

Gaurab Sircar (SRF, Division of Plant Biology) working under Prof. Swati Gupta Bhattacharya worked at the Institute of Pathophysiology, Medical University of Vienna, Austria from June 2015 to December 2015 on a European Academy of Allergy and Clinical Immunology (EAACI) exchange fellowship.

Ms. Nandini Ghosh (SRF, Division of Plant Biology) working under Prof. Swati Gupta Bhattacharya attended European Academy of Allergy and Clinical Immunology (EAACI) Immunology Winter School (February 4 – 7, 2016) at Pocol, Cortina d'Ampezzo, Italy for Poster presentation and awarded with EAACI travel grant and DBT travel grant.

Ms. Debarati Dey (SRF, Division of Plant Biology) working under Prof. Swati Gupta Bhattacharya attended the European Academy of Allergy and Clinical Immunology (EAACI) Winter School (February 4 – 7, 2016) at Pocol, Cortina d'Ampezzo, Italy and presented a poster. She also attended The British Society for Allergy and Clinical Immunology (BSACI) Annual Meeting (September 29 – October 1, 2016) at Telford, United Kingdom and presented a poster.

Ms. Sangita Roy (SRF, Division of Plant Biology) working under Prof. Swati Gupta Bhattacharya attended The British Society for Allergy and Clinical Immunology (BSACI) Annual Meeting (September 29 – October 1, 2016) at Telford, United Kingdom and made an oral presentation of her work.

Ms. Bijoya Karmakar and **Ms. Koyel Sengupta** (both SRF, Division of Plant Biology) working under Prof. Swati Gupta Bhattacharya attended the European Academy of Allergy and Clinical Immunology (EAACI) Annual Congress (June 11 – 15, 2016) at Vienna, Austria. Ms. Karmakar presented a poster and Ms. Sengupta participated in the Poster Discussion Session (PDS).

Dr. Abhijit Chatterjee (Physics) (i) participated and delivered an invited talk in the American Geophysical Union Conference in San Francisco during December 16 – 18, 2015; (ii) visited Zurich, Switzerland, during October 3 – 4, 2016 to deliver an invited talk on Solving the mysteries of carbon tetrachloride.

Dr. Supriya Das (Physics) visited CERN, Geneva, (a) during May 15 – June 06, 2016 to participate in the central shifts of Detector Control System (DCS) for the ALICE experiment (b) during July 10 – 16, 2016 to participate in the election for ALICE Collaboration Board chair and physics discussion.

Dr. Dhruva Gupta (Physics) visited CERN, Geneva, Switzerland, and presented a poster titled "The cosmological lithium problem in the context of resonant enhancement" at the ISOLDE Workshop and Users Meeting 2015, December 2 – 4, 2015; visited Institut de Physique Nucleaire Orsay, France and CERN for collaborative research during December 5 – 17, 2015 and September 21 – October 5, 2016.

Mr. Rathijit Biswas (Physics) visited CERN during May 05 – August 11, 2016 to undergo training and then participate in the central shifts of the Detector control system (DCS) for the ALICE experiment and participate in the Physics working group discussions.

Prof. Swapan K Saha (Physics) visited CERN, Geneva, Switzerland and delivered a talk titled "Resonance excitation in $7\text{Be} + d$ reaction to study 7Li abundance anomaly" at the HI-ISOLDE Experiments Workshop, February 1, 2016; visited CERN for collaborative research during February 2 – 6, 2016.

Dr. Saikat Biswas visited (a) GSI, Germany and CERN during April 03 – 29, 2016. At GSI he worked on the testing of GEM detectors with different X-ray generators and collect DCS physics data. He also trained students for ALICE GEM related work at GSI. (b) He visited GSI, Germany during September 12 – 23, 2016 to participate in the testing of the first quad-GEM prototype built in India with high rate X-ray generator. He also participated in the pre-production of large GEM detector for ALICE-TPC upgrade. (c) He is visiting CERN during November 24 – December 06, 2016 to take DCS data taking shift during heavy ion run of ALICE experiment, and participating in the testing of OROC chamber of ALICE TPC with heavy ion at Point 2 (ALICE site).

Prof. Sanjay K. Ghosh (Physics) visited CERN, Geneva and GSI, Germany during April 03 – 16, 2016 to participate in the Spokesperson election for ALICE collaboration and CBM physics discussion.

Dr. Sidharth K. Prasad (Physics) visited CERN, Geneva, (a) during November 19 – December 04, 2015 for the Maintenance and operations of Photon Multiplicity Detector (PMD) during the data taking in Lead-Lead (Pb-Pb) collisions at 5.02 TeV; (b) during May 15 – June 10, 2016 and participated in the central shifts of Detector Control System (DCS) for the ALICE experiment during proton-proton collisions at 13 TeV. He also participated in the Physics discussion on new jet analysis techniques and jet mass with various members of the Physics Working Group – Jet (PWG-JE) at CERN; (c) during October 25 – November 30, 2016 and participated in the maintenance and operations of Photon Multiplicity Detector (PMD) during the data taking in Proton-Lead (p-Pb) collisions at 8 TeV. He also participated in the experiment to test the operations of the CBM Muon Chamber detector using the Proton-Lead collisions at H4 line of CERN Super Proton Synchrotron (SPS).

Dr. Soumen Roy (Physics) visited France in July 2016 and delivered talks at two satellite meetings of STATHYS 26 which was held under the aegis of International Union of Pure and Applied Physics (IUPAP): (a) "Statistical physics methods in biology and computer science" at Ecole Normale Supérieure Paris, and, (b) "Complex Networks: from theory to interdisciplinary applications" at Marseille, France.

Mr. Tara Shankar Bhattacharya (JRF, Physics) received 2nd prize in poster presentation in International Conference on Frontiers in Materials Science & Technology (ICFMST-2015) held during December 10 – 12, 2015 in National Institute of Science & Technology (NIST), Palur Hills, Berhampur, Odisha.

RECENT AWARDS AND HONOURS

- **Prof. P. Chakrabarti** (Biochemistry) was awarded The Jagadis Chandra Bose Medal, INSA (2016).
- **Dr. Kuladip Jana** (Division of Molecular Medicine) received Outstanding Scientist Award, in VIFRA 2015-2016 from Venus International Foundation, India.
- **Prof. Amita Pal** (Division of Plant Biology) (i) Received the S. C. Dutta Memorial award given by the Botanical Society of Bengal, 2016. (ii) Delivered the 13th Prof. J C Sengupta Endowment Lecture organized by the West Bengal Academy of Science & Technology, Kolkata, on May 27, 2016.
- **Gaurab Sircar** (SRF, Division of Plant Biology) working under Prof. Swati Gupta Bhattacharya attended the 103rd Indian Science Congress (January 3 – 7, 2016) at Mysore University, Mysore, Karnataka, India and gave an oral presentation, and won the ISCA Young Scientist Award.
- **Prof. Sibaji Raha** (Physics) was elected as founding chairman of the Joint Scientific Council of the GSI Helmholtz Centre for Heavy-Ion research and Facility for Anti-proton and Ion Research (FAIR) in Darmstadt, Germany.

Ph. D. Degree Awarded (From April 1, 2015 to March 31, 2016)

- **Abinit Saha** (Biochemistry) An Investigation into the Cyclic AMP dependent Properties of cyclicAMP Receptor Proteins (CRP) from *Escherichia coli* and *Mycobacterium tuberculosis*, Supervisor: Prof. P. Parrack
- **Rajkrishna Mondal** (Biochemistry) Studies on the Major Sigma Factors of *Staphylococcus aureus*. Supervisor: Prof. S. Sau & Prof. P. Parrack (Co-PI).
- **Aritrika Pal** (Biochemistry) Structural and functional studies on proteins from *Vibrio cholera* – PIMT and HlyU. Supervisor: Prof. P. Chakrabarti
- **Devlina Chakravarty** (Biochemistry) Analysis of protein structures and dynamics, and their role in biological recognition and binding. Supervisor: Prof. P. Chakrabarti
- **Sandip Chakraborty** (Bioinformatics) Studies on eukaryotic protein evolution: insights from the protein-protein interaction network and protein complex assembly. Supervisor: Prof. Tapash C Ghosh
- **Tina Begum** (Bioinformatics) Structural and genomic analysis of human disease and non-disease genes from the perspective of protein evolution. Supervisor: Prof. Tapash C Ghosh
- **Nipa Chongdar** (Biophysics) Structural Analysis of Naturally Occurring and Synthetic Peptides. Supervisor: Prof. Gautam Basu
- **Priyanka Hander** (Chemistry) Modulation of host cell signaling by effectors of *Mycobacterium tuberculosis* and *Helicobacter pylori*. Joint Supervision: Prof. Joyoti Basu and Prof. Manikuntala Kundu
- **Ranjeet Kumar** (Chemistry) Understanding the role of microRNAs in *Mycobacterium tuberculosis* infection. Supervisor: Prof. Joyoti Basu
- **Shamba Gupta** (Chemistry) Understanding proteins of the cell division machinery in mycobacteria. Joint Supervision: Prof. Joyoti Basu and Prof. Manikuntala Kundu.
- **Abir K. Panda** (Division of Molecular Medicine) Epigenetic regulation of T-cell plasticity in tumor microenvironment. Supervisor: Prof. Tanya Das & Prof. G. Sa
- **Bidisha Paul Chowdhury** (Division of Molecular Medicine) A mechanistic insight into Arabinosylated Lipoarabinomannan (Ara-LAM) mediated modulation of different transcription factors and cytokine signaling during experimental Visceral Leishmaniasis. Supervisor: Prof. Subrata Majumdar.
- **Kuntal Halder** (Division of Molecular Medicine) Immunomodulatory role of a novel heat killed *Mycobacterium indicus pranii* (Mw) against solid tumors: Involvement of PKC signalling. Supervisor: Prof. Subrata Majumdar.
- **Manas Jana** (Division of Molecular Medicine) Synthesis of Oligosaccharides and Development of Synthetic Methodologies. Supervisor: Dr. Anup Kumar Misra
- **Satyajit Tripathy** (Division of Molecular Medicine) Antimalarial efficacy of Chitosan nanoparticles conjugated Chloroquine against *Plasmodium berghei* NK65 infection: A mechanistic study. Supervisor: Prof. Subrata Majumdar.
- **Sayantana Banerjee** (Division of Molecular Medicine) Characterization of the host immune response against solid tumor by reconditioning the immune effector cells. Supervisor: Prof. Subrata Majumdar.

- **Shibali Das** (Division of Molecular Medicine) A mechanistic approach towards the restoration of host-protective immune responses during tuberculosis: Involvement of immunomodulators and signaling mechanisms. Supervisor: Prof. Subrata Majumdar.
- **Shilpi Saha** (Division of Molecular Medicine) Understanding the mechanisms of chemo-resistance in breast cancer stem cells: An approach towards molecular intervention. Supervisor: Prof. Tanya Das & Prof. G. Sa.
- **Shravanti Mukherjee** (Division of Molecular Medicine) Getting into the root of breast cancer metastasis: Role of cancer stem cells. Supervisor: Prof. Tanya Das & Prof. G. Sa.
- **Kavita Ghosal** (Division of Plant Biology) Aero-palynological studies in a populated sub-urban area in West Bengal, India in relation to respiratory allergy. Supervisor: Prof. Swati Gupta Bhattacharya
- **Prithwi Ghosh** (Division of Plant Biology) Monitoring the Efficacy of *Allium sativum* Leaf Lectin in Rice against *Rhizoctonia solani*. Supervisor: Prof. Sampa Das
- **Shreya Ghosh** (Microbiology) Functional Characterization of the *dinB2* Locus of Mycobacteria Using a Novel Approach Involving the Induced Expression of a Ribonucleotide Reductase Gen Derived from Mycobacteriophage D29. Supervisor: Prof. Sujoy Dasgupta
- **Dr. Chirantan Sarkar** (Physics) Studies on Gaseous and Particulate Carbonaceous Pollutants in the Atmosphere of a High Altitude Station Darjeeling over Eastern Himalaya, India. Supervisor: Dr. Abhijit Chatterjee

GRANTS RECEIVED

The following research proposals have been granted to the 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.

- **Development of Nanoparticle-based Directed Delivery Systems for Peptide Therapeutics**; DST (Nano Mission); Prof. Siddhartha Roy, Biophysics; ₹ 1,40,41,600; 3 years.
- **Vertical profiling of the sedimentary microbiome of the Arabian sea OMZ with special reference to carbon and sulfur cycles**; MoES; Dr. Wriddhiman Ghosh, Microbiology; ₹ 11,00,000; 2 years.
- **Development of Synthetic Transcription Factors against pluripotency to Target Cancer Stem Cells**; SERB(DST); Prof. Siddhartha Roy, Biophysics; ₹ 56,65,099; 3 years.
- **Synthesis of Oligosaccharide Fragments Corresponding To Salmonella Strains and Their Use in the Preparation of Glycoconjugate Derivatives**; CSIR; Prof. Anup Kumar Misra, Division of Molecular Medicine; ₹ 9,00,000; 3 Years.
- **Evaluating the sensor kinase MtrB of Mycobacterium tuberculosis as a regulator of bacterial physiological responses, and as a potential target for therapy**; SERB (DST); Prof. Joyoti Basu, Chemistry; ₹ 60,11,200; 3year.
- **Synthesis of the polysaccharide fragments of Streptococcus pneumoniae strains for the preparation of glycoconjugate derivatives**; SERB (DST); Prof. Anup Kumar Misra, Division of Molecular Medicine; ₹ 16,90,000; 3 years.
- **Assessment of the anti-cancer effect of Methylglyoxal in Combination with Conventional anticancer drugs at Metronomic doses with special reference to Cancer Stem Cells**; CSIR; Prof. Manju Ray, Biophysics; ₹ 24,43,800; 3 years.
- **Identifying Systems-level Cellular Networks Involved in Neurotropic Flavi Virus- Host Interaction**; DBT; Dr. Sudipto Saha, Bioinformatics Center; ₹ 1,20,000; 3 years.
- **Studies on quantum entanglement as a resource for quantum information processing**; SERB(DST); Dr. Somshubhro Bandyopadhyay, Physics; ₹ 17,89,344; 3 years.
- **Development of Molecular Diagnostics and Immunotherapeutic Vaccines for Prawn and Brinjal Allergy**; DBT; Prof. Swati Gupta Bhattacharya, Division of Plant Biology; ₹ 47,13,600; 3 years.
- **Genome wide transcriptome analysis to develop strategies for quality improvement of blackgram**; DBT (Govt.of W.B.); Prof. Amita Pal & Dr. Pallob Kundu, Division of Plant Biology; ₹ 30,47,320; 3 years.
- **Mechanistic insight into the ligand induced perturbation on the intrinsic dynamics and conformational sampling of the α,β dimer of**

Tubulin: Applications to combat cancer; SERB(DST); Dr. Shubhra Ghosh Dastidar, Bioinformatics Center; ₹ 30,80,000; 3 years.

- **Targeting the miRNA axis with a synthetic small molecule, Nifetepimine to restrict migration of triple negative breast cancer cells**; SERB (DST); Prof. P. C. Sen (PI) & Prof. P. C. Sil (Co-PI), Division of Molecular Medicine; ₹ 43,12,800; 3 years.
- **Understanding the role of G-quadruplex structures in BCI-2, KRAS and c-MYC promoters in the development of cancer**; SERB; Dr. Subhrangsu Chatterjee, Biophysics; ₹ 46,94,750; 3 years.
- **Development of High yielding, Non lodging and Biotic resistant Varieties of Black Scented Rice of Manipur and Joha Rice of Assam through Biotechnological Intervention**; DBT; Prof. Debabrata Basu, Division of Plant Biology; ₹ 21,80,000; 3 years.

STAFF NEWS

Appointments :

1. **Dr. Saikat Biswas** joined as Assistant Professor in Department of Physics/CAPSS on 30-11-2015
2. **Prof. A.N. Lahiri Majumder** joined as INSA Senior Scientist on 01-03-2016
3. **Prof. Amita Pal** joined as UGC Emeritus Fellow on 02-05-2016
4. **Prof. Sampa Das** joined as INSA Senior Scientist on 01-07-2016.
5. **Dr. Abhrajyoti Ghosh** joined as Assistant Professor in Department of Biochemistry on 01-07-2016
6. **Dr. Subhrangsu Chatterjee** joined as Associate Professor in Department of Biophysics on 01-07-2016
7. **Dr. Sudipto Saha** joined as Assistant Professor in Bioinformatics Center on 01-07-2016
8. **Dr. Sanat Kr. Das** joined as Assistant Professor in Environmental Science Section on 01-07-2016
9. **Dr. Anupama Ghosh** joined as Assistant Professor in Division of Plant Biology on 01-07-2016
10. **Prof. Parimal C. Sen**, joined as NASI-Platinum Jubilee Senior Scientist on 01-09-2016

Retirements on Superannuation :

1. **Mr. Arup Kr. Sen**, Technical Officer -II, SAIF on 30-11-2015
2. **Mr. Bidyut Kr. Mondal**, Accountant, Workshop on 31-01-2016
3. **Mr. Indrajit Roy**, Technical Officer -II, Division of Molecular Medicine on 31-01-2016
4. **Mr. Bansii Dutta**, Helper-G, Department of Physics on 29-02-2016
5. **Mr. Samir Kr. Mukherjee**, Technical Officer -II, SAIF on 30-04-2016
6. **Ms. Puspita Mukherjee**, Technical Officer-I, Division of Plant Biology on 30-04-2016
7. **Prof. Swati Gupta Bhattacharya**, Senior Professor, Division of Plant Biology on 01-06-2016
8. **Prof. Anuradha Lohia**, Senior Professor, Biochemistry on 30-06-2016
9. **Mr. Sankar Santra**, Helper-G, SAIF on 30-09-2016
10. **Mrs. Saraswati Sarkar(Sen)**, Helper-E, SAIF on 30-09-2016
11. **Mr. Provat Kr. Chattopadhyay**, A.R., Microbiology on 31-10-2016
12. **Mr. Sukumar Mondal**, Helper-E, Administration on 31-10-2016
13. **Mr. Tushar Kanti Bhattacharyya**, Technical Officer, Bioinformatics Center on 31-10-2016

Obituary:

1. **Mr. Pranap Kr. Dey**, Technical Officer-I, Chemistry died on 20-05-2016
2. **Mr. Tapas Ghosh**, Technical Officer, Chemistry died on 19-11-2016

FORTHCOMING EVENTS

- The 19th **National Conference of Indian Aerobiological Society (NCIAS)** (<https://sites.google.com/site/aerobiologyconference2016/home>) will be held at Bose Institute, Kolkata during December 9 – 11, 2016. The organising secretary is **Prof. Swati Gupta Bhattacharya**.
- 3rd International conference will be held on **Perspectives of Cell Signalling and Molecular Medicine** during January 8 – 10, 2017. Contact person : Prof. Subrata Majumder.

বসু বিজ্ঞান মন্দির



BOSE INSTITUTE NEWS

বসু বিজ্ঞান মন্দির

A NEWSLETTER OF BOSE INSTITUTE

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May & November 2016

FROM THE DIRECTOR'S DESK



Bose Institute is the inheritor of a proud legacy. The legacy of a founder in whose hands the revival of modern science in India began its journey. It is my belief that this is a journey that will take our country to the pinnacle of scientific achievements and regain the lost glory of past Indian civilizations.

This institute enters 100th year of its existence. Looking back, I see history of monumental achievements adorn the nook and corner of this Institute; discovery of first meson tracks, isolation of cholera toxin and many others. These zeniths of scientific accomplishments set the benchmark against which our future achievements will be measured.

Although, we are proud of excellent science that is being carried out in the Institute now, I hope this special year will be a watershed and begin a voyage into hitherto uncharted territories of science which will recapture the glory of yesteryear. We have started special programs for the centenary year. They include a series of lectures by eminent personalities, several international conferences, new programs on interdisciplinary science, publication of a commemorative volume and an expansion of the J.C. Bose museum. We are planning to complete the centenary year with brainstorming meeting to develop a vision of the future for the Institute.

With best wishes to all the readers in this special centenary year.

Siddhartha Roy

Director (Officiating), Bose Institute

COMMITTEE OF PARLIAMENT ON OFFICIAL LANGUAGE

The Second Sub-Committee of the Committee of Parliament on Official Language visited Bose Institute on October 15, 2016 for the Inspection tour programme. Dr. P.K. Patsani, M.P. (Lok Sabha) & Convenor, Shri S.B.Gaikwad M.P.(Lok Sabha), Shri Laxmi Narayan Yadav M.P. (Lok Sabha) Shri Vivek Gupta M.P. (Rajya Sabha) along with Shri S.S. Rana, Secretary (Committee) and three other officials were present in this inspection team.



The 7th Acharya J. C. Bose Memorial Lecture will be delivered by Prof. Raghavendra Gadagkar, Centre for Ecological Sciences and Centre for Contemporary Studies, Indian Institute of Science, Bangalore and President, Indian National Science Academy, Delhi on Social Regulation of Reproduction in a Tropical Insect Society.

Social Regulation of Reproduction in a Tropical Insect Society

Abstract

Social insects such as ants, bees, wasps and termites live in colonies consisting of one or a small number of reproductive kings and queens and a large number of non-reproductive workers. On the one hand such reproductive caste differentiation is an evolutionary paradox. But on the other hand, it is also unique example of the social regulation of reproduction. In this talk I will focus on the latter phenomenon and illustrate our attempts to understand the regulation of reproduction in the tropical primitively eusocial wasp *Ropalidia marginata*. This model system is especially interesting because the regulation of reproduction is mediated by behavioural interactions and is rapidly reversible.

PATENT

A system and method for analyzing videos of application or function for feature identification of the videos and related application or function. Soumen Roy* et al. Filed by TIFAC (DST).

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Editorial Board :

Prof. D. Home, Prof. G. Basu, Prof. P. Parrack, Dr. G. Gangopadhyay, Smt. I. Chatterjee and Shri T. K. Maji
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CURRENT EVENTS

99th Foundation Day Celebrated



The 99th Foundation Day of Bose Institute was celebrated on November 30, 2015. Dr. Thirumalachari Ramasami, Former Secretary to the Government of India, Department of Science and Technology, New Delhi graced the occasion as the Guest of Honour and delivered the 77th Acharya J. C. Memorial Lecture on Living by Legacy, Leadership and Legacy of Acharya J. C. Bose: India's Challenge. Prof. Bikash Sinha, Chairman, Bose Institute

Council, presided over the programme. Prof. Sibaji Raha, Director, Bose Institute, delivered the Welcome Address and presented the Institute Report. Sir Nilratan Sirkar Prize 2015 was awarded to Ms. Amrita Bhattacharjee, Senior Research Fellow, (Under Prof. Subrata Majumdar) Division of Molecular Medicine and Ms. Shreya Ghosh, Senior Research Fellow, (Under Prof. Sujoy Kr. Das Gupta) Department of Microbiology. Prof. B. B. Biswas Outstanding Student Award 2015 was presented to Mr. Barun Mahata, Senior Research Fellow, (Under Dr. Kaushik Biswas) Division of Molecular Medicine.

India International Science Festival (IISF-2015)



Bose Institute participated in the India International Science Festival (IISF-2015) at IIT, New Delhi held during December 04 – 08, 2015. The event was jointly organized by the Ministries of Science & Technology and Earth Sciences, Govt. of India, in collaboration with Vigyana Bharati. Dr. Harsh Vardhan, Honorable Minister of Science & Technology, was the Chief Guest and inaugurated the exhibition. He visited the stall of Bose Institute after the inauguration.

Annual Sports Day

The Annual Sports Day was celebrated on December 29, 2015, with the active participation by academic as well as non-academic members of Bose Institute.



Science Day 2016

Bose Institute observed National Science Day on February 28, 2016, through various activities. The theme of the National Science Day 2015 was "Make in India: S&T driven innovations". This day is celebrated in our Institute every year during which students demonstrate various science projects as well as their latest researches. The celebration also includes public speeches, exhibitions of science movies, science exhibition based on themes and concepts, debates, quiz competitions, lectures, science model exhibitions and many more activities. A large number of participants including guests, scientists, students and other professionals attended the programme.

International Day of Yoga

International Day of Yoga was celebrated on June 21, 2016 at the Centenary Building Seminar Room of Bose Institute.

Hindi Day 2016

Bose Institute observed Hindi Day 2016 on September 14, 2016 at the Main Campus Seminar Room of the Institute. Smt. Poonam Dixit, Nizam Palace, Kolkata conducted a Workshop.

Dipta Memorial Symposium

The 24th Dipta Memorial Symposium was held on November 18, 2016, at the Main Campus of the Institute by the Dipta Memorial Symposium Committee in association with the Bose Institute Research Scholars' Forum. The theme of this year was "Mental and Behavioural Disorders". Dr. Siddhartha Roy, Director (Officiating), Bose Institute, inaugurated the symposium. Dr. Krishnadas Nandagopal (Dept. of Genetics, Calcutta University), Dr. Indrani Saha (Institute of Psychiatry, IPGME & R, Kolkata) and Dr. Anindita Chatterjee (Director, Julian Day Mission School, Kolkata, and Coordinator, Child Guidance Clinic, Peerless Hospital) delivered lectures to an audience of scientists, research scholars and school students.

150th Birth Anniversary of Sister Nivedita Celebrated



The 150th Birth Anniversary of Sister Nivedita was celebrated on October 28, 2016, in the Lecture Hall of Bose Institute, Main Campus, jointly organized by Bose Institute and Vivekananda Janmotsava Samiti. His Excellency the Governor of West Bengal, Sri Keshari Nath Tripathi graced this occasion as the Chief Guest. Sri Prabhat Kr. Das, Working President of the Samiti delivered an introductory lecture followed by garlanding the Portrait of Sister Nivedita. Welcome address was delivered by Sri Rabindra Nath Majumder, Jt. Secretary of the Samiti, Pravrajika Bhaswarprana Mataji, Principal, R K. S. M. Vivekananda Vidya Bhawan delivered the Inaugural Address. Prof. Dipankar Home, Acting Director, BI delivered a talk on Sister Nivedita and Sir J. C. Bose.

132nd Birthday Celebration of Prof. Debendra Mohan Bose

The 132nd Birthday of Prof. Debendra Mohan Bose was celebrated on November 26, 2016, at the Main Campus Lecture Hall of the Institute. Prof. A.K. Sood, Department of Physics, Indian Institute of Science, Bangalore 560 012, graced the occasion as Guest of



Honour and delivered the D. M. Bose Memorial Lecture on the topic "Active Matter : Bio-Heat Engine and Flocking". Many distinguished scientists, students and other professionals from all over India were present.

Scheduled Tribe Specific Rural Biotechnology Programme

In the last one year period, eleven Animal Health Camps were organized under the Scheduled Tribe-Specific Rural Biotechnology Programme in different project sites covering five districts of West Bengal where 1,853 cows/ buffaloes, 2,740 goats/ sheep, 129 pigs, 7,531 poultry birds (total 12,253 domestic animals) were either vaccinated or treated and 801 beneficiaries were benefited. The chief resource persons, veterinary surgeons Dr. Nihar Kanti Ghosh and Dr. Asim Prasad Chattopadhyay, along with other resource persons and project staffs conducted these Animal Health Camps in collaboration with the Animal Resource Department, Government of West Bengal.

Two training programmes were organized on "Rain water harvesting for drinking purpose" during December 15-17, 2015 and July 25-29, 2016 for the students and staffs of Chandraketurgarh Shihadulla Smriti Mahavidyalay (11 participants) and Dinabandhu Mahavidyalay, Bangaon (5 participants), North 24 Parganas, on request of the college authorities. On request of ADO, Mahammadbazar Block, Birbhum, a two-day training programme was organized on Bee-keeping during July 24-25, 2016, under the "Atma" programme and 18 farmers were trained. During September 18-24, 2016, a Refresher Course on Different Rural Biotechnology Programme was organized at Falta Experimental Farm for Onsite Trainers (14



Ms. Reba Murmu, Secretary Chhachanpur Mahila Kalyan Samity, Bankura, addressing the scheduled tribe participants during the Awareness Camp organized by Bose Institute on November 08, 2016. The other dignitaries present on the dias were Mrs. Srabani Sikdar, Resource person, Prof. S.R. Sikdar, Coordinator Rural Biotechnology Programme, Bose Institute, and two other honorable members of the Chhachanpur village.

participants) working in different NGOs under the Scheduled Tribe-Specific Rural Biotechnology Programme. Four Awareness Camps on Different Income Generation Programmes for Scheduled Tribe Beneficiaries were organized during the year (Satyadaspur village, Patharpratima Block, Sunderban on June 08, 2016, Chhachanpur village, Chhatna Block, Bankura on November 08, 2016, Bhutadih village, Manbazar 2 Block, Purulia on November 09, 2016 and Amlasol village, Binpur 2 Block, Paschim Medinipur on November 10, 2016). About 600 tribal people participated in these awareness camps. A one-day training programme was organized on "Vermicompost Production" at Bhulabeda village, Binpur 2 Block, Paschim Medinipur on July 9, 2016.



In the presence of Prof. S.R. Sikdar, Coordinator, Rural Biotechnology Programme, Bose Institute, Mr. Sobhan Roy Choudhury, Sr. Technical Assistant, Falta Experimental Farm was demonstrating rain water harvesting for drinking purpose to the tribal beneficiaries who participated in the awareness camp held on November 09, 2016 at Bhutadih village, Purulia. The rain water harvesting tank was constructed under the Scheduled Tribe-Specific Rural Biotechnology Programme of Bose Institute.

SYMPOSIA AND CONFERENCES HELD

10th Winter Workshop and School on Astroparticle Physics was held at Darjeeling during December 17 – 29, 2015.



10th North-East Students' Summer Training on BAsic SciencEs (NESST-BASE 2016) was held at Bose Institute, Darjeeling Campus during April 25 – May 7, 2016.



The Division of Plant Biology organised a one day Symposium on In-sight to Plant Biology Through Systems Approach on December 17, 2015.

On the eve of our centenary celebration, Bose Institute Library organized a Two day International conference on KOHA in collaboration with Bengal Library Association on January 23 – 24, 2016 at Lecture Hall, Bose Institute Main Campus.

The Bioinformatics Centre of Bose Institute organized a one-day conference on Genome Analysis and Protein Interactions Network on March 21, 2016.



Department of Biotechnology in collaboration with Bose Institute organised a one day workshop on GM Crops and Food and Environmental Safety on September 7, 2016.

The Basic and Applied Microbiology group of Bose Institute organized a National Seminar entitled - The world of Microbes – pathogenesis, environment and evolution on October 17, 2016 in connection with the centenary year celebration of Bose Institute. Eminent speakers who delivered lectures at the symposium were Dr. Dipankar Chatterji (IISc, Bangalore), Dr. Anand Bachhawat (IISER, Mohali), Dr. Alok Kalra (CIMAP Lucknow), Dr. Mamta Chawla Sarkar, (NICED, Kolkata), Dr. Aninda Mazumder, (NIO, Goa) and Dr. Ranadhir Chakraborty (NBU, Siliguri). Several students of Bose Institute also presented their work in the form of seminar talks as well as posters. Faculty members and students from various Post-Graduate colleges and universities in and around Kolkata attended the symposium. It was an excellent meeting in which topics covering diverse areas of Microbiology were discussed.



Prof. Dipankar Chatterji of IISc Bangalore delivering a talk at the symposium on The world of Microbes – pathogenesis, environment and evolution organized in connection with the centenary year celebration of Bose Institute.

Nineteenth Transcription Assembly Meeting



The Nineteenth Transcription Assembly meeting was held at Bose Institute, Kolkata, November 8 – 9, 2016. Dr. Smarajit Polley (Bose Institute) and Dr. Chandrima Das were the Conveners for this meeting, which was attended by a number of prominent scientists of India working in the area of Transcription, including Prof. B.J. Rao (TIFR), Prof. K. Muniyappa (IISc), Prof. D.J. Chattopadhyay (Amity, Kolkata) and Prof. Tapas Kundua (JNCASR). A large number of research students and postdoctoral fellows participated in the meeting, presenting their work in the form of short talks, posters, or as audience.

Workshop on Diagnostics of Medicinal Potential and DNA Fingerprinting in Plants



Division of Plant Biology has conducted a Hands-on-Training Programme on Diagnostics of Medicinal Potential and DNA Fingerprinting in Plants from November 1 – 15, 2016 as a part of the Centenary Celebration of Bose Institute. The major focus of the workshop was to disseminate knowledge and expertise to the young researchers and students in the field of plant science to carry out research using the state-of-art technology. Eleven participants from all over India including three states from NE India attended this two-week long workshop. In addition to the Technical Lectures and Hands-on-Training, the trainees also visited the Rural Biotechnology programme implemented at Falta Experimental Farm of Bose Institute.

Hands-on-Training Programme for the High School Students



Madhyamgram Experimental Farm (MEF) has organized a Hands-on-Training Programme on "Basic and Applied Biological Sciences for the High School Students" from 22nd - 24th November 2016 as a part of the Centenary Celebration of Bose Institute. Twenty students of Class XI-XII standard along with their teachers from five schools in the vicinity of Madhyamgram attended this programme. They performed experiments on Plant Physiology, Plant Biotechnology and use of animals in drug development/translational medical research. The students also visited the Rural Biotechnology programme implemented at Falta Experimental Farm of Bose Institute.

VISITS ABROAD

Prof. P. Chakrabarti (Biochemistry) attended (i) IUCr-UNESCO-Rigaku OpenLab at Cambodia, Phnom Penh, January 11 – 15, 2016; (ii) 1st Pan-African Conference on Crystallography, PCr1, at University of Dschang, Cameroon, October 6 – 10, 2016; (iii) the 27th TWAS General Meeting, at Kigali, Rwanda, November 14 – 17, 2016.

Prof. Joyoti Basu (Chemistry) delivered a lecture and chaired a session at the 26th European Congress of clinical microbiology and infectious diseases held in Amsterdam, Netherlands from April 9 – 12, 2016.

Prof. Manikuntala Kundu (Chemistry) visited Italy from September 19 – 22, 2016 to present her work in the Cell Symposium: 100 Years of Phagocytes.

Dr. Kuladip Jana (Division of Molecular Medicine) visited U.S.A. to attend International Conference on Translational Reproductive Biology and Clinical Reproductive Endocrinology 2016: Paradigm changes you not hear about elsewhere organized by The Foundation for Reproductive Medicine and The Center for Human Reproduction, U.S.A. at New York, NY-10017, U.S.A. from November 17 – 20, 2016.

Dr. Swati Sen-Mandi (Division of Plant Biology) delivered invited Lead Lectures at Workshops in Dhaka, Bangladesh on February 29, March 1 – 2, 2016. This was an invitation from the Drug Administration Directorate, Govt. of Bangladesh.

