

বসু বিজ্ঞান মন্দির

बसु विज्ञान मन्दिर

BOSE INSTITUTE

Newsletter



No. 50-51

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A NEWSLETTER OF BOSE INSTITUTE

FROM THE DIRECTOR'S DESK



It is with great pleasure that I announce the release of this editions Bose Institute Newsletter. By going through its pages you will get a glimpse of the various activities and achievements of our Institute during the period 2017-18. The year 2017 was an eventful one. We celebrated the centenary of our Institute's existence in grand style. In the first few months of 2018 we had to struggle a bit as many of our senior colleagues, who contributed immensely towards the development of scientific excellence in the Institute superannuated almost at the same time, resulting in a void that will take a long time to fill. The same happened in case of the administration too. Many of the officers, most of them in senior positions retired during this period. I am glad to state that with the cooperation received from all staff members, the research scholars and students, the crisis has been overcome to a large extent. We, however, have a long way to go and the coming years will be even more challenging considering that the staff strength will go down further, and the criteria for excellence will become ever more stringent.

An important task that we have in our hands is restoration of the uniqueness of Bose Institute which lies in its multi-disciplinary character. Unfortunately, in the recent past interaction between the various disciplines has seen a downward trend. We need to rectify this aberration by trying to build bridges between departments, sections, and programs, through dialog and discussion. The only way that we can reassert ourselves globally is by reviving interdisciplinary research at our Institute, the way it used to be in the past. As we shift to the new campus, the process of re-integration is bound to be facilitated. While the senior faculty members, including those who have superannuated will be happy to help, it is for the juniors to decide how they want the Institute to grow in the years to come. It is for them to imbibe new ideas into the Institute, keeping in mind the needs of the nation and also the vision of our illustrious founder. My best wishes to all staff members and research scholars as we embark on a difficult, and yet, exciting journey in the years to come.

Prof. Sujoy Kumar Das Gupta

Director (Officiating), Bose Institute

Outstanding Student Awards 2018

Sir Nilratan Sirkar Prize awarded to:



Ms. Pallabi Sengupta
Department of Biophysics

Prof. B. B. Biswas Outstanding Student Award jointly awarded to:



Ms. Nabanita Saha
Department of Biochemistry



Ms. Jesmita Dhar
Bioinformatics Centre

Prof. Shyamadas Chatterjee Outstanding Student Award (in the area of Physical and Environmental Science) awarded to:



Ms. Satamita Deb
Department of Microbiology

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Dr. Zhumur Ghosh (Bioinformatics) LncRBase. Application No. 50939/2014-CO/L. Granted on **February 2018**.

Dr. Zhumur Ghosh (Bioinformatics) piRNAQuest: Searching for piRNAome for Silencers. Application No. 50940/2014-CO/L. Granted on February 2018.

Editorial Board :

Gautam Basu, Gaurab Gangopadhyay,
Somshubhro Bandyopadhyay, Achintya Singha,
Ishani Chatterjee and Tarun Kumar Maji
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The 80th Acharya J.C. Bose Memorial Lecture will be delivered by **Prof. T. V. Ramakrishnan, FRS, DST Year of Science Chair Professor, Distinguished Associate, IISc, Bangalore, and Emeritus Professor, BHU, Varanasi, on "Acharya Sir Jagadish Chandra Bose: Harbinger of Science in Today's India".**

Acharya Sir Jagadish Chandra Bose: Harbinger of Science in Today's India

Abstract

J.C. Bose started modern science in India through his example. His discovery of microwave electromagnetic radiation is a complete example of great originality, perseverance under impossible odds and of the highest values of science. It is inspiring to all of us who came after. His pioneering exploration of communication in plants, illuminated by exquisite instrumentation and transcendental motivation, was decades ahead. It is a great honour to revisit these on the Foundation Day of the institution which enshrines his work and values.

CURRENT EVENTS

101st Foundation Day Celebrated

The 101st Foundation Day of Bose Institute was celebrated on November 30, 2017. **Prof. Ada Yonath**, Department of Structural Biology, Weizmann Institute, Rehovot, Israel and recipient of the Nobel Prize in Chemistry in 2009, delivered the 79th Acharya J.C. Bose Memorial Lecture on "Next Generation Environmental Friendly Antibiotics". Prof. Bikash Sinha, Chairman, Bose Institute Council, presided over the programme. Prof. Siddhartha Roy, Director (Officiating), Bose Institute, delivered the Welcome Address and presented the Institute Report. Sir Nilratan Sirkar Prize 2017 was awarded jointly to Ms. Shamila Sarwar, (student of Prof. Pinakpani Chakrabarti) Department of Biochemistry, and to Mr. Junaid Jibran Jawed (student of Prof. Subrata Majumdar), Division of Molecular Medicine. Prof. B. B. Biswas Outstanding Student Award 2017 was presented to Mr. Asif Ali (student of Prof. Mahadeb Pal), Division of Molecular Medicine.



Centenary Distinguished Talk by Dr. Sankar Adhya



Dr. Sankar Adhya, NIH, USA, delivered the Distinguished Talk entitled "A DNA-centric View of Gene Expression from Chromosome" on January 25, 2018, in the Lecture Hall of the Main Campus of the Institute on the occasion of the Centenary Celebration of Bose Institute.

Centenary Lecture by Bharat Ratna Prof. C. N. R. Rao



Centenary Lecture on "Can India become a global leader in science?" was delivered by Bharat Ratna Prof. C. N. R. Rao on March 28, 2018 in the Lecture Hall of the Main Campus of the Institute on the occasion of Centenary Celebration of the Bose Institute.

Annual Sports Day



The Annual Sports Day was celebrated on January 24, 2018, at East Calcutta District Sports Council Ground with the active participation by all members of Bose Institute.

National Science Day 2018

Bose Institute observed **National Science Day** on February 28, 2018, through various activities. The theme of the National Science Day 2018 was "**Science and Technology for a sustainable future**". National Science Day lecture was delivered by Dr. Debiprosad Duari, Director, Research & Academic, M. P. Birla Institute of Fundamental Research, Kolkata, who spoke on "Our cosmic environment". A large number of participants including guests, scientists, students and other professionals attended the programme.

Swachhata Pakhwada

"Swachhata Pakhwada" was observed during May 01 – 15, 2018 under the 'Swachh Bharat Mission' in all campuses of the Institute. A programme on this occasion was organized on May 11, 2018 at the Centenary Campus of Bose Institute.

International Day of Yoga



International Day of Yoga was observed on June 21, 2018 at Madhyamgram Experimental Farm of Bose Institute.

Hindi Pakhwada

Bose Institute celebrated and observed Hindi Pakhwada during September 10 – 24, 2018 at the Centenary Campus, followed by Hindi Note writing, Translation, Essay writing and Official Language Act Competition. Hindi Day was observed on 14 September, 2018. On this occasion the Institute organised a Hindi Workshop. A talk was delivered by Shri Satyaprakash Dubey, Rajbhasa Department (Govt. of India), Eastern Railway, Sealdah Division, Kolkata, followed by a cultural programme organized by the staff and students of the Institute.

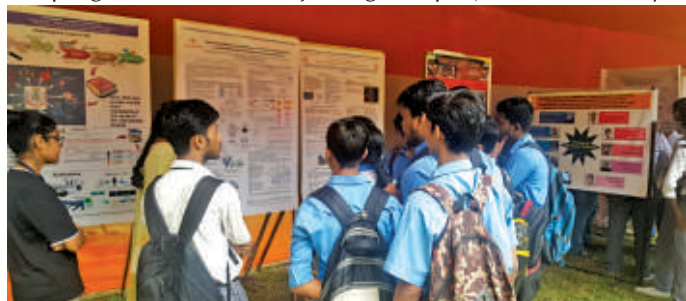
IISF – Outreach Programme

Bose Institute organized an Outreach Programme to celebrate India International Science Festival (IISF)-2018, in association



with Vivekananda Vijnan Mission, West Bengal Chapter of Vijnana Bharati, at the Main Campus of the Institute on September 28,

2018. Several students from renowned schools in Kolkata attended the programme. A popular lecture was delivered by Prof. Gautam Basu. Documentaries on IISF and VIBHA activities were screened and scientific activities were displayed through posters. This was followed by a visit to the J.C. Bose Museum and various laboratories of the Institute. A Quiz competition for the students was organised by Bose Institute Scholars' Forum. The Director (Officiating) presided over the programme. Prof. Tanya Das acted as the Nodal Officer, BI, in this programme. Bose Institute also organized this programme at the Darjeeling Campus, on the same day.



India International Science Festival (IISF-2018)

Bose Institute participated in the Mega Science, Technology & Industry Expo at the India International Science Festival (IISF) 2018 during October 5 – 8, 2018 at Lucknow. The

Hon'ble President of India, Shri Ram Nath Kovind, inaugurated the programme.

Dr. Harsh Vardhan, Hon'ble Minister of Science & Technology, Earth Science, Environment, Forest

& Climate Change, inaugurated the Expo. Prof. Ashutosh Sharma, Secretary to the Govt. of India, Ministry of Science & Technology,

visited the stall of Bose Institute and

appreciated our display items that included scientific posters, replica of J.C. Bose's instruments, digitized diaries, patent and publications of Bose Institute.



Blood Donation Camp

A Blood Donation Camp was organized on October 5, 2018 in association with Central Blood Bank, Manicktala. On this occasion, seventy two members of the Institute including staff members and students/scholars donated blood. Medica Superspeciality Hospital provided a free health check up programme on this occasion.

Rashtriya Ekta Diwas (National Unity Day)



"Rashtriya Ekta Diwas (National Unity Day)" was observed at Bose Institute, Kolkata, on October 31, 2018 to commemorate the birth anniversary of Sardar Vallabhbhai Patel. A Pledge taking ceremony was organised at the Centenary Building of the Institute before the bust of Sir J.C. Bose. The programme was attended by academic as well as non-academic staff members of the Institute.

NMRS Silver Jubilee Short Term NMR School



The "NMRS Silver Jubilee Short Term NMR School" was organized at the Darjeeling campus of Bose Institute, during October 29 – 31, 2018 to commemorate the 25th anniversary of the NMRS. It was attended by several internationally reputed scientists working in the fields of Nuclear Magnetic Resonance (NMR) and Magnetic Resonance Imaging (MRI). A number of research scholars from reputed institutes such as CSIR-IICB Kolkata, NIT Rourkela, IIT BHU, IIT Kharagpur, IIT Guwahati, Gauhati University, IISER Kolkata and IMCB Singapore participated. Prof. C.L. Khetrpal, the founding member of the NMR Society, and Prof. N. Suryaprakash, its former president, were among those who delivered lectures on the future prospects of NMR and MRI technologies in India and abroad.

Vigilance Awareness Week



The Vigilance Awareness Week (Theme: Eradicate Corruption, Build a New India) was observed during October 29 – November 03, 2018. As a part of this programme, a Pledge Taking Ceremony was organised on November 1, 2018 at the Centenary Building of the Institute before the bust of Sir J.C. Bose. The programme was attended by all academic and non-academic staff members of the Institute.

134th Birthday Celebration of Prof. Debendra Mohan Bose



The 134th Birthday of Prof. Debendra Mohan Bose was celebrated on November 26, 2018, at the Main Campus Lecture Hall of the Institute. **Prof. Somak Raychaudhury**, Director, Inter-University Centre for Astronomy & Astrophysics, Pune, graced the occasion as Guest of Honour and delivered the **D. M. Bose Memorial Lecture 2018** on the topic "Going to Space to Observe the Sky". Prof. S. C. Roy, Member, National Commission of History of Science, INSA, presided over the programme. Many distinguished scientists, students and other professionals from all over India were present.

Scheduled Tribe Specific Rural Biotechnology Programme



ST Specific Rural Biotechnology Programme started its journey in the year 2014 which is fully financed by Department of Science & Technology, Govt. of India for the development of Socio-economic status of Scheduled Tribe community people throughout West Bengal. At present Scheduled Tribe Specific Rural Biotechnology Programme is spread about 140 villages over 13 districts of West Bengal through 51 NGOs in the respective areas based on the suitability and need considering the agro-climatic condition.



In last one year, more than 2000 beneficiaries were put under this umbrella, engaging twenty six NGOs under this programme in different project sites of West Bengal. The most potential programmes which are accomplished during this year are Chicken Rearing, Duck Rearing, Goat Rearing, Sheep Rearing, Pig Rearing, Bee-Keeping, Mushroom Cultivation, Rain Water Harvesting Tank, Vermicompost, Agriculture, Kitchen Garden, Fruits Orchard, Food Processing, Tant weaving and different other programs.

Four training programmes were organized to train ~95 Village Trainers and ~56 Supervisors at Falta Experimental



Farm of Bose Institute by experts and Master Trainers. A conference on "Rural Biotechnology Programme & Rural Development of ST people, Present Status & Future" (As a part of Centenary Celebration of Bose Institute) was held at Falta Experimental Farm during February 11-13, 2018.



Animal Health Camps was also organized in the villages for helping beneficiaries through the dissemination of knowledge to protect their animals. Some valuable medicines were distributed for emergency and animals were vaccinated free of cost.



Dr. Ashim Prasad Chattopadhyaya, resource person, distributing necessary medicines for cattle during Animal Health Camp.



Kitchen Gardening at Purulia

SYMPOSIA AND CONFERENCES HELD

International symposium on Systems, Synthetic and Chemical Biology (SSC2017) was held in December 5-7, 2017. Notable speakers of the symposium were : Prof. Pamela Silver, Harvard Medical, Boston, USA; Prof. Minoru UEDA, Tohoku University, Japan; Prof. Johannes Geiselmann, Universite Grenoble Alpes - CNRS UMR5588, France; Prof. Maria Laura Gennaro, MD, The State University of New Jersey, USA.

Hands-on-Training Programme



A 'Hands-on-Training' programme on "Basic and Applied Physical and Biological Sciences for the High School Students" was organized at MEF (Madhyamgram Experimental Farm) during December 11 – 13, 2017, as a part of the Centenary Celebration of Bose Institute. Thirty five students of classes XI-XII from seven schools in the vicinity of MEF attended this programme, along with their teachers. They performed experiments on Microbiology, Physics of Nanomaterials and Plant Biotechnology. They also learnt techniques on use of animals in drug development translational medical research. The students also visited the Centenary Building and the Main Campus of the Institute and attended lectures on crop improvement and 'Fun with Mathematics'.

NESST-BASE



12th North East School Students' Training on BA SicEnce (NESST – BASE 2018) was held at Darjeeling, Bose Institute During April 30 – May 12, 2018.

Nature Study Camp



A five day Nature Study Camp was organized at Bose Institute, Darjeeling in collaboration with Science Communicators' Forum (SCF) and Vigyan Prasar, DST, Govt. of India during the first week of June 2018. Around 30 ex-child scientists of National Children's Science Congress (NCSC) along with 5 volunteers and Resource Persons participated in this camp.

Ramanujan Conclave-2018 for Life Sciences



The Ramanujan Conclave-2018 for Life Sciences was held at the Unified Academic Campus of Bose Institute on October 30, 2018. Dr. Abhrajyoti Ghosh was the organizer of the meeting, which was attended by a number of Ramanujan fellows from different parts of India. A number of eminent scientists including Prof. M R S Rao (JNCASR), Prof. Usha Vijayraghavan (IISc), Prof. L C Rai (BHU), Prof. Narpinder Singh (Guru Nanak Dev University), and SERB officials (Mr. S. S. Kohli and Dr. Pravakar Mohanty) attended the meeting as the Executive committee members / SERB members.

VISITS ABROAD

Prof. Srimonti Sarkar (Biochemistry) attended the 14th International Congress of Parasitology in Daegu, South Korea, August 19 – 24, 2018.

Dr. Abhrajyoti Ghosh (Biochemistry) attended the EMBO workshop on "Molecular biology of archaea: From mechanisms to ecology" at the University of Vienna, Austria during September 2 – 5, 2018.

Dr. Shubhra Ghosh Dastidar (Bioinformatics) presented at the workshop on Protein Sequence to Structure during April 15 – 17, 2018 at University of Dhaka.

Sreyashi Majumdar SRF (Bioinformatics) working under the guidance of Dr. Sudipto Saha, attended the Joint Congress of the Asia Pacific Association of Allergy, Asthma and Clinical Immunology & the Asia Pacific Association of Pediatric Allergy Respiratory and Immunology (APAAACI & APAPARI 2018), held in Bangkok, Thailand, from October 11 – 14, 2018, and presented a poster titled "DAAB-V2: An updated version of Database of Allergy and Asthma Biomarkers with SNPs, Protein Interactors and Drug Information."

Debangana Chakravorty SRF (Bioinformatics) working under the guidance of Dr. Sudipto Saha, attended the "EMBO Practical Course on Computational analysis of protein-protein interactions: Sequences, networks and diseases" from November 05 – 10, 2018, held in Rome, Italy.

Prof. Swati Gupta Bhattacharya (Division of Plant Biology) attended the 11th International Congress on Aerobiology (ICA2018), held in Parma, Italy, during September 3 – 7, 2018, and presented her work in both oral and poster forms.

Bijoya Karmakar SRF (Division of Plant Biology) working under the guidance of Prof. Swati Gupta Bhattacharya, participated in the American Academy of Allergy, Asthma and Immunology (AAAAI) / World Allergy Organization (WAO) Joint Congress, held in Orlando, USA, during March 2 – 5, 2018, and presented her work in oral form.

Moumita Bhowmik SRF (Division of Plant Biology) working under the guidance of Prof. Swati Gupta Bhattacharya, attended the "European Academy of Allergy and Clinical Immunology (EAACI) Congress, 2018" during May 26 – 30, 2018 at Munich, Germany, and presented a poster.

Moumita Biswas Sarkar SRF (Division of Plant Biology) working under the guidance of Prof. Swati Gupta Bhattacharya, attended the "European Academy of Allergy and Clinical Immunology (EAACI) Congress, 2018" during May 26 – 30, 2018 at Munich, Germany, and presented a poster.

Debabrata Dutta (Division of Plant Biology) working under the guidance of Dr. Gaurab Gangopadhyay was selected for a Newton Bhabha Fund Ph D placements for Indian Scholars for a short-term research visit to the University of York, UK, in 2019

Pratiti Dasgupta (Division of Plant Biology) attended Keystone Symposia on Molecular and Cellular Biology "Chromatin Architecture and Chromosome Organization (X5) during March 23 – 27, 2018 at Whistler Conference Centre, Whistler, British Columbia, Canada.

Prof. Tapan K. Dutta (Microbiology) visited the University of West England, Bristol, UK, during September 04 – 15, 2018 under the exchange visitor program of the ongoing Indo-UK project entitled "The development and implementation of sensors and treatment technologies for freshwater systems in India" funded by Department of Science & Technology (DST), NERC and the EPSRC (UK) through the Newton-Bhabha fund.

Dr. Wriddhiman Ghosh (Microbiology) attended the Goldschmidt Conference 2018, a premiere international forum of Geochemistry conducted every year jointly by the Geochemical Society and the European Association of Geochemistry, and presented a paper titled "Cryptic Methane Cycle in the Upper Sediment Layers of the Arabian Sea Oxygen Minimum Zone". He also convened the session titled "Biogeochemical Cycling in Aquatic Sediments: Mechanisms, Environmental Controls and Responses to Change" at the conference, held at Boston, USA between August 12 and 17, 2018.

Suman Basu JRF (Microbiology), working under the guidance of Prof. Tapan K. Dutta, visited the University of West England, Bristol, UK, from September 04 – 15, 2018 under the exchange visitor program of the ongoing Indo-UK project entitled "The development and implementation of sensors and treatment technologies for freshwater systems in India" funded by DST, NERC and the EPSRC (UK) through the Newton-Bhabha fund.

Prof. Swapan K Saha (Physics) attended the conference EURORIB 2018 at Giens, France, during May 27 – June 1, 2018 and presented a poster titled "Coulomb dissociation of ^9Li "; visited Grand Accélérateur National d'Ions Lourds (GANIL), Caen, France during November 13 – 15, 2018 to present a proposal for experiment on "Coulomb dissociation of ^{16}O in the context of the hot CNO cycle" at the GANIL Program Advisory Committee; visited CERN during November 16 – 24, 2018 to carry out the experiment IS 554 on the cosmological lithium problem at HIE-ISOLDE, CERN.

Dr. Supriya Das (Physics) visited CERN to participate in ALICE experiment during May 15-30, 2018.

Dr. Dhruba Gupta (Physics) visited Institut de Physique Nucleaire Orsay, France, and CERN, Geneva, Switzerland, for collaborative research during May 16 – 26, 2018; attended the conference EURORIB 2018 at Giens, France, during May 27 – June 1, 2018, and presented a poster titled "Transfer and breakup reactions with ^7Be to study the cosmological lithium problem"; visited CERN during November 5 – 28, 2018, as principal investigator to carry out the experiment IS 554 on the cosmological lithium problem at HIE-ISOLDE, CERN.

Dr. Achintya Singha (Physics) visited Montpellier, France, from July 28 to August 3, 2018, to present his work in the International Conference on the Physics of Semiconductors (ICPS 2018).

Dr. Soumen Roy (Physics) visited the International Centre for Theoretical Physics of UNESCO at Trieste, Italy, as a Regular Associate of ICTP from October 29, 2018 to December 23, 2018.

Kabita Kundalia SRF (Physics), working under Prof. Swapan K Saha and Dr. Dhruba Gupta, visited CERN during November 5 – December 8, 2018 to work on the experiment IS 554.

Sk Mustak Ali SRF (Physics), working under Dr. Dhruba Gupta, visited CERN during September 18 – December 8, 2018, to work on the experiment IS 554.

FORTHCOMING EVENTS

- Madhyamgram Experimental Farm (MEF) will organize the third 'Hands-on-Training' programme on "Basic and Applied Physical and Biological Sciences for the High School Students" during December 18 – 20, 2018. Contact person: Dr. Gaurab Gangopadhyay.

RECENT AWARDS AND HONOURS

- **Dr. Zhumur Ghosh** (Bioinformatics) received (i) SERB Woman Excellence Award in April 2018; (ii) NASI Scopus Young Scientist Award 2018; (iii) elected Life Member of the National Academy of Sciences.
- **Dr. Tanaya Chatterjee** (Biochemistry) elected Life Member of the National Academy of Sciences.
- **Chandrima Bhattacharyya** (Biochemistry) working under the guidance of Dr. Abhrajyoti Ghosh was selected for a Newton Bhaba Fund PhD Placements for Indian Scholars for a short-term research visit to the Middlesex University, London, in 2019.
- **Sreyashi Majumdar** SRF (Bioinformatics) working under the guidance of Dr. Sudipto Saha, received the best poster award for "Improving diagnosis, prognosis and treatment of lung diseases using bioinformatics and systems biology approaches" in PULMOCON, 2018 (16th All India Update in Pulmonary Medicine) held in CII Suresh Neotia, Salt Lake, Kolkata, West Bengal on September 08 - 09, 2018.
- **Prof. Joyoti Basu** (Chemistry) awarded J.C. Bose Fellowship; SERB (DST).
- **Prof. Samir Ranjan Sikdar** (Division of Plant Biology) elected Fellow of West Bengal Academy of Science & Technology in 2018 in Social Sciences.
- **Moumita Bhowmik** SRF (Division of Plant Biology) working under the guidance of Prof. Swati Gupta Bhattacharya won the best poster award at European Academy of Allergy and Clinical Immunology Congress, 2018 during May 26 – 30, 2018, at Munich, Germany.
- **Dr. Soumen Roy** (Physics) joined the Editorial Board of PLOS ONE as Academic Editor.
- **Tara Shankar Bhattacharya** SRF (Physics) working under Dr. Achintya Singha attended the Bose Tagore National Advanced Workshop on "Recent Advances in Condensed Matter Physics: Theory and Experiment" (NAWCMP), August 3 – 4, 2018, at Visva Bharati University, Santiniketan, and won the second best poster award.

RECENT PH. D. DEGREE AWARDED

- **Anindya Biswas** (Biochemistry) Studies on the DNA-binding domain of the immunity repressor of a staphylococcal Phage 11. Supervisor: Prof. Subrata Sau.
- **Indrani Kar** (Biochemistry) Influence of Plant Extracts on Fenton-Reaction Mediated DNA Damage and Studies on RecA. Supervisor: Prof. Rajagopal Chattopadhyaya.
- **Atrayee Ray** (Biochemistry) Characterization of the subunits of the proteasomal lid of *Giardia lamblia*. Supervisor: Prof. Srimonti Sarkar.
- **Prerana Agarwal Banka** (Biochemistry) Structural and biochemical analysis of ubiquitin conjugating (E2) enzymes. Supervisor: Dr. Ajit Bikram Datta
- **Sohini Chakraborty** (Bioinformatics) Regulatory Networks Modulating Cellular Reprogramming in Stem Cells. Supervisor: Dr. Zhumur Ghosh.
- **Arijita Sarkar** (Bioinformatics) Role of Regulatory RNAs in Modulating Stem cell Biology. Supervisor: Dr. Zhumur Ghosh.
- **Jyotirmoy Das** (Bioinformatics) In-silico studies of Micro RNA regulations in higher eukaryotes from the perspective of molecular evolution. Supervisor: Prof. Tapash C Ghosh.
- **Deeya Saha** (Bioinformatics) Studies on overlapping genes: From evolutionary perspective. Supervisor: Prof. Tapash C Ghosh.
- **Arun Kumar Sharma** (Chemistry) Understanding the role of two component signal transduction system in *Mycobacterium tuberculosis* cell physiology. Supervisor: Prof. Manikuntala Kundu.
- **Anindya Biswas** (Chemistry) Theoretical Study of Noise-driven Nonlinear Dynamical Systems. Supervisor: Dr. Suman K Banik

- **Debliona Guha** (Division of Molecular Medicine) Deciphering Anoikis: An Approach to Overpower Detachment-Induced Apoptosis Resistance in Invasive Cance. Supervisor: Gaurisankar Sa.
- **Sreeparna Chakravarty** (Division of Molecular Medicine) Unravelling the Role of CD8+ T-regulatory Cells in Cancer. Supervisor: Gaurisankar Sa
- **Joydeep Roy** (Division of Molecular Medicine) Functional role of molecular chaperone Hsp70 in quality control of protein kinases. Supervisor: Dr. Atin Kumar Mandal.
- **Sahana Mitra** (Division of Molecular Medicine) Characterization of the function of chaperone network in quality control of Raf1 kinase. Supervisor: Dr. Atin Kumar Mandal.
- **Anshupriya Si** (Division of Molecular Medicine) Synthetic studies on polysaccharide fragments of microbial origin. Supervisor: Prof. Anup Kumar Misra.
- **Senjuti Sen** (Division of Plant Biology) Development of New strategies for management of biotic and abiotic stresses in chickpea (*Cicer arietinum*. L). Supervisor: Prof. Sampa Das.
- **Lucina Yeasmin** (Division of Plant Biology) Genetic diversity assessment of bamboo species growing in South 24 Paraganas and East Midnapore districts of West Bengal. Supervisor: Prof. Amita Pal.
- **Adrita Roy** (Division of Plant Biology) Investigating the role of ARID/HMG: a novel plant specific high mobility group protein, in plant chromatin remodeling. Supervisor: Prof. Shubho Chaudhuri.
- **Debarati Dey** (Division of Plant Biology) Assessment of airborne fungal allergens of Kolkata metropolitan: biochemical and immunological approach. Supervisor: Prof. Swati Gupta Bhattacharya.
- **Nandini Ghosh** (Division of Plant Biology) Evaluation of Atmospheric Pollen Counts of Kolkata and Immuno-Biochemical Studies on Some Allergenic Pollen Grains. Supervisor: Prof. Swati Gupta Bhattacharya.
- **Deepti Sarkar** (Division of Plant Biology) Studies on miRNA expression and regulation during Alternaria-stress response in tomato. Supervisor: Dr. Pallob Kundu
- **Payel Bhattacharjee** (Division of Plant Biology) Exploring membrane associated transcription factors (MTFs) in tomato to understand membrane mediated signalling during biotic stress. Supervisor: Dr. Pallob Kundu.
- **Jayanti Jodder** (Division of Plant Biology) Regulation of miR-gene expression in response to physiological and environmental stimuli in tomato plant. Supervisor: Dr. Pallob Kundu.
- **Amit Pal** (Division of Plant Biology) Investigating the Epigenetic Regulation Involved in the Transcription of Stress Induced Genes in *Oryza sativa* L. Supervisor: Prof. Shubho Chaudhuri.
- **Poulami Sarkar** (Division of Plant Biology) Exploitation of *Rorippa indica* Defensin (RiD) with an aim to develop aphid tolerance in *Brassica juncea*. Supervisor: Prof. Samir Ranjan Sikdar.
- **Vivek Arora** (Division of Plant Biology) Analysis of genetic diversity and molecular marker assisted screening of a hybrid population of Mulberry (*Morus* spp.; Family: Moraceae) to look for useful recombinants. Supervisor: Dr Gaurab Gangopadhyay.
- **Marufa Sultana** (Division of Plant Biology) Study on molecular factors associated with in-vitro plant morphogenesis. Supervisor: Dr. Gaurab Gangopadhyay.
- **Soniya Chatterjee** (Microbiology) Functional and evolutionary insight into the mode of action of RepA – A Replication protein of the pAL5000 family of Actinobacterial Plasmids. Supervisor: Prof. Sujoy K Das Gupta
- **Chayan Roy** (Microbiology) Thermophilic Adaptation of Phylogenetically Diverse Microbial Groups. Supervisor: Dr. Wriddhiman Ghosh.
- **Prosenjit Pyne** (Microbiology) Molecular Basis of Tetrathionate Oxidation by Chemolithotrophic Bacteria. Supervisor: Dr. Wriddhiman Ghosh.
- **Subhasis Samanta** (Physics) Fluctuation-Correlation and Dimuon production in high energy heavy ion collision experiments. Supervisors: Prof. Sanjoy Kr. Ghosh and Dr. Supriya Das.

GRANTS RECEIVED

The following research proposals have been granted to Bose Institute during last one year by different funding agencies. The title of the project, funding agency involved, name of the principal investigator, amount of grant and duration of the projects are mentioned.

- Award of J.C. Bose Fellowship to Prof. Joyoti Basu; SERB (DST); Prof. Joyoti Basu, Chemistry; ₹ 54,00,000; 5 years.
- The development and implementation of sensors and treatment technologies for freshwater systems in India; DST-(INDO-UK); Prof. Tapan K. Dutta, Microbiology; ₹ 3,42,27,700; 3 years.
- Understanding molecular mechanism of action of a protein chaperone inducer azadiradione and its therapeutic development for Parkinson's disease treatment; DBT; Prof. Mahadeb Pal, Division of Molecular Medicine; ₹ 36,02,000; 3 years.
- Role of Cancer Stem Cells in Tumor Neo-Angiogenesis: A mechanistic study; SERB; Prof. Tanya Das, Division of Molecular Medicine; ₹ 48,76,800; 3 Years.
- Phage inspired antibiotics for mycobacteria; SERB; Prof. Sujoy K. Das Gupta, Microbiology; ₹ 38,96,800; 3 year.
- Development of Transgenic Pineapple over-expressing AcSERK to combat Fungal Pathogens; DBT-WB; Dr. Gaurab Gangopadhyay, Division of Plant Biology; ₹ 19,99,645; 3 years.
- Understanding the Role of Local and Transported Biogenic and Anthropogenic Aerosols on Microphysical and Chemical Properities Low-Clouds Over Eastern Himalaya, India; DST; Dr. Abhijit Chatterjee, Environmental Science Section; ₹ 74,08,800; 3 years.
- Nanoparticle-mediated co-delivery of chemotherapeutic drugs and genes for synergistic cancer treatment; SERB; Prof. Parames Ch. Sil, Division of Molecular Medicine; ₹ 28,66,800; 3 years.
- Investigating the role of Trithorax factor ULTRAPETALA 1 in salt stress response in rice; DBT-WB; Dr. Shubho Chaudhuri, Division of Plant Biology; ₹ 43,31,840; 3 years.
- Evaluation of secreted proteases of *Ustilago maydis* as potential effector proteins; SERB; Dr. Anupama Ghosh, Division of Plant Biology; ₹ 25,53,394; 3 years.
- Investigating the role of Arabidopsis ARID-HMG protein, AtHMG15, in the pollen development process; SERB; Dr. Shubho Chaudhuri, Division of Plant Biology; ₹ 46,29,744 ;3 years.
- Developing an optimized toolkit for inducible genome editing and regulation of gene expression in tomato plant: implications in adjusting complex traits via synthetic biology approach; DBT; Dr. Pallob Kundu, Division of Plant Biology; ₹ 78,06,800; 3 years.
- SERB Women Excellence Award to Dr. Zhumur Ghosh, BIC; SERB; Dr. Zhumur Ghosh, Bioinformatics Centre; ₹ 18,00,000; 3 years.
- Fabrication of Infrared Photo-detector based on 2D systems and Tuning the Detection Windows by coupling with Nanostructures; SERB; Dr. Achintya Singha, Physics; ₹ 50,33,714; 3 years.
- The significance of feedback loop between ZEB1 and PRMT in Fibroblast growth factor (FGF)-mediated epithelial-mesenchymal transition in Breast Cancer; DBT-WB; Prof. Gautam Basu, Biophysics; ₹ 30,30,000; 3 years.
- Development of delivery system for miR-325-3p for immunotherapy of cancer; DBT; Prof. Gaurisankar Sa, Division of Molecular Medicine; ₹ 79,29,800; 3 years.
- Evaluating the role and mechanism of function of delta factor of *Bacillus subtilis*; SERB; Dr. Jayanta Mukhopadhyay, Chemistry; ₹ 30,69,000; 3 years.
- Solid tumor targeting using homing peptides and plasmonic photothermal technique; DBT; Prof. Siddhartha Roy; Biophysics; ₹ 46,84,800; 3 years.

STAFF NEWS

Appointments:

1. Dr. Smarajit Polley joined as Assistant Professor in the Biophysics Department on 15.01.2018.
2. Mr. Vikash Kumar joined as Audit & Finance Officer in the Administration on 21.05.2018.
3. Mr. Souvik Roy joined as Senior Laboratory Assistant in the CIF / PD Lab on 04.10.2018.
4. Mr. Arjun Das joined as Senior Technical Assistant in the Administration on 05.10.2018.

Promotion:

1. Prof. Debabrata Basu upgraded to the next higher grade in Division of Plant Biology w.e.f. 01.07.2018.
2. Prof. Tapan Kr. Dutta upgraded to the next higher grade in Department of Microbiology w.e.f. 01.01.2018.
3. Dr. Somshubhro Bandyopadhyay promoted as Professor in Department of Physics w.e.f. 01.01.2018.
4. Dr. Rajarshi Ray promoted as Professor in Department of Physics w.e.f. 01.01.2018.
5. Prof. Shubho Chaudhuri promoted as Professor in Division of Plant Biology w.e.f. 01.07.2018.
6. Dr. Wriddhiman Ghosh promoted as Associate Professor in Department of Microbiology w.e.f. 01.07.2018.
7. Dr. Zhumur Ghosh promoted as Associate Professor in Bioinformatics Center w.e.f. 01.07.2018.
8. Dr. Abhijit Chatterjee promoted as Associate Professor in Environmental Science Section w.e.f. 01.07.2018.
9. Dr. Kuladip Jana promoted as Principal Scientist in Division of Molecular Medicine w.e.f. 01.07.2018.

Retirements on Superannuation:

1. Prof. Rajagopal Chattopadhyaya, Professor, Biochemistry, on 30.11.2017.
2. Mr. Dhruvajyoti Sen, Assistant Registrar-I, Administration, on 30.11.2017.
3. Mr. Dulal Chandra Mondal, Helper E, Biochemistry, on 30.11.2017.
4. Mr. Manick Ch. Das, Accountant, Administration, on 31.01.2018.
5. Mr. Susanta Kr. Das, Assistant Registrar, Administration, on 31.01.2018.
6. Prof. Sibaji Raha, Professor, Physics, on 28.02.2018.
7. Prof. Siddhartha Roy, Director (Officiating), on 31.03.2018.
8. Prof. Manikuntala Kundu, Professor, Chemistry, on 31.03.2018.
9. Mr. Subir Kr. Sen, Accounts Officer-I, Administration, on 30.04.2018.
10. Mr. Mritunjoy Jogsharma, Helper-E, Library, on 30.04.2018.
11. Dr. Banhi Sikha Chaudhuri, Technical Officer, Library, on 31.05.2018.
12. Prof. Samir Ranjan Sikdar, Professor, Division of Plant Biology, on 25.05.2018.
13. Prof. Subrata Majumdar, Professor, Division of Molecular Medicine, on 25.05.2018.
14. Mr. Sankar Prasad Singha, Accounts Officer-I, Physics, on 31.05.2018.
15. Prof. Dipankar Home, Professor, Physics, on 11.06.2018.
16. Prof. Pinakpani Chakraborty, Professor, Biochemistry, on 11.06.2018.
17. Prof. Joyoti Basu, Professor, Chemistry on 11.06.2018.
18. Sk. Ansar Ali, Helper-G, Falta Experimental Farm, on 30.06.2018.
19. Mr. Ashit Kr. Banerjee, Technician Gr-I, Workshop, on 30.06.2018.
20. Mr. Dinanath Das, Helper-C, Library, on 30.09.2018.