

বসু বিজ্ঞান মন্দির



BOSE INSTITUTE NEWS

বসু বিজ্ঞান মন্দির

A NEWSLETTER OF BOSE INSTITUTE

No. 32-33

May & November 2009

DIRECTOR'S DESK



It is, once again, my proud privilege to present the 2009 edition of the Bose Institute Newsletter. On 30th November, 2009, the year-long programme of commemorating the 150th Birth Anniversary of our beloved founder, the doyen of modern science in India (if not all of Asia), Acharya Jagadis Chandra Bose, is drawing to a close. During the past two years, Bose Institute, in collaboration with a number of national and international organisations, has conducted a large number of events, aimed at practising scientists, students and the general

populace. These included seminars, workshops, exhibitions, scientific quiz and elocution contests and popular lectures by distinguished speakers. The efforts have been intense and serious; whether our goal, instilling the love for science and scientific thought in the young generation has been achieved to any extent, only time can tell.

The progress of Bose Institute since the publication of the last issue of the Newsletter on 30 November 2008 has been, I am proud to report, substantial. Our scientists, faculty and students alike, have maintained their enviable record of publication in highly regarded peer-reviewed journals, with increasing average impact factors. Translation of knowledge generated in the laboratories of Bose Institute to the industry has now become a reality, under the aegis of the Government of India (Department of Biotechnology). The Institute is now being invited by several funding agencies to take up challenging research projects on their behalf, and many of our colleagues are taking them up, when there is major overlap of the objectives of such projects with their interest and expertise. Our scientists have continued to win coveted laurels, like fellowships of various national academies and other professional bodies.

I am especially happy to mention that after a hiatus of several years, we have been able to attract a number of young scientists as new members of our faculty. Some of them have already joined the Institute during the past year and in the near future, we hope to have a few more on board. We are eagerly looking forward to working with these new colleagues who, we believe, would bring with them new and fresh viewpoints and strengthen our strive for excellence. Our infrastructure for cutting edge research, though adequate at this time, thanks to the substantial efforts of the previous couple of years, needs constant updating. Given the present financial constraints, we have not been able to make any improvement in this regard during the past year; we can only hope that the situation would improve substantially next year. In spite of these difficulties, considerable progress has been made in digitising the library and implementing the E-

Governance system. Large parts of the E-Governance system have gone online.

Our resolve to achieve excellence in all spheres of our activity is firm. We appeal to all sections of the society for their unstinted support in this endeavour.

With best wishes to the readers,

Sibaji Raha

The 71st Acharya J.C. Bose Memorial Lecture will be delivered by Prof. J. N. Mohanty, Emeritus Professor, Department of Philosophy, Temple University, Philadelphia, USA on "REASON, EXPERIENCE AND HISTORY : THE WONDER THAT IS SCIENCE"

Abstract

Kant, the great German philosopher wondered, how is mathematical Physics possible ? How by simple abstract mathematical thinking, a physicist could discover the secrets of nature ? Today with great success of physics, the question becomes all the more important.

In the 20th century, three major criticisms of mathematical rationality appeared : first, Godel's proof that every formal mathematical system must have an unprovable sentence; second, Heisenberg's Uncertainty principle. Third, Freud's critique of the 'rational man' and the so-called 'transparency thesis'. Finally, the historical critique of a supra-historical truth.

How is Science possible inspite of these critiques ? I will try to show why despite these criticisms of the very foundation of science, science continues to make progress.

Editorial Board :

D. Home, G. Basu, P. Parrack, D. Basu

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विशेष आवरण SPECIAL COVER

30-11-2008



বসু বিজ্ঞান মন্দির
BOSE INSTITUTE
কলকাতা KOLKATA-700 009

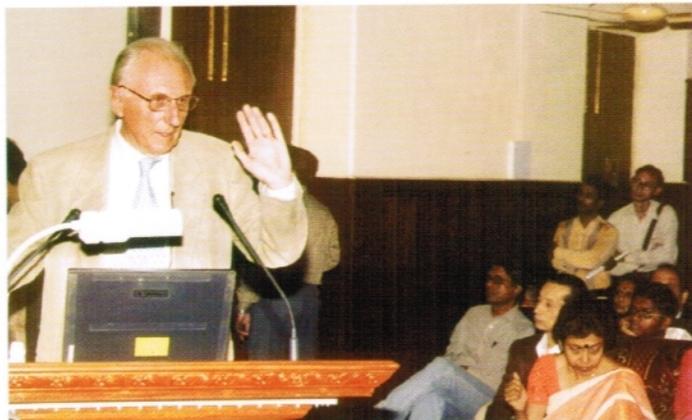
150th Birth Anniversary of Acharya Jagadis Chandra Bose

Special Cover released on 30th November 2008

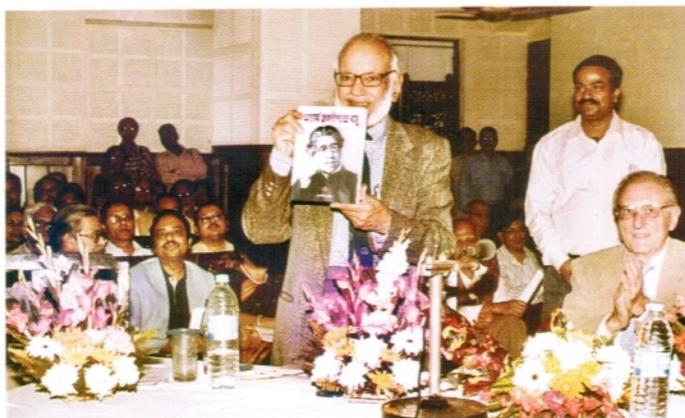
CURRENT EVENTS

92nd Foundation Day Celebrated

The 92nd Foundation Day of Bose Institute was celebrated on 30th November 2008. **Francesco Paresce Marconi**, Institute of Space Astrophysics and Cosmic Physics, Italian National



Institute of Astrophysics, Bologna, Italy graced the occasion as Guest of Honour and delivered the **70th Acharya Jagadis Chandra Bose Memorial Lecture on MARCONI, BOSE AND THE TELECOM REVOLUTION IN SCIENCE**. On this occasion, **Sir Nilratan Sirkar Prize 2008** was awarded to Ms. Kamakshi Sureka, Senior Research Fellow under Dr. Manikuntala Kundu, Department of Chemistry. The celebrations started with floral offerings and garlanding of SAMADHI and BUST of Acharya J.C. Bose at both the



campuses of the Institute. Prof. Sibaji Raha, Director, Bose Institute, delivered the welcome address and presented the Institute Report. A Bengali book on Sir J. C. Bose was also published by Bose Institute on this occasion.



To commemorate the 150th Birth Anniversary of Acharya Jagadis Chandra Bose, The Department of Post, Government of India released a Special Cover on Sir J. C. Bose on this day. Ms. Rameshwari Handa, Postmaster General, Kolkata Region graced the occasion for releasing the Special Cover.

Manipur Students' Winter Training on Basic Science 2008

Bose Institute organized a programme Manipur Students' Winter Training on Basic Science at the Centenary Campus of Bose Institute in Kolkata, December 14-22, 2008. Twenty class IX students, twenty class XI students and three School Teachers from the state of Manipur attended the training



school. The programme included a two-day session of lectures and hands-on exposure in Physical Sciences, two days in Microbial Sciences, two days in Plant Sciences and one day was spent on Energy/Molecules. Another full day was spent on an educational excursion on the Ganges, a visit to the Birla Industrial and Technology Museum and a special show at the Birla Planetarium.

Rural Biotechnology Programme

In the Rural Biotechnology Programme at Falta Experimental Farm, two training programmes were conducted during January 9th-19th February 2009 and August 12th-September 16th, 2009; the first one was on "Mushroom cultivation, preservation and spawn production" and the second one was on "Mushroom cultivation and Vermicomposting". Thirty two and twenty three trainees participated in the above two training programmes, respectively.

North-East School Teachers' Training on Basic Science 2009

Bose Institute organized a programme **North-East School Teachers' Training on Basic Science (NESTT-BASE)** at Kolkata, during January 12-21, 2009. 23 school teachers from Assam, Darjeeling, Manipur, Meghalaya, Mizoram, Sikkim and Tripura participated. The programme exposed them to different aspects of basic science such as diverse topics on Physics and Chemistry with an emphasis on preparing low-cost experiments for classes; in Basic Microbiology, Molecular Biology, Mushroom cultivation, Biodiversity, Catalysis, Enzyme activity and Cancer Biology. Interactive hands-on sessions and practical demonstrations accompanied each lecture, delivered by faculty members of Bose Institute or other resource persons. In addition, visits to the Bose Institute museum, the West Bengal Renewable Energy Development Agency and the Variable Energy Cyclotron Centre were

organised. Some special lectures were also arranged: "Searching for the Mysteries of the Universe" (S. Raha), "Nobel Prize 2008" (B. Bhattacharyya), "CHAANDRAYAN" (O.P.N. Calla), "DNA: The Eternal Molecule" (A.N. Lahiri Majumder).

National Seminar on Rabindranath and Jagadish Chandra

To celebrate the 150th Birth Anniversary of Sir J.C. Bose, a National Seminar on Rabindranath and Jagadish Chandra was organized jointly by Bose Institute and the Department of



Botany, Visva-Bharati, Santiniketan on August 22, 2009 in the Lipika Auditorium, Santiniketan. Inaugural address was given by Prof. Rajat Kanta Ray, Vice-Chancellor, Visva-Bharati. Prof. Bikash Sinha, Former Director, Saha Institute of Nuclear Physics graced the occasion as Chief Guest. Prof. Sibaji Raha, Director, Bose Institute delivered the introductory address. Prof. Syamal K Samanta, Adhyaksha, Siksha-Bhaven, Visva-Bharati presided over the function.

143rd Birth Anniversary of Sister Nivedita Celebrated

The 143rd Birth Anniversary of Sister Nivedita was celebrated on 28th October 2009, in the Lecture Hall of the Bose Institute, Main Campus jointly by Bose Institute and Vivekananda Janmostava Samity. Mr. Dhiraj Basu, Hony. General Secretary of the Samiti delivered the welcome address. Prof. Kalyan Mukherjee of Bose Institute delivered a talk on Sister Nivedita. Other speakers were Dr. Debanjan Sengupta, Sri Robin Majumder, Smt. Shyamali Mukhopadhyaya, etc. Shri Shymal Kumar Sen, Chairman, Human Right Commission, graced the occasion as Chairman.

A Tribute to Dr. S. N. De



Dr. Sambhunath De (1915-1985), MBBS, DTM, Ph.D., D.Sc. (University of London), D.Sc. (Posthumous, Calcutta University), discovered that cholera toxin, produced by vibrio cholerae, was the causative agent of the severe diarrhoeal disease cholera. He published this epoch-making discovery at that time in the highly prestigious science journal, Nature. The rehydration therapy for replenishing the massive fluid loss in cholera patients that saves innumerable lives today, should be considered a direct outcome of Dr. De's discovery. Dr. De

actively carried out the cholera research at Bose Institute in 1959. This year on 25th October Bose Institute along with National Institute of Cholera and Enteric Diseases (NICED) and Indian Institute of Chemical Biology (IICB) organized an International symposium on "50 Years of Discovery of Cholera Toxin : A Tribute To SN De" and unveiled a bust of Dr. De at Bose Institute.

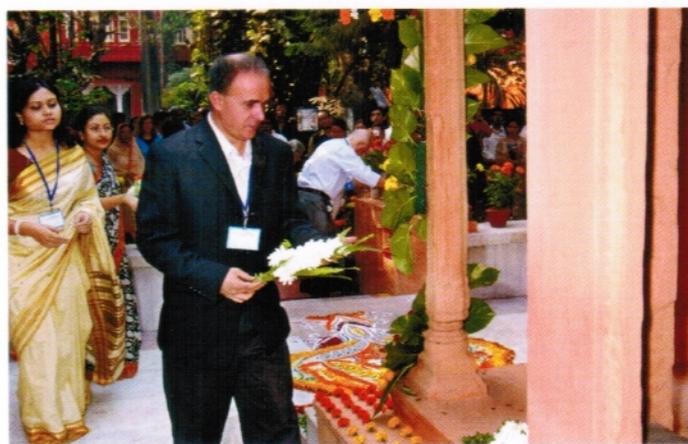
Participation in Exhibitions

Bose Institute participated in the State Level Science Fair organized by the Tripura State Council for Science & Technology, Government of Tripura held at Agartala from December 27, 2008 to January 1, 2009. It got the appreciation from the people of Tripura.



SYMPOSIA AND CONFERENCES HELD

- As a part of the 150th Birth Anniversary Celebration of Sir J. C. Bose, a three-day symposium on "Integrating Physics, Chemistry, Mathematics and Biology to Understand Living Systems (IPCMB 2008)" (December 4 to 6, 2008) was



Prof. Yosef Yarden paying homage at the Samadhi IPCMB 2008

organized. Co-Convenor : Dr. Joyoti Basu and Dr. Manikuntala Kundu.

- 23rd National Seminar of IASLIC on the theme "Library Profession in Search of a New Paradigm" was held at Bose Institute, Kolkata during 10-13 December, 2008 to commemorate 150th Birth Anniversary of Sir J.C. Bose. The seminar was inaugurated by Ex-Chief Justice Chittotosh Mukhopadhyay and an exhibition was inaugurated by Sri. Debesh Das, Minister of IT, Govt. of W.B. Eminent speakers were Prof. S. Dutta Gupta, Director, IISER, Dr. S. Mulick, USEFI, Dr. Moulik Berkhana, USIS, Ms. Sujata Sen, British Council, Prof. Atis

Dasgupta, Director, State Archives, W.B., Prof. Asok Nath Basu, Chairman, West Bengal Pollution Control Board. In addition to this Director, Vice-Chancellors of different Universities in India participated in the different Panel Discussions. The Seminar was attended by more than 450 Library/Information professionals from all over India and abroad. More than twenty five invited speakers from India and abroad delivered lectures. Thirty five exhibitors from India and abroad exhibited the Library/ Information products and services.



- To commemorate the 150th Birth Anniversary of Acharya Jagadis Chandra Bose, a Symposium was organized during 14-16 Jan. 2009 at our Main Campus, International Symposium on Microwaves and Millimeterwaves: Basics and Technology (ISoMM-09). Convenor : Dr Amitabha Mitra.



ISoMM - 2009

VISITS ABROAD

Dr. Joyoti Basu visited Johannesburg, South Africa during June 5th – 8th, 2009 to deliver talks in the International Symposium on “Cell death in infectious diseases”. She also visited Gothenburg, Sweden during June 28th – July 3rd, 2009 to deliver a talk in “FEMS 2009.

Dr. Pinakpani Chakrabarti of the Department of Biochemistry visited London, U.K. during May 11th – 15th , 2009 to attend Welcome Trust-DBT India Intermediate and Senior Fellowship Selection Committee Meeting. He also visited France during March 17th – 26th, 2009 for collaborative research and attended an International Conference, AsCA '09 at Beijing, China during October 22nd – 25th, 2009.

Dr. Arun Kumar Chakraborty of Library visited Milan, Italy during August 22nd – 27th, 2009 to participate in the “75th IFLA General Conference and Assembly” and also attended the meeting of the Standing Committee of Genealogy and Local history Section” Dr. Chakraborty is the first and only member

from India in the “Standing Committee of Genealogy and Local Histry Section” of IFLA.

Dr. Rajagopal Chattopadhyaya of the Department of Biochemistry spent a little over 3 months from April – July, 2009 at the University of California, Los Angeles as a Visiting Scientist in their Macromolecular X-ray Crystallography facility. During this period, he participated in the 16th Conversation at SUNY Albany, NY, USA. Dr. Chattopadhyaya also visited several institutions in Southern California : Caltech on December 8, UCSD on December 9 and 10, UCLA on December 11, 2008 and delivered two talks at the Scripps Research Institute (Molecular Biology group) on December 9, and at UCLA (Molecular Biology Institute) on December 18, 2008.

Dr. Sanjay Kr. Ghosh of the Department of Physics visited Vulcano, Italy during May 26th – 31st, 2008 to deliver an invited talk in VULCANO WORKSHOP 2008 entitled :Quark Stars Their implication on Astroparticle Physics”.

Dr. Wriddhiman Ghosh of the Department of Microbiology visited Tomar, Portugal to participate in EMBO FEMS Workshop on Microbial Sulfur Metabolism 2009 and also presented a paper on the evolution of sulfur oxidation.

Mr. Gaurav Gupta of the Division of Molecular Medicine visited Berlin Germany during September 13th – 16th, 2009 for presenting a poster entitled “Studies on in vitro and in vivo CXC-chemokine mediated protection against visceral Leishmaniasis : Involvement of pro-inflammatory response” at the 2nd European Congress of Immunology at International Congress Centrum, Berlin.

Dr. Anuradha Lohia of the Department of Biochemistry visited University of Virginia, USA during December 21st, 2008 – January 2nd , 2009 to carry out collaborative project work.

Dr. Anup Kumar Misra visited University of Konstanz, Germany as a visiting scientist under INSA-DFG bilateral exchange program during March 1st – May 31st, 2009.

Dr. Pradip K. Parrack of the Department of Biochemistry visited USA during October 15th – 24th, 2009 and attended discussion meetings with S. Adhya at NIH, Bethesda.

On an invitation from M/s, Shimadzu Co., Dr. Parimal C. Sen of Molecular Medicine Division visited Kyoto, Japan during March 23rd – 31st, 2009 to visit their production plant of Protein sequencer.

RECENT AWARDS AND HONOURS

Ms. Parna Bhattacharya of Molecular Medicine Division has been awarded the best oral presentation 1st prize in the 35th Indian Immunology Society held at ILS, Bhubaneswar, Orissa.

Dr. Arun Kumar Chakraborty of Library has been elected as one of the members of the International Federation of Library Associations (ILFA), Genealogy and Local History Section for the period 2009-2013.

Dr. Tanya Das of Molecular Medicine Division has been awarded Rupa Chakrabarty Memorial Award 2008 by Bethune College, Kolkata for her contributions in both Science and Culture.

Dr. A. N. Lahiri Majumder of Plant Molecular and Cellular Genetics Section has been awarded the S. B. Saksena Memorial Medal (2008) from the Indian National Science Academy, New Delhi.

RECENT Ph. Ds.

(From April 1, 2008 to March 31, 2009)

- Tania Banerjee (Bioinformatics Centre) Studies on synonymous codon usage and DNA base composition in relation to the dynamics of genome evolution. Supervisor : Dr. Tapash C. Ghosh
- Samik Bhattacharya (PMCG) Molecular profiling of commercially important tropical bamboo species for the assessment of genetic diversity. Supervisor : Dr. Amita Pal.
- Sumit Biswas (Biochemistry) An analysis of protein-nucleic acid interactions and crystallization studies on proteins. Supervisor : Dr. P. Chakrabarti.
- Nilanjana Chakrabarti (Botany) Textures, Surface Organization and Electrostatics of F-actin Nematic Liquid Crystal. Supervisor : Dr. Pradip Das.
- Partho Chattoraj (Biochemistry) Studies on the cloning and characterization of the host lethal gene of the temperate Mycobacteriophage L1. Supervisor : Dr. Subrata Sau.
- Malabika Das (Biochemistry) Studies on the repressor and Cro proteins of temperate Staphylococcus aureus phage $\phi 11$. Supervisor : Dr. Subrata Sau.
- Bhaskar Dasgupta (Biochemistry) Studies on sequence and structural features of protein chains beyond secondary structures. Supervisor : Dr. P. Chakrabarti.
- Kausik Ghose (Botany) Identification of differentially expressed genes from Sinapis Alba on infection with Alternaria Brassicicola through functional genomic approach. Supervisor : Dr. D. Basu.
- Ayantika Ghosh (Molecular Medicine) Studies on the hepatoprotective role of the herb Cajanus indicus L on toxicans-induced liver damage. Supervisor : Dr. Parames C. Sil.
- Promita Ghosh Dastidar (Biochemistry) Molecular mechanisms regulating chromosome segregation in Entamoeba histolytica. Supervisor : Dr. Anuradha Lohia.
- Bhaskar Gupta (Botany) Molecular Analysis of ABRE_DNA binding Protein in Rice Cultivars. Supervisor : Dr. D.N. Sengupta.
- Sabyasachi Halder (Biochemistry) Biophysical and Biochemical Studies on the CIII protein of Bacteriophage λ . Supervisor : Dr. Pradip Parrack.
- Rajesh Karmakar (Physics) Role of nonlinearity and stochasticity in some complex non-equilibrium processes. Supervisor : Dr. Indrani Bose.
- Madhuchhanda Kundu (Chemistry) Understanding the role of the N-terminal region of α -crystallin in its structure, stability and chaperone function through site directed truncation. Supervisors : Dr. K. P. Das & Dr. Parimal C. Sen.
- Taraknath Kundu (Chemistry) Studies on Heterocycles. Supervisor : Dr. Manas Chakrabarty.
- Sudeshna Lahiri (Biochemistry) Functional Analysis of non-essential Mcm proteins of the budding yeast kinetochore and their roles in kinetochore structure and function during mitosis and meiosis. Supervisor : Prof. Pratima Sinha.
- Nivedita Majumder (Microbiology) Immunomodulatory role of Ilpoarabinomaman isolated from virulent and avirulent mycobacterium Species on the murine macrophages : Effect of cytokines on cell signaling. Supervisor : Dr. Subrata Majumdar.
- Shubhra Majumder (Biochemistry) Molecular analysis of genes regulating cell division in Entamoeba histolytica. Supervisor : Dr. Anuradha Lohia.
- Hossain Ali Mondal (PMCG) Study on the efficacy of mannose binding plant lectin against riculturally important homopteran insect pests and its possible mode of action. Supervisor : Dr. Sampa Das.
- Chandrama Mukherjee (Biochemistry) Functional genomics of cell cycle control genes in Entamoeba histolytica. Supervisor : Dr. Anuradha Lohia.
- Kuntal Mukherjee (Molecular Medicine) Microsatellite DNA markers and disease resistance of Penaeus monodon (Giant black tiger shrimp). Supervisor : Dr. Nipendranath Mandal.
- Shresh Pathak (Chemistry) Pathogen-mediated host cell signalling. Supervisors : Dr. Joyoti Basu & Dr. M. Kundu.
- Sushil Kr. Pathak (Chemistry) Understanding the immune response to bacterial infections. Supervisors : Dr. Joyoti Basu & Dr. M. Kundu.
- Barunava Patra (PMCG) Inositol metabolizing gene(s) and protein(s) from diverse sources: Their potential for biotechnological manipulation. Supervisor : Dr. A. N. Lahiri Majumder.
- Avik Ray (Botany) In vitro studies on selected medicinal plants : an approach to their conservation and documentation. Supervisor : Dr. Sabita Bhattacharya
- Sudipta Roy (PMCG) Analysis and protection of chloroplast functions during abiotic stress : A biochemical and transgenic approach. Supervisor : Dr. A.N. Lahiri Majumder.
- Swarup Roy Chaudhuri (Botany) Molecular Analysis of Gene Expression in fruits during Fruit Ripening in Different cultivars of Banana. Supervisor : Dr. D. N. Sengupta.
- Progya Paromita Saha (Botany) Biochemical and Molecular Aspects of Fruit Ripening. Supervisor : Dr. D. N. Sengupta.
- Gaurisankar Sen (Molecular Medicine) Role of curcumin in combinatorial cancer therapy: A mechanistic study. Supervisor : Dr. G. Sa.
- Sonali Sengupta (PMCG) A comparative proteome analysis of glycophytic and halophytic plants under salinity stress. Supervisor : Dr. A.N. Lahiri Majumder.
- Tanusree Sengupta (Molecular Medicine) Identification and Functional Characterization of a Low Molecular Mass Modulator Protein from Goat Testes Cytosol and its Regulatory Role on Ca^{2+} -ATPase. Supervisor : Dr. Parimal C. Sen.

GRANTS RECEIVED

The following research proposals have been granted to the Bose Institute during the last one year by different funding agencies.

- Analysis and design of peptides with cis peptide bond : Pro-Pro-Xaa sequence motifs; DST; Dr. Gautam Basu (Biophysics); Rs.37,00,000; 3 years.

- **Analysis of proteins flexibility in biological recognition;** IFCPAR; Dr. Pinakpani Chakrabarti (Biochemistry); Rs.40,92,800; 3 years.
- **Use of plant growth promoting rhizobacteria to control bacteria wilt of tomato;** CSIR; Dr. Pran Krishna Chakraborty (MEF); Rs.17,77,800; 3 years.
- **Evaluation of ASAL expressing chickpea transgenic Plants for the inheritance of aphid resistance;** DBT-ISCB; Dr. Sampa Das (PMCG); Rs.35,02,000; 2 years.
- **Regulation of cell division, phagocytosis and motility through actin remodeling networks in the protist pathogen *Entamoeba histolytica*;** DBT; Dr. Sujoy K. Dasgupta (Microbiology); Rs.54,62,000; 2 years.
- **Evolutionary studies of duplicated genes in protein-Protein interaction network of different organisms;** DBT; Dr. T.C. Ghosh (Bioinformatics); Rs.20,10,000; 3 years.
- **Polyphosphate kinase and its role in mycobacterial physiology;** DBT; Dr. Manikuntala Kundu (Chemistry); Rs.72,18,000; 3 years.
- **Identifying proteins that determine the function of novel kinesins from *Entamoeba histolytica*;** DST; Dr. Anuradha Lohia (Biochemistry); Rs.36, 32,000; 3 years.
- **Mapping the binding of transcription Factors on the upstream and promoter Activity Analysis of ACS2 and ACS4 genes in fruits of wild type and mutants followed by cloning of those trans-acting factor;** DBT; Dr. D.N. Sengupta (Botany); Rs.41,02,000; 3 years.
- **Further characterization of the CI-protein from *Cajanus indicus* L : Mechanism of protective action in Organ pathophysiology;** DAE; Dr. Parames C. Sil (Molecular Medicine); Rs.16,20,650; 3 years.
- **Developing technology for producing Alcohol from Potato starch on a Laboratory Scale;** Indo-Bell; Dr. Pratima Sinha (Biochemistry); 2 years.

Down Memory Lane of 30th November



D. M. Bose, Director, Bose Institute is leading Jawharlal Nehru, Prime Minister of India ; Padmaja Naidu, Governor of West Bengal ; B. C. Roy, Chief Minister of West Bengal and other dignitaries to the Inauguration rostrum during Acharya Jagadis Chandra Bose Centenary Celebration.

STAFF NEWS

Appointments :

- Dr. Pallob Kundu joined this institute as Assistant Professor on January 12, 2009. He obtained Ph. D. degree from the University of Calcutta in 1999 and did his postdoctoral research in the University of California, Los Angeles (UCLA). His current research interest is on transcriptional and post transcriptional regulation of gene expression during plant-pathogen interaction.
- Dr. Jayanta Mukhopadhyay joined this institute as Assistant Professor on January 19, 2009. He obtained his Ph.D. from Jadavpur University in 2000 and carried out postdoctoral research in Rutgers University, USA.
- Dr. Shubho Chaudhuri joined this institute as Assistant Professor on June 19, 2009. He obtained his Ph. D. degree from the University of Calcutta in 2002 and did his postdoctoral research at Washington State University, USA. His primary research interest is the epigenetic regulation in plants through histone modification or by chromatin remodeling in response to different environmental or developmental stimuli.

Retirements :

- Sri Subhash Chandra Debroy, Technical officer-I, Department Biochemistry, retired on superannuation on December 31, 2008.
- Md. Kuddus Ansari, Helper-E, Administration, retired on superannuation on January 31, 2009.
- Sri Amit Kimar Ganguly, Technical Officer, Department of Physics, retired on superannuation on January 31, 2009.
- Dr. Amita Pal, Senior Professor, Plant Molecular and Cellular Genetics, retired on superannuation on February 28, 2009.
- Sri Ajit Kumar Koley, Helper-E, Library, retired on superannuation on April 30, 2009.
- Md. Illias, Helper-G, Workshop, retired on superannuation on September 30, 2009.
- Sri Kajal Chaudhuri, Assistant Registrar-II, Administration, retired on superannuation on October 31, 2009.

FORTHCOMING EVENTS

Workshop on Astroparticle Physics (30–35 Scientists from India & abroad), December 10 to 12, 2009 at Darjeeling Campus, Contact persons : Dr. Dhruva Gupta and Dr. Somshubhro Bandyopadhyay (CAPSS) (wapp09@bosemain.boseinst.ac.in)

Winter School on **Astroparticle Physics (WAPP)** (hands on training for the M.Sc. students), December 14 to 21, 2009 at Darjeeling Campus, Contact persons : Dr. Dhruva Gupta and Dr. Somshubhro Bandyopadhyay (CAPSS) (wapp09@bosemain.boseinst.ac.in)

National Seminar on **Aerosoles & Clouds : Climate Change Perspectives**, March 24 to 26, 2010, Contact person : Dr. Sanjay K. Ghosh (CAPSS) (sanjay_k_ghosh@yahoo.co.in)

We condole the untimely death of
Sri Sambhunath Debnath,
Sr. Attender, Department of Botany on March 15, 2009