

In Pursuit of Excellence



# **ANNUAL REPORT 2014**



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;
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  - MR. R P BILLIMORIA, Tata Iron & Steel Co. Ltd., Jamshedpur, Member, Governing Body;
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  - **DR. D M SEN,** Writers', Buildings, Calcutta 1, **Member,** Governing Body;
  - DR. R L SENGUPTA, Presidency College, Calcutta 12, Member, Governing Body;
  - **DR. S K MITRA**, Institute of Radio Physics, Calcutta 9, **Member**, Governing Body
  - **DR. S C MITRA**, 12, Hindustan Road, Calcutta 29, **Member**, Governing Body;
  - **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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**Funds and Accounts** 

# **Jagadis Bose National Science Talent Search**



#### From The Director's Desk

#### নমস্কার!

#### Good Evening friends!

It is a pleasure to report to you the activities of this year — what we aimed and what we have achieved, what we dreamt and what we realized.

Since 1960, JBNSTS has aimed at identifying talented young students and nurturing them throughout their academic career. These scholars over the years have done very well in their respective fields and made JBNSTS proud of them.

Later our ambit of operation spread to the neighbouring states, including the 8 NE states. We designed programs of non-formal education which was implemented through a range of out — of — class activities. These resulted in the motivational workshops for district school children and setting up programs for innovative science teaching for mid-school science teachers. Our hard work leading to successful fruition did not escape the notice of the Department of Science and Technology of Govt. of India and we have been endowed with the responsibility to conduct DST-INSPIRE Science Camps. Also our method of talent identification has been recognized and we are now partner of the DST-INSPIRE Scholarship Scheme.

However in spite of our arduous labour leading to such success, we have faced problems due to changes in Government policy and some of our good projects had to be suspended.

Research activities at our Centre have increased manifold. New research projects funded by the Central Govt. have been awarded to us, the laboratory facilities have been developed, one research scholar has joined and several research papers have been published in peer reviewed journals. Thanks are due to the hard work of two of our academic staff.

I take this opportunity to present before you some matters of grave concern. Indian education system has become basically top down. While more Universities and Research Institutes are coming up, the schools and undergraduate colleges are languishing from lack of teachers and proper infrastructure. Who will go to those Institutes and universities if their background is not strong or if they are not properly motivated?

The worst sufferers are the gifted/talented students, whose needs are not catered to in the regular education system. As a result of which they stay unnoticed, underdeveloped and underutilized. To quote the noted historian Sir Aarnold Toynbee "The nurture of creativity is a matter of life and death for any society". Thus it is these gifted ones who, if put in a motivating and challenging environment and provided special and differentiated education, can make the breakthrough in every field of human endeavour and enrich the society.

It is estimated that India has around 36 million gifted / talented children. But unfortunately there is very fragmented study of the giftedness in India till now. We at JBNSTS, recognize the need for research on gifted education in the Indian context with a special focus on STEM education. We also intend to undertake comprehensive research and surveys in various areas of gifted education with a target to formulate appropriate programs, policies and standards for gifted education in India.



With this aim in mind, we are organizing under the visionary guidance of the Chairman of JBNSTS the "1st International Conference On Research In Education And Curriculum Planning For Gifted Minds", which will be held in Delhi and later in Kolkata in February, 2014. Here we have invited global experts and known from them about the leading practices exercised in their countries on gifted education. The outcome of the Conference will be utilized to set up JB Centre for Research on Gifted Education. This centre will focus on research on giftedness and its various aspects, measure cognitive and co-cognitive elements of giftedness, develop tools and methodologies for identifying gifted children, plan curricula with a focus on STEM fields and advocate policy initiatives. We are on the verge of signing an MOU with Tennessee State University, USA for a NSF collaboration on gifted education. This has been possible due to the untiring effort of one of our academic staff.

The setting up of the Centre, in the true sense, will be a path breaking initiative in the area of gifted education in India and the result of this activity will be enjoyed by every segment of the society. An initiative of such a large magnitude needs support and cooperation from all quarters. We appeal to you for your cooperation in this matter.

Our venture in this direction could not have been more timely, as the Govt. of India in the 100<sup>th</sup> Indian Science Congress held in January this year, has declared that "the development of a nation depends on what place is given to science in its thinking and what provision in made for its pursuit". The focal theme of the Congress was "Science for Shaping the Future of India".

In our year long journey towards the pursuit of excellence, we are thankful to the Government of West Bengal which has been our mentor from the very inception. We have received help from several funding agencies, institutions, private donors and industry houses. The academic programs are conducted by scientist-educators from all over India and abroad. The members of our Governing Body, where two very valuable members have joined this year, our Academic Advisory Board and specially the dedicated staff members of JBNSTS have made this journey a meaningful and rewarding one. Our heartfelt gratitude to all of them.

This year 34 new scholars, including 7 girls, have been selected for the prestigious JBNSTS National Science Talent Search Award. We remember with pride that the inaugural Award was presented by Pandit Jawaharlal Nehru in 1961.

As the present Director of this Institute 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 the JBNSTS fraternity.

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.

ভারত আবার জগৎ সভায় শ্রেষ্ঠ আসন লবে!

**Papiya Nandy** 

23<sup>rd</sup> December, 2013

#### 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 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. 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 honors not only for them or their families but also for JBNSTS and the country as a whole.
- The Department of Science & Technology, Government of India has recognized the validity of the JBNSTS Senior Talent Search Test as well as the long time 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, Government of India has also selected JBNSTS as one of the nodal institutions to organize the science camps introduced by them under the INSPIRE program.
- The 1st Internatioal Conference and 1st International Workshop on Education and Curriculum Planning for Gifted Minds were organised by JBNSTS.
- At state level also, a number of academic organizations started working with JBNSTS. The West Bengal Academy of Science and Technology had collaboration 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 harvesting plant, 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 the financial help from the Bose Institute. A number of demonstrations are
  being shown to students which help them to understand the theories better and also opens up the exciting world of science to them.
  JBNSTS scholars are carrying out their research projects in this laboratory. Many other collaborative research projects are also been
  carried out.
- 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 initiated 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 a research fellow has been doing his research work under one such project at JBNSTS for Ph.D. dissertation.
- 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.

# **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 1<sup>st</sup> year undergratuate 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 Government departments like Department of Higher Education and Department of Health, corporate houses, research/educational institutions and individual well wishers of JBNSTS. However, the maintenance grant is provided by the Department of Higher Education, Government of West Bengal. Presently, the selected scholars from basic sciences are automatically getting the INSPIRE scholarship from Department 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 Central Government Departments

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

This is a program for JB scholars to provide them exposure to modern research facilities in various fields of Science and to give them opportunity to interact with emeinent scientists across the whole country. 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, Government of India

Under this program, science workshops are organized for class XI, XII and undergraduate 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 towards science and research 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 who are in top 1% in class X examination under State Board, ICSE or CBSE. This program 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.

# e) Research Program: Department of Science & Technology, Government of India

A research fellow has been conducting his research work at JBNSTS for Ph.D. dissertation under a research project sponsored by SERB, Department of Science and Technology, Government of India. High end scientific instruments have been purchased at JBNSTS laboratory under this projects.

#### 3. Support from other Organisations

- a) **British Council, Kolkata:** One day seminar for JBNSTS Scholars was organized under this forum.
- b) A. N. Bhaduri Memorial Foundation: One day workshop 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 science project presentations 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.
- **g.** JBNSTS scholars get opportunities to carry out research projects at JBNSTS.

#### Motivation and nurture:

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

#### **Buillding and infrastructure:**

The "JB Center of Excellence for Student Scientists" as its main office and activity center. This building has a number of facilities like auditorium, 80 capacity dormitory, laboratory, library, rainwater harvesting system, an eco friendly area with a lot of trees, medicinal plants and a water body etc. Solar energy is used for campus lighting and total lighting of an activity area of about 700 sft. on the terrace. Recently various scientific displays have been installed in the campus. A few of scientific displays and laboratory instruments are shown below:



1. Bust & Voice of Marie Curie, 2. Bust & Voice of Einstein, 3. Area of Circle, 4. A new Crescograph designed by our scholars Parichita Chakraborty and Kaustav Mitra, 5. Displays on Illusion, 6. Model on value of Pi, 7. Model on Pythagoras Theorem, 8. Model of Sir C. V. Raman and Sir J. C. Bose on the same metallic globe, 9. A mysterious formula of Pi discovered by Ramanujan, 10. High-end Microscope, 11. Table top STM, 12. UV-VIS Spectrometer.











# **Report on Activities**

(From December 2013 to November 2014)

# 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 talented 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 research aptitude and 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:

**07/12 – 08/12/13: Scientific Creativity Test (3<sup>rd</sup> and final Phase):** For short listed (69) undergraduate science students of West Bengal for the award of Senior JBNSTS Scholarship held at JB - Centre of Excellence. Kolkata.

**15/12/13: The final project presentation program for JBNSTS Scholars of batch 2012:** 38 students participated in this program. 19 projects were submitted and presented and the following six projects were selected for "UCO Bank Medha Samman Award".

- 1. **Looking into the earth's magnetic field** prepared by Saptarshi Dasgupta, Maulana Azad College, Kolkata and Puja Roy, Presidency University, Kolkata.
- 2. **Mathematical modeling of evolution** prepared by Soham Dan, Rajorshi Paul and Somdut Roy, IIT, Kharagpur.
- 3. **Isolation and characterization of Lignin degrading microbes from coir** prepared by Upasana Sen, Kazi Atikur Rahman, Adrika Raybarman, St. Xavier's College, Kolkata.
- 4. **Bluetooth based Data Acquisition System (DAS)** prepared by Agnivo Saha, Sarnab Bhattacharya & Subhojit Dutta, IIT, Kharagpur.
- 5. **Dyck paths of bounded height** prepared by Biswajit Paria, Kumar Krishna Agarwal and Soumyabrata Pal, IIT, Kharagpur.
- 6. Characteristic features of 77K phosphorescence spectra of Naphthalene in n-alkane Shpolskii matrix and Glassy matrix containing toluene prepared by Sohini Mukherjee and Mrittika Roy, Presidency University, Kolkata.

#### Judges for project evaluation:

- 1. Dr. Amit. K. Chakraborty, Assistant Professor and H.O.D, Department of Physics, NIT, Durgapur.
- 2. Dr. Amitava Gupta, Department of Power Engineering, Jadavpur University, Salt Lake campus, Kolkata.
- 3. Dr. Anirban Ganguly, R G Kar Medical College and Hospital, Kolkata.
- 4. Dr. Ashesh Nandy, Center for Interdisciplinary Research and Education, Kolkata.
- 5. Dr. Arnab Chakraborty, Assistant Professor, Applied Statistics Unit, ISI, Kolkata.
- 6. Dr. Riddhi Majumder, Department of Biotechnology, St. Xaviers' College, Kolkata.
- 7. Dr. Sanjib Ghosh, Emeritus Scientist, CSIR (Govt. of India), Department of Chemistry, Presidency University, Kolkata.



#### 23/12/13: Annual Award Ceremony: Held at JB-Centre of Excellence.

**Scientific Session**: Lecture delivered by Dr. S C Basak, Natural Resource Research Institute, University of Minnesota, Duluth, USA and Dr. Siddhartha Sen, School of Mathematical Sciences, Trinity College, Dublin, Ireland.

Dr. Papiya Nandy, Hony. Director, JBNSTS delivered the Welcome Address.

Dr. Roderich Moessner, Director of the Condensed Matter Theory Division, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany delivered Key Note address of the Annual Award Ceremony.

Dr. Siddhartha Sen addressed the audience.

Dr. Roderich Moessner gave away the Certificates of Merit to JBNSTS Senior Scholars of batch 2013 and handed over the Rotating Shield of **Best School Award** for the year 2013 to the teachers and students of **South Point High School**, Kolkata.

Project award conferred to the JBNSTS Scholars of batch 2012 by Dr. Siddhartha Sen.

Dr. Paromita Roy ended the program with Vote of Thanks.

**Awareness Program for STST 2014 :** At the following institutions for undergraduate science students :

11/07/14 - Indian Statistical Institute, Kolkata

11/08/14 - Ramakrishna Mission Residential College, Narendrapur, Kolkata

23/08/14 - ABN Seal College, Coochbehar

25/08/14 - Burdwan Raj College, Burdwan

27/08/14 - Presidency University, Kolkata

29/08/14 - Visva Bharati University, Shantiniketan, Birbhum

**21/09/14: 55**<sup>th</sup> **Senior Talent Search Test**: 905 undergraduate science students applied for STST examination and 788 students appeared for the test from West Bengal at the following 17 examination centres:

(1) Presidency University, Kolkata, (2) Ramakrishna Mission Residential College, Narendrapur, South 24Parganas, (3) Barrackpore Rastraguru Surendranath College, Barrackpore, North 24Parganas, (4) Jadavpur University, Kolkata, (5) Indian Statistical Institute, Kolkata, (6) Indian Institute of Technology, Kharagpur, (7) Adamas Institute of Technology, Barasat, North 24Parganas, (8) Krishnanagar Govt. College, Krishnanagar, Nadia, (9) National Institute of Technology, Durgapur, Burdwan, (10) Krishnath College, Behrampur, Murshidabad, (11) J K College, Purulia, (12) Visva Bharati, Shantiniketan, Birbhum, (13) Ramakrishna Mission Vidyamandira, Belur Math, Howrah, (14) ABN Seal College, Coochbehar, (15) Brudwan Raj College, Burdwan, (16) Bankura Sammilani College, Bankura, (17) Siliguri College, Siliguri.

**25/10/14:** A Seminar entitled "Those who make us proud" for JBNSTS Senior Scholars (27) of batch 2013 held at JB-Centre of Excellence.

Interaction with JB-Scholars by the following eminent personalities:

- (1) Smt. Bani Basu, Writer
- (2) Shri Shoojit Sircar, Film Director
- (3) Dr. Sudeshna Basu, Classical Singer
- (4) Dr. Bikramjit Basu, Bhatnagar Fellow

**26/10/14: Preliminary Project Presentation and Discussion:** 28 JBNSTS scholars of batch 2013 participated in this program. Total 14 scientific projects were submitted by the scholars and 11 projects were presented..

**Experts**: (1) Dr. Bhupendra Nath Dev, Indian Association for the Cultivation of Science, Kolkata, (2) Dr. Anirban Ganguly, R G Kar Medical College and Hospital, Kolkata. (3) Dr. Bikramjit Basu, Indian Institute of Science, Bangalore.

**16/11 - 16/11/14: Final Interview (2<sup>nd</sup> Phase):** For short listed (240) students of West Bengal to be held at JB - Centre of Excellence, Kolkata.











# The 1<sup>st</sup> International Conference on Research in Education and Curriculum Planning for Gifted Minds and subsequent research in gifted education



The idea of holding an international conference on research in education and curriculum planning for gifted minds, followed by a long term plan for setting up of a research centre, were mooted by Dr. Purnendu Chatterjee, Chairman, JBNSTS. It was a natural follow up of JBNSTS's working with talented students in science for more than five decades.

This was taken up enthusiastically by JBNSTS team, headed by Prof. Papiya Nandy, Hony. Director, JBNSTS. A Conference Committee was formed with Dr. P. Chatterjee as the Chairman and Dr. P. Nandy as the Convener.

Dr. Paromita Roy, Deputy Director, JBNSTS was entrusted with the responsibility of the project details. Dr. Chatterjee requested Mr. Aniruddha Lahiri, President of The Chatterjee Group, to assist in the planning and conduct of the event. Dr. Roy and Mr. Lahiri were inducted into the Committee as Joint Conveners.

The 1<sup>st</sup> International Conference on Research in Education and Curriculum Planning for Gifted Minds, was held on February 4-6, 2014 at the India International Center, New Delhi and from February 10-11, 2014 at the Bengal Chamber of Commerce and Industry, Kolkata. The events were of immense importance and prominence which has propelled JBNSTS into being a part of global initiatives in the area of gifted science education.

On 4<sup>th</sup> February, 2014, the conference at New Delhi was inaugurated by Dr. P. Chatterjee. Dr. P. Nandy elaborated the aims and objectives of JBNSTS to the participants and expressed hope that the outcome of the conference shall benefit JBNSTS.in many ways. The JB Research Center for Gifted Education in Science was launched with Dr. Krishna Maitra, an eminent researcher in the field as its research director. The opening lecture was given by Dr Sumantra Chatterjee, NCBS, Bengaluru and the guest of honour was Dr Sam Pitroda, Chairman, National Innovation Council, Government of India. He addressed the gathering from Paris through teleconferencing. It was followed by vote of thanks by Mr. Lahiri. The Valedictory lecture was delivered by Dr Samir Brahmachari, Former DG, CSIR. Dr P. Roy, proposed the vote of thanks.

The conference at both the venues put together saw nearly 80 presentations and 4 workshops. There were approximately 240 participants in Delhi and 170 participants in Kolkata, which constituted researchers, teachers, scholars in the field of education, psychology and science. Participation was also seen from MHRD, DST, NCERT, National Innovation Council and various NGO's working in the area of talent identification and nurture. All sessions at the Kolkata chapter were chaired by the JBNSTS scholars. The discussions and topics covered important domains of

Identification & Nurture, Talent development, Psychology of the gifted, Curriculum Planning, Teacher Education & Professional Development, Provisions for the gifted, STEM nurture, Indian Models of Talent Development, Policy and Advocacy Issues.

The International conference received several corporate sponsorships and institutional grants through generous funding from The Chatterjee Group, CIL, HUL, IOL and others. Institutes like HRI, Allahabad, Calcutta University, IACS, Kolkata, Jnana Prabodhini Institute of Psychology, Pune, Indian Statistical Institute, Kolkata, Maulana Abul Kalam Azad Institute of Asian Studies, Kolkata, National Board of Higher Mathematics, Mumbai also funded the academic sessions. An attractive and informative Book of Abstracts was published in two parts and these, along with all conference related stationery was sponsored by Ajanta Offset & Packaging Limited, Faridabad. Conference folders were sponsored by Shrachi, Kolkata. The conference website (www.jbnstsconference.org) was designed with the help of Skytech Solutions and CIM Global.



#### **Conference Presentations:**

**04/02/ - 06/02/14 :** "1st International Conference on Research in Education and Curriculum Planning for Gifted Minds" **held at India International Centre, Max Muller Marg, New Delhi.** 

#### **Keynotes:**

- "What are the psychosocial skills needed for young people to enhance their abilities into competencies, their competencies into expertise, and beyond?" - Dr. Rena F Subotnik, American Psychological Association, Washington D C, USA.
- 2) "What works in curriculum for gifted learners: 25 years of research and development" by Prof. Joyce Van Baska, College of William and Mary, Virginia, USA
- 3) "What the World does for the Gifted and Talented" Prof. Joan Freeman, Middlesex University, London, UK

#### **Plenary Talks:**

- "Three Theoretical Orientations of Nurturing Creativity in Gifted & Talented Students and Related Curricular & Pedagogical Strategies" – Prof. David Dai Yun, State University of New York at Albany, New York, USA
- 2) "Building a Talent Support Network: The European Experiment" Dr. Csilla Fuszek, European Talent Centre, Budapest, Hungary.
- 3) "The Future of Learning" Prof. Sugata Mitra, University of Newcastle, UK.
- 4) "Gifted Adolescents' Perceptions of Teacher Effectiveness" Dr. Laurie Croft, The Belin & Blank Centre, Lowa, USA (presented by Dr Devasena Desai)

#### **General Presentations:**

- 1) "Identification and Nurturing of Scientific Talent at the Pre-University Level" Dr. Vijay Singh, Homi Bhabha Centre for Science Education, Mumbai, India.
- 2) "Role of self-effort, mentoring and theoretical/academic study in motivation-building of intellectually gifted individuals" Dr. Girish Sreekrishna Bapat, Jnana Prabodhini's Institute of Psychology (JPIP), Pune, India.
- 3) "JBNSTS: India's first Science Talent Search & Nurture Initiative" Prof. Papiya Nandy and Dr. Paromita Roy, JBNSTS, Kolkata
- 4) **Personalization using IT to empower the student"** Prof. Angela Mcfarlane, University of Bristol, UK and Dr. Adam Boddision, IGGY, University of Warwick, UK.

#### **Parallel Presentations:**

- 1) "Recent STEM Developments in UK"— Prof. Bryan Berry, Heathrow Aviation University College, London, UK
- 2) "Evaluation of Math and Science Summer Enrichment Programs in Saudi Arabia" Prof. Abdullah Aljughaiman, King Faisal University, Saudi Arabia.
- 3) "Emerging Trends in Japan in Education for the Gifted in Science and Technology" Prof. Manabu Sumida, Ehime University, Japan.
- 4) "Learning Scientific Concepts through Social Media" Prof. Adam Boddison, IGGI, University of Warwick, UK.
- 5) "Can education be a fundamental right: Dichotomy of equality and excellence in Indian contest?" Dr. Jyoti Sharma, Delhi University, Delhi, India.





















- 6) "Nurturing Gifted Students: Issues in Policy Making" Dr. Shlomit Rachmel, Ministry of Education, Israel.
- 7) "Giftedness Nurture in Korea: Implications for Asia-Pacific Region" Prof. Kyungobin Park, Gachon University, South Korea.
- 8) **"Identifying giftedness across the country: a challenge"** Prof. Sujala Watve, Jnana Prabodhini Institute of Psychology, Pune, India.
- 9) "Duke TIP and educational Initiatives: Identifying & Serving Academically Talented Students in India" - Dr. Mara Shurgot, USA and Dr. Sridhar Rajagopal, India
- "Creative, Inventive and Productive Excelment Model of Gifted education"
   Dr. M.Srinivasan, GEAR International School, Bangalore, India.
- 11) "National Program on Identifying and Mentoring Gifted Children in India: Challenges & Opportunities" Prof. Anita Kurup and Prof. Amita Basu, NIAS, India
- 12) **"Tribal Mensa Nurturing Program based on Panchakosha"** Dr. Devasena Desai, Chennai Counselor's Forum, Pune, India.
- 13) "Recognizing Social Giftedness: From Theory to Practice" Dr. Yukti Sharma, Delhi University, Delhi, India
- 14) "Training parents to identify and nurture Giftedness in Early Childhood" Dr. Uma Bapat, JPIP, Pune. India
- 15) **"Teaching Gifted Children in India: A Practitioner's Perspectives"** Dr. Balaji Srinivasan, Inventure Academy, India.
- 16) **"Authentic Learning for the Digital Generation"** Prof. Angela Mcfarlane, Bristol, UK.
- 17) "Gender Boundaries for Gifted in Science" Dr. Vandana Saxena, University of Delhi, Delhi, India.
- 18) "Equity, excellence & economy in a system for identifying students for gifted education programs" Prof. Marcia Delcourt, University of Connecticut, USA.
- 19) "Attracting girls to science"— Prof. Sumathi Rao, Harishchandra Research Institute, India
- 20) "Motivation, Achievement and Self Portrayal of High School Science Students" Prof. Amita Chatterjee & Dr. Paromita Roy, Kolkata, India.
- 21) "Analysis of school climate: Cognitive Development of the gifted" Dr. Sucharita Gadre, JPIP Pune, India.
- 22) "Gifted students in a regular social science classroom: Peeping inside an Indian Classroom" Dr. Ruchi Anand, Delhi University, Delhi, India
- 23) "Success and Hurdles in introducing inclusive gifted programs in Kaveri group of institute" Dr. Malati Kalmadi, Dr. Kannada Sengha, Pune, India
- 24) "Giftedness Among Differently Abled" Dr. Archana Kumari, India.
- 25) Exploring notions of Ability in Giftedness through the lens of socio-cultural diversity" Dr. Priyanka Varshney, Delhi University, Delhi. India
- 26) **"Enrichment and Acceleration of gifted students"** Dr. Anubhuti Sharma, Delhi University, India.



- 27) "Validity Study of Material Ability Test to identify rural gifted students" Dr. Pooja Dharane, JPIP, Pune, India.
- 28) "Teaching the gifted" Dr. Anuradhas Ranjan, Panjub University, Panjab, India.
- 29) **"SITA: Wildflower in Tribal Niche"** Dr. Anuja Date, Mensa India, Pune Chapter, India
- 30) "Personality Profile and Leadership Behavior of Gifted Students from Rural and Tribal Schools" Dr. Sameena Manaswala, Mensa India, Pune Chapter, India
- 31) "Nurturing little c creativity of Visually Challenged Learners in Science Classroom: Exploring Giftedness in Action" Dr. Subhash Chander, Delhi University, Delhi, India
- 32) "Nurturing the potential for advanced development: A case for Reversing the under achieving behavior" Dr. Rekha Sapra, Bharati College, Delhi, India

#### **Parallel Workshops:**

- "Talent Development: Stages and Distinct Issues for Each Stage" Prof. David Dai Yun & Prof. Rena F. Subotnik, University of New York, Albany & American Psychological Association, Washington DC, USA.
- "Strengths Based Instruction: An instructional strategy form developing confidence and self-esteem of gifted children with dual exceptionality" – Prof. Sumita Chakraborti Ghosh, Tennessee State University, USA.
- 3) "Parent-Teacher-Student Forum" Moderators: Dr. Vandana Saxena, Dr. Paromita Roy, Dr. Marcia Delcourt, Kyungbin Park, Manabu Sumida Closing comments by Dr. Bryan Berry, Dr. Shlomit Rachmel, Dr. M Srinivasan, Dr. Sumita Chakraborti Ghosh

#### **Conference Presentations**

**10/02/ - 11/02/14 :** 1<sup>st</sup> International Workshop on Research in Education and Curriculum Planning for Gifted Minds in Science, Technology, Engineering and Mathematics (STEM)" **held at The Bengal Chamber of Commerce and Industry, Kolkata.** 

The Kolkata chapter of the conference had the Hon'ble Governor of West Bengal Shri M K Narayanan inaugurate the event and Dr Rabiranjan Chattopadhyay, Minister, Science & Technology Council of West Bengal as chief guest. The welcome address was given by Dr. P. Chatterjee and vote of thanks proposed by Mr A Lahiri. The valedictory lecture was delivered by Dr Parvin Sinclair, Director, NCERT, New Delhi and Dr P Roy proposed the vote of thanks.

#### **Keynotes:**

- "Early College Entrance Programs in STEM areas: Comparing Practices across Countries" – Prof. David Dai Yun, Associate Professor, Educational Psychology and Methodology, State University of New York, Albany USA
- "The Confusion between Morality and Giftedness" Prof. Joan Freeman, Middlesex University, London, UK, Founder President, European Council for High Ability (ECHA)
- 3) "What are the Psycho-Social Skills Needed for Young People to Enhance their Abilities into Competencies, their Competencies into Expertise and Beyond?" – Dr. Rena Subotnik, Director, Centre for Gifted Education and Policy, American Psychological Association, Washington DC, USA





















# Plenary Talks:

- **1) Gifted Education in Practice"** Dr. Csilla Fuszek, Director, European Talent Centre, Budapest, Hungary
- 2) "Strengths Based Instruction (SBI): An Instructional Model for developing confidence and self-esteem of gifted and talented children with Dual Exceptionalities" Prof. Sumita Chakraborty Ghosh, Professor and Coordinator, Gifted Endorsement, College of Education, Tennessee State University, USA

#### **Parallel Workshops**

- 1) "Special STEM Programs and its Results for Elementary School Students in Hungary" Dr. Csilla Fuszek, Director, European Talent Centre, Budapest, Hungary
- 2) "Strengths Based Instruction (SBI): An Instructional Model for Developing Confidence and Self-esteem of Gifted and Talented Children with Dual Exceptionalities" — Prof. Sumita Chakraborty Ghosh, Professor and Coordinator, Gifted Endorsement, College of Education, Tennessee State University, USA

#### **Presentations**

- 1) "Classroom and Curricula: Creative Education: A New Paradigm in Curriculum" Prof. Rita Sinha Dasgupta, Dept of Education, Calcutta University
- 2) "Nurturing Mathematical Creativity in the Classroom" Mr. Siddhartha Sankar Chattopadhyay, Bidhannagar Govt. High School, Kolkata

#### Parallel Presentations:

#### THEME: Efforts and Initiatives for Gifted Students

- 1) "Curriculum Planning for Gifted Students: Some Issues and Concerns" Dr. Mita Howladar, Calcutta Girls' BT College, Kolkata Talented Students in Non-formal Science Curriculum: Some Case Studies Mr. Dipankar Sarkar, Jagadis Bose National Science Talent Search, Kolkata
- 2) "Enrichment and Acceleration for Gifted Science Students at Secondary Level: Issues, Prospects and Challenges to Teacher and Teacher Education" – Ms. Srutirupa Panda, PhD Research Scholar, North Orissa University, Baripada, Odisha
- 3) "Lifelong Learning Policy for Gifted Mind" Sk Aktar Ali, Maulana Abul Kalam Azad Institute of Asian Studies, Kolkata

#### THEME: Talent and Creativity in STEM

- 1) "Construction and Standardisation of a Test on Creativity in Physics" Mr. Malay Kumar Sen, Dept of Education, University of Calcutta and Mr. Rajib Mukhopadhyay, Dept of Education, St Xavier's College, Kolkata
- 2) **"Pedagogy of Recognizing and Educating the Gifted"** Dr. Birendra Nath Das, Guest Faculty, Presidency University, Kolkata
- 3) Role of Discovery Teaching and Learning in Identifying and Nurturing the Gifted and Talented in Science and "Mathematics" Dr. Partha Pratim Roy, Centre for Physics Education Research, Kolkata
- 4) "Mathematically Gifted Children: Reorienting Teaching Strategies to Involve and Nurture them during Regular Class"— Mr. Sabyasachi Mitra, Calcutta International School
- 5) "JBNSTS its objectives and activities" by Dr. Smarajit Manna and Dr. Abhijit Kar, JBNSTS, Kolkata



#### **Parallel Interactive Sessions**

- Talent in the Making: How to Grow your Resources and Cope with Challenges – Prof. David Dai Yun, Associate Professor, Educational Psychology and Methodology, State University of New York, Albany USA
- 2) Identification and Proper Assessment for Gifted / Talented Students in STEM Dr. Madhabi Majumdar, Adjunct Professor, Texas Southern University, Houston, Texas, USA
- 3) Role of Mathematics in the Identification and Recognition of Gifted Child Dr. Deepika Bhattacharya, Dept of Mathematics, Tinsukia College and Dr. Abhijeet Mukherjee, Dept of Mathematics, Women's College, Tinsukia, Assam











#### Post conference initiatives:

**28/04/14 - 29/04/14 : "A Pedagogical Workshop for Math and Physics Teachers"** held at JB-Centre of Excellence, Kolkata. Inaugural lectures by Prof. Papiya Nandy, Hony. Director, JBNSTS and Prof. Krishna Maitra, Director JB-Centre for Gifted Minds, Kolkata (Total participants-42)

**Speakers :** Dr. Jyoti Sharma, Dr. Subhash Chander and Dr. Vandana Saxena, University of Delhi, Delhi











# The West Bengal District Scheme Program (WBDS)

**31/05 – 01/06/14: JBNSTS – WBDS Teachers' Interactive Workshop** supported by Department of Higher Education, Government of West Bengal: For middle School Teachers (52) held at JB-Centre of Excellence, Kolkata.

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

#### Speakers & Lectures:

- (1) Interactive session on Pedagogy by Dr. Paromita Roy, JBNSTS, Kolkata
- (2) Interactive session by Dr. B N Das, Science Communicators Forum, Kolkata
- (3) Interactive session by Shri Samar Bagchi, Science Communicators Forum, Kolkata
- (4) Interactive session by Dr. Mrinal Mukheriee, Batanagar High School, Kolkata
- (5) Interactive session by Shri Arup Sengupta, Garfa, DNM High School, Kolkata
- (6) Interactive session by Shri Siddhartha Shankar Chattopadhyay, Bidhannagar Govt. High School, Kolkata
- (7) Interactive session by Shri Subir Bhattacharya, Dum Dum Kishore Bharati School, Kolkata
- (8) Interactive session by Dr. Partha Pratim Roy, Centre for Physics Education Research, Kolkata
- (9) Interactive session by Dr. Subir Nag, St. Xavier's College, Kolkata
- (10) Interactive session by Shri Sabyasachi Mitra, Calcutta International School, Kolkata

**08/08 – 09/08/14: JBNSTS – WBDS Physical Science Teacher's Training Workshop** supported by Department of Higher Education, Government of West Bengal: Held at Raja Bijay Singh Vidyamandir, Jiagani, Murshidabad.

The Program was inaugurated by Shri. Shyamal Saha, Headmaster, Raja Bijay Singh Vidyamandir, Murshidabad.

Hands-on activity session jointly conducted by (1) Dr. Amit Kumar Jana, Taxxila, Kolkata and (2) Smt. Arati Mukhopadhyay, Howrah Jogesh Chandra Girls' School, Howrah.

**15/09 - 18/09/14: WBDS Interactive Science Workshop:** For middle School Students (110) to be held at Supapusuri High School, Supapusuri, Midnapore.

#### Speakers:

- (1) Interactive session on Life Science by Shri Arup Sengupta, Garfa, DNM High School, Kolkata
- (2) Dr. Mrinal Mukherjee, Batanagar High School, Kolkata
- (3) Interactive session on Mathematics by Shri Siddhartha Shankar Chattopadhyay, Bidhannagar Govt. High School, Kolkata
- (4) Shri Subir Bhattacharjee, Dum Dum Kishore Bharati School, Kolkata
- (5) Interactive session on Physical Science by Shri Pintu Sinha, Katwa Kasiram Das Institution, Burdwan

**21/10/14:** JBNSTS – WBDS Teachers' Interactive Science Workshop supported by Department of Higher Education, Government of West Bengal: For middle School Teachers (23) from 5 selected schools (Barrackpore Government School, North 24Parganas, Contai Hindu Girls' School, Contai, East Mindnapore, Supapusuri High School, West Midnapore, Howrah Jogesh Chandra Girls' High School, Howrah and Jiaganj Raja Bijoy Singh Vidyamandir, Murshidabad), held at JB-Centre of Excellence, Kolkata.

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

**Speakers**: (1) Dr. Mrinal Mukherjee, Batanagar High School, Kolkata and (2) Dr. Paromita Roy, JBNSTS, Kolkata

**28/10/14:** Visit to Contai Hindu Girls' School, East Midnapur to interact with students and teachers. A counselling session for Class XI and XII students, conducted by Dr. Paromita Roy, JBNSTS, Kolkata.























# **The Science Camps**

07/01 – 11/01/14: DST - Inspire Internship Science Camp in association with JBNSTS entitled "বিজ্ঞানের অভিজ্ঞতা" for Class XI science students (96) of Kolkata and South 24 Parganas. Held at JB-Centre of Excellence, Kolkata.

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

#### Speakers & Lectures:

- (1) Interactive Session by Prof. Abhijit Chakrabarti, Vice Chancellor, Jadavpur University, Kolkata
- (2) **Motivational Lecture** by Prof. Milan K Sanyal, Director, Saha Institute of Nuclear Physics, Kolkata
- (3) "Creativity & Innovation Learning from Nature" by Dr. Anjan Ghosh, Vice President, Total Quality Management, Exide Industries Ltd. Kolkata
- (4) "Recent Concepts in Astronomy and Astrophysics" by Prof. Basudeb Bhattacharya, Sky Watchers' Association, Kolkata
- (5) **"How to choose your career?"** by Dr. Subhrangsu Aditya, School of Bio-Science & Engineering and School of Cognitive Science, Jadavpur University, Kolkata
- (6) **Demonstration of Science Experiments** by Shri Samar Baagchi, President, Kishore Bharati Development Society, Kolkata
- (7) **Interactive Lecture** by Ms. Anuradha Mitra, IDAS, Jt. Secretary and Financial Adviser, Department of Science & Technology, Government of India
- (8) "Interdisciplinary Nature of Today's Science" Prof. Soumen Basak, Chemical Science Division, Saha Institute of Nuclear Physics, Kolkata
- (9) "Importance of Genome Project in Medical Science and Agriculture" by Prof. Partha Deb Ghosh, Department of Botany, Kalyani University, Nadia
- (10) **"Earth Science An Introduction"** by Dr. Gopal Chakrabarti, Jt. DPI (S&S), Education Directorate, Government of West Bengal, Kolkata
- (11) **"Sensing beyond Senses The Frontiers of Modern Science** by Prof. Amitava Gupta, Department of Power Engineering, Jadavpur University, Kolkata
- (12) "An Appreciation of Science Through Activities in Chemistry" by Dr. Arindam Rana, Department of Chemistry, City College, Kolkata
- (13) **Demonstrative Lecture** by Prof. Kalyan Kumar Mukherjee, Formerly of Department of Botany, Bose Institute, Kolkata
- (14) **Interactive Lecture** by Dr. Kallol Paul, Department of Mathematics, Jadavpur University, Kolkata
- (15) **Parents Counseling** by Dr. Paromita Roy, Deputy Director, Jagadis Bose National Science Talent Search, Kolkata

22/04 – 26/04/14: DST - Inspire Internship Science Camp in association with JBNSTS entitled "বিজ্ঞান ও আমরা" for Class XI science students (70) of Kolkata, Nadia and North 24 Parganas. Held at JB-Centre of Excellence, Kolkata.

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

#### Speakers & Lectures:

- (1) "Recent Concepts in Astronomy and Astrophysics" by Dr. D. P. Duari, M P Birla Institute of Fundamental Research, M P Birla Planetarium, Kolkata
- (2) **"How to choose your career?"** by Dr. Subhrangshu Aditya, Jadavpur University, Kolkata
- (3) "Hands on activity at JBNSTS Laboratory: To explore the science behind different soldering techniques through microscopy and sophisticated electric measurements" by Dr. Smarajit Manna and Dr. Abhijit Kar, JBNSTS, Kolkata

- (4) **"Plant Life Processes A Demonstrative Lecture"** by Prof. Kalyan Kumar Mukherjee, and Dr. Gourab Gangopadhyay, Bose Institute, Kolkata
- (5) "Cellular Division and Cell Cycle" by Prof. Partha Deb Ghosh, Kalyani University, Kalyani, Nadia
- (6) "Creativity Learning from Nature" by Dr. Anjan Ghosh, Exide Industries Ltd. Kolkata
- (7) "Voyage Through Space and Time: View of Chemical Dynamics at Small Scales" by Prof. Biman Bagchi, Indian Institute of Science, Bangalore
- (8) "Chemistry Revealed Through Experiments" by Dr. Arindam Rana, City College, Kolkata
- (9) "History of Calculus" and "ZERO The Eternal Enigma" by Dr. Parthasarathi Mukhopadhyay, RK Mission Residential College, Narendrapur, Kolkata
- (10) "Demonstration of Science Experiments" by Shri Samar Bagchi, Kishore Bharati Development Society, Kolkata
- (11) "Renewable Energy for Sustainable Future" by Dr. Mrinal Pal, CSIR CMERI, Durgapur, Burdwan
- (12) "Parents Counseling" by Dr. Paromita Roy, JBNSTS, Kolkata

**22/07 – 26/07/14 : DST - Inspire Internship Science Camp in association with JBNSTS entitled "Learning Science"** for Class XI science students (112) of Kolkata and Howrah. Held at JB-Centre of Excellence, Kolkata.

Welcome address by Dr. Paromita Roy, Deputy Director, JBNSTS, Kolkata

#### Speakers & Lectures:

- (1) **"The strange story of the God Particle"** by Dr. Soumitra Sengupta, Indian Association for the Cultivation of Science, Kolkata
- (2) **Hands on activity at JBNSTS Laboratory** by Dr. Abhijit Kar and Dr. Smarajit Manna, JBNSTS
- (3) **"Genetic diseases and gene therapy"** by Dr. Partha Deb Ghosh, Kalyani University, Kalyani, Nadia
- (4) **"Electronic configuration and valency"** by Dr. Samita Basu, Saha Institute of Nuclear Physics, Kolkata
- (5) **"The Dark Universe"** by Prof. Partha Ghose, National Academy of Sciences, Bose Institute, Kolkata
- (6) **"Exploration Antarctica : Adventure and Science"** by Dr. Bimalendu Bhusan Bhattacharya, SN Bose National Centre for Basic Sciences, Kolkata.
- (7) **"Prime Number A gateway to Cryptography"** by Dr. Parthasarathi Mukhopadhyay, Ramakrishna Mission Residential College, Narendrapur, Kolkata.
- (8) **"Excitement in Chemistry"** by Dr. Chaitali Mukhopadhyay, University of Calcutta , Kolkata
- (9) **"How to choose your career?"** by Dr. Subhrangshu Aditya, Jadavpur University, Kolkata
- (10) "Hidden patterns in nature" & "Playing with FRACTALS" by Dr. Sujata Tarafdar, Jadavpur University, Kolkata
- (11) "Recent concepts in Astronomy and Astrophysics" by Dr. Debiprasad Duari, MP Birla Planetarium, Kolkata
- (12) **"Excitements of Nanoscience"** by Dr. Dhrubajyoti Chattopadhyay, University College of Science, Kolkata
- (13) Interactive session with the Parents of participating students by Dr. Paromita Roy, Deputy Director, JBNSTS, Kolkata























(14) **Project presentation session for participating students : Judges were :** Dr. Anjan Ghosh, Exide Industries Limited, Kolkata Dr. Smarajit Manna and Dr. Abhijit Kar, JBNSTS. Kolkata

02/09 – 06/09/14: DST - Inspire Internship Science Camp in association with JBNSTS entitled "বিজ্ঞানের নব দিগন্ত" for Class XI science students (110) of Kolkata, Howrah, Hooghly and North 24Parganas. Held at JB-Centre of Excellence, Kolkata. Welcome address by Prof. Papiya Nandy, Hony. Director, JBNSTS, Kolkata

#### Speakers & Lectures:

- (1) "Motivational Lecture" by Shri Kamal Dasgupta, Central Glass & Ceramic Research Institute, Kolkata
- (2) "Research Aptitude Development through Innovative Science Project Activities" by Dr. Abhijit Kar, Dr. Smarajit Manna and Ms. Sucharita Kundu, JBNSTS, Kolkata
- (3) **"Prime Number A Gateway to Cryptography"** by Dr. Parthasarathi Mukhopadhyay, RKM Residential College, Narendrapur, Kolkata
- (4) "Hands on Activity at Innovation Hub", BITM, Kolkata
- (5) "Hands on Activity on Mathematics", BITM Team, Kolkata
- (6) **"Unveiling space-time mysteries an unending quest"** by Dr. Soumitra Sen Gupta, Indian Association for the Cultivation of Science, Kolkata
- (7) **"Cancer: An ancient disease and modern approach of treatment"** by Prof. Manju Ray, Emeritus Professor, Bose Institute, Kolkata
- (8) "Recent concepts in Astronomy and Astrophysics" by Dr. Debiprasad Duari, M.P. Birla Planetarium, Kolkata
- (9) **"How to choose your career?"** by Dr. Subhrangshu Aditya, School of Bio-Science & Engineering and School of Cognitive Science, Jadavpur University, Kolkata
- (10) **"Excitements of Nanoscience"** by Dr. Dhrubajyoti Chattopadhyay, University College of Science, Kolkata
- (11) "Motivational Lecture" by Prof. Sibaji Raha, Director, Bose Institute, Kolkata
- (12) Interactive session with the parents of participating students (parallel) by Dr. Paromita Roy, JBNSTS, Kolkata
- (13) **Project presentation session for participating students: Judges were** Dr. Anjan Ghosh, Exide Industries Limited, Kolkata, Dr. Smarajit Manna and Dr. Abhijit Kar, JBNSTS, Kolkata.

#### **Contact Programs**

**18/02 – 20/02/14 : A 3-day National Workshop** on "Frontier Areas of Research & Applications In Science and Technology (FARAST)" for undergraduate science students (59) from different Colleges of Guwahati organized by Jagadis Bose National Science Talent Search (JBNSTS), in association with B. Borooah College, Guwahati held at B. Borooah College, Guwahati, under the sponsorship of DST., Govt. of India.

The inaugural session started with the Welcome Address by Prof. Tabu Ram Taid, Formerly of Cotton College, Guwahati. Then Prof. S N Barman, Principal, B Borooah College, Guwahati; Dr. K D Krori, Former Principal, Cotton College, Guwahati and Dr. Haresh Chowdhary Dutta, Director-in-Charge, Assam Science Tech & Environment Council addressed the audience.

#### **Speakers & Lectures:**

(1) "Nanotechnology for Future Technology" by Prof. Arun Chattopadhyay, Indian Institute of Technology, Guwahati

- (2) **"Science, Scientists and Ethics"** by Prof. Papiya Nandy, Jagadis Bose National Science Talent Search, Kolkata
- (3) "Organic Chemistry and drug design" by Dr. Diganta C Choudhury, B Borooah College, Guwahati
- (4) "Bioinformatics approach to DNA studies and some selected applications" by Dr. Ashesh Nandy, Center for Interdisciplinary Research and Education, Kolkata
- (5) **"Mathematics-interactive session"** by Prof. Bhaben Chandra Kalita, Gauhati University, Guwahati
- (6) "Sensor: An Integral Part of Modern Instrumentation" by Dr. Utpal Sarma, Gauhati University, Guwahati
- (7) **"Looking at the structures using electromagnetic waves"** by Dr. Abhijit Kar, Jagadis Bose National Science Talent Search, Kolkata
- (8) "Cellular traffic at the synapse: a journey from behavior to function" by Dr. Riddhi Majumder, St. Xavier's College, Kolkata
- (9) "Adsorption: Technology for the Removal of Toxic Pollutants from Water" by Dr. Bijoy S Gosawami, B. Borooah College, Guwahati

**24/02 – 26/02/14 : A 3-day national workshop** on "Exposure to Frontier Research in Science and Technology" for undergraduate science students (55) of Puri organized by Jagadis Bose National Science Talent Search (JBNSTS) and sponsored by Department of Science & Technology, Govt. of India, held at SCS Autonomous College, Puri, Orissa.

The inaugural session started with the Welcome Address by Prof. Papiya Nandy, JBNSTS, Kolkata and Dr. R K Mohanty, Principal, SCS Autonomous College, Puri, Orissa.

#### **Speakers & Lectures:**

- (1) **"Science, Scientists and Ethics"** by Prof. Papiya Nandy, Jagadis Bose National Science Talent Search, Kolkata
- (2) "Raman Spectroscopy and its Applications in Physical and Biological Sciences" by Dr. Achintya Singha, Bose Institute, Kolkata
- (3) "Glimpses of Plant Biotechnology" by Prof. Partha Deb Ghosh, Kalyani University, Kalyani, Nadia
- (4) "Making Use of the You Tube Videos for Propagating and Learning Physics" by Dr. Bhupati Chakrabarti City College, Kolkata
- (5) "Role of Mathematics in fundamental research and preparedness required for frontier research" by Prof. Rajni Ballav Dash, Formerly of Ravenshaw College, Cuttuck, Orissa
- (6) "Status of Industrialization and Environment in Orissa" by Dr. Subas Chandra Das, Formerly of SCS Autonomous College, Puri
- (7) "Physicists as Detectives: An Introduction To The Mechanical Black Boxes" by Dr. Bhupati Chakrabarti City College, Kolkata
- (8) "Interesting frontier of modern Physics" by Dr. Prafulla Kumar Mishra, Formerly of SCS Autonomous College, Puri
- (9) "Bioinformatics approach to DNA studies and some selected applications" by Dr. Ashesh Nandy, Centre for Interdisciplinary Research and Education, Kolkata
- (10) **"Student's Forum Presentation / Poster conducted"** by Dr. Smarajit Manna, JBNSTS, Kolkata
- (11) "Miracle of Enzymes" by Dr. Hrushi Kesh Pujari, Formerly of Kurukshetra University, Orissa







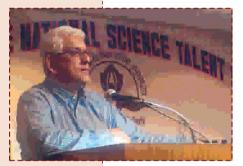
















# Other Collaborative programs of JBNSTS

**24/09/14: A Seminar on "Positive Personal Impact** for JBNSTS Scholars, organized by British Council, Kolkata in association with JBNSTS held at British Council, Kolkata.

**Speakers :** (1) Smt. Indrani Bhattacharyya, British Council, Kolkata, (2) Dr Abhijit Kar, JBNSTS, Kolkata, (3) Smt. Tumpa Sarkar, British Council, Kolkata.

**12/11/14: One day Science Workshop in memory of Late Prof. Amarnath Bhaduri** for High school students (40) in Kolkata, jointly organized by JBNSTS and A N Bhaduri Memorial Foundation held at JB-Centre of Excellence, Kolkata.

**Speakers**: (1) Dr. Pratip Palit, Formerly of Central Research Institute for Jute & Allied Fibers, Barrackpore, North 24 Parganas, (2) Shri Samar Bagachi, Kishore Bharati Development Society, Kolkata.

# **Annual Award Ceremony 2013**

Annual Award Ceremony of JBNSTS for the year 2013 was held at the JB-Centre of Excellence, 1300 Rajdanga Main Road, Kolkata 700 107 on December 23, 2013 at the Nirupama Chatterjee Hall of Scholars in its premises. Dr. Papiya Nandy, Hony. Director, 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. Roderich Moessner, Director of the Condensed Matter Theory Division, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany graced the Chair of the Chief Guest of this Ceremony and delivered keynote address. He also gave away the Certificates of Merit to JBNSTS Senior Scholars of batch 2013 and handed over the Rotating Shield of **Best School Award** for the year 2013 to the teachers and students of **South Point High School**, Kolkata. Project award for the scholars of 2012 batch were conferred by Dr. Siddhartha Sen, School of Mathematical Sciences, Trinity College, Dublin, Ireland. The ceremony was ended with vote of thanks followed by National Anthem.



#### Scholars' Corner

Dr. Soumen Chakrabarti, JBNSTS Scholar of 1987 batch and currently Professor at Department of Computer Science and Engineering, Indian Institute of Technology, Bombay, has been awarded the **Shanti Swarup Bhatnagar** Prize in 2014, for his contribution in Engineering Sciences.

Dr. Bhubanjyoti Bhattacharya, a JBNSTS scholar of batch 2001 and currently a post doctoral fellow at Université de Montréal, has been selected for very prestigious IPP Theory Postdoctoral Fellowship for the year 2013-15 for his excellence in theoretical particle physics.

Shri Mayur Rastogi, a JBNSTS scholar of batch 2009, received Gandhian Young Technological Innovation Award (GYTIA), 2013 and represented India in Japan in Honda Forum, 2014.

Shri Saurabh Misra, a JBNSTS scholar of batch 2009, is pursuing research work for Ph. D. dissertation at Purdue University, USA.

Shri Debarghya Sarkar, a JBNSTS scholar of batch 2010, is currently pursuing Ph.D. at the University of Southern California, USA.

Shri Prantik saha, a JBNSTS scholar of batch 2010, ranked 25th in the NET(CSIR), December 2013.

Shri Neelabja Chatterjee, a JBNSTS scholar of batch 2010, Joined as a Research Scholar at Tata Institute of Fundamental Research Centre For Applicable Mathematics, Hyderabad.

Shri Soumendu Majee, a JBNSTS scholar of batch 2010, is pursuing research work for Ph. D. dissertation at Purdue University, USA.

Shri Utsarga Adhikary, a JBNSTS scholar of batch 2010, received the award of Rajiv Gandhi Fellowship 2014 for being amongst a few selected students with the best summer research projects in JNCASR, Bangalore during SRFP 2014 and ONGC Scholarship 2014 for completing first year of Masters as Department of Chemistry topper, with a CPI of 10.

Shri Somsubhro Mukherjee, a JBNSTS scholar of batch 2010, has been selected for the iSURE(International Summer Under Graduate Research Experience) by the University of Notre Dame, USA.

Smt. Koushiki Sarkar, a JBNSTS scholar of batch 2011, got the opportunity for internship in Game Theory Lab, CSA Department, Indian Institute of Science, Bangalore in 2013 and in GE Aviation, Bangalore. She has been selected by School of Computing, National University of Singapore with full scholarship to attend 4th South Asian Workshop on Research Frontiers in Computer Science.

Shri Pratim Guha Niyogi, JBNSTS scholar of batch 2011, secured rank 6 in all India IIT-JAM in Mathematical Statistics in the year 2014.

Shri Rahul Mallik, a JBNSTS scholar of batch 2011, published his first paper in the proceedings of conference photonics, 2014 at IIT, Kharagpur.

Shri Samprit Ghosh, a JBNSTS scholar of batch 2011, has been awarded NBHM MA / MSc Scholarship for the year 2014-15.

Shri Upamanyu Moitra, a JBNSTS scholar of batch 2011, received the University Gold Medal for securing the first position in the undergraduate course, National Gold Medal in National Graduate Physics Examination, 2014 awarded by Indian Association of Physics Teachers and has been selected for Pulsar Observatory for Students, 2014 organised by NCRA-TIFR and IUCAA in Ooty, India. He secured all India rank 2 in JEST, 2014 and selected for Integrated Ph.D. programme in Department of Astronomy and Astrophysics, Tata Institute of Fundamental Research, 2014 and for Ingenieur Polytechnicien Programme, Ecole Polytechnique, France, 2014.

Shri Mahesh Parsutkar, a JBNSTS scholar of batch 2011, secured rank 10 in IIT-JAM entrance examination and all India rank 34 in CSIR-JRF NET June -2014.

Shri Ayan Chakraborty, a JBNSTS scholar of batch 2012, has secured an internship in Samsung Research Institute, Bangalore. Smt. Puja Roy, a JBNSTS scholar of batch 2012, has been selected as an Undergraduate Associate at Saha Institute of Nuclear Physics, Kolkata in 2014.

Shri Soham Basu, a JBNSTS scholar of batch 2013, secured 3rd place in an electrical event organised in JU by IEEE- "Circuistic".

Shri Sougata Hazra, a JBNSTS scholar of batch 2013, has been selected to receive the O.P. Jindal Engineering and Management Scholarship 2014(OPJEMS). He won the gold medal in open IIT postering and creative Writing competition at IIT Kharagpur.

Shri Arna Ghosh, a JBNSTS scholar of batch 2013, qualified O.P. Jindal Engineering and Management Scholarship for the year 2014-15.



#### Academic Activities of JBNSTS Staff

#### Prof. Papiya Nandy, Hony. Director, JBNSTS:

#### Research publications in 2013-2014: 17 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 West Bengal 2011-2014
- 3. In silico study ..... propagation of viral infection: CSIR, Govt. of India 2012-2015
- 4. Nanomullite based biocers: DST, Govt. of India 2011-2014
- 5. Development and Characterization....Comparative Study: DST, Govt. of India 2013-2016
- 6. Understanding the mechanism of action of homoeopathic medicine....in vitro systems (Fund awaited from Central Council for Research in Homeopathy, Govt. of India) as P.I.

#### Dr. Paromita Roy, Deputy Director, JBNSTS:

#### **Presentations:**

- 1. Research Colloquium presentation on "20 years of my journey with gifted young minds" at Central University of Education, Delhi University on January 3, 2014.
- 2. Paper presented with Prof. Amita Chatterjee at the First International Conference on Research in Education and Curriculum Planning for Gifted Minds, New Delhi on "Motivation, Self Concept and Self portrayal of talented high school science students: Their voices" on February 5, 2014.
- 3. Presentation at Indian Association for the Cultivation of Science Annual Summer Classes on "Ability, Interest, Choice and Creativity amongst young Adolescents" on May 10, 2014.
- 4. Presentation at Think CIQ International Conference, Bangalore, India "Creativity and Giftedness in Adolescents" at NIMHANS Convention Center, Bangalore on July 12, 2014.

#### Research and Writing Projects:

- 1. Contributed a chapter in a book entitled "A Critical Assessment of Gifted Education in Asia: Problems and Prospects," to be published by the Chinese American Educational Research and Development Association (CAERDA).
- 2. Working on a chapter entitled 'Creativity and science education for the gifted: insights from psychology' " in the book "International Perspectives on Science Education for the Gifted: Key issues and challenges published by Routledge and edited by Drs Manabu Sumida (of Ehime University, Japan) and Dr Keith Taber, University of Cambridge, United Kingdom.

#### 3. PI in the following projects:

- a. "Education and Identification of Talented Students in India", a 15 month study with support from Maulana Abul Kalam Institute for Asian Studies, Kolkata
- b. "Professional development of teachers in Gifted Education" in collaboration with Tennessee State University, Tennessee, USA.
- c. International cross cultural study on Teacher Perception based in Nuremberg, Germany

#### Dr. Smarajit Manna, Student Advisor, JBNSTS:

#### **Research publications:**

- 1. B. Paul, S. Manna, B. Bagchi, and S. Das .. "High dielectric permittivity with low dissipation factor and significant conductive behavior shown in Mullite Cobalt Aluminate composite (MCAC) fired at 1100°C" at World Science Congress International Conference, 16-18 December, 2014(accepted).
- 2. B. Paul, S. Manna, B. Bagchi, A. Bhattacharya, P. Nandy and S. Das "Mullite Cobalt Aluminate composite A material with moderately high dielectric constant and low tangent loss at a critical concentration in high frequency range." (communicated at RSC Advances).

#### Co-Principal Investigator of the projects:

- 1. "Development and characterization .... Comparative Study" funded by DST, Govt. of India, 2013-2016.
- 2. Training of motivated teachers in innovative methods of science teaching to build scientific aptitude among school students, Fund awaited from DST, Govt. of India.

#### Dr. Abhijit Kar, Scientific Officer, JBNSTS:

#### 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, 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, 25.3L- as Principal Investigator.
- 3. Training of motivated teachers in innovative methods of science teaching to build scientific aptitude among school students, Fund awaited from DST, Govt. of India- 50.32L, as Principal Investigator
- 4. Simple task Great Concepts A Module Development Program for Biological Science Teaching- Fund awaited from DST Govt. of India- as Principal Investigator.
- 5. Understanding the mechanism of action of homoeopathic medicine at the molecular level in nano domains in vivo and in vitro systems (Fund awaited from Central Council for Research in Homeopathy, Govt. of India) as Co P.I.

#### Other achievements:

- 1. Editorial Board Member of Journal of Energy and Natural Resources, Science Publishing Group Journals
- 2. 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 2013-2014, 7 scientific papers have been reviewed.
- 3. Invited speaker at National Short-Term Course on short term course Emerging Materials & Devices (EMD-2014) during September 20-24, 2014 at NIT Durgapur.
- 4. Invited speaker at Positive Personal Impact- A workshop organized by British Council, Kolkata, 24 September 2014.
- 5. KAR, A., RAY, A.K., 2014. Synthesis of nano-spherical nickel by templating hibiscus flower petals. American Journal of Nanoscience and Nanotechnology (NANO), 2(2), pp.17-20.
- 6. RASHMI DAS, HARSHITA KAUL, DEBOSHRUTI BORAL, SAMPURNA MUKHERJEE, ARUP K MITRA, RIDDHI MAJUMDER, ABHIJIT KAR; Anti Microbial property of silver nanoparticles synthesized by green technology; Proceedings of Frontiers of Microbiology: Prospects and Challenges, UGC Sponsored National Seminar at RKM-Belur, 20-21 November, 2014
- 7. DEBASRUTI BORAL, HARSHITA KAUL, SAMPURNA MUKHERJEE, RASHMI DAS, RIDDHI MAJUMDER, ABHIJIT KAR; Effect of green synthesyzed silver nanoparticle on both gram positive & gram negative micro-organisms; Proceedings of the First International Conference on Emerging Materials Characterization and Application (EMCA-2014), at Kolkata, 4-6 December 2014.
- 8. ARNAB BANERJEE, SUKHEN DAS, ABHIJIT KAR; Reliability analysis of the lead free solder to copper joint interface; Proceedings of the First International Conference on Emerging Materials Characterization and Application (EMCA-2014), at Kolkata, 4-6 December 2014.
- 9. RASHMI DAS, DEBASRUTI BORAL, SAMPURNA MUKHERJEE, HARSHITA KAUL, ARUP K MITRA, RIDDHI MAJUMDER, ABHIJIT KAR; Effect of Silver nanoparticles synthesized by green technology on microbes (IABS-2015), (accepted) at IACS-Kolkata, 2-3 February, 2015

#### Sri Dipankar Sarkar, JBNSTS:

#### **Research publications:**

Achintya Mondal, Abhishek De, Dipankar Sarkar, Jayati Datta .. "Design and characterisation of multi-metallic Pt and non Pt alloyed nano-catalysts for direct ethanol fuel cell" at International Conference on Advanced Materials and Energy Technology (ICAMET) December 17-19, 2014 at IIEST Shibpur, Howrah, West Bengal, India (accepted).



# **Facts and Figures**

#### Selected JBNSTS Scholars of batch 2014

ABHINANDA KAR St. Xavier's College, Kolkata

ADITYA PAUL Indian Institute of Technology, Kharagpur

ANIRBAN MUKHOPADHYAY Jadavpur University, Kolkata

ANIRUDDHA NANDY National Institute of Technology, Durgapur

ANWESH MAJUMDER Presidency University, Kolkata
ARITRA KRISHNA DE Scottish Church College, Kolkata

ARPAN MUKHERJEE Indian Institute of Technology, Kharagpur ARUNDHATI BANERJEE Indian Institute of Technology, Kharagpur

AYAN GHOSH Scottish Church College, Kolkata

B. SMRITI Indian Institute of Engineering Science & Technology, Shibpur, Howrah

BABHRUBAHAN BOSE Presidency University, Kolkata

BISWARUP ROY Ramkrishna Mission Vidyamandira, Belurmath, Howrah

DURBADAL GHOSH Indian Statistical Institute, Kolkata
INDRAKSHI DUTTA St. Xavier's College, Kolkata

KETAN AGARWAL

N. R. S. Medical College & Hospital, Kolkata

KORUPROLU ASISH

Indian Institute of Technology, Kharagpur

KUNTAL HALDER Ramkrishna Mission Vidyamandira, Belurmath, Howrah

MD. ZAHID ANSARI Aliah University, Kolkata

MEGHNA SENGUPTA Indian Institute of Technology, Kharagpur NAIRIT DAS Indian Institute of Technology, Kharagpur

NILADRI DUTTA Jadavpur University, Kolkata RITWICK SARKAR Krishnagar Govt. College, Nadia

ROUNAK CHOUDHURY Indian Institute of Technology, Kharagpur SANMITRA BANERJEE Indian Institute of Technology, Kharagpur

SAPTARASHMI BANDYOPADHYAY Indian Institute of Engineering Science & Technology, Shibpur, Howrah

SAUGATA PAUL Indian Institute of Technology, Kharagpur SAYAN GHOSH Indian Institute of Technology, Kharagpur

SHRUTI DASGUPTA

SOUMI MUKHERJEE

SOUMYA ROY

Bethune College, Kolkata

Presidency University, Kolkata

Presidency University, Kolkata

SOUMYADEEP BASU Indian Institute of Technology, Kharagpur

SOUPTIK CHAKRABORTY N R S Medical College, Kolkata SOURAV GOPE Siliguri College, Siliguri

SOURAV NANDI Ramkrishna Mission Residential College, Narendrapur

SOUVIK BHATTACHARYA Gurudas College, Kolkata

SPANDAN CHOWDHURY R. G. Kar Medical College & Hospital, Kolkata

SUDIPTA RAKSHIT

SUMODHUR MUKHERJEE

SWAPNASOPAN DATTA

VIVEK NIDHI

Jadavpur University, Kolkata

Medical College, Kolkata

St. Xavier's College, Kolkata

Burdwan Medical College, Burdwan

WRITOBROTO NAHAROY Indian Institute of Technology, Kharagpur

# Distribution of 784 candidates appeared in JBNSTS Senior Talent Search Test, 2013 according to the place of study in West Bengal

SI.	University / Institute	No. of eligible candidates
1	Affiliated Colleges of Calcutta University	157
2	Jadavpur University, Kolkata	93
3	Indian Institute of Technology, Kharagpur	114
4	Affiliated to West Bengal University of Technology (approved by AICTE, Govt. of W.B.)	70
5	Affiliated Colleges of Vidyasagar University	44
6	Affiliated Colleges of Burdwan University	28
7	Bengal Engineering and Science University, Shibpur	03
8	Affiliated Colleges of North Bengal University	33
9	Affiliated Colleges of Visva-Bharati University, Birbhum	07
10	Affiliated Colleges of Kalyani University	23
11	Medical Colleges in West Bengal	13
12	Ramakrishna Mission Vidyamandira, Belur Math	19
13	Ramakrishna Mission Residential College, Narendrapur	18
14	Indian Statistical Institute, Kolkata	02
15	Affiliated Colleges of Sidho Kanho Birsa University, Purulia	27
16	National Institute of Technology, Durgapur	01

# Distribution of 784 candidates appeared in JBNSTS Senior Talent Search Test, 2013 according to different boards of their 10+2 Examination

SI.	Board of examination	Male	Female	Total
1	West Bengal Council of H.S. Examination	403	144	547
2	All India Senior School Certificate Examination (CBSE)	98	34	132
3	Indian School Certificate Examination (ISCE)	45	25	70
4	Board of Intermediate Education (Hyderabad, Andhra Pradesh)	16	09	25
5	Others : (Bihar, Maharastra, Rajastan, Jharkhand, Madhya Pradesh)	09	01	10
	TOTAL	571	213	784



# Distribution of 195 short listed candidates, called for the Senior Talent Search Interview 2013 according to the place of study in West Bengal

SI.	Name of the College/ Institution	No. of candidates
1	Acharya Prafulla Chandra College, N-24 Pgs	01
2	Ananda Chandra College, Jalpaiguri	01
3	Asutosh College, Kolkata	01
4	Barasat Government College, Barasat	01
5	Bethune College, Kolkata	08
6	Bidhannagar Govt. College, Salt Lake	01
7	Dinabandhu Andrews College, Kolkata	01
8	Govt. College of Engineering and Ceramic Technology, Kolka	ta 01
9	Haldia Government College, Haldia, Purba Medinipur	01
10	Haldia Institute of Technology, Haldia, Purba Medinipur	01
11	Heritage Institute of Technology, Kolkata	05
12	Indian Institute of Technology, Kharagpur	89
13	Indian Statistical Institute, Kolkata	01
14	Jadavpur University, Kolkata	24
15	Jalpaiguri Government Engineering College, Jalpaiguri	01
16	Jogamaya Devi College, Kolkata	03
17	Kalyani Government Engineering College, Nadia	01
18	Katwa College, Burdwan	01
19	Lady Brabourne College, Kolkata	02
20	Malda College, Malda	01
21	Maulana Azad College, Kolkata	01
22	Medical College, Kolkata	05
23	National Institute of Technology, Durgapur	01
24	Netaji Nagar Day College, Kolkata	01
25	Nil Ratan Sircar Medical College, Kolkata	03
26	Presidency University, Kolkata	12
27	R K M Vidyamandira, Belur Math, Howrah	07
28	R. G. Kar Medical College and Hospital, Kolkata	01
29	R. K. M. Residential College, Narendrapur	06
30	R. K. M. Vivekananda Centenary College, Rahara	02
31	Scottish Church College, Kolkata	01
32	Serampore College, Hooghly	01
33	St. Xavier's College, Kolkata	08
34	Syamsundar College, Burdwan	01
	TOTAL	195

# Distribution of selected candidates of 54<sup>th</sup> JBNSTS Senior Talent Search Test, 2013 for award on the basis of their previous Institutions

SI.	Name of the Institution	No. of candidates
1	Asansol Chelidanga High School (H. S.), Asansol	01
2	Bankura Zilla School, Bankura	02
3	Central Academy School, Police Line Road, Kota, Rajasthan	01
4	Delhi Public School, Bokaro Steel City, Jharkhand	01
5	Delhi Public School, Ruby Park, Kolkata	01
6	Haryana Vidya Mandir, Salt Lake	01
7	Jawahar Vidya Mandir, Shyamali, Ranchi, Jharkhand	01
8	Jodhpur Park Boys' School, Kolkata	01
9	Kendriya Vidyalaya, Koliwada. Mumbai, Maharashtra	01
10	Naidu Science College, Bhubaneshwar, Odisha	01
11	Narayana Junior College, Kurnool, Andhra Pradesh	01
12	Nava Nalanda High School, Kolkata	03
13	Our Lady Queen of The Missions School, Kolkata	01
14	Pace Junior Science College, Andheri West, Mumbai	01
15	Pearls of God, Hindmotor, Hooghly	01
16	Rajendra Vidyalaya, Sakchi, Jamshedpur	01
17	Rishra Vani Bharati, Rishra, Probasnagar, Hooghly	01
18	Scottish Public School, Katihar, Bihar	01
19	South Point High School, Kolkata	05
20	Springdale High School, Kalyani, Nadia	01
21	Sri Chaitanya Narayana Junior College, Vijayawada, Andhra Pradesh	02
22	St. Xavier's Collegiate School, Kolkata	01
23	St. James' School, Kolkata	01
24	St. Lawrence High School, Kolkata	01
25	St. Xavier's School, Bhatinda, Punjab	01
26	Techno Model School, Garia, South 24 Parganas	01
	TOTAL	34

# Best School Award for the year 2013 : South Point High School, Kolkata

# SUMMARY OF 54<sup>th</sup> STST, 2013 TOTAL VALID APPLIACTION : 906 APPEARED IN EXAM : 784 SELECTED FOR INTERVIEW : 195 SELECTED FOR SCT : 69 SELECTED FOR AWARD : 34

# **Current Donors and Donations (2013-2014)**

	Current Donors and Donations (2013- 2014)			
Α	SCI	HOLARS RESERVE FUND		
	i)	Donations (Corpus)		
	1	Dr.Parthasarthi Ray		30,000.00
	ii)	Donations (General)		,
	1	MP Birla Smarak Kosh (South Point High School)	108,000.00	
	2	Deptt. Of Health and Family Welfare, Govt. of WB	121,000.00	
	3	Daulat Ram Mehendiratta Chariatable Trust	27,000.00	
	4	Luxmi Charitable Trust	54,000.00	
	5	Indian Association of Cultivation of Science (IACS), Kolkata	27,000.00	
	6	Indian Institute of Chemical Biology (IICB), Kolkata	27,000.00	
	7	Deptt. Of Higher Education, GOWB	104,000.00	
	8	AN Bhaduri Memorial Charitable Trust	14,000.00	482,000.00
R		VELOPMENT FUND	14,000.00	402,000.00
,	i)	Donations (Corpus)		
	1	Kritanjan Polley (JB Scholar 2012 batch)	1,500.00	
	2	Agnivo Saha (JB Scholar 2012 batch)	1,500.00	
	3	Rajorshi Paul (JB Scholar 2012 batch)	1,500.00	
	4			
	5	Debarghya Mukherjee (JB Scholar 2012 batch)	1,500.00	
	6	Anupam Kundu (JB Scholar 2012 batch)	1,500.00	
		Sayantan Chakraborty (JB Scholar 2012 batch)	1,500.00	
	7	Soumyabrata Pal (JB Scholar 2012 batch)	1,500.00	
	8	Subhojit Dutta (JB Scholar 2012 batch)	1,500.00	
	9	Somdut Roy (JB Scholar 2012 batch)	1,500.00	
	10	Soham Dan (JB Scholar 2012 batch)	1,500.00	
	11		1,500.00	
		Arabinda Muley (JB Scholar 2012 batch)	1,500.00	
		Prasid Mitra (JB Scholar 2012 batch)	1,500.00	
		Upasana Sen (JB Scholar 2012 batch)	1,500.00	
		Ayana Sarkar (JB Scholar 2012 batch)	1,500.00	
		Tathagata Basu (JB Scholar 2012 batch)	1,500.00	
	17		1,500.00	
	18	Saptarshi Dasgupta J(B Scholar 2012 batch)	1,500.00	
	19	Puja Roy (JB Scholar 2012 batch)	1,500.00	
		Bidisha Chakraborty (JB Scholar 2012 batch)	1,500.00	
	21	Avik Ray (JB Scholar 2012 batch)	1,500.00	
		Anindita Basu (JB Scholar 2012 batch)	1,500.00	
		Aabur Kumar Basu (JB Scholar 2012 batch)	1,500.00	
		Sabyasachi Ray (JB Scholar 2012 batch)	1,500.00	
		Arghya Bhattacharya (JB Scholar 2012 batch)	1,500.00	
		Sohini Mukherjee (JB Scholar 2012 batch)	1,500.00	
	27	Sayak Chattopadhyay (JB Scholar 2012 batch)	1,500.00	
	28	Suranjana Samanta (JB Scholar 2012 batch)	1,500.00	
	29	Adrika Raybarman (JB Scholar 2012 batch)	1,500.00	
	30	Kousik Karmarkar (JB Scholar 2012 batch)	1,500.00	
	31	Madhumita Rano (JB Scholar 2012 batch)	1,500.00	
	32		1,500.00	
	33	S.Pranav (JB Scholar 2012 batch)	1,500.00	
		Anuvab Mohanty (JB Scholar 2012 batch)	1,500.00	
		Tihin Dey (JB Scholar 2012 batch)	1,500.00	
		Akash Kumar Basak (JB Scholar 2006 batch)	224.00	
	37		3,000.00	
		Anit Kumar Sahu (JB Scholar 2008 batch)	119.00	
	39	Anirban Ghosh (JB Scholar 2010 batch)	12,000.00	
	40	Ms.Mriduchanda Nag	15,000.00	
	41	Dr. Ashesh Nandy	700.00	
		Prof. Siddhartha Sen	10,000.00	04.040.00
	43	Prof. (Dr.) Papiya Nandy	700.00	94,243.00
	ii)	Donation (Gen)		
		Smt Amita Chatterjee	300.00	300.00
C		BORATORY FUND		
	i)	DONATION ( General)		
		Prof. Amitava Gupta	1,700.00	1,700.00
	ii)	DONATION ( Corpus)		
	1	Prof.Somar Raychoudhary	1,700.00	
	2	Prof.Ajoy Kr.Roy	1,500.00	
	3	Swarnabha Chattaraj (JB Scholar 2009 batch)	600.00	3,800.00

# **FUNDS AND ACCOUNTS**



#### "KALYANI APARTMENT"

113/6, Hazra Road, 1st Floor, Kolkata-700 026, ①: 2455-1236 E-mail: msaha co@yahoo.com

# INDEPENDENT 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, 2014 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-Lattached 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 N 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, 2014; and
    - b) In case of the Income & Expenditure Account, of the surplus for the year ended on that date.

Place: Kolkata

Date: 24<sup>th</sup> day of September, 2014

For M. SAHA & CO. Chartered Accountants

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





#### "KALYANI APARTMENT"

113/6, Hazra Road, 1st Floor, Kolkata-700 026, ①: 2455-1236 E-mail: msaha\_co@yahoo.com

Annexure - I

# Audit Observations:

- 1. The Governing Body in its meeting dated 18.11.2013 had decided to write off some fixed asset items comprising of computer worth Rs. 10,080/-, furniture Rs. 595/- and electric equipment worth Rs. 1,484/-, as the same are not in working condition. However salvage value of such items of fixed assets have not been determined and hence the same has not been written off during the year under audit. Further in the absence of salvage value, provision for impairment of fixed assets could not be done.
- 2. The books of accounts and the Financial Statements comprising of Balance Sheet, Income & Expenditure Account and Receipts & Payments Account of International Conference for Gifted Minds (ICGM) have been audited by M/s P. K. Chakravorty & Associates, Chartered Accountants, which have been relied upon for consolidation purpose and for finalising the ensuing Audit Report.

Place: Kolkata

Date: 24th day of September, 2014

For M. SAHA & CO. Chartered Accountants

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

### **BALANCE SHEET AS ON 31ST MARCH, 2014**

PREVIOUS YEAR ₹		SCHEDULE	CURREN <sup>™</sup>	ΓYEAR
	SOURCES OF FUNDS			
35,112,020.99	Funds	Α		33,099,488.01
1,074,353.66	Net Current Liablities:			
	Current Liabilities	E	6,191,640.52	
	Less:Current Assets	D	5,817,504.46	374,136.06
	Liability for Unutilised Grant:			
1,560,668.45	Deptt. of Higher Education, Govt. of West Bengal		1,846,003.30	
7,915.49	Deptt. of Higher Education, Govt. of West Bengal (WBDS)		593,939.49	
584.00	West Bengal Pollution Control Board, Govt. of West Bengal		584.00	
277,095.75	Deptt. of Science and Technology, Govt. of West Bengal (WAST)		2,831.75	
30,000.00	West Bengal Academy of Science & Technology		30,000.00	
308,279.05	Deptt. of Science and Technology, Govt. of India		59,019.05	
1,175,144.00	Deptt. of Science and Technology, Govt. of India (SEATS- NL & IS)		-	
103,148.11	Council of Scientific and Industrial Research, Govt. of India		233,142.11	
47,205.75	Ministry of Development of North Eastern Region, Govt. of India		47,205.75	
-	Science & Engineering Research Bureau, DST, Govt. of India		89,586.50	
253,068.50	Deptt. of Science and Technology, Govt. of India (FIST)		254,695.50	3,157,007.45
39,949,483.75				36,630,631.52
	APPLICATION OF FUNDS			
12,997,817.52	Fixed Assets	В		13,693,162.52
26,951,666.23	Investments	С		22,937,469.00
39,949,483.75				36,630,631.52

Notes on accounts (Schedule - N) 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

Sd/
Sd/
Kolkata Prof (Dr.) Papiya Nandy Debarshi Saha Date: 24th day of September, 2014

Hony. Director

Partner Membership No. 061398

Membership No. 061398

Debarshi Saha Partner



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

# INCOME AND EXPENDITURE ACCOUNT (GRANT) FOR THE YEAR ENDED 31ST MARCH, 2014

E 2000		,	dovernment									lo ca
		_	of West Bengal	of West Bengal (WBDS)	of West Bengal (DST-WAST)	of India(DST)	of India(DST) (SEATS)	of India(DST) (FIST)	Enrichment Programme (CSIR)	of India(DST) (SERB)	ONGC	
_	75	Sch	₩~	₩~	₩~	H~	₩	₩~	₩~	₩~	₩	₩~
•	Income											
9	General:											
14, 203, 179.00	Grant-in-aid		7,418,311.00	00.000,009	,	,	3,424,167.00	,	500,000.00	360,000.00	172,500.00	12,474,978.00
126,356.00	Grant-in-aid (09-10)											,
(362,689.00)	Grant-in-aid (10-11)											,
(42,504.00)	Grant-in-aid (11-12)											
2,891,665.10	Last year's surplus/(deficit)/											
_	unutilized grant after adjustment/											
_	refund during the year	-	1,560,668.45	7,915.49	277,095.75	308,279.05		253,068.50	103,148.11		(43,557.00)	2,466,618.35
2,024.00	Interest earned from SB account							1,627.00				1,627.00
16,818,031.10 T	Total Income	<u>س</u>	8,978,979.45	607,915.49	277,095.75	308,279.05	3,424,167.00	254,695.50	603,148.11	360,000.00	128,943.00	14,943,223.35
,	ž											
-	Expenditure											
_	General:											
4,639,617.00 E	Establishment F	F 5	5,872,057.00									5,872,057.00
7,072,393.00 P	Programme Expnses:	Σ	545,594.00	13,976.00	274,264.00	249,260.00	3,424,167.00		370,006.00	270,413.50	128,943.00	5,276,623.50
	Previous year's Program Expenses:											
230,000.00	Rental Charge (09-10)											
860,000.00	Rental Charge (10-11)											
323,400.00	Rental Charge (11-12)											
488,035.00		g	715,325.15									715,325.15
13,613,445.00 T	Total Expenditure	(	7,132,976.15	13,976.00	274,264.00	249,260.00	3,424,167.00		370,006.00	270,413.50	128,943.00	11,864,005.65
3,204,586.10	Unutilised grants carried forward	-	1,846,003.30	593,939.49	2,831.75	59,019.05		254,695.50	233,142.11	89,586.50		3,079,217.70
4	Add: Adjustments:											
257,939.00	Capital Expenditure Shown as											
	Revenue Expenditure (11-12)			,	,	,		,				
3,762,525.10 E	Balance	,	1,846,003.30	593, 939.49	2,831.75	59,019.05		254,695.50	233,142.11	89,586.50		3,079,217.70

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

On behalf of the

In terms of our report of even date

FRN: 305135E

Chartered Accountants attached herewith For M. Saha & Co. Sd/-Prof (Dr.) Papiya Nandy Hony. Director Governing Body

Kolkata Date : 24th day of September, 2014

## INCOME AND EXPENDITURE ACCOUNT (FUND) FOR THE YEAR ENDED 31ST MARCH, 2014

					,					
Previous Year		Schedule	Scholars' Reserve Fund	Development Fund	Laboratory Fund	JBNSTS-Own Gen. Fund	Staff Welfare & Medical Fund	Infrastructural Development Fund	ICGM	Total
₩-			₩.	₩	₩	₩.	₩	₩.		₩
	Income:									
	General:									
	Scholars' Reserve Fund									
562,000.00	Grant and Donation		482.000.00							482.000.00
1,034,615.78	Interest on Investment		958,768.43							958,768.43
16,325.00	Liabilities no longer									
	required written back		41,259.00							41,259.00
	Miscellaneous Receipts		181,601.00							181,601.00
	Development Fund:									
1,880.00	Donation			300.00						300.00
536,191.37	Interest on Investment			586,052.70						586,052.70
	Laboratory Fund:									
1,500.00	Donation				00.00/,1					1,700.00
194,877.68	Interest on Investment				140,592.87					140,592.87
000000	Contingency Fund:									
100,000.00	Miscellaneous Receipts									•
04,710.09	interest on investment									
000000000000000000000000000000000000000	JBNS1S-Own Generation Fund:					00 000				0000
982,300.00	Kent Earned					339,690.00				339,690.00
	Accommodation					563,159.00				563,159.00
. 00 000 000	Overhead					100,000.00				100,000.00
1,413,400.00	Arrear Kent Earned (09-10, 10-11& 11-12)	_				י טינט איזר				, 20,000
113,497.14	Interest on Investment					251,832.65				59.7837.67
	broad on broadmost						22 045 45			32 045 45
	Interest of Investment						23,013.13			23,013.13
	Interest on Investment							25 572 39		25 572 39
	ICGM Fund									
	Donations & Sponsorships								4.894.717.00	4.894.717.00
	Registration Fee								230,518.00	230,518.00
5,088,103.66	Total Income		1,663,628.43	586,352.70	142,292.87	1,254,681.65	23,015.15	25,572.39	5,125,235.00	8,820,778.19
	Expenditure:									
00 101 070	General:	=	4470 000 000							00 000
1,046,787.00	Scholars Reserve Fund	Ξ.	1,1/9,838.00							1,1/9,838.00
844,425.75	Development Fund			694,330.00	45.00					694,330.00
101 127 00	Laboratory Fund	¬ >			152,542.92	שט סכר רטר				152,542.92
00.761,161	Staff Wolfago & Modical Fund	۷ ـ				207,220.03	00 000 00			362,226.63
	ICGM Fund						20,000,02		5.755,574.00	5.755.574.00
2,146,186.47	Total Expenditure		1,179,838.00	694,330.00	152,542.92	362,228.65	20,000.00		5,755,574.00	8,164,513.57
2,941,917.19	Balance		483,790.43	(107,977.30)	(10,250.05)	892,453.00	3,015.15	25,572.39	(630,339.00)	656,264.62
	Less: Previous Year's Expenditure:									
83,691.00	Depreciation on Lab. Equipment (11-12)									
2,858,226.19	Excess of Income/(Expenditure)				1			1		
	transferred to specific funds		483,790.43	(107,977.30)	(10,250.05)	892,453.00	3,015.15	25,572.39	(630,339.00)	656,264.62
		Notes on	Notes on accounts (Schedule - N) form an integral part of the Income and Expenditure Account	ule - NJ form	an integral par	t of the Income	and Expenditure	Account		
					-		-			
				On beh	On behalf of the			In term	In terms of our report of even date	f even date
				Govern	Governing Body				attached herewith	vith
									For M. Saha & Co.	Co.
								Ō	Chartered Accountants	ntants
									FRN: SUSTES	ū
				O	/ 62				/ 60	
Kolkata				Prof [Dr.] F	Prof (Dr.) Papiya Nandy				عطم Debarshi Saha	à
ate : 24th day	Date: 24th day of September, 2014			Hony.	Hony. Director				Partner	
								Me	Membership No. 061398	61398



### Schedule-A

### **FUNDS**

PREVIOUS YEAR		CURREN	
₹		₹	₹
9,875,081.11	SCHOLARS' RESERVE FUND	0.075.001.11	
	As per last year Add: Donation (Corpus)	9,875,081.11 30,000.00	
	Add: Excess of Scholars' Reserve Fund	30,000.00	
	as per Income & Expenditure Account	483,790.43	10,388,871.54
15,801,372.35	DEVELOPMENT FUND		. 0,500,07
, ,	As per last year	15,801,372.35	
	Add: Donation (Corpus)	94,243.00	
	Less: Deficit of Development Fund		
	as per Income & Expenditure Account	(107,977.30)	15,787,638.05
2,045,866.42	LABORATORY FUND		
	As per last year	2,045,866.42	
	Add: Donation (Corpus)	3,800.00	
	Less: Surplus of Laboratory Fund as per Income & Expenditure Account	(10,250.05)	
	as per income & Expenditure Account	2,039,416.37	
	Less: Transferred to Capital Fund	(43,490.00)	1,995,926.37
40,524.43	SPECIAL RESERVE FUND		.,,
,	As per last year	40,524.43	
	Less: Assets Written Off	<u> </u>	40,524.43
-	CAPITAL FUND		
	As per last year	-	
	Add: Grant received from SERB, DST	1,500,000.00	
	Add: Transferred from Laboratory Fund	43,490.00	
	Lance Demandation	1,543,490.00	1 252 502 72
1 000 000 00	Less: Depreciation	189,907.28	1,353,582.72
1,000,000.00	CONTINGENCY FUND JBNSTS- OWN GENERATION FUND		1,000,000.00
2,034,369.14	As per last year	2,034,369.14	
	Add: Surplus of Own-Generation Fund	2,034,303.14	
	as per Income & Expenditure Account	892,453.00	
		2,926,822.14	
	Less: Transferred to Staff Welfare & Medical Fund	(100,000.00)	
	Less: Transferred to Infrastructural Dev Fund	(100,000.00)	2,726,822.14
100,000.00	Staff WELFARE & MEDICAL FUND		
	As per last year	100,000.00	
	Add: Surplus of Staff Welfare & Medical Fund as per Income & Expenditure Account	2 015 15	
_	Transferred from JBNSTS- Own Generation Fund	3,015.15 100,000.00	203,015.15
100,000.00	INFRASTRUCTURAL DEVELOPMENT FUND		203,013.13
100,000.00	As per last year	100,000.00	
	Add: Surplus of Infrastructural Fund	,	
	as per Income & Expenditure Account	25,572.39	
	- Transferred from JBNSTS- Own Generation Fund	100,000.00	225,572.39
	ICGM FUND		
	As per last year	-	
	Less: Deficit of ICGM Fund as per Income & Expenditure Account	(630,339.00)	(630,339.00)
4,114,807.54	RETIREMENT BENEFIT FUND	(050,559.00)	(050,559.00)
1,111,007.54	(Provident Fund)		
	As per last year (after deletion of PPF)	7,570.22	
	Add: Interest earned:	304.00	7,874.22
35,112,020.99			33,099,488.01

### Schedule-B

### **FIXED ASSETS**

Item	Value as on	Adjustments Written off	/ Addition	Value as on 31.03.2013	Rate of Depre-	Depreciation	Written Down Value as on
	01.04.2013				ciation		31.03.2014
	₹	₹	₹	₹		₹	₹
Leasehold Land (Dev. Fund)	2,075,669.00			2,075,669.00	-	-	2,075,669.00
Building (Dev. Fund)	8,100,604.73		-	8,100,604.73	5%	405,030.24	7,695,574.49
Rain Water Harvesting System (Dev. Fund)	65,850.23			65,850.23	5%	3,292.51	62,557.72
Mural (Dev. Fund)	41,494.00			41,494.00	5%	2,074.70	39,419.30
Electrical Equipment (Dev. Fund)	336,401.67			336,401.67	15%	50,460.25	285,941.42
Electrical Fittings (Dev. Fund)	235,349.75		1,450.00	236,799.75	10%	23,679.97	213,119.78
Furniture (Dev. Fund)	358,506.63		3,000.00	361,506.63	10%	36,000.66	325,505.97
Office Equipment ( Dev. Fund)	12,331.11			12,331.11	15%	1,849.67	10,481.44
Furniture (Lab. Fund)	168,508.19		48,800.00	217,308.19	10%	19,290.82	198,017.37
Lab. Equipment (Lab Fund)	249,376.36		469,151.00	718,527.36	15%	107,779.10	610,748.26
Office Equipment (GOWB)	4.91			4.91	15%	0.74	4.17
Furniture (GOWB)	2,341.09			2,341.09	10%	231.41	2,109.68
Lab. Equipment ( JB-Own Gen. Fund)	403,111.00	403,111.00		-	15%	-	-
Lab. Equipment ( JB-Own Gen. Fund)	852,251.00	-		852,251.00	15%	127,837.65	724,413.35
Lab. Equipment (Capital Fund)			1,475,740.00	1,475,740.00	15%	169,582.28	1,306,157.72
Computer (Capital Fund)			67,750.00	67,750.00	60%	20,325.00	47,425.00
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	12,997,817.52	403,111.00	2,065,891.00	14,660,597.52		967,435.00	13,693,162.52
Previous Year	12,268,803.99	-	1,505,646.00	13,774,449.99		776,632.47	12,997,817.52

<sup>#</sup> Member of the Governing Body suggested in the 142nd meeting dated 18th November, 2013 that the value of Spectrometer ( Lab Equipment) shown as an asset should be shown under Laboratory Fund instead of JB-Own Generation Fund.

### Schedule-C

### **INVESTMENTS**

PREVIOUS YEAR			CURRENT YEAR
₹			₹
	CURRENT INVESTMENT:		
	FIXED DEPOSITS:		
1,950,000.00	State Bank of India, Kasba		1,463,469.00
	LONG TERM INVESTMENT:		
	FIXED DEPOSITS:		
17,000,000.00	State Bank of India, Kasba	17,500,000.00	
1,100,000.00	State Bank of India, Jeevan Deep Branch	1,100,000.00	
30,000.00	UCO Bank, Brabourne Road Branch	30,000.00	
210,000.00	Housing Development Finance Corporation Ltd	2,044,000.00	
800,000.00	State Bank of India(FC), Salt Lake Branch	800,000.00	
1,754,428.91	Housing Development Finance Corporation Ltd (Cumulative Scheme)		21,474,000.00
	PUBLIC PROVIDENT FUND:		
4,107,237.32	State Bank of India (PPF), Kasba Branch		-
	(Deleted from Accounts)	_	
26,951,666.23		=	22,937,469.00



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CURRENT	ASSETS.	LOANS	AND	<b>ADVANCES</b>
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PREVIOUS YEAR		CURRENT YEAR	<b>-</b>
₹ 7.302.00	Cash in hand	₹	₹ 26,258.00
7,392.00	Cash at Bank :		20,238.00
315,629.35	State Bank of India, Kasba (A/c No 10415825348)	174,741.35	
72,285.88	State Bank of India, Kasba (A/c No 10415825360)	296,920.88	
7,519.67	United Bank of India,Bosepukur Rajdanga (PF) (A/c No 5657)	7,823.67	
139,136.46	State Bank of India,Kasba (A/c No 10415825359)	158,565.96	
488,848.03	United Bank of India,Bosepukur Rajdanga (A/c No 5486)	3,384,012.03	
-	State Bank of India, Kasba Branch (Current Account No. 33224282758)	785,599.00	
52,272.52	State Bank of India, Saltlake (A/c No 10836429242)	107,311.52	
270,447.00	Union Bank of India, Ballygunge Branch (A/c No 301202010009819)	272,074.00	
			5,187,048.41
	Security Deposits:		
13,000.00	For Telephone	13,000.00	
12,085.00	For Electricity	12,810.10	25,810.10
	Loans & Advances:		
508,400.00	For Advance against Salary	1,600.00	
60.00	For Advance against Tour (Staff)	-	
5,058.95	For Office Expenses	1,696.95	
4,800.00	To Others	4,800.00	8,096.95
	Receivables (Grants):		
36,000.00	From Vigyan Prasar	-	
510,365.00	From DST, Govt. of India (SEATS)	-	
29,290.00	From Deptt of Higher Education, Govt of West Bengal	42,420.00	
500,000.00	From Council of Scientific & Industrial Research, Govt. of India	500,000.00	542,420.00
	Receivables (Others):		
1,660.00	From Veekay Tourist Home, B'lore	512.00	
710.00	From S R S Jayanna Tourist	-	
5,445.00	From The Taste Maker	-	
76,009.00	From TDS Refundable	27,359.00	
44,303.00	From M/s Concept	-	
18,991.00	From M/s The Chatterjee Group		27,871.00
3,119,707.86			5,817,504.46

### Schedule-E

### **CURRENT LIABILITIES AND PROVISION**

PREVIOUS YEAR		<b>CURRENT YEAR</b>
₹	Liabilities for :	₹
1,129,000.00	Scholarship	1,517,271.00
338,481.50	Book Grant	318,196.50
9,107.00	Project Presentation Award	12,907.00
600.00	Talent Search Test (GOWB)	400.00
16,854.00	Audit Fee	16,854.00
20,090.00	Best School Award	25,090.00
7,400.00	TDS (Staff)	14,385.00
8,695.00	TDS (Others)	43,231.00
348.00	TDS (W. C. Tax)	4,394.00
3,135.00	Profession Tax	2,330.00
3,304.00	DST (SEATS) Expenses	13,791.00
13,311.00	Security Deposit by Electrical Contractor	13,311.00
4,198.00	Security Agency	4,198.00
17,855.00	Remuneration Payable to Project Staff	32,590.00
16,261.00	City Conveyance	19,493.00
_	ICGM Expeses	368,879.00
_	DST (GOI) Expenses	36,441.00
44,856.00	Expenses for Nobel Laureate & International Scientist	-
_	Development Fund Expnses	67,742.00
_	DST (SERB) Expenses	55,809.00
	Refundable to DST(SEATS), Govt. of India	714,450.00
	Provision for:	
2,560,566.02	Leave Salary	2,909,878.02
4,194,061.52	Total	6,191,640.52

### Schedule-F

### **ESTABLISHMENT**

PREVIOUS YEAR		CURRENT YEAR
₹		₹
4,377,697.00	Salary & Allowances	5,522,745.00
	Provision for Retirement Benefit:	
261,920.00	Leave Salary	349,312.00
4,639,617.00		5,872,057.00



		Schedule - G
DDEVIOUS VEAD	OFFICE EXPENSES	
PREVIOUS YEAR ₹		CURRENT YEAR ₹
45,639.00	Postage, Telegram & Telephone	43,072.00
11,030.00	Audit Fee	11,030.00
75,900.00	Contingency	159,350.00
108,520.00	Electricity	126,670.00
53,948.00	Printing & Stationery	46,769.00
138,132.00	City Conveyance	210,328.00
16,040.00 1,815.00	Property Tax Repairs and Maintenance(Computer)	15,200.00 260.00
36,753.00	Repairs and Maintenance(General)	33,032.00
-	Repairs and Maintenance(Building)	55,582.00
-	Legal Fees	13,800.00
258.00	Depreciation	232.15
488,035.00		715,325.15
		Schedule- H
	EXPENSES UNDER SCHOLARS' RESERVE FUND	
PREVIOUS YEAR		CURRENT YEAR
₹		₹
945,000.00	Scholarship Park Guert	1,054,000.00
86,500.00	Book Grant Science Project Procentation Award	92,000.00 6,000.00
6,050.00 9,237.00	Science Project Presentation Award Workshop on Science & Scientist	27,838.00
1,046,787.00	Workshop on science & scientist	1,179,838.00
170 1077 07100		
		Schedule- I
	EXPENSES UNDER DEVELOPMENT FUND	
PREVIOUS YEAR		CURRENT YEAR
₹ 26,800.00	Legal Fees	₹
240,719.00	Repair & Maintenance	125,392.00
18,091.00	Library Development Expenses	-
-	Audit Fees	2,247.00
-	Receivable Written Off	44,303.00
558,815.75	Depreciation	522,388.00
844,425.75		694,330.00
		Schedule- J
	EXPENSES UNDER LABORATORY FUND	
PREVIOUS YEAR ₹		CURRENT YEAR ₹
1,106.00	Laboratory Fund Expenses	11,973.00
-	Security Expenses	13,500.00
62,730.72	Depreciation	127,069.92
63,836.72		152,542.92
		Schedule- K
	EXPENSES UNDER JBNSTS-OWN FUND	
120,000.00	Honorarium to Hony Director	190,000.00
	Remuneration to Staff	25,400.00
74.457.66	Receivable Written Off	18,991.00
71,137.00	Depreciation	127,837.65
191,137.00		<u>362,228.65</u>
	EVERNOES LINES STAFFING SACTORS	Schedule- L
	EXPENSES UNDER STAFF WELFARE & MEDICAL FUND Staff Medical Expenses	20,000.00

Schedule- M

### **PROGRAMME EXPENSES**

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

PREVIOUS YEAR		CURRENT YEAR
₹		₹
432,477.00	Talent Search Test	432,704.00
19,191.00	Awareness Program	1,702.00
5,000.00	Best School Award	5,000.00
1,748.00	Books & Journals	7,621.00
89,176.00	Annual Award Ceremony	98,567.00
547,592.00	Sub Total	545,594.00
II.Expenses funded by Deptt of Higher Education, Govt. of West Bengal (WBDS)		
665,744.00	Science Workshop	13,976.00
	III.Expenses under Govt. of West Bengal (DST-WAST)	
335,652.00	Teacher Training Program	274,264.00
	IV.Expenses under Govt. of India (DST)	
4,256.00	Science Workshop for Contact Program	249,260.00
	V.Expenses under Govt. of India (DST-SEATS)	
4,380,904.00	Science Camp (INSPIRE)	3,424,167.00
	VI.Expenses under Govt. of India (DST-SEATS- NL & IS)	
44,856.00	Expenses for Nobel Laureate & International Scientist	
	VII.Expenses under Govt. of India (DST-FIST)	
4,525.00	Improvement in Science & Technology in NER	
	VIII.Expenses funded by CSIR, Govt. of India	
481,434.00	Talent Enrichment Programme	370,006.00
	IX.Expenses funded Vigyan Prasar,DST, Govt. of India	
249,222.00	Workshop on Current Trends in Chemistry Teaching	-
358,208.00	Meeting on Science Popularisation in North East	
607,430.00	Sub Total	<del>-</del>
	X.Expenses funded ONGC	
	Science Orientation Workshop	128,943.00
	XI.Expenses under Govt. of India (DST-SERB)	
	Research Activities	270,413.50
7,072,393.00	Grand Total	5,276,623.50



Schedule - N

### **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 assets received under programme 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.

### 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 Investments 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. Provident Fund interest of Rs.304/- being specific earnings of Retirement Benefit Fund has been directly allocated to the fund. Interest amounting to Rs. 76,165/- on investments and savings account out of Foreign Contribution being specific earnings of Scholars' Reserve Fund and Development Fund the same has been apportioned to these funds.
- 3. As per observation of the statutory auditors on the accounts of 2012-2013, members of Governing Body decided in the 142<sup>nd</sup> meeting dated 18<sup>th</sup> November, 2013 that PPF Investment and its corresponding liability "Retirement Benefit Fund" are neither the asset nor the liability of JBNSTS, the PPF account and its corresponding fund amount should be deleted from the accounts of JBNSTS. Accordingly PPF investment and corresponding fund have been deleted from the accounts in the financial year (2013-14)
- 4. Fixed Assets namely, UPS and Heater for Distillation unit amounting to Rs. 10,961/- have been purchased out of grant received from DST, Govt. of India under SEATS program. 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.
- 5. Liabilities shown in Schedule "E" include Rs. 18,48,374/- 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. With effect from the year 2013-14, a Capital Fund has been created by the grant of Rs.15 lacs received from SERB, DST, Govt. of India to incur Capital Expenditure for research activity. Rs.15,43,490/- has been spent for capital expenditure for SERB project. The excess amount of Rs.43,490/- has been met from the Laboratory Fund.
- 7. Previous year's figures have been regrouped and rearranged wherever necessary.

On behalf of the Governing Body

Sd/-

Prof. (Dr.) Papiya Nandy Hony. Director

Place: Kolkata

Date: 24th September, 2014

### Campus walk through JBNSTS centre









- 1) Our centre
- 3) Cafeteria cum canteen
- 5) Scientific mural
- 7) J.C.Bose Laboratory for Science Through Experiments
- 9) Dormitory





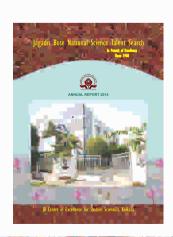






- 2) Roof top activity centre utilizing solar energy
- 4) Garden with pool
- 6) Auditorium
- 8) Rain water harvesting system





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