, Portugal (1999 – 2001). He was associated with Coimbra University, Portugal as Visiting Scientist during the year 2003 and 2004. During the period of his research he has acquired expertise in operational techniques of various high-tech Instruments. His present interests in the field of research are Spectroscopy and Photochemistry. Prof Chattopadhyay was brilliant student during his entire academic career and outstanding researcher of modern age in the field of modern Chemical Science.

DR. ANJAN GHOSH

Dr. Anjan Ghosh, a JBNSTS Scholar of 1970, got the Senior Cambridge degree from Calcutta Boys' School in 1969. He did his B.Sc. with Physics honors and B.Tech. in Instrumentation and Electronics Engineering from Jadavpur University and M.B.A. from Indian Institute of Social Welfare and Business Management. Then he turned into science journalism. He was the author of the science column of the Sunday Miscellany supplement of The Statesman. He is presently the Vice President, Total Quality Management, Exide Industries Limited, Kolkata.

DR. SOUVIK BHATTACHARYYA

Prof. Souvik Bhattacharyya graduated from Jadavpur University, Kolkata, India with a Bachelor's degree (1981), MS (1985) from University of Cincinnati, USA and PhD from Texas A&M University (1991), USA in Mechanical Engineering specializing in thermal sciences. After a post-doctoral research stint at Texas A&M, he joined the faculty of Indian Institute of Technology (IIT) Kharagpur, India in 1991 where he was the Dean (Students' Affairs) during 2009-2012 and has been a Professor of Mechanical Engineering since 2003. He also held faculty position at University of Canterbury, Christchurch, New Zealand during 1998-2000. Currently he is the Vice-Chancellor of Jadavpur University.

Dr Bhattacharyya serves on the Editorial Boards of Energy Conversion and Management, International Journal of Power and Energy Systems and Journal of Nano Energy and Power Research. He is an Associate Editor of the international journal Alternative Energy. His research interests include heat transfer enhancement, thermodynamic optimization, energy engineering, natural refrigerant based transcritical heating cooling systems, and natural circulation loops. A recipient of the ASHRAE Best Paper Award, Dr Bhattacharyya has published 80 refereed and reputed international journal papers and 78 papers in international conference proceedings, besides contributing several articles in edited books. He is co-author of the celebrated heat transfer text by JP Holman. He has been an invited keynote speaker and panelist in several international conferences and workshops. He is a fellow of the Indian National Academy of Engineering and has been principal investigator for a large number of sponsored research projects. He has been an expert member of the DST Fast Track Young Engineer Research Project Committee since 2007.

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 PhD 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. BHUPATI CHAKRABARTI

Dr. Bhupati Chakrabarti was an NSTS scholar and got his Ph. D from the University of Calcutta for his experimental research work done in the Indian Association for the Cultivation of Science, Kolkata in 1983. He is teaching at the UG colleges for more than thirty years. Recently he has retired as an Associate Professor from the Department of Physics, City College, Kolkata. He served as the Head of the Departments of Physics in Chakdaha College, Nadia (from 1981 to 1987) and in City College (from 2003 to 2011). He is actively associated with the training and selection of the students for International Physics Olympiad (IPhO) and Asian Physics Olympiad (APhO). He was the part of the Indian delegation to 36th IPhO in 2005 held at Spain and in 11th APhO in 2010 held at Taiwan. He has written more than two hundred popular science articles in Bengali and in English and has been awarded by the Department of Adult Education, Govt of India. He has also been awarded with Jogamaya Basu Smriti Purashkar of Bangiya Bijan Parishad for his writing in Bengali. He is actively involved in the programmes of Indian Association of Physics Teachers (IAPT) and has conducted number science workshops for students of different levels and the teachers. His field of current interest includes development of physics experiments, physics education related issues, science communication and of course teaching. Dr Chakrabarti has published more than forty papers in different peer-reviewed journals and conference proceedings on his fields of interest. He has presented his work in different national and international conferences in India and abroad. He has co-authored a book on environment and has co-edited a collection of essays on science both in Bengali.

DR. PARTHASARATHI MUKHOPADHYAY

Dr. Mukhopadhyay is the Associate Professor of Mathematics in Ramkrishna Mission Residential College, Narendrapur. He is also a guest faculty (Post Graduate) at Ramkrishna Mission Vidyamandir, Belur Math. Dr. Mukhopadhyay is M.Sc. in Pure Mathematics and also completed M.Phil & Ph.D in Mathematics from C.U in the year 1991 & 2000 respectively. He published lot of papers in National & International Journals. He also published books for undergraduate level and school level. He attended many conferences & seminars at National & International level. He is a life time member of the Calcutta Mathematical Society.

DR. PUNARBASU CHAUDHURI

Dr. Punarbasu Chaudhuri is presently associated with Department of Environmental Science of University of Calcutta as an Associate Professor. He completed his Bachelors in Botany from University of Calcutta with National Scholarship and Abanindra Guha Life Science Endowment. He stood 1st Class 1st in Post-graduation in Environmental Science with specialization in Environmental Biology and Pollution Management from Department of Environmental Science, University of Kalyani. He pursued his doctoral research on fungal ecology of mangrove vegetation of West Bengal as UGC NET-JRF and obtained Ph.D. degree from University of Kalyani. Dr. Chaudhuri did his post doctoral research on effect of coastal pollution on mangroves from University of Sydney as *Endeavour* Fellow of Government of Australia. His current research interests cover the area of mangrove ecology, biodiversity, bio-prospecting and geo-informatics.

SHRI SABYASACHI MITRA

Shri Sabyasachi Mitra received his M Phil degree in Economics from Jawaharlal Neheru University, New Delhi. Then he was associated with a Delhi based Economics Research Institute for 3 years as a senior economist. Now he is the mathematics and economics teacher of Calcutta International School. His interest is in activity based mathematics learning for students and teachers. He is associated with different national organization like 'Jodo Gyan' of Delhi, 'Eklavya' of Bhopal, 'Sutradhar' of Bangalore etc. He has conducted many workshops for the teachers of different public, government and NGO run schools in urban as well as in rural areas of India. He is a well known resource person of different teachers' training program organized by SCERT and DIET in Delhi, Madhya Pradesh and West Bengal.

SMT. SOMA BHATTACHARJEE

Smt Soma Bhattacharjee is the first civilian Bengalee who scaled 26,000 ft. during the fifth highest Mt. Lhotse expedition in 2012. Smt Bhattacharjee being a home maker, has taken enough training in mountaineering during the Basic Mountaineering Course (HMI) and Advanced Mountaineering Course (NIM). Till now, Smt Bhattacharjee took part in almost 15 expeditions which are mostly above 6000 meter.

DR. PARTHA DEB GHOSH

Dr. Partha Deb Ghosh is Professor of Botany at the Department of Botany, University of Kalyani, West Bengal and worked in the field of plant genetics and Biotechnology. He has done extensive work on in vitro culture, genetic transformation of plants, molecular markers and supervised research of Masters and Doctoral students. He has published 3 books/ manuals on plant genetics and biotechnological aspects and published more than 270 research papers in different national and international journals. Dr. Ghosh has availed fellowship offered by UGC Indo-Uk exchange programme (1977-78), DST young scientist awards(1984), DBT training programme. He is fellow of Linnean society (London), Association of plant tissue culture and biotechnology (India). Dr. Ghosh has been awarded the INSA gold medal for outstanding contribution of plant tissue culture and mutation research, life time achievement Award by DST and honoured by different universities.

DR. KRISHNENDU SENGUPTA

Prof. Krishnendu Sengupta is currently associated with the Theoretical Physics Department of Indian Association for the Cultivation of Science. Prof. Sengupta completed his M.Sc. in Physics from Indian Institute of Technology, Kharagpur, Ph.D from University of Maryland at College Park, US and Postdoctoral Research at Yale University and at University of Toronto. During his academic career, Prof. Sengupta occupied several distinguished positions in different renowned academic institutes such as Adjunct Faculty, Tata Institute of Fundamental Research, Mumbai, and ICTS, Bangalore; Associate Professor, Saha Institute of Nuclear Physics, Kolkata; Faculty Fellow, Harish Chandra Research Institute, Allahabad, India; Teaching assistant and instructor of Physics courses at the University of Maryland at College Park etc. His research interests include Physics of Strong Correlations in ultracold atoms, Quantum Phase Transitions, Physics of Graphene and topological insulators, unconventional superconductivity, Quantum Hall effect. Dr. Sengupta received several prestigious awards and honors such as Institute Silver Medal in Physics from I.I.T Kharagpur (1993), Indo-US research fellow in Physics (2010), Member, Joint Indo-US Center for Ultracold atoms (2009-2011), Fellow, Indian Academy of Sciences (2012), APS Outstanding referee (2012), Shanti Swarup Bhatnagar Award in Physical Sciences (2012). He is the Reviewer of APS journals, Physical Review A, B and Letters, Journal of Statistical Physics and New Journal of Physics, Grant Proposal reviewer for NSF, USA.

DR. SAROJ GHOSE

Dr. Saroj Ghose, an Indian science popularizer and museum maker is at present developing a giant Science City in Ahmedabad and National Science Museum in Yemen. He was the first director general of the National Council of Science Museums, Government of India. He was also the Director of Birla Industrial & Technological Museum, the President of the International Council of Museums in Paris, and Fellow Member of the Association of Science-Technology Centers in USA. He has spent more than 50 years of his life in developing more than 30 new science museums, science centers, science cities and high-tech story-telling museums in India and abroad among which 2 most notable initiatives are Science City, Kolkata and Parliament Museum, New Delhi. He was awarded as the “Best Effort in Science Popularisation Amongst Children”. Dr. Ghose graduated in Electrical Communication Engineering from Jadavpur University, Kolkata, received his Master’s Degree from Harvard University, Cambridge and obtained Ph.D. from the Smithsonian Institution, United States. Dr. Ghose has received several awards and honors such as Padmashree and Padmabhusan from President of India, Indira Gandhi Award from Indian National Science Academy, Primo Rovis Award from Trieste International Foundation, Fellow Membership for life time achievement from the Association of Science Technology Centers (ASTC) in USA, National Award for Science & Technology popularization from Govt of India, and D.Sc.(Honoris Causa) from North Bengal University etc.

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 authorised book chapter on Transmission Electron Microscopy. He serves as reviewer of many International Peer Reviewed Journals. He is also the recipient of National Scholarship He has been honoured 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 adviser, 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.

MS. SUCHARITA KUNDU

Ms. Sucharita Kundu is associated with JBNSTS for the last 6 years. She did her Bachelors with honours in Botany from the University of Calcutta and Masters in Marine Science from the Department of Marine Science, University of Calcutta. Her area of interest is monitoring the aquatic health of Indian Sundarbans, establishing variations in phytopigments as a strong pollution indicator of urban set up. She delivers popular science lectures in All India Radio and acts as faculty in various students’ and teachers’ training programs.

Day to Day Program

Day 1 : Thursday, April 25, 2013

- 09:30 a.m. – 10:30 a.m. Registration
10:30 a.m. – 11:30 a.m. Welcome Address by the Hony. Director, JBNSTS and Orientation
11:00 a.m. – 01:00 p.m. **Inaugural Lecture - “Chemistry: The fascinating subject”**
Prof. Nitin Chattopadhyay, Dept. of Chemistry, Jadavpur University, Kolkata
01:00 p.m. – 02:00 p.m. Lunch & Interaction
02:00 p.m. – 03:30 p.m. **Interactive Session**
03:30 p.m. – 05:00 p.m. **“Team Work”**
Dr. Anjan Ghosh, Vice President, Total Quality Management, Exide Industries Ltd, Kolkata
05:00 p.m. – 06:00 p.m. **Interaction with Prof. Souvik Bhattacharyya**
Vice Chancellor, Jadavpur University, Kolkata.
06:30 p.m. – 07:30 p.m. **“Students’ Counseling”**
Dr. Paromita Roy, Deputy Director, JBNSTS

Day 2 : Friday, April 26, 2013

- 09:30 a.m. – 10:00 a.m. Registration
10:00 a.m. – 01:00 p.m. **“কম্পন ও সরল দোলগতি : গোড়ার কথা” ও “ক্রীড়াঙ্গনের পদার্থবিজ্ঞান”**
Dr. Bhupati Chakrabarti, Former Associate Professor, Department of Physics, City College, Kolkata
01:00 p.m. – 02:00 p.m. Lunch & Interaction
02:00 p.m. – 05:00 p.m. **“Story of Calculus” “অন্তহীনের অর্ন্তযামী”**
Dr. Parthasarathi Mukhopadhyay,
Dept of Mathematics, Ramkrishna Mission Residential College, Narendrapur, Kolkata
06:00 p.m. – 07:00 p.m. **CD Show**

Day 3 : Saturday, April 27, 2013

- 09:30 a.m. – 10:00 a.m. Registration
10:00 a.m. – 12:00 p.m. **“স্বল্প-কার্বন জীবনযাত্রা অভ্যাসের দ্বারা জলবায়ুর পরিবর্তন প্রতিরোধ”**
Dr. Punarbasu Chaudhuri, Dept. of Environmental Science, Calcutta University, Kolkata
12:00 p.m. – 01:00 p.m. Lunch & Interaction
01:00 p.m. – 05:00 p.m. **“Mathematics Workshop”**
Shri Sabyasachi Mitra, Calcutta International School, Kolkata

Day 4 : Sunday, April 28, 2013

- 09:30 a.m. – 10:00 a.m. Registration
10:00 a.m. – 11:30 p.m. **“Magnificent Lhotse”**
Smt. Soma Bhattacharya, Mountaineer, Kolkata.
11:30 a.m. – 01:00 p.m. **“Cellular Totipotency & Stem Cell Technology”**
Prof. Partha Deb Ghosh, Dept. of Botany, Kalyani University, Nadia
01:00 p.m. – 02:00 p.m. Lunch & Interaction
02:00 p.m. – 05:00 p.m. **Project Presentation**

Day 5 : Monday, April 29, 2013

- 09:30 a.m. – 10:00 a.m. Registration
10:00 a.m. – 11:30 a.m. **“Moving close to speed of light: an Introduction to Special Relativity”**
Prof. Krishnendu Sengupta, Dept. of Theoretical Physics, IACS, Kolkata
11:30 a.m. – 01:00 p.m. **Valedictory Lecture: “পরিবেশের এ’পিঠ - ও’পিঠ”**
Dr. Saroj Ghose, Former President of ICOM & Former Director General, NCSM
01:00 p.m. – 02:00 p.m. Lunch & Interaction
02:00 p.m. – 05:00 p.m. **“Spectroscopy, Microscopy, Properties of Fundamental Elements” –**
Hands on activity at JBNSTS Laboratory - **Dr. Abhijit Kar**, Scientific Officer, JBNSTS,
Dr. Smarajit Manna, Student Advisor, JBNSTS & **Ms. Sucharita Kundu**, JBNSTS
03:30 p.m. – 05:00 p.m. **“Parents’ Counseling”**
Dr. Paromita Roy, Deputy Director, JBNSTS

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(April 25 - 29, 2013)
JB Centre of Excellence for Student-Scientists,
1300, Rajdanga Main Road, Kasba, Kolkata 700 107

Feedback sheet

1. Name and Address of the Host Institute: _____

2. Date/Duration of the INSPIRE Internship Camp: _____

3. Name and Address of the student (With school name, e-mail address & Mob. No.): _____

4. Comments about the Infrastructural capacity of the organizing Institute: _____

5. Comments on the boarding and lodging facilities made available: _____

6. Comments about the Payment of Traveling cost to the participating students: _____

7. Comments on the interactive talks delivered by the Mentors : _____

A DST-JBNSTS Science Camp

‘বিজ্ঞান ভাবনা’

(April 25 - 29, 2013)

JB Centre of Excellence for Student-Scientists,
1300, Rajdanga Main Road, Kasba, Kolkata 700 107

8. Comments on the practical demonstrations/hands on experience: _____

9. Students views on the INSPIRE Internship Camp: _____

10. Comments about the scientific discussions with the Mentors: _____

11. Suggestions to further improve the INSPIRE Internship camps: _____

12. Overall impact of the INSPIRE Internship Camp: _____

Signature of Student

‘বিজ্ঞান ভাবনা’

(April 25 - 29, 2013)
 JB Centre of Excellence for Student-Scientists,
 1300, Rajdanga Main Road, Kasba, Kolkata 700 107

Paste
 Stamp-size
 Photograph
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Student's information sheet

Name of the student (in block letters): _____

Permanent address with contact number and e-mail Id(mandatory): _____

School's name (in block letters) & Address with pin code & phone no.: _____

Percentage of marks obtained in the 10th standard Board examination held in 2011: _____

Percentage of marks obtained in science subjects: _____

Favorite subject: _____

Who is your role model in science? _____

Would you like to pursue a career in science? _____

What is your expectation from a science camp? _____

Have you heard about JBNSTS before the camp? How? _____

 Signature of Student