

Jagadis Bose National Science Talent Search

In Pursuit of Excellence
Since 1960



ANNUAL REPORT 2013



JB Centre of Excellence for Student Scientists, Kolkata



*"The whole world is a
living laboratory in which
the most wonderful experiments
are constantly being performed.
We should indeed be fascinated
if only we had eyes to see them."*

JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH

(Registered under Act XXI of 1860)

Memorandum of The Association

1. Name of the Society : JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH
2. The Registered Office of the Society is situated at 93/1, Acharya Prafulla Chandra Road, Calcutta – 9 in the State of West Bengal
3. The object for which the Society is established are : to select students with the special aptitude for Science and **providing a scheme for counseling, conserving and helping this most precious resource, namely, human talent, which is necessary for building up the nation**, by award of scholarships and otherwise. The scheme of JBNSTS shall extend to the whole of West Bengal and may later be extended to other areas.
4. The Names and Addresses and Description of the present members of the Executive Committee (Governing Body) are :

DR. B C ROY, Writers' Buildings, Calcutta – 1, **President**, Governing Body;

SIR JEHANGIR GHANDY, Tata Iron & Steel Co. Ltd., Jamshedpur, **Chairman**, Governing Body;

SIR RAMASWAMY MUDALIAR, 9, Lower Rawdon Street, Calcutta – 16, **Member**, Governing Body;

MR. R P BILLIMORIA, Tata Iron & Steel Co. Ltd., Jamshedpur, **Member**, Governing Body;

DR. D M BOSE, Bose Institute, Calcutta – 9, **Member**, Governing Body;

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DR. S K MITRA, Institute of Radio Physics, Calcutta – 9, **Member**, Governing Body

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DR. K MITRA, 93/1, Acharya Prafulla Chandra Road, Calcutta – 9, **Secretary**, Governing Body.



Pandit Jawaharlal Nehru addressing
the Inaugural Award Giving Ceremony
on 11th April, 1961



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Patron-in-Chief, JBNSTS
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on 17 /01/2010

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Director's Address at the 53rd Annual Award Ceremony, 2012



Good evening!

This is the time of the year when we share with you our dreams, their realizations and failures, our agonies and ecstasies.

In more than five decades since the beginning of its journey, JBNSTS has become nationally recognized as a premier institute of non-formal education. It strongly believes in furthering the cause of science by providing scholarships to students in the pursuit of science and nurturing them throughout their academic career.

However, there is yet far to go to measure up to international standards, with global awards promising far more in terms of values as well as non-monetary incentives. Pursuit of science as a career had not been attractive enough to students any more. JBNSTS needs to act as the torchbearer for building the scientific temper and consider scientific research as a lucrative career option that will drive India's ambition of becoming a global economic and scientific powerhouse.

While exploring different possibilities, we had been greatly benefited by the advice of Shri M. K. Narayanan, Hon'ble Governor of West Bengal and Chief Patron of JBNSTS. He suggested that we could perhaps consider starting research activities here in addition to our regular tasks, suggestion to which we readily agreed to provide further impetus to the young research students. I am happy to let you know that a few undergraduate students have started working here for their research projects under the able guidance of our academic staff.

A beacon to further shores has been provided by Dr. Purnendu Chatterjee, our Chairman, helping us to plan to build an Institute for Gifted Children, which will be so much in tandem with our regular activities.

This year Shri Tathagata Roy has joined the Governing Body of JBNSTS as the representative of JB-Scholars. He has come in place of Santanu Chatterjee, who passed away on 9th January, 2012, just about a year ago. To commemorate his association with this Institute, which was so dear to him, his wife, Dr. Amita Chatterjee, has donated a sum of Rs. 10 lakhs to modernize our library, which has been named "Santanu Chatterjee Library for Scholars". It was inaugurated on 22nd November, 2012 in the presence of our senior and junior scholars. The library also houses the office of JBNSTS Scholars Association, a common forum for the scholars to share their ideas and activities.

Over the past couple of years, we have observed that more than 50% of JBNSTS Scholars are students of Basic Sciences, compared to much smaller numbers in the previous years. Further, we notice that a number of awardees are presently coming from different remote districts and Institutions thereof. This change in scenario signifies a development in economy, public awareness and positive attitude towards basic science as career option.

We are thankful to the Government of West Bengal which has been our mentor from the very inception. The Department of Science and Technology, Govt. of India recognised our method of scholars' identification as a result of which JBNSTS scholars, who are students of Basic Sciences are automatically entitled for the DST-INSPIRE Scholarships. Under DST-SEATS scheme JBNSTS already



has conducted 33 Science Camps and are organizing more. We thank the DST and specially its Secretary, Dr. T Ramasami, for highlighting the activities of JBNSTS at the national level. The Council of Scientific and Industrial Research, Govt. of India has been providing grants for nurture of Scholars through various program since 1962.

Several organizations, private donors and industry houses have donated different scholarships. The academic programs are conducted by scientist-educators from all over India and abroad. The members of our Governing Body, Academic Advisory Board and specially the dedicated staff members of JBNSTS have made this year-long journey towards our pursuit of excellence a meaningful and rewarding one. Our heartfelt gratitude to all of them.

Shri Santimoy Biswas joined JBNSTS in August 1982. A hardworking and dedicated person, he has impressed us with his sense of duty. He has retired in February, 2012. We wish him a very happy and active life.

As the Director and as a scholar from the first batch, I extend a warm welcome to this year's awardees. In the years to come, you will realize that JBNSTS does not award you just a scholarship, but makes you a part of the ever vibrant, world wide network of JBNSTS fraternity.

Throughout all your years with us and your career, my ardent message to you is be proud to be an Indian and make India proud of you. A powerful India awaits us, which will evolve only through our combined efforts.

Papiya Nandy

5th January, 2013

Brief Introduction of Dr. Ei Ichi Negishi, Nobel Laureate, 2010 in Chemistry and Professor of Chemistry, Purdue University, USA present at JBNSTS- INSPIRE Science Camp & Dr. Ronald G. Prinn, Professor of Atmospheric Science, MIT, Cambridge MA, USA at JBNSTS Annual Award Ceremony, 2012



Dr. Ei Ichi Negishi: Dr. Ei-ichi Negishi, H. C. Brown Distinguished Professor of Chemistry, Purdue University, grew up in Japan and received his Bachelor's degree from the University of Tokyo (1958). He then joined a chemical company, Teijin. In 1960 he came to the University of Pennsylvania on a Fulbright-Smith-Mund All-Expense Scholarship and obtained his Ph.D. degree (under Prof. A. R. Day) in 1963. He returned to Teijin but decided to pursue an academic career. In 1966, he joined Professor H. C. Brown's Laboratories at Purdue as a Postdoctoral Associate and began investigating various C—C bond forming reactions of organoboranes. He was appointed Assistant to Professor Brown in 1968. It was during the following few years that he began feeling the need for some catalytic ways of promoting organoborane reactions. Negishi went to Syracuse University as Assistant Professor in 1972 and began his life-long investigations of transition metal-catalyzed organometallic reactions for organic synthesis. His initial and largely unsuccessful attempts to develop a Cu-catalyzed conjugate addition or substitution reaction of organoboranes soon led him to adopt a then novel strategy of considering all 60 or so non-radioactive metals as components of both stoichiometric reagents and catalysts. During the 1976-1978 period he published about 10 papers describing the Pd- or Ni-catalyzed cross-coupling reactions of various organometals including those of Mg, Zn, B, Al, Sn, and Zr. Today, those involving Zn, Al, and Zr are called the Negishi coupling. His success in developing the Pd- or Ni-catalyzed alkenylzirconiums was the beginning of many series of his subsequent investigations of organozirconium chemistry leading to the discoveries and developments of the Zr-catalyzed alkyne carboalumination often called the Negishi alkyne carboalumination (1978), the Zr-catalyzed asymmetric alkene carboalumination (ZACA reaction) (1995), and the chemistry of low-valent zirconocenes generated via Bu_2ZrCp_2 and other dialkylzirconocenes widely known as the Negishi reagents (1985). Negishi was promoted to Associate Professor at Syracuse University in 1976 and invited back to Purdue University as Full Professor in 1979. In 1999 he was appointed the inaugural H. C. Brown Distinguished Professor of Chemistry. Various awards he has received include Guggenheim Fellowship (1987), the 1996 A. R. Day Award, a 1996 Chemical Society of Japan Award, the 1998 ACS Organometallic Chemistry Award, a Humboldt Senior Researcher Award, Germany (1998 - 2001), the 2000 RSC Sir E. Frankland Prize Lectureship, the 2007 Yamada-Koga Prize, Japan, and Gold Medal of Charles University, Prague, Czech Republic (2007). At Purdue University, he was the recipient of the 1998 McCoy Award and the 2003 Sigma Xi Award. Negishi has published over 400 publications including two books, one of which is Handbook of Organopalladium Chemistry for Organic Synthesis, 2 Vols., Negishi, E., Ed., Wiley-Interscience, New York, **2002**, 3279 pp., and several patents. Collectively, these publications have been cited well over 17,000 times. Negishi has been cited in Marquis Who's Who in America and Marquis Who's Who in the World. He was awarded the 2010 Nobel Prize in Chemistry "for palladium catalyzed cross couplings in organic synthesis" jointly with Richard F. Heck and Akira Suzuki.



Dr. Ronald G Prinn: Dr. Ronald G Prinn is currently Professor of Atmospheric Science, Department of Earth, Atmospheric and Planetary Sciences(EAPS), Director, Center for Global Change Science(CGCS), Co-Director, Joint Program on the Science and Policy of Global Change(JPSPGC), Massachusetts Institute of Technology, Cambridge MA 02139, U.S.A. Professor Prinn's research interests incorporate the chemistry, dynamics, and physics of the atmospheres of the Earth and other planets, and the chemical evolution of atmospheres. He has been a faculty member at MIT since 1971, and headed the MIT Department of Earth, Atmospheric and Planetary Sciences from 1998 to 2003. He is currently involved in a wide range of projects in atmospheric chemistry and biogeochemistry, climate science, and integrated assessment of science and policy regarding climate change. He leads the Advanced Global Atmospheric Gases Experiment (AGAGE), in which the rates of change of the concentrations of the trace gases involved in the greenhouse effect and ozone depletion have been measured continuously over the globe for the past three decades. He is pioneering the use of inverse methods, which use such measurements and three-dimensional models to determine trace gas emissions and understand atmospheric chemical processes, especially those processes involving the oxidation capacity of the atmosphere. He is also working extensively with social scientists to link the science, economics and policy aspects of global change. He has co-led the development of a unique integrated global system model coupling economics, climate physics and chemistry, and land and ocean ecosystems, which is used to estimate uncertainty in climate predictions and analyze proposed climate policies. He has made significant contributions to the development of national and international scientific research programs in global change. He served as one of the Lead Authors in the Fourth Assessment of the Intergovernmental Panel on Climate Change (IPCC) published in 2007. He has served as Chairman for Atmospheric and Hydrospheric Sciences of the American Association for the Advancement of Science (AAAS), and has chaired the Steering Committees for the IGBP/IAMAP International Global Atmospheric Chemistry Project, the U.S. National Research Council (NRC) Committee on Earth Sciences, and the U.S. Global Tropospheric Chemistry Program. He has been a member of the Steering Committees of the International Geosphere-Biosphere Program (IGBP), and the NASA Network for Detection of Atmospheric Composition Change, and a member of the IAMAP International Commission on Atmospheric Chemistry and Global Pollution, the NRC Space Science Board, the NRC Committee for the International Geosphere-Biosphere Program, the NASA Space Science and Applications Advisory Committee, and the NASA Earth System Sciences Committee. He has twice testified to the United States Congress on climate change science and its implications for policy. He is a Fellow of the American Geophysical Union (AGU), a recipient of AGU's Macelwane Medal, and a Fellow of the AAAS. He has published some 200 peer-reviewed scientific papers, co-authored *Planets and their Atmospheres: Origin and Evolution* (Academic Press), and edited or co-edited *Global Atmospheric-Biospheric Chemistry* (Plenum), *Atmospheric Chemistry in a Changing World* (Springer), and *Inverse Methods in Global Biogeochemical Cycles* (AGU). Education: Sc.D., 1971, MIT; M.S., 1968, B.S., 1967, University of Auckland, New Zealand.



JBNSTS – An Introduction

Jagadis Bose National Science Talent Search (JBNSTS), Kolkata is an Autonomous Registered Society under West Bengal Society Registration Act XXI of 1860 (No.S/4353 of 1960-61) promoted by the Government of West Bengal and administered by a Governing Body with representatives from the Government, Academics and Industry. Conceptualized in 1958 by visionaries such as Dr. B C Roy, Sir Jehangir Ghandy and others. JBNSTS was initiated to commemorate the Birth Centenary of India's first modern scientist, Acharya J C Bose. The program was inaugurated by Pandit Jawaharlal Nehru.

JBNSTS from its very inception has focused on the unconventional and dynamic method of non-formal accelerated learning through "out of class" activities, which has led to the recognition of hidden talents of intellectually sensitive and inquisitive minds. Governed by eminent academicians, policy makers and directors who have served the institution with missionary zeal, the programs conducted by the institution for its scholars are exclusive and tailor-made to provide an environment of joyous, interactive and independent learning which further provides a platform for development of creative expression and divergent thinking. These are done through meetings and mentorship programs with outstanding scientists and educators, open ended thematic workshops, visits to institutions and laboratories of national and international repute within the country, enrichment programs through academic apprenticeship, presentations at seminars, etc. A feeling of belongingness is cultivated amongst the scholars so as to make them an integral part of a large academic family with common roots and foster within them the spirit of cooperative and competitive learning in the pursuit of excellence. Special counseling sessions are held from time to time to ensure that intellectual needs of the gifted are met.

The broad objectives of JBNSTS are to

- a) **Motivate** : JBNSTS aims to motivate the talented students to study basic sciences and work in the field of research and education. It is very important to motivate the students to that end from their young age. A large number of thematic science workshops are organized in West Bengal as well as in all other States to achieve that goal. The objectives for these workshops are to expose the young minds to the wonderful world of science beyond their regular curriculum. Students from various levels participate in these programs.
- b) **Identify** : After motivational part, it is necessary to identify the "best among equals" for nurturing. JBNSTS conducts the oldest science talent search test in this country to identify the students with most creative and innovative minds. Though it is limited to the students studying in West Bengal, a large number of students from other states taking admission in institutions in West Bengal take part in this talent search test. In that way, it acquires a "national" status to some extent.
- c) **Nurture** : To nurture these identified scholars so that they excel in their scientific pursuit, several talent enrichment programs, follow up programs, etc. are conducted. Here the scholars are taken to scientific research institutes and industries where they get to interact with scientists and technical persons which widens their horizon of knowledge.

All these activities are extremely beneficial for the student community in general and talented students in particular and have earned appreciation from all quarters. Apart from serving the basic purpose, these programs, where students come from different geographical and socio economic backgrounds, help to inculcate in their young minds a spirit of national integrity. In addition to the students' program, a teachers' training program has also been started for district schools of West Bengal.



Highlights of achievements of JBNSTS in the past decade

Since its inception, JBNSTS has always tried to make continuous developments in the interest of students, teachers and all concerned quarters. It started its activity in a very modest way in a room at Bose Institute, Kolkata. However, presently, a fairly good infrastructure has been developed to cater to a broad spectrum of students, teachers and experts. Apart from the development of infrastructure, JBNSTS during this period has also made a huge progress in its field of activity. During the last five decades, it has become a name of recognition in the field of motivation, identification and nurturing of talented students. A few of the achievements are listed below :

- The scholars of JBNSTS are continuously proving that the principle and the procedure of their selection are perfect. They are excelling in their field of studies and achieving honours not only for them or their families but also for JBNSTS and the country as a whole.
- The Department of Science & Technology, Govt. of India has recently recognized the validity of the JBNSTS Senior Talent Search Test as well as the longtime effort by JBNSTS to motivate the young students to study basic sciences at higher level by announcing that the scholars selected by JBNSTS in basic sciences shall automatically receive the INSPIRE scholarship sponsored by them.
- The Department of Science & Technology, Govt. of India has also selected JBNSTS as one of the nodal institutions to organize the science camps introduced by them under the INSPIRE program. They also have selected JBNSTS to implement the FIST program for the northeastern States.
- At state level also, a number of academic organizations have started working with JBNSTS. The West Bengal Academy of Science and Technology has collaborated with JBNSTS for "Teachers' Training Programs" for the science teachers of the schools of backward districts.
- The main focus of JBNSTS has always been the "out of class" study. An eco friendly area has been developed with a water body and a garden of medicinal plants to arouse the interest of the students. Also, an activity area of about 700 sq. ft has been built where all the lights and fans are operated by solar energy. Besides, rain water conservation, solar lamps etc. have been installed to inspire the students to keep the environment free of pollution as well as to use non-conventional powers wherever possible.
- JBNSTS has developed a laboratory for the students with financial help from the Bose Institute. A number of demonstrations are being shown to students which helps them to understand the theories better and also opens up the exciting world of science to them. JBNSTS scholars are also carrying out their research projects in this laboratory. Many other collaborative research projects have also been planned.
- JBNSTS has always been able to earn the confidence and recognition of government departments (Central and State), educational institutions (IACS, IICB SINP, SNBNCBS, Bose Institute and many others) and industries. They have sponsored scholarships and supported many other activities of JBNSTS since its inception. Department of Higher Education (GOWB), Dept of Health (GOWB), DST (GOI), CSIR (GOI), IACS, Bose Institute, IICB, SBI, ONGC, ABP Pvt. Ltd. are among many who have extended their cooperation in the activities of JBNSTS.
- JBNSTS library has been named as "Santanu Chatterjee Library for Scholars" where JBNSTS has started to digitalize the library and provide the facility to the scholars.
- JB-Scholars Association has been formed to increase interactions among the scholars' fraternity.
- The number and amount of senior scholarships have been increased to benefit more students.
- JBNSTS has developed a fair infrastructure during last decade. The "JB Centre of Excellence for Student Scientists", the office and activity center of JBNSTS has been built at a prime location at Kolkata. It has auditorium, dormitory, library, laboratory, green canteen, activity area and all other facilities for various types of programs.
- JBNSTS has received the DSIR certificate for procuring scientific instruments with Tax exemption.
- Recently research grants have been received from DST, Government of India against project proposals submitted by JBNSTS staff and two research fellows have been working under one such project at JBNSTS.
- JBNSTS is upgrading the laboratory by purchasing high end scientific instruments like STM, Polarized Light Microscope, UV-VIS Spectrometer, Low current-voltage Source Measure Unit, High Speed Cutting Wheel, etc.

ANNOUNCEMENT

DELHI 2014
1st INTERNATIONAL CONFERENCE ON RESEARCH IN EDUCATION AND CURRICULUM PLANNING FOR GIFTED MINDS 4th - 6th Feb, 2014
 India International Centre, New Delhi

Followed by

"1ST INTERNATIONAL WORKSHOP ON EDUCATION AND CURRICULUM PLANNING FOR GIFTED MINDS IN SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM)" AT JAGADIS BOSE CENTER OF EXCELLENCE FOR STUDENT SCIENTISTS, KOLKATA, FEB. 10 & 11, 2014
 His Excellency, **Shri M K Narayanan**, Hon'ble Governor of West Bengal will inaugurate the workshop

The above events will be attended by researchers, teachers, policymakers, students, scientists, special interest groups and educators from across the globe to address the unique needs of gifted youth in recognition of their requirement of specialized content, training & nurturing. The resultant blueprint will be the guideline for future initiatives in the field.

Speakers

Joyce VanTassel - Baska Smith Professor Emerita and Founding Director, The Center for Gifted Education, The College of William and Mary, Virginia, USA	Joan Freeman Founding President, European Council for High Ability (ECHA) & Writing Professor, Middlesex University, UK	Sugata Mitra 110 Prize Winner 2013, Newcastle University, England	Rena F. Subotnik Director, Center for Gifted Education Policy, American Psychological Association, Washington DC
Albert Ziegler Secretary General, International Research Association for Talent Development and Excellence, University of Erlangen-Nuremberg, Germany	Peter Cserehely President, European Council for High Ability (ECHA), Semmelweis University Budapest, Hungary	Kyungbin Park President, Asia Pacific Federation, Gachon University, South Korea	Vijay A. Singh Professor, Mero Bhadra Centre for Science Education, Tata Institute for Fundamental Research, Mumbai, India

The nurture of creativity is a matter of life and death for any society.

Sir Arnold Toynbee

Other Speakers

Heidrun Stoeger Chair Professor for Educational Sciences, University of Regensburg, Germany	Laurie J. Croft Belin Blank International Center for Gifted Education and Talent Development, University of Iowa, USA	Bryan Berry Principal, Heathrow Aviation Engineering University Technical College, London	Jiannong Shi Senior Researcher, Institute of Psychology, Chinese Academy of Sciences, Beijing, China	Shlomit Rachmel Head of the division for gifted and outstanding children at the Ministry of Education, Israel
Anitha Kurup Senior Scientist, National Institute of Advanced Studies, Bangalore, India.	Krishna Maitra Former Head, Department of Education, Delhi University, Delhi, India	Girish Bapat Director, Jyana Prabodhini, Pune, India	M Srinivasan Principal, GEAR International School & Founder, GEAR Foundation	and many more...

To register, please visit conference website: www.jbnstconference.org



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JBNSTS Programs under different Sponsoring Agencies

1. Support from Department of Higher Education – Government of West Bengal

a) Senior Scholarship Program :

This is the core program of JBNSTS. Talented 1st year students of Basic Science/ Medicine/ Engineering are selected through multi-phased, rigorous tests and are awarded scholarships till the completion of their M.Sc/M.B.B.S/BE degrees. It is the oldest and the most prestigious scholarship scheme in India. The scholarships are sponsored by different corporate houses, research/educational institutions and individual well wishers of JBNSTS. However, the maintenance grant is provided by the Dept. of Higher Education, Govt. of West Bengal. Presently, the selected scholars from basic sciences are automatically getting the INSPIRE scholarship from Dept. of Science & Technology, Government of India.

b) West Bengal District Scheme Program :

The main focus of this program is on the underprivileged but meritorious students of remote areas of the State. It gives a great opportunity to the students of those areas to get an exposure to the world of science and interact with experts from different fields of science. Science workshops are organized for such students where they get the opportunity to hear and interact with the experts of various fields of science.

2. Support from Department of Science and Technology : Government of West Bengal

This is for a program entitled “Creating Science Awareness, Building Scientific Temper & Training Motivated Teachers” for middle school science teachers of West Bengal conducted by JBNSTS in collaboration with West Bengal Academy of Science and Technology. Here the teachers are trained to teach in a more lucid and interesting way. They are also shown how the theories can be taught with simple demonstrations which can make the learning more enjoyable. Bankura, Purulia, South 24 Parganas and Maldah districts were covered under this program.

3. Support from Central Government Departments

a) Talent Enrichment Program : Council of Scientific and Industrial Research (CSIR), Government of India

This is a program for talent enrichment of JB scholars. Under this program, the selected scholars of JBNSTS are taken to different research/educational institutes in different parts of India for educational visit. They also visit research laboratories under CSIR wherever possible.

b) Scholarship Program : Department of Science & Technology, Government of India

The selected scholars from basic sciences are awarded the INSPIRE Scholarship from Department of Science & Technology, Government of India.

c) Contact Program : Department of Science & Technology, Govt. of India

Under this program, science workshops are organized for undergraduate, class XI and class XII science students of neighboring States: Bihar, Orissa, Jharkhand and Chhattishgarh and 8 Northeastern States. A large number of students of these States get a good exposure in these workshops.

d) Science Camps for top 1% students from Central and State Board : Department of Science & Technology, Government of India

A motivational and enrichment program for Class XI Science students of West Bengal and toppers (top 1%) in class X examination under State Board, ICSE or CBSE is being supported by Department of Science and Technology, Government of India under the INSPIRE program. Under this scheme 5-day long, residential / nonresidential Science

Camps are organized to introduce the students to the global leaders in science and experience the joy of innovations on a regular basis.

4. Support from other Organisations :

- a) **Vigyan Prasar:** A program for teachers to celebrate the "International Year of Chemistry" and two day's brain storming sessions on "Discussion on Science and Technology Popularisation Activities in North Eastern part of India" were organized under a joint venture of JBNSTS and Vigyan Prasar.
- b) **O.N.G.C.:** Two science workshops were organized at Jorhat and Shivsagar, Assam and the program were sponsored by ONGC.
- c) **A. N. Bhaduri Memorial Foundation:** Two one-day workshops for school students was organized under this forum.

Special Features of JBNSTS

Scholarship and nurture :

- a) Innovative and dynamic selection procedure.
- b) The senior talent search program is the only test which selects scholars in Basic Sciences, Medicine and Engineering through one set of common testing procedure.
- c) A scholarship scheme in West Bengal which has been operational for more than 50 years. JBNSTS is the forerunner of the Talent Search Movement in India.
- d) Sustained follow-up of scholars and beneficiaries, intensive guidance and counseling facilities.
- e) Valuable enrichment programs like projects and seminars for scholars are organized by JBNSTS. Scholars are assisted by JBNSTS in procuring Training/ Placement for summer, winter projects in various prestigious science and technology institutes.
- f) JBNSTS scholars get opportunities to participate in special enrichment programs.

Motivation and nurture:

- a) Implementing a successful and innovative non-formal middle school science teaching program amongst district level teachers.
- b) Reaching out to young students in district schools to enthuse them to participate in more and more science related non-formal activities.
- c) Nurturing the talented students to become the builders of modern India.

Building and infrastructure:

- a) The "JB Center of Excellence for Student Scientists" as its main office and activity center. This is located on a plot of land given by the Government of West Bengal. This building has a number of facilities like auditorium, dormitory, laboratory, library, etc. where students can stay during programs and can get in a lot of activities.
- b) Rainwater Harvesting System where the rainwater is collected from the roof of the building and stored in tanks. This inspires students to follow this practice also at their homes.
- c) Solar energy is used for campus lighting. Also, total lighting of an activity area of about 700 sft. on the terrace is done by solar energy.
- d) 80 capacity dormitory constructed.

- e) Well stocked library having many useful reference books for the use of students.
- f) Science laboratory where demonstrations can be given to explain the theories given in the books.
- g) Fully operational Auditorium/Activity hall.
- h) An eco friendly area with a lot of trees, medicinal plants and a water body has been developed. This will be helpful to inspire students to think more about the environment around them.

Staff:

Combination of qualified, experienced and dynamic permanent staff and project staff.

JBNSTS STAFF



1. Prof. (Dr.) Papiya Nandy, Hony. Director
2. Dr. Paromita Roy, Deputy Director
3. Shri Joydip Das, Assistant Director (Admin.)
4. Dr. Smarajit Manna, Student Advisor
5. Dr. Abhijit Kar, Scientific Officer
6. Shri Sujit Baran Chanda, Accountant
7. Shri Basudeb Dutta, Head Clerk
8. Shri Dipankar Sarkar, Library Assistant – Cum – Typist
9. Ms. Sucharita Kundu, Stenographer
10. Smt. Swapna Dey, Typist – Cum – Clerk
11. Shri Prasenjit Chakraborty, Additional Clerk
12. Smt. Puspa Biswas, Peon
13. Shri Ranjit Mallick, Record Supplier – Cum – Peon
14. Shri Santimoy Biswas, Project Assistant
15. Shri Puskar Naskar, Project Assistant
16. Shri Debnarayan Mukherjee, Project Assistant
17. Shri Sudip Das, Project Assistant
18. Shri Mahadev Das, Project Assistant.

Report on Activities

(From December 2012 to November 2013)

The Senior Scholarship Program

JBNSTS has been conducting the time honoured and prestigious Senior Scholarship Program in West Bengal to identify, nurture and motivate the talented students of science towards the pursuit of excellence since it was established (1958). This has been a unique scheme from its inception which envisages a set of pedagogic goals for its awardees which encourage and support the pursuit of excellence. This program has been financially supported by the Department of Higher Education, Government of West Bengal.

In its endeavor, JBNSTS identifies young talented students of science from 1st year Basic Sciences/ Engineering / Medical Sciences. JBNSTS provides an ideal platform for the gifted students to achieve their scientific goals and to flourish their innovative mind. This scheme covers the following programs: Senior Talent Search Test for identification of talented science students and its awareness, Orientation for introducing the selected students from diverse fields of science, Seminars to bring them in contact with creative persons in various fields and Talent Enrichment Program (TEP) to make them aware of the modern trend in research and give them opportunity to interact with eminent scientists, preparation and presentation of scientific projects to build up the ability to work in a group. TEP program is financially supported by Council for Scientific and Industrial Research, Government of India. The details of these programs for the last one year are given below:

08/12 – 09/12/12: Scientific Creativity Test (3rd and final Phase): For short listed (78) undergraduate science students of West Bengal for the award of Senior JBNSTS Scholarship held at JB - Centre of Excellence, Kolkata.

30/12/12: The final project presentation program: For JBNSTS Scholars of batch 2011. 36 students participated in this program. 14 projects were submitted and presented and the following four projects were selected for "Uco Bank Medha Samman Award" for the year 2012.

- 1) "Studying the Bacterial contamination on touch surfaces of Kolkata Metro, Public Bus and Hospital Ward and comparatively analysing the variation of Staphylococcus Aureus and testing the level of antibiotic resistance" by Niladri Bhowmick, Calcutta Medical College, Ahana Chatterjee, Heritage Institute of Technology, Kolkata.
- 2) "Isolation and Characterization of Halophilic Organisms from Natural Water Bodies as a Potential Tool for Desalination" by Apala Chaudhuri, Mahesh Minnath Parsutkar, Pritha Mukherjee, Presidency University, Kolkata.
- 3) "Creating a 16-bit Analog to Digital Converter (ADC) using two 8 bit ADCs" by Soumyadeep Chakrabarti & Soumyajit Maitra, Jadavpur University and Jaidip Palit, BESU, Shibpur.
- 4) "An Axiomatic characterization of the Shapely value" by Koulik Khamaru, Mayukh Ghosh and Pratay Dutta, ISI, Kolkata.

Judges for project evaluation:

- 1) Prof. Surajit Chakrabarti, Associated with Department of Physics, BESU, Shibpur, Howrah.
- 2) Prof. Satrajit Adhikari, Department of Physical Chemistry, IACS, Jadavpur, Kolkata.
- 3) Prof. Samik Ghosh, Department of Mathematics, Jadavpur University, Jadavpur, Kolkata.
- 4) Prof. Sanjib Bagchi, Associated with Department of Chemistry, Presidency University, Kolkata.
- 5) Prof. Partha Deb Ghosh, Department of Botany, Kalyani University, Nadia.
- 6) Prof. Samar Bhattacharya, Department of Electrical Engineering, Jadavpur University, Jadavpur, Kolkata.
- 7) Prof. Sagnik Sinha, Department of Mathematics, Jadavpur University, Kolkata.
- 8) Dr. Anirban Ganguly, S. S. K. M Hospital, Kolkata.



05/01/13: Annual Award Ceremony: Held at JB-Centre of Excellence.

Dr. Ronald Prinn graced the Chair of the Chief Guest and delivered Key Note address of the Annual Award Ceremony.

Dr. Purnendu Chatterjee, Chairman, JBNSTS delivered the Welcome Address.

Dr. Ronald Prinn and Dr. Purnendu Chatterjee gave away the Certificates of Merit to JBNSTS Senior Scholars of batch 2012.

Project award conferred to the JBNSTS Scholars of batch 2011 and the Rotating Shield of **Best School Award** for the year 2012 awarded to **South Point High School**, Kolkata by Dr. Purnendu Chatterjee.



11/02 – 13/02/13: Talent Enrichment Program: For JBNSTS Scholars of batch 2011. Ten scholars and three JBNSTS Staff participated in 8th Annual Astronomy Camp at Lakshmipur, Birbhum, West Bengal, organized by Sky Watchers' Association, Kolkata. There were lecture sessions and observation sessions during the camp.

Lecture Sessions:

- 1) "Learning night sky with the help of sky chart" by Shri Soumen Mukherjee, Sky Watchers' Association, Kolkata.
- 2) "Astronomical telescope and telescope mounts" by Shri Soumen Mukherjee, Sky Watchers' Association, Kolkata.
- 3) "Discussion on solar system" by Prof. Basudeb Bhattacharya, Sky Watchers' Association, Kolkata.
- 4) "Celestial co-ordinate system" by Sri Palash Chattarjee, Sky Watchers' Association, Kolkata.
- 5) "Observable deep sky objects" by Sri Biplab Kumar Dey, Sky Watchers' Association, Kolkata.



Observation Sessions: Identifications of various stars, nebulae, planets, satellites and galaxies through telescope by the participants under the able guidance of experts.

06/04 – 07/04/13: Seminar Series & Interaction Sessions: For Senior JBNSTS-Scholars (42), held at JB-Centre of Excellence, Kolkata.

Lecture by :

- 1) Dr. Rudra Dutta, North Carolina State University, USA.
- 2) Dr. Sumantra Chattarji, National Centre for Biological Sciences, Bangalore.



Interaction with JB-Scholars by the following eminent personalities:

- 1) Dr. Sayan Bhattacharya, Photographer, Kolkata.
- 2) Dr. Sruti Bandopadhyay, Dancer, Rabindra Bharati University, Kolkata.
- 3) Dr. Sumit Chowdhury, Surgeon, Kolkata.
- 4) Mrs. Sipra Dattagupta, Artist, Kolkata.



05/06 – 15/06/13: Talent Enrichment Program: 32 JB-Scholars participated in this program. Scholars visited the following Science & Technology centres in Bangalore :

(1) Indian Space Research Organization (2) Hindustan Aeronautics Limited (3) Raman Research Institute (4) Indian Institute of Astrophysics (5) Indian Institute of Science, Koramangala & CREST Hoskote Campus (6) Jawaharlal Nehru Centre for Advanced Scientific Research (7) National Centre for Biological Sciences (8) Centre for Artificial Intelligence & Robotics (9) National Institute of Mental Health & Neuro-Sciences.

29/09/13: 54th Senior Talent Search Test: 906 undergraduate science students applied for TST examination and 784 students appeared for the test from West Bengal at the following 12 examination centres:

(1) Ramakrishna Mission Residential College, Narendrapur, South 24 Parganas (2) Ramakrishna Mission Vidyamandira, Belur Math, Howrah (3) Presidency University, Kolkata (4) National Institute of Technology, Durgapur, Burdwan (5) Barrackpore Rastraguru Surendranath College, Barrackpore, North 24 Parganas (6) Burdwan Town School, Burdwan (7) Krishnath College, Behrampur, Murshidabad (8) Siliguri College, Siliguri (9) Indian Institute of Technology, Kharagpur (10) Jadavpur University, Kolkata (11) Indian Statistical Institute, Kolkata (12) J K College, Purulia.





17/11/13: Preliminary Project Presentation and Discussion: Twenty JBNSTS scholars of batch 2012 participated in this program. Total 9 scientific projects were presented by the scholars.

Members of advisory panel:

1. Dr. Riddhi Majumder, Department of Biotechnology, St. Xaviers' College, Kolkata.
2. Dr. Utpal De, School of Environment Studies, Jadavpur University, Jadavpur, Kolkata.
3. Dr. Amitava Gupta, Department of Power Engineering, Jadavpur University, Salt Lake campus, Kolkata.
4. Dr. Anirban Ganguly, S S K M Hospital, Kolkata.

23/11 – 24/11/13: 54th Senior Talent Search Test: Interview (2nd Phase): For short listed (195) students of West Bengal held at JB - Centre of Excellence, Kolkata.

The West Bengal District Scheme Program (WBDS)

16/01 – 19/01/13: WBDS Interactive Science Workshop: For middle school students (71) held at Purulia Netaji Vidyapith, Purulia.

Speakers: (1) Dr. Santanu Chattopadhyay, J K College, Purulia (2) Dr. Partha Malik, Bankura Banga Vidyalaya, Bankura (3) Dr. Sajal Mukherjee, Hurra High School, Purulia (4) Shri Barid Baran Mishra, Purulia Zilla School, Purulia (5) Shri Surja Kanta Das, DRCSC, Kolkata (6) Shri Durga Shankar Pradhan, DRCSC, Kolkata (7) Shri Abhijit Chakraborty, Purulia Netaji Vidyapith, Purulia (8) Shri Monoranjan Deghuria, Bankura Zilla School, Bankura (9) Smt. Swati Sircar, Shikshamitra, Kolkata.

29/01 - 01/02/13: WBDS Interactive Science Workshop: For middle school students (73) held at Burdwan Town School, Burdwan.

Speakers: (1) Prof. Partha Deb Ghosh, Kalyani University, Kalyani (2) Prof. Sanjib Bagchi, Emeritus Professor, Presidency University, Kolkata (3) Dr. Smarajit Manna, JBNSTS, Kolkata (4) Dr. Sk. Samsul Alam, Silut Basantapur High School, Burdwan (5) Dr. Anjan Ghosh, Exide Industries Limited, Kolkata (6) Shri Pintu Kr. Sinha, Katwa Kasiram Das Institution, Burdwan (7) Shri R N Mukherjee, Matiari R P Sen Memorial High School, Nadia (8) Shri Ajoy Kr. Saha, Mathrum N C Vidyalaya, Burdwan.

29/01 - 01/02/13: WBDS Interactive Science Workshop: For middle school students (81) held at Atul Polytechnic High School, Kharagpur, West Midnapore.

Speakers: (1) Dr. Sayan Kar, Indian Institute of Technology, Kharagpur (2) Dr. Abhijit Kar, JBNSTS, Kolkata (3) Dr. Riddhi Majumder, St. Xavier's College, Kolkata (4) Shri Chirantan Samui, Sekendarpur Rai K P Bahadur Institution, Hooghly (5) Shri Ranjan Maishal, Anal Beria High School, East Midnapore (6) Shri Arup Sengupta, Garfa DNM High School, Kolkata (7) Smt. Sudipta Chaudhury, Sujata Devi Vidyamandir, Kolkata (8) Shri Gautam Biswas, Indian Institute of Technology, Kharagpur (9) Shri Asim Kr. Basak, Barasat Mahatma Gandhi Memorial High School, Barasat, North 24 Parganas.

07/02 - 09/02/13: WBDS Interactive Science Workshop: For middle school students (75) held at David Sasoon High School, South 24 Parganas.

Speakers: (1) Dr. B N Das, Science Communicators Forum, Kolkata (2) Shri Saikat Ganguly, Kalash High School, South 24 Parganas (3) Shri Subir Bhattacharya, Dum Dum Kishore Bharati School, Kolkata (4) Smt. Barnali Banerjee Goswami, Taldi Surabala Sikshayatan for Girls, South 24 Parganas (5) Shri Surjakanta Das, DRCSC, Kolkata (6) Shri Durgasankar Pradhan, DRCSC, Kolkata.



The JBNSTS – West Bengal Academy of Science & Technology Collaborative Project

15/01 – 18/01/13: JBNSTS – West Bengal Academy of Science & Technology (WAST) Teachers' Training Workshop :

For middle school teachers (52) held at JB-Centre of Excellence, Kolkata.

Welcome Address by Prof. Papiya Nandy, Hony. Director, JBNSTS, Kolkata.

Inaugural lecture by Prof. Siddhartha Roy, President, WAST and Director, Indian Institute of Chemical Biology, Kolkata.

Speakers & Lectures :

- (1) Dr. Paromita Roy, JBNSTS, Kolkata.
- (2) Shri Ujjal Kusum Sarkar, Jiaganj Raja Bijoy Singh Vidyamandir, Murshidabad.
- (3) Shri Siddhartha Sankar Chatterjee, Bidhannagar Govt. High School, Kolkata.
- (4) Prof. Pratip Palit, Formerly of Central Research Institute for Jute & Allied Fibers, Barrackpore, North 24 Parganas.
- (5) Dr. Sharmista Bhattacharya, Ananda Ashram Balika Vidyapith, Kolkata.
- (6) Dr. Sk. Samsul Alam, Silut Basantapur High School, Burdwan.
- (7) Dr. D P Duari, M P Birla Institute of Fundamental Research, M P Birla Planetarium, Kolkata.
- (8) Shri S K Mitra, Formerly Birla Industrial & Technological Museum, Kolkata.
- (9) Dr. Arati Mukherjee, Howrah Jogesh Chandra Girls' School, Howrah.
- (10) Dr. Punarbasu Chaudhuri, Formerly Birla Industrial & Technological Museum, Kolkata.

17/06 – 21/06/13: Teachers' Training Program on "Physical Science, Life Science and Mathematics": Held at JB-Centre of Excellence, for 32 teachers of different schools of Maldah, South 24 Parganas (Block- Sagar and Sundarban) and Kolkata.

Welcome address was given by Prof. Papiya Nandy, Hony. Director, JBNSTS, Kolkata followed by the inaugural lecture by Prof. Chittaranjan Mondal, Chairman, SSC, West Bengal, Kolkata.

Speakers:

- (1) Interactive Session by Prof. Siddhartha Roy, Indian Institute of Chemical Biology, Kolkata.
- (2) Interactive Session by Dr. A Mukhopadhyay, Department of Science & Technology, Government of India.
- (3) Interactive Session by Prof. Shyamal Chakrabarti, Calcutta University, Kolkata.
- (4) Lecture Session by Prof. Soumitra Sengupta, Indian Association for the Cultivation of Science, Kolkata.
- (5) Interactive Session by Dr. Arindam Rana, City College, Kolkata.
- (6) Interactive Session by Prof. Dhruvajyoti Chattopadhyay, Calcutta University, Kolkata.
- (7) Laboratory Session by Prof. Pratip Palit, Formerly of Central Research Institute for Jute & Allied Fibers, Barrackpore, North 24 Parganas.





- (8) Laboratory Session by Mrs. Sucharita Kundu, JBNSTS, Kolkata.
- (9) Lecture Session by Mr. Abdul Halim Seikh, Ramakrishna Ashram Institute, Baruipur, South 24 Parganas.
- (10) Interactive Session by Ms. Swati Sircar, Sikshamitra, Kolkata.
- (11) Demonstrative Session by Dr. Arati Mukhopadhyay, Howrah Jogesh Chandra Girls' High School, Howrah.
- (12) Interactive Session by Dr. Bhupati Chakrabarti, Formerly of City College, Kolkata.
- (13) Lecture Session by Prof. Achintya Sarkar, Presidency College, Kolkata.
- (14) Demonstrative Session by Shri Arup Sengupta, Jodhpur Park Boys' High School, Kolkata.
- (15) Demonstrative Session by Dr. Sharmistha Bhattacharya, Ananda Ashram Balika Vidyalaya, Kolkata.
- (16) Field study guided by Dr. Punarbasu Chaudhuri, Calcutta University, Kolkata .
- (17) Lecture Session by Shri Subir Bhattacharya, Dum Dum Kishore Bharati High School, Kolkata.
- (18) Demonstrative Session by Dr. B N Das, Science Communicators' Forum, Kolkata.
- (19) Demonstrative Session by Shri Samar Bagchi, Science Communicators Forum, Kolkata.
- (20) Lecture Session by Prof. Sumona Mukherjee, Bidhannagar Government College, Kolkata.
- (21) Lecture Session by Shri Siddhartha S Chattopadhyay, Bidhannagar Govt. H S School, Kolkata.
- (22) Interactive Session by Dr. Paromita Roy, JBNSTS, Kolkata.
- (23) Valedictory Lecture by Prof. Manju Ray, Bose Institute, Kolkata.



The Science Camps

04/01 – 08/01/13: DST — INSPIRE Internship Science Camp in association with JBNSTS entitled “Learning Science”: For Class XI science students (59) of West Bengal, held at JB-Centre of Excellence, Kolkata.

Welcome Address by Prof. Papiya Nandy, Hony. Director, JBNSTS, Kolkata.

Speakers & Lectures:

- (1) “An Inspiring Scientist I Knew” by Dr. Partha Ghose, Associated with Bose Institute, Kolkata.
- (2) “Interactive Session” by Dr. Ei Ichi Negishi, Purdue University, USA.
- (3) “Space in Mathematics” by Prof. Siddhartha Sen, University of Dublin, Ireland.
- (4) Interactive Session by Dr. Ronald Prinn, Massachusetts Institute of Technology, USA.
- (5) “The World of Parasites” by Dr. N Mohilal Meitei, Manipur University, Imphal.
- (6) “Cancer & Ancient Disease : Modern Treatment” by Dr. Manju Ray, Emeritus Professor of CSIR, Bose Institute, Kolkata.
- (7) “Demonstration of Science Experiment” by Shri Samar Bagchi, Science Communication Forum, Kolkata.
- (8) “Patents Counseling” by Dr. Paromita Roy, Deputy Director, JBNSTS, Kolkata.
- (9) “Events that led to the birth of Quantum Mechanics” by Dr. Soumen Kr. Roy, Jadavpur University, Kolkata.
- (10) “Moments in Mathematics” by Mr. Rintu Nath, Vigyan Prasar, Noida, U.P.
- (11) “Spectroscopy, Microscopy, Properties of Fundamental Elements” – Hands on activity at JBNSTS Laboratory by Dr. Abhijit Kar and Dr. Smarajit Manna, JBNSTS, Kolkata.
- (12) “How to choose your career?” by Dr. Subhrangsu Aditya, Jadavpur University, Kolkata.
- (13) “Exploration Antractica : Science & Adventure” by Dr. Bimalendu Bhusan Bhattacharya, SN Bose National Centre for Basic Sciences, Kolkata
- (14) “Policy Dialogue on Science & Mathematics” by a team of International delegates from UK (visited JBNSTS and interacted with the students).

Participants of the Science Camp visited Science City, Kolkata.

19/03 – 23/03/13 : DST — INSPIRE Internship Science Camp in association with JBNSTS entitled “Enjoying Science”: For Class XI science students (115) of Kolkata and Howrah, held at JB-Centre of Excellence, Kolkata.

Welcome Address by Prof. Papiya Nandy, Hony. Director, JBNSTS, Kolkata

Speakers & Lectures:

- (1) “How to choose your career ?” by Dr. Subhrangsu Aditya, Jadavpur University, Kolkata.
- (2) Interactive Session by Dr. Sanghamitra Sen, Santa Barbara, California, USA.
- (3) “Museums in India and Abroad” by Dr. Jayanta Sthanapati, Formerly of National Council of Science Museums, Kolkata.
- (4) Interaction Session by Dr. A. N. Lahiri Majumder, Bose Institute, Kolkata.
- (5) “What is a Higgs Boson?” by Dr. Partha Ghose, Bose Institute, Kolkata.
- (6) “Defying logic” by Dr. Arnab Chakraborty, Assistant Professor, Applied Statistics Unit, Indian Statistical Institute, Kolkata.
- (7) “Exploration Antarctica: Science & Adventure” by Dr. Bimalendu Bhusan Bhattacharya, S N Bose National Centre for Basic Sciences, Kolkata.
- (8) “Where there is a Will, there is a Way” by Mr. Dipankar Ghosh, Hitrek, Howrah.
- (9) Parents’ Counseling by Dr. Paromita Roy, Deputy Director, JBNSTS, Kolkata.
- (10) “The Strange Structure of Space-time” by Prof. Soumya Chakravarti, California State University, USA.
- (11) “How Machine Reads and Writes” by Mr. Pranab Nath Chakraborty, Retd., Regional Engineer-in-charge (ER), Wireless Monitoring Organization, Ministry of Communication, Govt. of India.





- (12) "Spectroscopy, Microscopy, Properties of Fundamental Elements" - Hands on activity at JBNSTS Laboratory – conducted by Dr. Abhijit Kar & Dr. Smarajit Manna, JBNSTS, Kolkata.
- (13) "Astronomical Telescope and Telescope Mount" by Mr. Soumen Mukherjee, Sky Watchers' Association, Kolkata.
- (14) "Challenges in Modern Astronomy" by Dr. D. P. Duari, M P Birla Institute of Fundamental Research, M P Birla Planetarium, Kolkata.

Valedictory Lecture by Prof. Saugata Roy, Member of Parliament, Government of India.

25/04 – 29/04/13: DST — INSPIRE Internship Science Camp in association with JBNSTS entitled "বিজ্ঞান ভাবনা": For Class XI science students (112) of Bankura, Purulia, Birbhum, Hooghly and Kolkata, held at JB-Centre of Excellence, Kolkata.

Welcome Address by Prof. Papiya Nandy, Hony. Director, JBNSTS, Kolkata

Speakers & Lectures:

1. "Chemistry : The fascinating subject" by Prof. Nitin Chattopadhyay, Jadavpur University, Kolkata.
2. "Team Work" by Dr. Anjan Ghosh, Exide Industries Limited, Kolkata.
3. Interaction session by Prof. Souvik Bhattacharyya, Jadavpur University, Kolkata.
4. "Parents" and "Students Counselling" by Dr. Paromita Roy, JBNSTS, Kolkata.
5. "কম্পনও স রলে দালগতি: ে গাড়ারক থা"ও "ত্রীড়ঙ্গনের পদার্থবিজ্ঞান" by Dr. Bhupati Chakrabarti, City College, Kolkata.
6. "Story of Calculus" "আন্তহীনের অন্তযামী" by Dr. Parthasarathi Mukhopadhyay, R K M Residential College, Narendrapur, Kolkata.
7. "স্বল্প-কার্বন জীবনযাত্রা অভ্যাসের দ্বারা জলবায়ুর পরিবর্তন প্রতিরোধ" by Dr. Purnarbasu Chaudhuri, Calcutta University, Kolkata.
8. "Mathematics Workshop" by Shri Sabyasachi Mitra, Calcutta International School, Kolkata.
9. "Magnificent Lhotse" by Smt. Soma Bhattacharya, Mountaineer, Kolkata.
10. "Cellular Totipotency & Stem Cell Technology" by Dr. Partha Deb Ghosh, Kalyani University, Kalyani.
11. "Moving close to the speed of light : an Introduction to Special Theory of Relativity" by Dr. Krishnendu Sengupta, Indian Association for the Cultivation of Science, Kolkata.
12. Valedictory Lecture: "পরিবেশের এপিঠ ওপিঠ" by Dr. Saroj Ghose, Formerly of National Council of Science Museums, Kolkata.
13. "Spectroscopy, Microscopy, Properties of Fundamental Elements" - Hands on activity at JBNSTS Laboratory – conducted by Dr. Abhijit Kar, Dr. Smarajit Manna and Ms. Sucharita Kundu, JBNSTS, Kolkata.

14/05 – 18/05/13: DST — INSPIRE Internship Science Camp in association with JBNSTS entitled "কেন বিজ্ঞান?": For Class XI science students (47) of Kolkata and North 24 Parganas, held at JB-Centre of Excellence, Kolkata.

Welcome Address by Prof. Papiya Nandy, Hony. Director, JBNSTS, Kolkata

Speakers & Lectures:

1. "ঈশ্বর কণার আর্শব্য গল্প" by Dr. Soumitra Sengupta, Indian Association for the Cultivation of Science, Kolkata.
2. "How to choose your career ?" by Dr. Subhrangsu Aditya, Jadavpur University, Kolkata.
3. Interactive Session by Dr. Siddhartha Roy, Indian Institute of Chemical Biology, Kolkata.
4. "Molecular Modeling" by Dr. Chaitali Mukhopadhyay, Calcutta University, Kolkata.
5. "Challenges in Modern Astronomy" by Dr. D P Duari, M P Birla Institute of Fundamental Research, M P Birla Planetarium, Kolkata.
6. "Demonstration of Science Experiment" by Shri Samar Bagchi, Science Communicators' Forum, Kolkata.
7. "Molecules of Life : Proteins" by Dr. Swagata Dasgupta, Indian Institute of Technology, Kharagpur.

8. "First Step to Number Theory" by Mr. Gautam Biswas, Indian Institute of Technology, Kharagpur.
9. Experimentation by the students: towards building research aptitude— conducted by Dr. Abhijit Kar, Dr. Smarajit Manna and Ms. Sucharita Kundu, JBNSTS, Kolkata.
10. "The Square Theorem" by Dr. Indranath Sengupta, Jadavpur University, Kolkata.
11. "Laser and its application in Chemistry" by Dr. Samita Basu, Saha Institute of Nuclear Physics, Kolkata.
12. "Parents Counseling" by Dr. Paromita Roy, JBNSTS, Kolkata.
13. "Indian Civilization and Science : An Interactive Dialogue" by Dr. Smritikumar Sarkar, Burdwan University, Burdwan.
14. "Is Biology an exciting field for study?" by Dr. A N Lahiri Majumder, Bose Institute, Kolkata.

16/07 – 20/07/13: DST — INSPIRE Internship Science Camp in association with JBNSTS entitled "Learning Science": For Class XI science students (113) of Kolkata and North 24 Parganas, held at JB-Centre of Excellence, Kolkata.

Welcome Address by Prof. Papiya Nandy, Hony. Director, JBNSTS, Kolkata

Speakers & Lectures :

- (1) "On the Road to Science" by Prof. Anuradha Mukhopadhyay, Kazi Nazrul University, Burdwan.
- (2) "Demonstration of Science Experiment" by Shri Samar Bagchi, Science Communicators' Forum, Kolkata.
- (3) "How to find black holes" by Dr. Somak Raychaudhury, Presidency University, Kolkata.
- (4) "Team Spirit" by Dr. Ashesh Nandy, Centre for Interdisciplinary Research and Education, Kolkata.
- (5) "Spectroscopy, Microscopy, Properties of Fundamental Elements" - Hands on activity at JBNSTS Laboratory – conducted by Dr. Abhijit Kar and Dr. Smarajit Manna JBNSTS, Kolkata.
- (6) "Protein, Proteins, Proteomics" by Dr. Abhijit Chakrabarti, Saha Institute of Nuclear Physics, Kolkata.
- (7) "The Quantum revolution and the Nano world" by Dr. G P Das, Indian Association for the Cultivation of Science, Kolkata.
- (8) "Parents Counseling" by Dr. Paromita Roy, JBNSTS, Kolkata.
- (9) Motivational Lecture by Dr. Ajoy Kumar Ray, Bengal Engineering & Science University, Shibpur, Howrah.
- (10) "A Rational Approach to Electrochemistry" by Dr. Kaushik Das, Jadavpur University, Kolkata.
- (11) "How to choose your career?" by Dr. Subhrangsu Aditya, Jadavpur University, Kolkata.
- (12) "Exploration Antarctica: Science & Adventure" by Dr. Bimalendu Bhusan Bhattacharya, SN Bose National Centre for Basic Science, Kolkata.
- (13) "Measuring distances by prime numbers by Dr. Chandrakant Aribam Sharma, Indian Institute of Science Education and Research, Mohali.
- (14) "Mathematics and Chemistry: Unlikely partners or effective soul mates?" by Dr. Subhash Basak, University of Minnesota, Duluth, USA.

03/09 – 07/09/13: DST — INSPIRE Internship Science Camp in association with JBNSTS entitled "বিজ্ঞানের নবদিগন্ত": For Class XI science students (105) of Kolkata, South 24 Parganas, Birbhum and Hooghly, held at JB-Centre of Excellence, Kolkata.

Welcome Address by Prof. Papiya Nandy, Hony. Director, JBNSTS, Kolkata

Speakers & Lectures :

- (1) Motivational Lecture by Prof. Bimal Kr. Roy, Indian Statistical Institute, Kolkata.
- (2) "Demonstration of Science Experiments" by Shri Samar Bagchi, Science Communicators' Forum, Kolkata.
- (3) "Teamwork" by Dr. Anjan Ghosh, Total Quality Management, Exide Industries Ltd., Kolkata.





- (4) "Story of Calculus" by Dr. Parthasarathi Mukhopadhyay, RKM Residential College, Narendrapur, Kolkata.
- (5) "Doing Combinatorics, Solving Functional Equations" by Dr. Sumitra Purkayastha, Indian Statistical Institute, Kolkata.
- (6) "Basic Principles of LASER" by Prof. Samita Basu, Saha Institute of Nuclear Physics, Kolkata.
- (7) "How to choose your career" by Dr. Subhrangshu Aditya, Jadavpur University, Kolkata.
- (8) "Studying Oscillations to Explore Physics" by Dr. Bhupati Chakrabarti, formerly of City College, Kolkata.
- (9) "Solar Electricity : Why and How?" by Prof. Hironmay Saha, Bengal Engineering and Science University, Shibpur.
- (10) "Atoms, Molecules and Quanta" by Prof. Sanjib Bagchi, Presidency University, Kolkata.
- (11) "DNA and Biotechnology" by Dr. Partha Deb Ghosh, Kalyani University, Nadia.
- (12) "Many reasons to be a Scientist" by Dr. Subodh Mahanti, Vigyan Prasar, Noida, UP.
- (13) "Recent Concepts in Astronomy and Astrophysics" by Dr. D P Duari, M P Birla Institute of Fundamental Research, M P Birla Planetarium, Kolkata.
- (14) "Parents Counseling" by Dr. Paromita Roy, JBNSTS, Kolkata.

Participants of the Science Camp visited 'Innovation Hub' at BITM, Kolkata.

26/11 – 30/11/13 : DST — INSPIRE Internship Science Camp in association with JBNSTS entitled 'Learning Science': For Class XI science students (58) of Kolkata held at JB-Centre of Excellence, Kolkata.

Welcome Address by Prof. Papiya Nandy, Hony. Director, JBNSTS, Kolkata.

Speakers & Lectures :

- (1) Motivational Lecture by Dr. Debshankar Ray, Indian Association for the Cultivation of Sciences, Kolkata.
- (2) "How to address Alzheimer's disease" by Dr. Debasish Bhattacharyya, Indian Institute of Chemical Biology, Kolkata.
- (3) "Team Sprit in Science" by Dr. Ashesh Nandy, Center for Interdisciplinary Research and Education, Kolkata.
- (4) "Site-Specific Drug Delivery" by Dr. Mukul Basu, formerly of Indian Institute of Chemical Biology, Kolkata.
- (5) "Story of Calculus" by Dr. Parthasarathi Mukhopadhyay, RK Mission Res. College, Narendrapur, Kolkata.
- (6) "Demonstration of Science Experiments" by Shri Samar Bagchi, Science Communicators' Forum, Kolkata & Dr. B.N. Das, Science Communicators' Forum, Kolkata.
- (7) "Misconceptions in Science – Questions you should have asked" & "Careers in Science" by Shri G S Rautela, National Council of Science Museums, Kolkata.
- (8) "Intervention of Ceramic Science and Technology for Humanity : A Holistic Approach" by Dr. Swapan Kumar Das, Central Glass & Ceramic Research Institute, Kolkata.
- (9) "Students' & Parents' Counseling" by Dr. Amita Chatterjee, Jadavpur University, Kolkata, Dr. Subhrangshu Aditya, Jadavpur University, Kolkata & Dr. Paromita Roy, JBNSTS, Kolkata.
- (10) Motivational Lecture by Dr. Bimal Kr. Roy, Indian Statistical Institute, Kolkata.
- (11) Motivational Lecture by Dr. Anupam Basu, Indian Institute of Technology, Kharagpur.
- (12) "Challenges of Nano-Science and Technology" by Dr. P Pramanik, Indian Institute of Technology, Kharagpur.
- (13) "Quantitative Techniques in Decision Making" by Dr. Sujit Kr. Basu, Visva Bharati University, Shantiniketan & Rabindra Bharati Society, Kolkata.
- (14) "Observing few Wonders of Modern Biology" by Dr. Riddhi Majumder, St. Xavier's College, Kolkata.
- (15) Motivational Lecture by Dr. Abhishek Dey, Indian Association for the Cultivation of Sciences, Kolkata.

Other Collaborative programs of JBNSTS

05/02/13: One day Science Workshop: In memory of Late Prof. Amarnath Bhaduri:

For middle school students (41) in Kolkata, jointly organized by JBNSTS and A N Bhaduri Memorial Foundation held at JB-Centre of Excellence, Kolkata.

Speakers: (1) Dr. Dipankar Banerjee, Indian Institute of Astrophysics, Bangalore (2) Dr. Dhruvajyoti Chattopadhyay, University of Calcutta, Kolkata (3) Dr. Bhupati Chakrabarti, City College, Kolkata.

08/05 & 10/05/13: Amita Ray Memorial Program: For middle school students (123) in Kolkata, held at Bethune Collegiate School, Kolkata.

Speakers: (1) Smt. Sukla Roy, Bethune Collegiate School, Kolkata (2) Dr. Parthasarathi Ray, Calcutta University, Kolkata (3) Dr. Apratim Guha, Indian Institute of Management, Ahmedabad (4) Dr. Pratip Palit, formerly of Central Research Institute for Jute & Allied Fibers, Barrackpore, 24 Parganas (5) Smt. Swati Sircar, Shikshamitra, Kolkata.

22/08 – 25/08/13: "Science Orientation Workshop for Science Students": For class X - XII held at ONGC, Jorhat, Assam (35), organized by JBNSTS and sponsored by ONGC.

Welcome address by Shri Paresh Ram, HRD, ONGC, Jorhat.

Inaugural Lecture by Shri S K Jain, GGM, Basin Manager, ONGC, Jorhat.

Speakers : (1) Dr. Partha Deb Ghosh, Kalyani University, Nadia (2) Dr. Abhijit Kar, JBNSTS, Kolkata (3) Dr. Riddhi Majumder, St. Xavier's College, Kolkata (4) Dr. Bhupati Chakraborty, City College, Kolkata (5) Dr. Smarajit Manna, JBNSTS, Kolkata (6) Dr. Mrinal Nandi, West Bengal State University, Barasat, Kolkata.

22/08 – 25/08/13: "Science Orientation Workshops for Science Students": For class X - XII held at Regional Training Institute, Sibsagar, Assam (25).

Welcome address by Ashoke Agarwal, Chief Engineer, R.T.I., O.N.G.C, Sibsagar.

Speakers : (1) Dr. Bhupati Chakraborty, City College, Kolkata (2) Dr. Smarajit Manna, JBNSTS, Kolkata (3) Dr. Mrinal Nandi, West Bengal State University, Barasat, Kolkata (4) Dr. Partha Dev Ghosh, Kalyani University, Kalyani, Nadia (5) Dr. Abhijit Kar, JBNSTS, Kolkata (6) Dr. Riddhi Majumder, St. Xavier's College, Kolkata.

12/11/13: One day Science Workshop in memory of Late Prof. Amarnath Bhaduri:

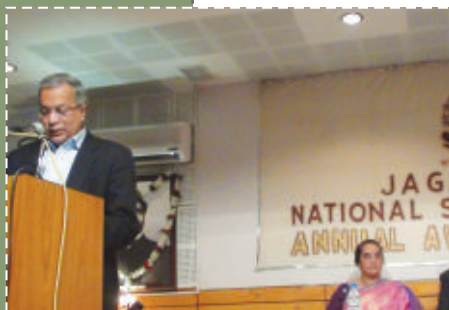
For middle school students (25) in Kolkata, jointly organized by JBNSTS and A N Bhaduri Memorial Foundation held at JB-Centre of Excellence, Kolkata.

Speakers : (1) Dr. Basudeb Bhattacharyya, Indian SkyWatchers' Association, Kolkata (2) Shri Samar Bagchi, Science Communicators' Forum, Kolkata.



Annual Award Ceremony 2012

Annual Award Ceremony of JBNSTS for the year 2012 was held at the JB-Centre of Excellence, 1300 Rajdanga Main Road, Kolkata 700 107 on January 5, 2013 at the Nirupama Chatterjee Hall of Scholars in its premises. Dr. Purnendu Chatterjee, Chairman, JBNSTS delivered the Welcome address in this ceremony. Many senior scholars, experts, guardians, teachers and well wishers of JBNSTS gathered to welcome the new scholars in the JBNSTS fraternity. Dr. Ronald G. Prinn, Professor of Atmospheric Science, of MIT, Cambridge MA, USA graced the Chair of the Chief Guest of this Ceremony and gave away the Certificates of Merit to JBNSTS Senior Scholars of batch 2012. Project award for 2011 batch were conferred by Dr. Purnendu Chatterjee to the Scholars of that batch. The Rotating Shield of Best School Award for the year 2012 was also awarded by Dr. Purnendu Chatterjee to South Point High School, Kolkata. The ceremony ended with vote of thanks followed by National Anthem.



Scholars' Corner

Shri Upamanyu Moitra, a JBNSTS scholar of batch 2011, has been selected for Radio Astronomy Winter School 2013, organised by the National Centre for Radio Astrophysics (NCRA) of the Tata Institute of Fundamental Research (TIFR) and Inter-University Centre for Astronomy and Astrophysics (IUCAA), to be held at NCRA, Pune in December 2013.

Shri Pratim Guha Niyogi and Arthito Roy, JBNSTS scholars of batch 2011, won the first prize in poster presentation in "National Seminar on Statistics and Statistical Computing, St. Xavier's College, Kolkata", during January 2013. And this work had been done under JBNSTS project preparation forum.

Shri Anurag Verma, a JBNSTS scholar of batch 2011, participated in the 49th Annual Inter IIT Sports Meet, 2013, held at IIT Guwahati, as member of IIT-KGP aquatics and water-polo team and won Silver medal in aquatics and Bronze medal in Water-polo.

Shri Abhishek Mallick, a JBNSTS scholar of batch 2010, was selected for summer research fellowship conducted by Indian Academy of Science, Bangalore.

Shri Ankit Jain, a JBNSTS scholar of batch 2009, was awarded the "Usha Martin Endowment Award" by IIT Kharagpur for the best final year project work among the B. Tech. batch graduated in 2013.

Shri Saurabh Misra, a JBNSTS scholar of batch 2009, is currently working as Graduate Research Assistant at Purdue University, USA for Ph. D. in the area of networking.

Shri Tanmoy Sanyal, a JBNSTS scholar of batch 2008, is currently in his first year of Ph. D. in the Department of Chemical Engineering, University of California at Santa Barbara, USA.

Shri Anit Sahu, a JBNSTS scholar of batch 2008, has been started his research work for Ph.D. in the ECE Department at Carnegie Mellon University, Pittsburgh PA. He communicated us "The most interesting part is that my advisor Prof. Soumya Kar is also a JBNSTS scholar of the 2001 batch".

Shri Sauri Bhattacharyya, a JBNSTS scholar of batch 2008, is currently pursuing the Integrated M.Sc.- Ph.D. program at Harish-Chandra Research Institute, Allahabad, India.

Shri Ayush Ruia, a JBNSTS scholar of batch 2007, got the opportunity to study for his Master's in Computer Engineering at Texas A&M University, USA.

Shri Kazi Rafsanjani Amin, a JBNSTS scholar of batch 2007, is currently working as Ph.D. Scholar at Indian Institute of Science, Bangalore, India in the area Experimental Condensed Matter Physics. He received the best M.Sc. project award (jointly) from IIT Kanpur.

Shri Debanjan Dhar, a JBNSTS scholar of batch 2006, is currently doing his Ph.D. in Chemistry in the University of Minnesota, Twin Cities, USA.

Shri Abhishek Sinha, a JBNSTS scholar of batch 2006, is currently a doctoral student at the Laboratory for Information and Decision Systems (LIDS), MIT, Cambridge, USA.

Shri Sulalit Bandyopadhyay, a JBNSTS scholar of batch 2006, is currently a doctoral candidate, Ugelstad Laboratory, NTNU, Norway.

Academic and Research Activities of JBNSTS Staff in 2013

Prof. Papiya Nandy, Hony. Director:

Ph.D. degree granted:

Name : Anindita Mondal

Title : A Study on the Use of Some Nanoparticles on Solar Energy Conversion and Plant Growth Regulation

Advisors : **Papiya Nandy** and Ruma Basu

Research publications in 2012-2013: 16 papers in peer reviewed international journals.

Co-Principal Investigator of the following on-going projects

1. Lipid Biosensor bilayer Membrane : DRDO, Govt. of India 2012-2015
2. Broad Spectrum Hybrid Solar Cell . . . Nanoparticles : DST, Govt. of W. Bengal 2011-2014
3. In silico study propagation of viral infection : CSIR, Govt. of India 2012-2015
4. Nanomullite & nanomullite based biocers : DST, Govt. of India 2011-2014
5. Development and Characterization Comparative Study: DST, Govt. of India 2013-2016

Dr. Smarajit Manna, Student Advisor, JBNSTS:

Research publications: B. Paul, S. Manna, S. Das and P. Nandy, "Significant enhancement of Dielectric Constant in presence of certain concentration of Cobalt in Mullite precursor Gel" (communicated).

Co-Principal Investigator of the on going project entitled "Development and characterization Comparative Study" funded by DST, Govt. of India, 2013-2016.

Dr. Abhijit Kar, Scientific Officer, JBNSTS:

Research publication: Ghosh, M., Kar, A., Kumar, K., Kailas, S.V.; Structural characterisation of reaction zone for friction stir welded aluminium-stainless steel joint; Materials Technology, 27 (2). pp. 169-172 (2012).

Financial assistance for research:

1. Cost effective synthesis of graphene and metal-incorporated graphene: their application as sensors of environmental gases- DIT- Govt. of India, Rs.90.6 L. as Co-Investigator.
2. Development and reliability of the use of nanostructured lead free solder and soldering technique for electronic and microelectronics applications- DST Govt. of India, Rs.25.3L- as Principal Investigator.

Other achievements:

1. DST-Young Scientist Project Award, DST- Govt. of India, 2013
2. Editorial Board Member of Journal of Energy and Natural Resources, Science Publishing Group Journals
3. Reviewer for the following SCI journals:-
Journal of Materials Science and Engineering-A; Journal of Materials Engineering and Performance; Journal of Alloys and Compounds; Ceramics International; J. Material Science; Acta Metallurgica Sinica. During 2012-2013, 6 scientific papers have been reviewed.
4. Represented JBNSTS on Global Policy Dialogue on Science and Mathematics Education, Organized by British Council, UNESCO and NCERT; Kolkata and Delhi, 8-10 January, 2013
5. Invited in the Judges Panel of the Debating Matters India by British Council and Institute of Ideas, UK, 25 September, 2013
6. Invited speaker at National Short-Term Course on Modern Methods in Materials Processing and Characterisation (M3PAC2013), NIT-Durgapur; September 17-21, 2013.

Ms. Sucharita Kundu, JBNSTS:

Research publication: Paper entitled "Novelty of using Chlorophyll A concentration to determine the aquatic health of Indian Sundarban" published in SCIENCE & CULTURE, September-October, 2013 [Sci. & Cult. 79 (9-10) 384-386 (2013)].



Facts and Figures

Distribution of 712 eligible candidates for JBNSTS Senior Talent Search Test in 2012 according to the place of study in West Bengal

Sl. University / Institute	No. of eligible candidates
1 Affiliated Colleges of Calcutta University	176
2 Jadavpur University, Kolkata	45
3 Indian Institute of Technology, Kharagpur	90
4 Affiliated to West Bengal University of Technology (approved by AICTE, Govt. of W.B.)	90
5 Affiliated Colleges of Vidyasagar University	22
6 Affiliated Colleges of Burdwan University	61
7 Bengal Engineering and Science University, Shibpur	04
8 Affiliated Colleges of North Bengal University	33
9 Affiliated Colleges of Visva-Bharati University, Birbhum	05
10 Affiliated Colleges of Kalyani University	21
11 Medical Colleges in West Bengal	10
12 Ramakrishna Mission Vidyamandira, Belur Math	33
13 Ramakrishna Mission Residential College, Narendrapur	26
14 Indian Statistical Institute, Kolkata	05
15 Sidho Kanho Birsa University, Purulia	42
16 National Institute of Technology, Durgapur	04

Distribution of eligible candidates for JBNSTS Senior Talent Search Test in 2012 according to different boards of their 10+2 Examination

Sl. Board of examination	Male	Female	Total
1 West Bengal Council of H.S. Examination	401	120	521
2 All India Senior School Certificate Examination (CBSE)	82	27	109
3 Indian School Certificate Examination (ISCE)	41	19	60
4 Pre Degree (Visva-Bharati)	01	00	01
5 Board of Intermediate Education (Hyderabad, Andhra Pradesh)	10	01	11
6 Others : (Bihar, Maharastra, Rajasthan, Jharkhand, Madhya Pradesh)	09	01	10
TOTAL	544	168	712

Jagadis Bose National Science Talent Search

Distribution of 184 short listed candidates, called for the Senior Talent Search Interview 2012 according to the place of study in West Bengal

Sl.	Name of the College/ Institution	No. of candidates
1	Bankura Christian College, Bankura	03
2	Barrackpore Rashtraguru Surendranath College, Barrackpore	02
3	Batanagar Institute of Engineering, Management and Science, Maheshtala, Kolkata	01
4	Bidhannagar Govt. College, Bidhannagar, Kolkata	02
5	College of Medicine & J.N.M. Hospital	01
6	Future Institute of Engineering & Management, Sonarpur, Kolkata	01
7	Indian Institute of Technology, Kharagpur	70
8	Indian Statistical Institute, Kolkata	05
9	Jadavpur University, Kolkata	21
10	Jagannath Kishore College, Purulia	01
11	Kalyani Government Engineering College, Nadia	01
12	Krishnanagar Government College, Nadia	03
13	Lady Brabourne College, Kolkata	03
14	Malda College, Malda	01
15	Maulana Azad College, Kolkata	01
16	Medical College, Kolkata	03
17	Midnapore College, Medinipur	01
18	N R S Medical College, Kolkata	02
19	National Power Training Institute(ER), Durgapur	01
20	National Institute of Technology, Durgapur	04
21	Panchmura Mahavidyalaya, Bankura	01
22	Panskura Banamali College, Panskura, Purba Medinipur	01
23	Presidency University, Kolkata	21
24	R G Kar Medical College, Kolkata	02
25	R K M Residential College, Narendrapur	07
26	RKM Vidyamandira, Belur Math, Howrah	04
27	R.K.M. Vivekananda Centenary College, Rahara, Kolkata	02
28	Rabindra Mahavidyalaya Champadanga, Tarakeshwar, Hooghly	01
29	Saldiha College, Bankura	01
30	Seth Ananda Ram Jaipuria College, Kolkata	01
31	Shyampur Siddheswari Mahavidyalay, Howrah	01
32	Siliguri College, Siliguri, Darjeeling	01
33	St. Thomas College of Engg. & Tech, Kolkata	03
34	St. Xavier's College, Kolkata	08
35	Vijaygarh Jyotish Ray College, Jadavpur, Kolkata	01
36	Visva Bharati, Santiniketan, Birbhum	01
37	Vivekananda Mahavidyalaya, Haripal, Hooghly	01
	TOTAL	184



Distribution of selected candidates of 53rd JBNSTS Senior Talent Search Test, 2012 for award on the basis of their previous institutions

Sl.	Name of the College/ Institution	No. of candidates
1	Ashok Hall Girls' H S School, Kolkata	01
2	Bankura Christian Collegiate School, Bankura	01
3	Banwaribad Maha Raja's High School, Murshidabad	01
4	Baramohanpur High School, Paschim Medinipur	01
5	B E College Model School, Howrah	01
6	Bethuadahari JCM High School, Bethuadahari, Nadia	01
7	Bhavans Gangabox Kanoria Vidyamandir, Kolkata	01
8	Bidhannagar Govt. High School, Kolkata	01
9	Bidhannagar Municipal High School, Kolkata	01
10	Birla High School, Kolkata	01
11	Bolpur NNB High School, Bolpur, Birbhum	01
12	Cambridge Court High School, Jaipur	01
13	Chandannagar Sri Aurobindo Vidyamandir, Hooghly	01
14	Chettinad Vidyashram, Chennai	01
15	DAV Public School, Orissa	01
16	Don Bosco School, Kolkata	01
17	DPS Farakka, Murshidabad	01
18	Future Campus School, Kolkata	01
19	Gokhale Memorial Girls' High School, Kolkata	01
20	Haripal G D Institution, Hooghly	01
21	Hemsheela Model School, Durgapur	02
22	Howrah Zilla School, Howrah	01
23	Howrah Vivekananda Institution, Howrah	01
24	Janai Training High School, Hooghly	01
25	Karimpur Jagannath High School, Karimpur, Nadia	01
26	Kashinagar High School (H.S.), 24 Parganas	01
27	Kendriya Vidyalaya, IIT Campus, Kharagpur	02
28	M.P. Birla Foundation H. S. School, Kolkata	02
29	Malda Zilla School, Malda	01
30	Our Lady Queen of the Missions, Kolkata	01
31	Pace Junior Secondary College, Mumbai	01
32	Rajhans Vidyalaya, Mumbai	01
33	RKM Boys' Home High School (HS), Rahara, Kolkata	02
34	Salt Lake School, English Medium, Kolkata	02
35	Smt. Sulochanadevi Singhania School, Maharashtra	01
36	South Point High School, Kolkata	03
37	Sri Aurobindo Institute of Education, Kolkata	01
38	St. Augustine's Day School, Kolkata	01
39	St. Jame's School, Kolkata	01
40	St. Lawrence High School, Kolkata	02
41	St. Mary's High School, Cooch Behar	01
42	Tarakeswar High School, Tarakeswar, Hooghly	01
43	The Future Foundation School, Kolkata	01
44	Vivekananda Siksha Niketan High School, Bankura	01
	TOTAL	52

Best School Award for the year 2012 : South Point High School, Kolkata

Selected JBNSTS Scholars of batch 2013

The following students have been selected as JBNSTS scholars of batch 2013

Abhishek Sinha	IIT, Kharagpur
Achyutananda Subuddhi	IIT, Kharagpur
Aditya Basu	Scottish Church College, Kolkata
Anindya Roy	Jadavpur University, Kolkata
Anirban Misra	R K M Vidyamandira, Belur Math, Howrah
Anubhab Saha	IIT, Kharagpur
Aritra Nath Chattopadhyay	R K M Vidyamandira, Belur Math, Howrah
Arna Ghosh	IIT, Kharagpur
Avilash Mukherjee	IIT, Kharagpur
Debasruti Boral	Bethune College, Kolkata
Gambhira Sashank	IIT, Kharagpur
H Prithvi Krishna	IIT, Kharagpur
Harsh Parashar	IIT, Kharagpur
Harshita Kaul	St. Xavier's College, Kolkata
Indrajit Pal	Heritage Institute of Technology, Kolkata
Jeenu Grover	IIT, Kharagpur
Kallol Kumar Das Poddar	Medical College, Kolkata
Kaustav Mitra	Presidency University, Kolkata
Kumar Ayush	IIT, Kharagpur
Naitik Jain	IIT, Kharagpur
Neha Banerjee	Jadavpur University, Kolkata
Nikhil Swain	IIT, Kharagpur
Nivedita Manna	Nil Ratan Sircar Medical College, Kolkata
Parichita Chakraborty	Presidency University, Kolkata
Prayag Biswal	IIT, Kharagpur
Raunak Chitlangia	IIT, Kharagpur
Sabarnya Mitra	R K M Vidyamandira, Belur Math, Howrah
Sampurna Mukherjee	Presidency University, Kolkata
Sayantan Dutta	IIT, Kharagpur
Siladitya Chowdhury	Medical College, Kolkata
Siva Kesava Reddy Kakarla	IIT, Kharagpur
Soham Basu Chaudhury	Jadavpur University, Kolkata
Sougata Hazra	IIT, Kharagpur
Subhadeep Dasgupta	R K M Residential College, Narendrapur



Current Donors and Donations (2012-2013)

A	SCHOLARS RESERVE FUND		
	i) Grant		
	1 Department of Higher Education, Govt. of West Bengal	130,000.00	
	2 Department of Health & Family Welfare, Govt. of West Bengal	122,000.00	252,000.00
	ii) Donation (General)		
	1 Armenian Holy Church Nazareth	54,000.00	
	2 MP Birla Smarak Kosh (South Point)	81,000.00	
	3 Daulat Ram Mehndiratta Charitable Trust	27,000.00	
	4 Luxmi Charitable Trust	27,000.00	
	5 Indian Association for Cultivation of Science (IACS), Kolkata	27,000.00	
	6 Indian Institute of Chemical Biology (IICB), Kolkata	27,000.00	
	7 State Bank of India (AK Ghosh - decd.)	30,000.00	
	8 Biren Roy Trust	27,000.00	
	9 A N Bhaduri Memorial Foundation	10,000.00	310,000.00
B	DEVELOPMENT FUND		
	i) Donation - Corpus		
	1 Prof. Amita Chatterjee	1,000,000.00	
	2 Dr. Dipanjan Raychaudhari	4,900.00	
	3 Indian Leather Association	12,000.00	
	4 Federation of Association of Small Industry (FASI)	5,000.00	
	5 Birla Institute of Technology Museum	52,000.00	
	6 Shri Soumyadeep Chatterjee (Sr. Scholar 2005 batch)	142.00	
	7 Shri A.V.N. Murthy (Sr.Scholar 2006 batch)	11,620.00	
	8 Shri Debkishore Mitra (Sr.Scholar 2004 batch)	600.00	
	9 Shri Kolahal Bhattacharya (Sr.Scholar 2005 batch)	6,000.00	
	10 Shri Abhra Giri (Sr.Scholar 2005 batch)	1,351.00	1,093,613.00
	ii) Donation (General)		
	Shri Kishalaya Saha (Sr.Scholar 2006 batch)		1,880.00
C	LABORATORY FUND		
	i) Donation (General)		
	Dr.Subodh Mahanti		1,500.00
	ii) Donation (Corpus)		
	1 ABHISHEK MALHOTRA (Sr.Scholar 2011 batch)	1,000.00	
	2 ABHISHEK RAY (Sr.Scholar 2011 batch)	1,000.00	
	3 ADITI CHATTERJEE (Sr.Scholar 2011 batch)	1,000.00	
	4 AHANA CHATTERJEE (Sr.Scholar 2011 batch)	1,000.00	
	5 AKSHAY SINGH (Sr.Scholar 2011 batch)	1,000.00	
	6 ANIRBAN BHATTACHARYYA (Sr.Scholar 2011 batch)	1,000.00	
	7 APALA CHAUDHURI (Sr.Scholar 2011 batch)	1,000.00	
	8 ARTHITO ROY (Sr.Scholar 2011 batch)	1,000.00	
	9 BIDISHA DEY (Sr.Scholar 2011 batch)	1,000.00	
	10 DEBATRI CHATTOPADHYAY (Sr.Scholar 2011 batch)	1,000.00	
	11 INDROJIT MONDAL (Sr.Scholar 2011 batch)	1,000.00	
	12 KOULIK KHAMARU (Sr.Scholar 2011 batch)	1,000.00	
	13 KOUSHIK CHAKRABORTY (Sr.Scholar 2011 batch)	1,000.00	
	14 KUSUMANCHI MANIKANTA HANISH (Sr.Scholar 2011 batch)	1,000.00	
	15 MAYUKH GHOSH (Sr.Scholar 2011 batch)	1,000.00	
	16 NEERAJ KUMAR VERMA (Sr.Scholar 2011 batch)	1,000.00	
	17 PARSUTKAR MAHESH MINNATH (Sr.Scholar 2011 batch)	1,000.00	
	18 PRATAP CHANDRA ADAK (Sr.Scholar 2011 batch)	1,000.00	
	19 PRATIM GUHA NIYOGI (Sr.Scholar 2011 batch)	1,000.00	
	20 PRATYAY DATTA (Sr.Scholar 2011 batch)	1,000.00	
	21 PRITHA MUKHERJEE (Sr.Scholar 2011 batch)	1,000.00	
	22 RAHUL MALLIK (Sr.Scholar 2011 batch)	1,000.00	
	23 RAJ DESHMUKH (Sr.Scholar 2011 batch)	1,000.00	
	24 SAMPRIT GHOSH (Sr.Scholar 2011 batch)	1,000.00	
	25 SAYAMBHU SEN (Sr.Scholar 2011 batch)	1,000.00	
	26 SAYANTANI GHOSH (Sr.Scholar 2011 batch)	1,000.00	
	27 SOUMI BANDOPADHYAY (Sr.Scholar 2011 batch)	1,000.00	
	28 SOUMYAJIT MITRA (Sr.Scholar 2011 batch)	1,000.00	
	29 SOURAV MANNA (Sr.Scholar 2011 batch)	1,000.00	
	30 STHITADHI MAITI (Sr.Scholar 2011 batch)	1,000.00	
	31 SUBHAJIT DASGUPTA (Sr.Scholar 2011 batch)	1,000.00	
	32 SUDIPTA KUNDU (Sr.Scholar 2011 batch)	1,000.00	
	33 SUVRO KUMAR DATTA (Sr.Scholar 2011 batch)	1,000.00	
	34 UDVAS CHATTOPADHYAY (Sr.Scholar 2011 batch)	1,000.00	
	35 UPAMANYU MOITRA (Sr.Scholar 2011 batch)	1,000.00	
	36 SUDIP CHAKRABORTY (Sr.Scholar 2011 batch)	1,000.00	
	37 ARKAL SAIPRASAD SHRINIWAS (Sr.Scholar 2011 batch)	1,000.00	
	38 SHAUNAK CHATTERJEE (Sr.Scholar 2003 batch)	2,865.00	39,865.00

FUNDS AND ACCOUNTS



M. SAHA & CO.
CHARTERED ACCOUNTANTS

“KALYANI APARTMENT”
113/6, Hazra Road, 1st Floor,
Kolkata-700 026, ☎ : 2455-1236
E-mail: msaha_co@yahoo.com

AUDITORS' REPORT

**To the Members of the Governing Body,
Jagadis Bose National Science Talent Search,
Kolkata - 700 107**

1.0 We have audited the attached Balance Sheet of the Jagadis Bose National Science Talent Search as on 31st March, 2013 and also the Income and Expenditure Account for the year ended on that date annexed thereto. These financial statements are the responsibility of the management of the Institute. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatements. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit includes assessing the accounting principles used and significant estimates made by the management, as well as evaluating the overall financial statements presentation. We believe that our audit provides reasonable basis for our opinion.

2.0 On the basis of our audit as indicated in paragraph 1.0 above and subject to our Audit Observations [Annexure-I attached herewith], we report that :

- i. We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit.
- ii. In our opinion, proper books of account as appears from our examination of those books;
- iii. The Balance Sheet and Income & Expenditure Account dealt with by this report are in agreement with the books of account;
- iv. In our opinion and to the best of our information and according to the explanations given to us, the said accounts read with the schedules A to M enclosed thereto and subject to our comments in Audit Observations above, give the information in the manner so required and give a true and fair view.
 - a) In the case of the Balance Sheet, of the state of affairs of the Institute, as at 31st March, 2013; and
 - b) In case of the Income & Expenditure Account, of the surplus for the year ended on that date.

Place: Kolkata
Date: 26th day of September, 2013

For M. SAHA & CO.
Chartered Accountants

Sd/-
Partner
CA. DEBARSHI SAHA
[MEM NO: 061398, FRN : 305135E]

M. SAHA & CO.
CHARTERED ACCOUNTANTS

“KALYANI APARTMENT”
113/6, Hazra Road, 1st Floor,
Kolkata-700 026, ☎ : 2455-1236
E-mail: msaha_co@yahoo.com

Annexure - I

Audit Observations:

1. Grant received from Department of Science and Technology, Government of India during the financial year 2009 - 10, 2010 - 11 and 2011 -12 Rs.1,43,05,000/- for the purpose of holding Science Camps and Utilisation Certificates for the expenses made out of the Grant for the above years have already been submitted showing unutilized Rs.2,88,298/- and the said amount was refunded to the granting authority. Subsequently it has been decided in the Governing Body Meeting held on 7th May, 2013 [by circulation] and on 29th day of July, 2013 that rental charges for using JBNSTS infrastructure facilities of Rs.250/- per bed per student participated in such Science Camps held during 2009-10,2010-11 and 2011-12 will be charged. Accordingly a sum of Rs.14,13,400/- have been accounted for as income from arrear rental charges during the year under audit along with rental income of Rs.9,82,300/-. After making necessary adjustments with earlier unutilized grant and unutilized grant already refunded earlier of Rs.2,88,298/-, Rs.5,10,365/- has been shown as Grant receivable as on 31st March, 2013. This grant receivable calculated on the basis of Governing Body's decision taken after the date of the Balance Sheet, has not yet been received till the date of signing of our audit report.
2. Investments
Investment of Rs.2,69,51,666.23 includes Rs.41,07,237.32 being the balances lying with State Bank of India, Kasba Branch, PPF Accounts in the name of the staff members of the Institute on which the Institute has no other control except that the individual Pass Books are kept under their custody. According to our opinion the above mentioned “PPF Investment” and its related Retirement Benefit Fund are neither the asset nor the liability of the reporting institution and hence should not be a part of the Financial Statements of the institution.
3. A Spectrometer amounting Rs.5,57,939/- was purchased during 2011 - 12 and the same was shown as utilized out of grant received from DST (SEATS), Govt. of India, and accordingly utilization certificate was submitted. However, due to the Governing Body's decision to charge arrear rent out of such grant money, as discussed earlier in our Audit Observations in Srl. No.1, the Grant Receivable amount exceeded Rs.10 Lacs. According to management verbal representation, DST will not reimburse the overspent Grant to that extent and hence decision was taken not to show such capital expenditure on account of spectrometer purchase in FY 2011-12 out of grant and instead to treat it as a fixed asset out of JBNSTS - Own Generation Fund. However this appropriation of last year capital expenses is subject to Governing Body resolution and approval. It has been decided to show the same as an asset during 2012 - 13 and since it was put to use during 2011 - 12 depreciation @ 15% Rs.83,691/- for the whole year was provided for during the year under audit as previous year expenditure.



M. SAHA & CO.
CHARTERED ACCOUNTANTS

“KALYANI APARTMENT”
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4. Total Receivables [Others] as on 31.03.2013 of Rs.1,47,118/- included in Current Assets, Loans and Advances include the following items:
- A sum of of Rs.44,303/- receivable from M/s Concept, Architect, is being brought forward since FY 2005-06 on account of tender fees of Rs.36,200/- and TDS recoverable of Rs.8,103/-.
 - A sum of Rs.18,991/- receivable from M/s Chatterjee Group also brought forward since FY 2006-07.
- The management of the reporting institution is advised to consider the above advances and take appropriate action thereof.
5. No depreciation has been provided for on Fixed Assets acquired out of Special Reserve Fund in earlier years. This method of accounting is consistently followed by the reporting institution over the years. According to our opinion depreciation on such fixed assets ought to have been provided for in the books to exhibit the true value of such Fixed Assets. Quantification of such underprovided depreciation is not possible in the absence of necessary details.

Place: Kolkata
Date: 26th day of September, 2013

For M. SAHA & CO.
Chartered Accountants

Sd/-
Partner
CA. DEBARSHI SAHA
[MEM NO: 061398, FRN : 305135E]

Jagadis Bose National Science Talent Search
1300, Rajdanga Main Road, Kasba, Kolkata 700 107

BALANCE SHEET AS ON 31st MARCH, 2013

PREVIOUS YEAR ₹	SOURCES OF FUNDS	SCHEDULE	CURRENT YEAR	
			₹	₹
30,262,491.80	Funds	A		35,112,020.99
563,983.22	Net Current Liabilities:			
	Current Liabilities	E	4,194,061.52	
	Less:Current Assets	D	<u>3,119,707.86</u>	1,074,353.66
	Liability for Unutilised Grant:			
646,067.45	Deptt. of Higher Education, Govt. of West Bengal		1,560,668.45	
73,659.49	Deptt. of Higher Education, Govt. of West Bengal[WBDS]		7,915.49	
584.00	West Bengal Pollution Control Board, Govt. of West Bengal		584.00	
612,747.75	Deptt. of Science and Technology, Govt. of West Bengal (WAST)		277,095.75	
25,000.00	West Bengal Academy of Science & Technology		30,000.00	
12,535.05	Deptt. of Science and Technology, Govt. of India		308,279.05	
1,134,298.00	Deptt. of Science and Technology, Govt. of India (SEATS)		-	
-	Deptt. of Science and Technology, Govt. of India (SEATS-NL & IS)		1,175,144.00	
84,582.11	Council of Scientific and Industrial Research, Govt. of India		103,148.11	
47,205.75	Ministry of Development of North Eastern Region, Govt. of India		47,205.75	
255,569.50	Deptt. of Science and Technology, Govt. of India (FIST)		253,068.50	3,763,109.10
<u>33,718,724.12</u>				<u>39,949,483.75</u>
	APPLICATION OF FUNDS			
12,268,803.99	Fixed Assets	B		12,997,817.52
21,449,920.13	Investments	C		26,951,666.23
<u>33,718,724.12</u>				<u>39,949,483.75</u>

Notes on accounts [Schedule-M] form an integral part of the Balance Sheet.

On behalf of the
Governing Body

In terms of our report of even date
attached herewith
For M. Saha & Co.
Chartered Accountants
FRN: 305135E

Kolkata
Date : 26th day of September, 2013

Sd/-
Prof [Dr.] Papiya Nandy
Hony. Director

Sd/-
Debarshi Saha
Partner
Membership No. 061398



Jagadis Bose National Science Talent Search
1300 Rajdanga Main Road, Kasba, Kolkata 700 107

Annual Accounts 2013

INCOME AND EXPENDITURE ACCOUNT [GRANT] FOR THE YEAR ENDED 31ST MARCH, 2013

Previous Year	Government of West Bengal (WBDS)	Government of West Bengal (DST-WAST)	WAST	Government of India (DoNER)	Government of India (DST)	Government of India (DST) (SEATS)	Government of India (DST) (SEATS -NL & IS)	Government of India (DST) (FIST)	Talent Enrichment Programme (CSIR)	Government of India (VP)	Total
₹	₹	₹	₹	₹	₹	₹	₹	₹	₹	₹	₹
Income											
General:											
13,811,660.00	6,589,845.00	-	5,000.00	-	300,000.00	4,380,904.00	1,220,000.00	-	500,000.00	607,430.00	14,203,179.00
						126,356.00					126,356.00
						(362,689.00)					(362,689.00)
						(42,504.00)					(42,504.00)
2,468,460.80											
	646,067.45	73,659.49	25,000.00	47,205.75	12,535.05	1,134,298.00		255,569.50	84,582.11	-	2,891,665.10
62,890.00											
16,574.00								2,024.00			2,024.00
16,359,584.80	7,235,912.45	673,659.49	612,747.75	47,205.75	312,535.05	5,236,365.00	1,220,000.00	257,593.50	584,582.11	607,430.00	16,818,031.10
Expenditure											
General											
5,531,858.00	4,639,617.00										4,639,617.00
7,440,914.00	547,592.00	665,744.00	335,652.00	-	4,256.00	4,380,904.00	44,856.00	4,525.00	481,434.00	607,430.00	7,072,393.00
						230,000.00					230,000.00
						860,000.00					860,000.00
						323,400.00					323,400.00
470,075.70	488,035.00										488,035.00
13,442,847.70	5,675,244.00	665,744.00	335,652.00	-	4,256.00	5,794,304.00	44,856.00	4,525.00	481,434.00	607,430.00	13,613,445.00
2,916,737.10											
	1,560,668.45	7,915.49	277,095.75	47,205.75	308,279.05	(557,939.00)	1,175,144.00	253,068.50	103,148.11	-	3,204,586.10
	1,560,668.45	7,915.49	277,095.75	47,205.75	308,279.05		1,175,144.00	253,068.50	103,148.11	-	557,939.00
2,916,737.10											3,762,525.10

Notes on accounts (Schedule - M) form an integral part of the Income and Expenditure Account

On behalf of the
Governing Body

In terms of our report of even date
attached herewith
For M. Saha & Co.
Chartered Accountants
FRN: 305135E

Sd/-

Prof (Dr.) Papiya Nandy
Hony. Director

Sd/-

Debarshi Saha
Partner
Membership No. 061398

Kolkata
Date : 26th day of September, 2013

Jagadis Bose National Science Talent Search
1300 Rajdanga Main Road, Kasba, Kolkata 700 107

INCOME AND EXPENDITURE ACCOUNT (FUND) FOR THE YEAR ENDED 31ST MARCH, 2013

Previous Year	Scholar's Reserve Fund	Development Fund	Laboratory Fund	Contingency Fund	JBNSTS-Own Gen. Fund	Total
₹	₹	₹	₹	₹	₹	₹
Income:						
Scholar's Reserve Fund:						
708,993.00	562,000.00					562,000.00
988,228.41	1,034,615.78					1,034,615.78
-	16,325.00					16,325.00
Development Fund:						
387,979.85	1,880.00	536,191.37				1,880.00
-			1,500.00			1,500.00
177,968.07			194,877.68			194,877.68
Contingency Fund:						
124,250.00				166,800.00		166,800.00
37,921.97				64,716.69		64,716.69
JBNSTS-Own Generation Fund:						
-					982,300.00	982,300.00
-					1,413,400.00	1,413,400.00
-					113,497.14	113,497.14
2,425,341.30	1,612,940.78	538,071.37	196,377.68	231,516.69	2,509,197.14	5,088,103.66
971,751.00						
Scholar's Reserve						
Fund Expenses						
599,358.15	1,046,787.00					1,046,787.00
Development Fund						
Expenses						
69,134.30	844,425.75					844,425.75
Laboratory Fund						
Expenses						
-			63,836.72			63,836.72
JBNSTS-Own Fund						
Expenses						
1,640,243.45	1,046,787.00	844,425.75	63,836.72	-	191,137.00	191,137.00
785,097.85	566,153.78	306,354.38	132,540.96	231,516.69	2,318,060.14	2,941,917.19
Balance						
-					83,691.00	83,691.00
785,097.85	566,153.78	(306,354.38)	132,540.96	231,516.69	2,234,369.14	2,858,226.19
Less: Previous Year's Expenditure:						
Depreciation on Lab. Equipment (11-12)						
Excess of Income/(Expenditure)						
transferred to specific funds						

Notes on accounts (Schedule -M) form an integral part of the Income and Expenditure Account.

On behalf of the
Governing Body

In terms of our report of even date
attached herewith
For M. Saha & Co.

Chartered Accountants
FRN: 305135E

Sd/-
Prof (Dr.) Papiya Nandy
Hony. Director

Sd/-
Debarshi Saha
Partner
Membership No. 061398

Kolkata
Date : 26th day of September, 2013



Jagadis Bose National Science Talent Search
1300 Rajdanga Main Road, Kasba, Kolkata 700 107

Schedule-A

FUNDS

PREVIOUS YEAR	CURRENT YEAR	
	₹	₹
9,250,692.12	SCHOLARS' RESERVE FUND	
	As per last year	9,250,692.12
	Add: Donation [Corpus]	-
	Add: Transferred from Contingency Fund	58,235.21
	Add: Excess of Scholars' Reserve Fund as per Income & Expenditure Account	566,153.78
		<u>9,875,081.11</u>
15,014,113.73	DEVELOPMENT FUND	
	As per last year	15,014,113.73
	Add: Donation [Corpus]	1,093,613.00
	Less: Deficit of Development Fund as per Income & Expenditure Account	[306,354.38]
		<u>15,801,372.35</u>
1,873,460.46	LABORATORY FUND	
	As per last year	1,873,460.46
	Add: Donation [Corpus]	39,865.00
	Less: Surplus of Laboratory Fund as per Income & Expenditure Account	132,540.96
		<u>2,045,866.42</u>
40,524.43	SPECIAL RESERVE FUND	
	As per last year	40,524.43
826,718.52	CONTINGENCY FUND	
	As per last year	826,718.52
	Add: Surplus of Contingency Fund as per Income & Expenditure Account	231,516.69
		<u>1,058,235.21</u>
	Less: Transferred to Scholars' Reserve Fund	[58,235.21]
		<u>1,000,000.00</u>
-	JBNSTS- Own Generation Fund	
	As per last year	-
	Add: Surplus of Own-Generation Fund as per Income & Expenditure Account	2,234,369.14
		<u>2,234,369.14</u>
	Less: Transferred to Staff Welfare & Medical Fund	[100,000.00]
	Less: Transferred to Infrastructural Dev Fund	[100,000.00]
		<u>2,034,369.14</u>
	Staff Welfare & Medical Fund	
	Transferred from JBNSTS- Own Generation Fund	100,000.00
	Infrastructural Development Fund	
	Transferred from JBNSTS- Own Generation Fund	100,000.00
3,256,982.54	RETIREMENT BENEFIT FUND (Provident Fund)	
	As per last year	3,256,982.54
	Add: Employees' Contribution during the year	549,500.00
	Less: Disbursement	-
	Add: Interest earned:	
	from Public Provident Fund	308,028.00
	from Others	297.00
		<u>4,114,807.54</u>
<u>30,262,491.80</u>		<u>35,112,020.99</u>

Jagadis Bose National Science Talent Search
1300 Rajdanga Main Road, Kasba, Kolkata 700 107

Schedule-B

FIXED ASSETS

Item	Value as on 01.04.2012	Adjustments/ Written off	Addition	Value as on 31.03.2013	Rate of Depre- ciation	Depreciation	Written Down Value as on 31.03.2013
	₹	₹	₹	₹		₹	₹
Leasehold Land (Dev. Fund)	2,075,669.00			2,075,669.00	-	-	2,075,669.00
Building (Dev. Fund)	8,526,952.35			8,526,952.35	5%	426,347.62	8,100,604.73
Rain Water Harvesting System (Dev. Fund)	69,316.03			69,316.03	5%	3,465.80	65,850.23
Mural (Dev. Fund)	43,677.89			43,677.89	5%	2,183.89	41,494.00
Electrical Equipment (Dev. Fund)	395,766.67			395,766.67	15%	59,365.00	336,401.67
Electrical Fittings (Dev. Fund)	261,499.72			261,499.72	10%	26,149.97	235,349.75
Furniture (Dev. Fund)	398,340.70			398,340.70	10%	39,834.07	358,506.63
Office Equipment (Dev. Fund)	5,791.51		8,009.00	13,800.51	15%	1,469.40	12,331.11
Furniture (Lab. Fund)	187,231.32			187,231.32	10%	18,723.13	168,508.19
Lab. Equipment (Lab Fund)	205,936.95		87,447.00	293,383.95	15%	44,007.59	249,376.36
Office Equipment (GOWB)	5.78			5.78	15%	0.87	4.91
Furniture (GOWB)	2,598.22			2,598.22	10%	257.13	2,341.09
Lab. Equipment (JB-Own Gen. Fund)			557,939.00	557,939.00	15%	154,828.00	403,111.00
Lab. Equipment (JB-Own Gen. Fund)# (Capital Work-in-Progress)			852,251.00	852,251.00			852,251.00
Furniture & Fittings (Spl. Reserve Fund)	31,725.46			31,725.46			31,725.46
Computer (Spl. Reserve Fund)	15,072.46			15,072.46			15,072.46
Electrical Equipment (Spl. Reserve Fund)	39,088.83			39,088.83			39,088.83
Electrical Fittings (Spl. Reserve Fund)	6,731.10			6,731.10			6,731.10
Office Equipment (Spl. Reserve Fund)	3,400.00			3,400.00			3,400.00
Total	12,268,803.99	-	1,505,646.00	13,774,449.99		776,632.47	12,997,817.52
Previous Year	12,321,035.14	-	594,559.00	12,915,594.14		646,790.15	12,268,803.99

The addition to Lab. Equipment (JB Own Gen. Fund) amounting to Rs. 8,52,251/- being a Scanning Tunnelling Microscope (STM) has been put to use on 20/06/2013 and as such, depreciation has not been provided for.



Jagadis Bose National Science Talent Search
1300 Rajdanga Main Road, Kasba, Kolkata 700 107

Schedule-C

INVESTMENTS

PREVIOUS YEAR

₹

CURRENT INVESTMENT:

FIXED DEPOSITS:

1,000,000.00 State Bank of India, Kasba

LONG TERM INVESTMENT:

FIXED DEPOSITS:

13,450,000.00 State Bank of India, Kasba

1,100,000.00 State Bank of India, Jeevan Deep Branch

30,000.00 UCO Bank, Brabourne Road Branch

210,000.00 Housing Development Finance Corporation Ltd

800,000.00 State Bank of India (FC), Salt Lake Branch

1,610,210.81 Housing Development Finance Corporation Ltd
(including accrued interest Rs.1,44,218.10 earned during the year ended 31.03.2013)

PUBLIC PROVIDENT FUND:

3,249,709.32 State Bank of India (PPF), Kasba Branch

21,449,920.13

CURRENT YEAR

₹

1,950,000.00

17,000,000.00

1,100,000.00

30,000.00

210,000.00

800,000.00

1,754,428.91

20,894,428.91

4,107,237.32

26,951,666.23

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Schedule-D

CURRENT ASSETS, LOANS AND ADVANCES			
PREVIOUS YEAR		CURRENT YEAR	
₹		₹	₹
6,127.00	Cash in hand		7,392.00
	Cash at Bank :		
749,147.79	State Bank of India, Kasba [A/c No 10415825348]	315,629.35	
14,927.88	State Bank of India, Kasba [A/c No 10415825360]	72,285.88	
7,422.67	United Bank of India, Bosepukur Rajdanga (PF) [A/c No 5657]	7,519.67	
353,262.46	State Bank of India, Kasba [A/c No 10415825359]	139,136.46	
584,118.03	United Bank of India, Bosepukur Rajdanga [A/c No 5486]	488,848.03	
4,626.52	State Bank of India, Saltlake [A/c No 10836429242]	52,272.52	
280,296.00	Union Bank of India, Ballygunge Branch [A/c No 301202010009819]	<u>270,447.00</u>	1,346,138.91
	Security Deposits:		
13,000.00	For Telephone	13,000.00	
11,401.00	For Electricity	<u>12,085.00</u>	25,085.00
	Loans & Advances:		
500,000.00	For Advance against Salary	508,400.00	
32,953.00	For Advance against Tour (Staff)	60.00	
3,495.95	For Office Expenses	5,058.95	
125,560.00	To Others	<u>4,800.00</u>	518,318.95
	Receivables (Grants):		
	- From Vigyan Prasar	36,000.00	
	- From DST, Govt. of India (SEATS)	510,365.00	
527,000.00	From Deptt of Higher Education, Govt of West Bengal	29,290.00	
	- From Council of Scientific & Industrial Research, Govt. of India	<u>500,000.00</u>	1,075,655.00
	Receivables (Others):		
	- From Veekay Tourist Home, B'lore	1,660.00	
	- From S R S Jayanna Tourist	710.00	
	- From The Taste Maker	5,445.00	
81,568.00	From Income Tax India [TDS by Bank]	76,009.00	
7,032.00	From SBI, Kasba Branch [Interest on FD]	-	
44,303.00	From M/s Concept	44,303.00	
18,991.00	From M/s The Chatterjee Group	<u>18,991.00</u>	147,118.00
<u>3,365,232.30</u>		<u>3,119,707.86</u>	



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Schedule- E

CURRENT LIABILITIES AND PROVISION

PREVIOUS YEAR

₹	Liabilities for :
1,061,000.00	Scholarship
340,374.50	Book Grant
10,952.00	Project Presentation Award
47,974.00	Talent Search Test (GOWB)
16,545.00	Audit Fee
15,090.00	Best School Award
-	TDS(Staff)
1,432.00	TDS(Others)
14,627.00	TDS (W. C. Tax)
1,870.00	Profession Tax
48,882.00	DST(SEATS) Expenses
13,311.00	Security Deposit by Electrical Contractor
4,198.00	Security Agency
36,973.00	Remuneration Payable to Project Staff
16,459.00	City Conveyance
882.00	Printing & Stationery
-	Expenses for Nobel Laureate & International Scientist
	Provision for:
2,298,646.02	Leave Salary
<u>3,929,215.52</u>	Total

CURRENT YEAR

₹
1,129,000.00
338,481.50
9,107.00
600.00
16,854.00
20,090.00
7,400.00
8,695.00
348.00
3,135.00
3,304.00
13,311.00
4,198.00
17,855.00
16,261.00
-
44,856.00
2,560,566.02
<u>4,194,061.52</u>

Schedule-F

ESTABLISHMENT

PREVIOUS YEAR

₹	
4,589,041.00	Salary & Allowances
	Provision for Retirement Benefit:
942,817.00	Leave Salary
<u>5,531,858.00</u>	

CURRENT YEAR

₹
4,377,697.00
261,920.00
<u>4,639,617.00</u>

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Schedule - G

OFFICE EXPENSES

PREVIOUS YEAR

₹	
43,419.00	Postage,Telegram & Telephone
11,030.00	Audit Fee
58,364.50	Contingency
89,740.00	Electricity
50,385.00	Printing & Stationery
178,498.50	City Conveyance
15,200.00	Property Tax
3,290.00	Repairs and Maintenance[Computer]
19,862.00	Repairs and Maintenance[General]
286.70	Depreciation
470,075.70	

CURRENT YEAR

₹
45,639.00
11,030.00
75,900.00
108,520.00
53,948.00
138,132.00
16,040.00
1,815.00
36,753.00
258.00
488,035.00

Schedule- H

EXPENSES UNDER SCHOLARS' RESERVE FUND

PREVIOUS YEAR

₹	
854,000.00	Scholarship
106,000.00	Book Grant
6,000.00	Science Project Presentation Award
5,751.00	Workshop on Science & Scientist
971,751.00	

CURRENT YEAR

₹
945,000.00
86,500.00
6,050.00
9,237.00
1,046,787.00

Schedule- I

EXPENSES UNDER DEVELOPMENT FUND

PREVIOUS YEAR

₹	
10,000.00	Legal Fees
-	Repair & Maintenance
-	Library Development Expenses
589,358.15	Depreciation
599,358.15	

CURRENT YEAR

₹
26,800.00
240,719.00
18,091.00
558,815.75
844,425.75

Schedule- J

EXPENSES UNDER LABORATORY FUND

PREVIOUS YEAR

₹	
11,989.00	Laboratory Fund Expenses
57,145.30	Depreciation
69,134.30	

CURRENT YEAR

₹
1,106.00
62,730.72
63,836.72

Schedule- K

EXPENSES UNDER JBNSTS-OWN FUND

PREVIOUS YEAR

₹	
-	Honorarium to Hony Director
-	Depreciation
-	
-	

CURRENT YEAR

₹
120,000.00
71,137.00
191,137.00



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Schedule- L

PROGRAMME EXPENSES

I. Expenses funded by Deptt of Higher Education, Govt. of West Bengal

PREVIOUS YEAR		CURRENT YEAR
₹		₹
523,488.00	Talent Search Test	432,477.00
75,186.00	Awareness Program	19,191.00
5,000.00	Best School Award	5,000.00
7,346.00	Books & Journals	1,748.00
48,990.00	Annual Award Ceremony	89,176.00
660,010.00	Sub Total	547,592.00
II. Expenses funded by Deptt of Higher Education, Govt. of West Bengal (WBDS)		
497,489.00	Science Workshop	665,744.00
III. Expenses under Govt. of West Bengal (DST-TTP)		
218,909.00	Teacher Training Program	-
IV. Expenses under Govt. of West Bengal (DST-WAST)		
129,684.00	Teacher Training Program	335,652.00
V. Expenses under Govt. of India (DST)		
9,516.00	Science Workshop for Contact Program	4,256.00
VI. Expenses under Govt. of India, (DoNER)		
25,000.00	Talent Search Test & Scholarship	-
VII. Expenses under Govt. of India (DST-SEATS)		
5,012,035.00	Science Camp (INSPIRE)	4,380,904.00
VIII. Expenses under Govt. of India (DST-SEATS- NL & IS)		
-	Expenses for Nobel Laureate & International Scientist	44,856.00
IX. Expenses under Govt. of India (DST-FIST)		
482,417.00	Improvement in Science & Technology in NER	4,525.00
X. Expenses funded by CSIR, Govt. of India		
405,854.00	Talent Enrichment Programme	481,434.00
XI. Expenses funded Vigyan Prasar, DST, Govt. of India		
-	Workshop on Current Trends in Chemistry Teaching	249,222.00
-	Meeting on Science Popularisation in North East	358,208.00
-	Sub Total	607,430.00
7,440,914.00	Grand Total	7,072,393.00

NOTES ON ACCOUNTS

1. Significant Accounting Policies:

i) Basis of Accounting:

The financial statements are prepared under historical cost convention, in accordance with applicable accounting standards in India and on accrual basis.

ii) Fixed Assets and Depreciation :

Fixed Assets are stated at written down value. Depreciation is calculated and provided in the accounts on the basis of written down value of the Fixed Assets at the rates specified under the Income Tax Act, 1961. However Assets under Special Reserve Fund are stated at their cost less depreciation upto the date of considering the same as assets of the institute. No depreciation is charged on Programmed assets or other old and used assets taken into account under Special Reserve Fund.

iii) Investments:

Current Investments are stated at lower of cost and Fair value. Long- term investments are stated at costs and inclusive of accrued interest wherever applicable.

iv) Grants-in-aid:

Grants-in-aid are recognized in accounts as and when sanction for the same is received. A year's unutilized grant or deficit due to over-utilization of grant is carried forward and adjusted with next year's grant-in-aid.

v) Retirement Benefit:

No provisions for gratuity and pension are made in the accounts as the same are paid to the eligible retiring employees directly by the Government of West Bengal. Payment for Terminal Leave encashment is made by the institution out of maintenance grant provided by the Govt. of West Bengal and requisite provision for liability has been made in the accounts on the basis of accumulated leave of the employees at the year end.

2. Since there is no specific investment against any fund, interest on Investment and interest on Savings Accounts have been allocated proportionately to different funds except the Special Reserve Fund not having any interest earning investment under it. Fixed Deposit interest of Rs.1,08,000/- and PPF interest of Rs.3,08,028/- being specific earnings of Scholar's Reserve Fund and Retirement Benefit Fund respectively have been directly allocated to the funds. Interest amounting to Rs.75,255/- on investments and savings account out of Foreign Contribution being specific earnings of Scholar's Reserve Fund and Development Fund the same has been apportioned to these funds.

Interest accrued on cumulative term deposits has been accounted for by self calculation.

Investment of Rs.2,69,51,666.23 includes Rs.41,07,237.32 being the balances in the names of the staff members of the institute lying with State Bank of India, Kasba branch, PPF Accounts. The members of the Governing Body of JBNSTS in its 88th meeting held on June 26,1996 proposed to open individual PF accounts in the name "JBNSTS Employees Provident Fund Account" which would be operated jointly by



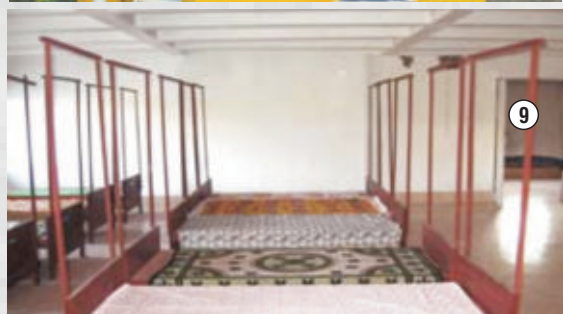
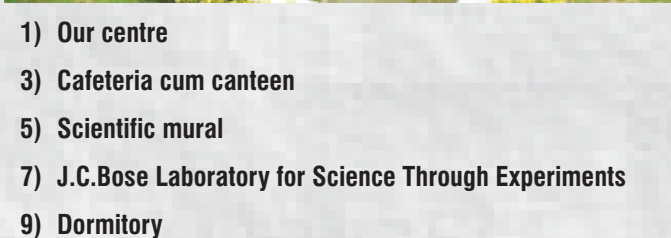
the employee and the Director of JBNSTS in 'State Bank of India. Salt Sector I Branch. While the Bank had been approached, they declined the proposal and instead allowed to open individual PPF accounts. The same was duly informed to the Governing Body of JBNSTS at its 89th meeting and they agreed.

3. Fixed Assets namely. Water Pump, Printer, Mobile-Phone Set. Wireless Mike Computer amounting to Rs.87,321/- and Cyber Scan PH Tutor, Printer amounting to Rs.30,779/- have been purchased out of grant for development of infrastructural facility received from DST, Govt. of India under SEATS program and Vigyan Prasar under IYC program respectively.
Cost of the said fixed assets has been charged off to Program Expenses Account. Although these expenses for fixed assets are Capital Expenditure in nature, these have been treated as Revenue expenditure because these fixed assets have been purchased for carrying out the programmes for which grants are received from the above said funding authorities, and the programmes are in an ongoing state. Ownership of these assets does not lie with JBNSTS during the pendency of the programme but JBNSTS merely stands as custodian of these assets.
4. Current Assets shown in schedule "D" include an amount of Rs.5,00,000/- which has been paid to Prof Papiya Nandy, former Director. JBNSTS during this year as advance against her salary payable for the period from December 2010 to November 2011. Since the issue or salary fixation of Prof. Nandy is still pending with the Dept. of Higher Education, Govt of West Bengal, no salary has yet been disbursed to Prof. Nandy for the aforesaid period. The above amount has been given to Prof Papiya Nandy from Contingency Fund of JBNSTS and the said amount will be refunded by Prof. Nandy to JBNSTS as and when JBNSTS pays her dues upon receipt of due approval from Dept. of Higher Education, Govt. of West Bengal. The payment has been done through approval of the Governing Body of JBNSTS which has been resolved in the 136th meeting of the Governing Body of JBNSTS held on 5th December, 2011.
5. Liabilities shown in Schedule "E" include Rs.14,96,678.50 as dues for Scholarship Book Grant, Best School Award and Project Presentation Award which includes Scholarship, Award etc. for this year and several earlier years.
6. Programme expenses of Rs.43,80,904/- under DST (SEATS) includes rental charges of Rs.8,30,600/- for using JBNSTS infrastructure facilities by the students participated in the science camp held during 2012-13. It has been decided in the Governing Body of JBNSTS vide circulation no. GB/13/05-17 dated May 07, 2013 that similar rental charges will be considered for earlier years 2009-10 to 2011-12 amounting to Rs.14,13,400/-. The said rental charges of Rs.14,13,400/- has been considered income of JBNSTS-Own Generation fund and accounted for as previous year's income during the year 2012-13.
7. Previous year's figures have been regrouped and rearranged wherever necessary.

Place: Kolkata
Date: 26th day of September, 2013

On behalf of the Governing Body
Sd/-
Prof. (Dr.) Papiya Nandy
Hony. Director

Campus walk through JBNSTS centre



- 1) Our centre
- 2) Roof top activity centre utilizing solar energy
- 3) Cafeteria cum canteen
- 4) Garden with pool
- 5) Scientific mural
- 6) Auditorium
- 7) J.C. Bose Laboratory for Science Through Experiments
- 8) Rain water harvesting system
- 9) Dormitory

Jagadis Bose National Science Talent Search

In Pursuit of Excellence
Since 1980



ANNUAL REPORT 2013



JB Center of Excellence for Student Scientists, Kolkata

Issued by

The Hony. Director

Jagadis Bose National Science Talent Search

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