

বসু বিজ্ঞান মন্দির



# BOSE INSTITUTE NEWS

বসু বিজ্ঞান মন্দির

A NEWSLETTER OF BOSE INSTITUTE

No. 30-31

May & November 2008

## DIRECTOR'S DESK

It is my privilege to introduce the present, 2008, edition of the Bose Institute Newsletter, which coincides with the momentous occasion of the 150<sup>th</sup> Birth Anniversary of our beloved founder, Acharya Sir Jagadis Chandra Bose. This is the time when we ought to take a look at ourselves, examine how well we, at Bose Institute, have upheld the cherished legacy of Acharya Jagadis Chandra, whether we have fulfilled the task that our founder entrusted to us.

I am fortunate to be able to report that our stride towards excellence has continued at a greater pace over the past year. We have been able to register considerable growth in our academic activities, by all yardsticks, be it in the average number of publications per scientist in peer-reviewed journals, in the average impact factor per paper, in the average number of citations per paper, in the number of extramural projects or the quantum of extramural support. The most remarkable rise is in the number of Ph.D. degrees earned by the research scholars of Bose Institute this year; it has more than doubled from that of last year! Our scientists have continued to win coveted laurels, recognizing their standing in the national and international community; our congratulations to them. Thanks to the generous support primarily from the Department of Science & Technology, Government of India as well as other funding agencies, we have managed to augment our already excellent research infrastructure, which makes Bose Institute a well-equipped laboratory, comparable to any international organization. We wish to put on record our gratitude to our nodal ministry for this support. In all these endeavours, we have greatly benefited from the advice of the members of our Scientific Advisory Committee and Research Area Panels; our thanks to all of them.

We are also celebrating now the Birth Centenary of Prof. Sourindra Mohan Sircar, the 3<sup>rd</sup> Director of Bose Institute after Acharya Jagadis Chandra and Prof. D. M. Bose. These events are being commemorated through a series of national and international conferences, the details of which are provided in this Newsletter. They are focusing on the relevance of the seminal ideas generated at Bose Institute in modern days. At the same time, we have not been oblivious to the other task that our founder bequeathed to us – the widest possible diffusion of scientific knowledge. To this end, we have embarked on a number of outreach programmes aimed at students of schools and colleges and the general public all over India. We are happy to collaborate with organisations like Bijjana Bharati and Science Communicators' Forum for these activities.

We wish to project the Life and Works of Acharya Jagadis Chandra as symbols of achievements in the face of tremendous difficulties and hardships, the true test of the scientific spirit. It is our hope that they would serve as beacons of hope and motivation for the present and future generations.

With best wishes to the readers,

Sibaji Raha

### Editorial Board :

Kalyan Kumar Mukherjee (Editor),  
Dipankar Home, Pradip Parrack, Rajagopal Chattopadhyaya,  
Kalipada Das, Rukmini Mitra, Arun Kumar Das Gupta

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The 70<sup>th</sup> Acharya J. C. Bose Memorial Lecture will be delivered by Francesco Paresce Marconi, Institute of Space Astrophysics and Cosmic Physics, Italian National Institute of Astrophysics, Bologna, Italy on “Marconi, Bose and the Telecom Revolution in Science”

### Abstract

Our current understanding of our place in the universe is intimately connected to our unprecedented ability to transfer quickly, cheaply and reliably enormous amounts of information across vast distances by means of wireless telecommunication. This ability has evolved in the last 100 years or so from the first experiments on transmitting and receiving wireless signals carried out by my grandfather Guglielmo Marconi in Italy and J.C. Bose in India among others at the turn of the last century. In this lecture, I will briefly trace this marvelous arc of technical and scientific knowledge from these pioneers to the present and show some of the outstanding scientific results obtained very recently from space exploiting these powerful techniques.

St Xavier's College,  
10, Park Street,  
Calcutta. April 18<sup>th</sup>

I certify that Babu  
Jagadis Chandra Bose B.A.  
was my pupil in Physical  
Science for a period of  
four years and gave me  
proofs of his great po-  
-tential in that branch  
of study. I consider him  
to be one of the best stu-  
-dents we had in our Col-  
-lege Department.

F. Lafont S.B.  
then Rector and Lect.  
in the 1880s

"Babu" Jagadis Chandra Bose certified by Father Lafont,  
the then Rector, St. Xavier's College, Calcutta & Teacher of J. C. Bose



## CURRENT EVENTS

### 91<sup>st</sup> Foundation Day Celebrated

The 91<sup>st</sup> Foundation Day of Bose Institute was celebrated on 30<sup>th</sup> November 2007. Swami Jitatmananda, Secretary, Swami Vivekananda's Ancestral House and Culture Centre, Kolkata graced the occasion as Guest of Honour and delivered the 69<sup>th</sup>



Acharya Jagadis Chandra Bose Memorial Lecture on **Matter, consciousness and the contribution of Acharya Jagadis Chandra Bose**. On this occasion **Sir Nilratan Sirkar Prize 2007** was awarded jointly to Mr. Surajit Basak, a senior research fellow (extended), Bioinformatics Centre and Ms. Nivedita Majumder, a Senior Research Fellow, Department of Microbiology. **Prof. B. B. Biswas Outstanding Student Award 2007** was presented jointly to Mr. Mainak Guha Roy, a Senior Research Fellow, Department of Biochemistry and Mr. Sukhendu Mandal, a Senior Research Fellow, Department of Microbiology. The day's programme 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 welcome address and presented Institute Report.

### Acharya J. C. Bose Triennial Gold Medal Lecture

- The 2005 Acharya J. C. Bose Triennial Gold Medal lecture on **The Role of Facilitated Variation in Evolution** was



delivered by Prof. Marc W. Kirschner, Professor of System Biology, Department of Systems Biology, Harvard Medical School, Boston, USA on January 7, 2008. Prof. Birendra Bijoy Biswas, Former Director, Bose Institute graced the occasion as President and presented the gold medal to Prof. Kirschner.

- The 2008 Acharya J. C. Bose Triennial Gold Medal lecture on **Organic Synthesis : Harnessing Synergy with Nature for**



**Human Wellbeing** was delivered by Prof. G. Mehta, FNA, FRS, Department of Organic Chemistry, Indian Institute of Science, Bangalore on March 7, 2008. Prof. Debashis Mukherjee, Director, Indian Association for the Cultivation of Science, Jadavpur graced the occasion as President and presented the gold medal to Prof. Metha.

### National Science Day Celebrated

The National Science Day was observed at Bose Institute. The theme of this year's was **Understanding Planet Earth**. As a part of the celebration **Prof. H. Y. Mohan Ram**, an eminent Plant Biologist and former Head of the Department of Botany, Delhi University delivered a lecture entitled **Plant Watching : A Passion** on 10<sup>th</sup> March, 2008.

### Rural Biotechnology Programme

As part of the Social Science Project a **Rural Biotechnology Programme** was inaugurated at Bose Institute's Falta Experimental Farm on 7<sup>th</sup> August 2008. Prof. Sankar Sen, Former Vice Chancellor, Jadavpur University and Former Minister of Electricity, Govt. of West Bengal, inaugurated the programme. Sri Hiram Ghosh, IAS, Chairman of the Falta



Experimental Farm Rural Biotech Programme presided over the function. Sri Atanu K. Raha, Chief Conservator of Forests, Govt. of West Bengal and other dignitaries attended the programme. A six week Mushroom cultivation, preservation and spawn production training programme was also organized during August 23 to September 30, 2008. Most of the participants were from the BPL category and successfully completed their training.

### Dipta Memorial Symposium

The 16<sup>th</sup> Dipta Memorial Symposium was held on October 1<sup>st</sup>, 2008 on the topic **Civilization and Extinction**. Reputed personalities and experts in this field were present and put their views in this regard. A documentary film show and science quiz was also arranged followed by the lecture session. Students from various schools, colleges and universities participated in the programme. The symposium is organized every year jointly by Dipta Memorial Committee and Bose Institute Research Scholar's Forum on a socio-scientific issue of current interest to commemorate the sad and untimely



demise of Dipta Chakraborty, a research scholar of the institute.

## 142<sup>nd</sup> Birth Anniversary of Sister Nivedita Celebrated

The 142<sup>nd</sup> Birth Anniversary of Sister Nivedita was celebrated on 28<sup>th</sup> October 2008 in the Seminar Room of the Bose Institute, Main Campus jointly by Bose Institute and Vivekananda Janmotsava Samiti. Mr. Dhiraj Basu, Hony. General Secretary of the Samiti delivered the welcome address. Shri Shymal Sen, Chairman, Human Right Commission, graced the occasion as Chairman.

## 124<sup>th</sup> Birth Day of Prof. Debendra Mohan Bose Celebrated

124<sup>th</sup> Birth Day of Prof. Debendra Mohan Bose was celebrated on November 26, 2008. Dr Virginia Shepherd, a Senior Research Scientist, Department of Physics, School of Physics, The University of New South Wales, Sydney, Australia, graced



the occasion as Guest of Honor and delivered the D.M. Bose Memorial Lecture on **Reflections on the Many-in-one : J. C. Bose and the Roots of Plant Neurobiology**.

## SYMPOSIA AND CONFERENCES HELD

- A two-day National Workshop on **Protein Folding and Bioinformatics** (March 4 to 5, 2008) was organized by the Bioinformatic Centre of Bose Institute. Sixty participants from all over India attended the workshop.
- As part of the **150<sup>th</sup> Birth Anniversary Celebration of Acharya Jagadis Chandra Bose and 90<sup>th</sup> Jubilee year of Bose Institute**, the following events have already been organized :
  - i) A two-day National Symposium (September 18 to 19, 2008) on **Soft Matter**. Conveners : Prof. K. P. Das and Dr. Pradip Das. 85 participants from all over India attended.
  - ii) A five-day International Conference (November 24 to 28, 2008) on **A journey from Plant Physiology to Plant Biology**. Conveners : Prof. D.N. Sengupta and Prof. Sampa Das. This event was organized jointly with the University of Calcutta and Plant Physiology Forum, also celebrated the **Birth Centenary of Prof. Sourindra Mohan Sirkar**, Former Director of Bose Institute. Participants from all over India and other countries attended the conference.
  - iii) A three-day International Conference (November 27 to 29, 2008) on **Perspectives of Cell Signalling and Molecular Medicine**. Secretary : Prof. P. C. Sen; Convener : Dr. Subrata Majumder.

## VISITS ABROAD

Prof. Joyoti Basu of Department of Chemistry visited Mount Holyoak College, USA during July 6 to 11, 2008 to participate and present paper in the Gordon Research Conference on Microbial Stress Response at Bern; Switzerland during September 6 to 9, 2008 to participate and present paper in the 6<sup>th</sup> European Cell Death Society Meeting. She also visited the Karolinska Institute, Stockholm, Sweden, during October 6 to 11, 2008 under a collaborative Indo-Swedish research project.

Mr. Himadri Shekhar Chakrabarti of the Department of Botany visited Thailand during December 2 to 6, 2007 to present a poster at the XX World Allergy Congress held at Bangkok.

Prof. P. Chakrabarti of the Department of Biochemistry visited Naantali, Finland, during June 12 to 15, 2008 to deliver a talk at INPEC (International Network of Protein Engineering Centres) 2008 and Dubrovnik, Croatia, during June 27 to July 1, 2008 to attend the Conference on Molecular Perspectives on Protein-Protein Interactions. He also visited Osaka, Japan, during August 23 to 31, 2008 as the leader of the Indian delegates attending the XXI Congress and General Assembly of the International Union of Crystallography (IUCr 2008).

Prof. Sampa Das visited Lillehammer, Norway, during September 7 to 12, 2008 to present a talk in BRASSICA 2008.

Dr. Tanya Das of Division of Molecular Medicine visited Greece during October 17 to 22, 2008 to deliver an invited talk and chair a session in the 8<sup>th</sup> International Conference on Anti-cancer Research in Kos.

Smt. Moumita Gangopadhyay of the Department of Botany visited Dhaka, Bangladesh, during April 11 to 13, 2008 to participate in the International Conference in Plant Tissue Culture and Biotechnology.

Dr. Sanjay Kumar Ghosh of the Centre for Astroparticle Physics & Space Science visited Vulcano, Italy, during May 28 to 31, 2008 to deliver an invited lecture on "Quark Stars : Their Influence on Astroparticle Physics" and also chaired a session in the "The Vulcano Workshop Frontier objects in Astrophysics and particle physics".

Prof. Manikuntala Kundu of Department of Chemistry visited Università degli Studi di Firenze, Italy, during April 1 to 15, 2008 with an ICMR International Fellowship for Senior Biomedical Scientists. She also visited Istanbul during August 10 to 15, 2008 to present a paper in the XII International Congress of Bacteriology and Applied Microbiology.

Prof. A. N. Lahiri Majumder visited Nontana, USA, during September 7 to 12, 2008 to deliver an invited talk in the Gordon Research Conference on Salt & Water stress in plants.

Prof. A. Lohia visited University of Virginia USA during April 19 to May 07, 2008 to carry out collaborative project experimental work in FIRCA PROJECT.

Miss Jyotshna Mandal of the Department of Botany visited Thailand, during December 2 to 6, 2007 to deliver an oral presentation at the XX World Allergy Congress held at Bangkok.

Prof. Amita Pal visited Nurnberg, Germany, during October 2008 to participate EHRlich II 2<sup>nd</sup> World Conference on Magic Bullets and chaired a session on Bioanalytics The cutting age of LC-MS/MS Part III.

Prof. Sibaji Raha, Director, BI and Prof. Swapan K. Saha of Department of Physics and Centre for Astroparticle Physics and Space Science visited Novosibirsk, Russia, during 28 July 4 August, 2008 for a measurement campaign in collaboration with TIFR, Mumbai and BINP, Novosibirsk during the total



solar eclipse on August 1, 2008 at Budekar Institute of Nuclear Physics, Novosibirsk and to participate at the All-Russian Conference on Corona and Plasma Physics at Novosibirsk State University. Prof. Swapan K. Saha also delivered a talk at that conference.

Dr. Gaurisankar Sa of Division of Molecular Medicine visited Greece, during October 17 to 22, 2008 to deliver an invited talk and chair a session in the 8<sup>th</sup> International Conference on Anti-cancer Research in Kos.

Prof. Parimal C. Sen of Molecular Medicine Section visited Aarhus, Denmark, during August 5 to 10, 2008 to attend 12<sup>th</sup> International Conference on Na, K-ATPase and related transport ATPase and Eindhoven; Netherlands during August 10 to 12, 2008 on invitation from FEI, Europe to visit TEM facility plant there. He also visited Boston University and Meharry Medical School on invitation during August 12 to 24, 2008 to deliver lectures.

Prof. S. Sen-Mandi of the Department of Botany visited Chiang Mai University International Centre and Century foundation Thailand, during November 21 to 23, 2008 to deliver invited lecture on "Molecular profiling of genomes and evaluation of Medicinal Potential in some elite varieties of *Curcuma longa* of Manipur" at 3<sup>rd</sup> Global Summit on Medicinal and Aromatic Plants (GOSMAP-3).

## RECENT AWARDS AND HONOURS

Prof. Joyoti Basu of the Department of Chemistry has been elected Fellow of the **Indian National Science Academy**, New Delhi.

Prof. Sampa Das of the PMCG Section has been elected Fellow of the **Indian National Science Academy**, New Delhi.

Moumita Gangopadhyay of the Department of Botany has been awarded for the (i) **best poster presentation (1<sup>st</sup> prize)** in the International Symposium on Jute and Allied Fibre Production, Utilization and Marketing, held on 10-12 January, 2008 in Kolkata, organized by Indian Fibre Society. (ii) was selected as **2<sup>nd</sup> best participant (2<sup>nd</sup> prize winner)** in poster session in the International Conference in Plant Tissue Culture and Biotechnology, held in Dhaka, Bangladesh on 11-13<sup>th</sup> April, 2008.

Prof. A. N. Lahiri Majumder of the PMCG Section has been awarded **Professor Shyam Bahadur Saksena Medal 2008** by Indian National Science Academy, New Delhi. The award carries a medal, an honorarium of Rs.25,000/- and a citation.

Miss Jyotshna Mandal of the Department of Botany received the **M. Sundaramma Young Scientist Award** (from the Indian College of Allergy, Asthma and Applied Immunology), for the best research paper at the 41<sup>st</sup> Annual Conference of the Indian College of Allergy, Asthma and Applied Immunology, held in Delhi from 9<sup>th</sup> to 12<sup>th</sup> December 2007.

Dr. N. Mondal of the Division of Molecular Medicine has been awarded **Bharat Jyoti Award** by India International Friendship Society, New Delhi; **Glory of India Gold Medal** by the International Institute of Success Awareness, New Delhi and **Rajiv Gandhi Excellence Award** by India International Friendship Society, New Delhi.

Dr. Swarup Roy Choudhury of the Department of Botany has been awarded for **ISCA Young Scientist (2008-2009)**

Dr. Sujit Roy of the Department of Botany has been awarded as **Young Scientist (2008)** in DST FAST TRACK Scheme.

## Patent

Prof. S. Sen-Mandi of the Department of Botany has been awarded the National Patent on "A Marker DNA Fragment Capable of Enhancing Storability of Seeds and a process therefor". (Patent No. 216326).

## RECENT Ph. Ds.

(From April 1, 2007 to March 31, 2008)

- **Aniruddha Aich** (Chemistry) **Studies on the developmental regulation of glycerolipid fatty acid composition in seeds and other tissues of non-traditional oil seed plants** Supervisor : Prof. Prantosh Bhattacharyya.
- **Angshuman Bagchi** (Bioinformatics Centre) **Structural biology and bioinformatics approach on sox gene clusters towards the understanding of sulphur lithotrophy in proteobacteria.** Supervisor: Dr. T.C. Ghosh.
- **Mithu Banerjee** (Biochemistry) **Antimitotic drugs binding to tubulin: A Calorimetric and spectroscopic study.** Supervisor : Prof. B. Bhattacharyya.
- **Surajit Basak** (Bioinformatics Centre) **Tracing the evolutionary forces for temperature adaptation of DNA, RNA and protein molecules of different organisms.** Supervisor: Dr. T.C. Ghosh.
- **Rajesh Bhattacharjee** (Molecular Medicine) **Studies on a hepatoprotective protein from a herbal source.** Supervisor : Prof. P.C.Sil.
- **Sankar Bhattacharyya** (Molecular Medicine) **Amelioration of tumor-induced immunosuppression by curcumin.** Supervisor : Dr. G.Sa.
- **Dipankar Chakraborty** (PMCG) **Expression of mannose binding garlic lectin in chickpea to protect from the attack of sucking insect pest.** Supervisor: Prof. Sampa Das.
- **Uttara Chakraborty** (PMCG) **Development and molecular characterization of somatic Hybrids developed through protoplast fusion between edible mushroom strains.** Supervisor: Dr. S. R. Sikdar.
- **Subhankar Chatterjee** (Microbiology) **Microbial fate of estrogenic phthalate esters in the environment: Biochemical and molecular analysis.** Supervisor : Dr. Tapan K. Dutta
- **Sujoy Chatterjee** (Microbiology) **Structure function relationship of a mycobacterial plasmid (pAL5000) replication protein RepB.** Supervisor : Dr. Sujoy K Dasgupta
- **Rima Chattopadhyay** (Biochemistry) **Studies on the cyclic AMP dependent properties of cyclic AMP receptor protein from *Escherichia coli* and other systems.** Supervisor : Dr. P.K. Parrack
- **Pratik Datta** (Chemistry) **Proteins of the cell division machinery of mycobacteria.** Supervisor : Prof. Joyoti Basu.
- **Siraj Datta** (Botany) **Characterization of a terminal flower mutant henotype of *Beta palonga*.** Supervisor : Prof. K.K Mukherjee.
- **Jhuma Dey** (Molecular Medicine) **Search for biological responses of estradiol-17beta in pupal life of silkworm *Bombyx mori* L.** Supervisor : Prof. A.K. Ray.
- **Ranadhir Dey** (Microbiology) **Host parasite interaction in visceral leishmaniasis: The role of chemokines in regulating the elevated level of ceramide and other signaling parameters in *L.donovani* infected murine macrophages.** Supervisor : Dr. Subrata Majumdar.
- **Ms. Sanjukta Dey** (Botany) **Understanding of molecular factors associated with the resistance of tomato (*Lycopersicon esculentum*) to *Fusarium oxysporum* f.sp. *lycopersici*.** Supervisor : Dr. D. Basu.



- **Dipak Dutta** (Biochemistry) Studies on the protein HflX from *Escherichia coli* : Searching for its function. Supervisor : Dr. P.K. Parrack.
- **Sruti Dutta** (PMCG) Development and characterization of aphid tolerant *Brassica juncea* chromosome addition lines from "Rorippobrassica" somatic hybrid (*Rorippa indica* + *Brassica juncea*) through plant breeding approach. Supervisor : Dr. S. R. Sikdar.
- **Tridib Ganguly** (Biochemistry) Studies on the structure-function relationship of the repressor of temperate mycobacteriophage L1. Supervisor : Dr. S. Sau.
- **Krishnarup Ghosh Dastidar** (PMCG) Molecular studies on eukaryotic L-*myo*-inositol 1-phosphate synthase with reference to catalytic and salt-tolerant properties. Supervisor : Prof. A.N. Lahiri Majumder.
- **Srabasti Ghoshal** (Molecular Medicine) Interaction of  $Mg^{+2}$ -independent  $Ca^{+2}$ -ATPase with a low molecular mass protein purified from bovine brain cytosol. Supervisor : Prof. P.C. Sen
- **Lily Goswami** (PMCG) Studies on L-*myo*-inositol 1-phosphate synthase(s) with special Reference to salinity stress and its expression in transgenic crop plants. Supervisor : Prof. A.N. Lahiri Majumder.
- **Samita Kundu** (Molecular Medicine) Maintenance of central homeostasis for thyroid hormone in adult brain. Supervisor : Prof. A.K. Ray.
- **Lakshmishri Lahiry** (Molecular Medicine) Molecular mechanisms of human breast cancer cell apoptosis by black tea theaflavins. Supervisor : Dr. T. Das.
- **Susmita Maitra** (PMCG) Comparative analysis of inositol synthase(s) from cultivated and wild halophytic rice: *In vitro* and *in vivo* studies of regulatory elements. Supervisor : Prof. A.N. Lahiri Majumder
- **Somnath Mallik** (Microbiology) Biochemical and molecular characterization of pathway(s) involved in the microbial degradation of polycyclic aromatic hydrocarbons (PAHs). Supervisor : Dr. Tapan K. Dutta.
- **Debaprasad Mandal** (Molecular Medicine) Mechanisms of immunomodulation by black tea in tumor beare. Supervisor : Dr. T. Das.
- **Gopa Mitra** (Biochemistry) Studies on chaperone-like activities of micro tubular proteins. Supervisor : Prof. B. Bhattacharyya.
- **Sukhendu Mondal** (Microbiology) Studies on the expression of sulfur oxidation (Sox) genes associated with chemolithotrophy in *Pseudaminobacter salicylatoxidans* KCT001. Supervisor : Dr. Sujoy K. Dasgupta.
- **Atasi Pal** (Biochemistry) Autodigestion, Proteolysis and Structural Studies of the Lambda cI Repressor and Investigation of its RecA-mediated cleavage. Supervisor : Dr. R. Chattopadhyaya.
- **Aryadeep Roy Chowdhury** (Botany) Comparative analysis of Rab16 A gene expression in salt tolerant and salt sensitive rice cultivar and their promoter efficiency to develop an abiotic stress inducible promoter. Supervisor : Prof. D.N. Sengupta.
- **Sujit Roy** (Botany) Studies on Single polypeptide DNA polymerase sensitive to dideoxynucleoside triphosphate from *Vigna radiata* cv. B1. (L.). Supervisor : Prof. D. N. Sengupta.
- **Sumedha Roy** (Molecular Medicine) Subcellular action of estradiol-17beta in fifth instar larvae of silkworm, *Bombyx mori* L. Supervisor : Prof. A.K. Ray.
- **Prasenjit Saha** (PMCG) Development of insect resistance in *indica* rice cultivars: A crop management strategy. Supervisor : Prof. Sampa Das.
- **Rudra P. Saha** (Biochemistry) Analysis of interactions in proteins and structural studies on a few proteins from *Vibrio cholerae*. Supervisor : Prof. P. Chakrabarti.
- **Anindya Sarkar** (PMCG) Development of transgenic insect resistant chickpea (*Cicer arietinum* L.) plants with *Bacillus thuringiensis* endotoxin gene. Supervisor : Prof. Sampa Das
- **Keya Sau** (Bioinformatics Centre) Studies on the codon and amino acid usage bias in bacteriophage. Supervisor : Dr. T.C. Ghosh.
- **Anil Kumar Singh** (Chemistry) Drug resistance in enteric bacteria. Supervisor : Prof. Manikuntala Kundu

## GRANTS RECEIVED

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

- **Functional analysis of the interplay between the gene products encoded by an opron harbouring serine/threonine kinases and phosphatase, and its implications in mycobacterial physiology**; CSIR; Prof. Joyoti Basu (Chemistry); Rs.22,32,800; 3 years.
- **HIV-1 Nef as a target for drug discovery**; (Indo-Swedish); Prof. Joyoti Basu (Chemistry) & Prof. Anna-Lena Spetz, Sweden; Rs 12,58,475; 3 years.
- **Molecular tools for exploitation of Heterosis, yield and oil quality in sesame**; ICAR (NAIP); Dr. Debabrata Basu (Botany), Prof. Sampa Das Co. PI (PMCG); Rs.60,50,000; 4 years.
- **Novel approaches for production of hybrid seeds with characteristics of improved insect resistance & higher yield cotton component**; CSIR/NMITLI; Prof. Sampa Das (PMCG); Rs.47, 50,000; 3 years.
- **Role of homoeopathic medicines in cancer regression and rejuvenation of depressed immune system : A mechanistic study**; CCRH; Dr. Tanya Das & Dr. Gaurisankar Sa (Molecular Medicine); Rs.29,67,360; 3 years.
- **Evaluation of p53 dependent and independent signaling in theaflavin-induced human breast cancer cell apoptosis**; DST; Dr. Tanya Das (Molecular Medicine); Rs.23,64,000; 3 years.
- **Dehydration of flowers and foliage and floral craft and their commercialization**; CSIR-Emeritus; Dr. S.K. Datta, Emeritus Scientist (MEF); Rs.16,27,800; 3 years.
- **Employment generation utilizing unutilized rural flora for preparation of value added products using dehydration technique**; DBT; Dr. S. K. Datta Emeritus Scientist (MEF); Rs.8,03,000; 3 years.
- **Molecular characterization of novel catabolic genes and enzymes involved in a distinct metabolic pathway in the assimilation of phenanthrene**; DBT; Dr. Tapan K. Dutta (Microbiology); Rs.36,42800; 3 years.
- **Novel genes and their regulatory elements for salt tolerance from the wild halophytic rice *Porteresia coarctata* : Introgression into cultivated rice**; DBT; Prof. A. N. Lahiri Majumder (PMCG); Rs.62,27,000; 3 years.
- ***In vitro* study of the antioxidant, iron chelating and DNA protective properties of medicinal plants, their formulations and usefulness to combat cancer**; CCRAS (AYUSH); Dr. N. Mandal (Molecular Medicine); Rs.20,54,360; 3 years.



- **Study of Shrimp Genome : Disease resistant DNA Markers of Penaeus Monodon;** MoES (OASTC); Dr. N. Mandal (Molecular Medicine) Rs.26,35,780; 3 years.
- **Disease resistance in giant Black Tiger shrimp, Penaeus monodon;** DBT; Dr. N. Mandal (Molecular Medicine); Rs.34,30,000; 3 years.
- **Award of Ramanna Fellowship;** DST; Dr. Anup Kr. Misra (Molecular Medicine); Rs.34,80,000; 3 years.
- **Structural and Functional Characterization of a Bi-functional Protein from Goat Spermatozoa;** CSIR; Prof. P.C. Sen (Chemistry); Rs.19,57,800; 3 years.
- **Upstream Analysis of the gene for expression of sucrose phosphate synthase in banana fruits analysis of the cis-acting elements to find out the trans-acting factor;** CSIR; Prof. D. N. Sengupta (Botany); Rs.21,12,800; 3 years.
- **Dielectric relaxation complex perovskite oxides;** DST; Prof. T.P. Sinha (Physics); Rs.13,25,040; 3 years.
- **Studies on the Repressor and its Cognate Operators/promoters of Temperate Staphylococcus Aureus Phase II and Development of a High Expression Vector for Staphylococcal System;** DAE; Dr. Subrata Sau (Biochemistry); Rs.23,98,218; 3 years.

## STAFF NEWS

### Appointments :

- Dr. Somshubro Bandyopadhyay has joined this institute as Assistant Professor on October 3, 2008. He obtained Ph. D. degree from the University of Calcutta in 2004 and did his post-doctoral research in the Department of Physics, Bose Institute. His primary research interests are in the field of Quantum Information Theory; Quantum Cryptography; Quantum computing and Foundations of Quantum Theory.
- Dr. Suman Kr. Banik has joined this institute as Assistant Professor on November 6, 2008. He obtained Ph. D. degree from Jadavpur University, Kolkata in 2001 and did his postdoctoral research in University of Calcutta. His primary research interests are in the field of Systems Biology.
- Dr. Gautam Basu has joined this institute as a Professor on April 25, 2008. He obtained Ph. D. degree from Cornell University, USA and did his postdoctoral research in the Kyoto University. His primary research interests are Structural Biology, Bioinformatics and Computational Biology.
- Dr. Gaurab Gangopadhyay has joined this institute as Assistant Professor on June 23, 2008. He obtained Ph. D. Degree from Calcutta University in 1997 and did his postdoctoral research in the Department of Botany, Bose Institute, Kolkata. His primary research interests are in the field of *Ex situ* conservation of genetic diversity and looking for useful trait(s) from the wild gene pool.
- Dr. Dhruva Gupta has joined this institute as Assistant Professor on May 14, 2008. He obtained Ph. D. degree from Saha Institute of Nuclear Physics in 2001 and did postdoctoral research in the Variable Energy Cyclotron Centre, Kolkata. His primary research interests are Physical Sciences.
- Dr. Anup Kr. Mishra has joined this institute as Assistant Professor on October 3, 2008. He obtained his Ph.D. degree from the Jadavpur University, Kolkata in 1997 and did his postdoctoral research in The Burnham Institute, California, USA. His primary research interests are in the field of Synthetic Organic Chemistry.
- Dr. Amitabha Mitra has joined this institute as Associate Professor on June 2, 2008. He obtained Ph. D. Degree from Calcutta University in 2003. His primary research interest are

in the fields of Microwave/Millimeterwave and Optical Propagation, Remote Sensing, Radar & Radiometry, Radar Cross Section & Imaging and related instrumentation.

- Dr. Rajarshi Ray has joined this institute as Assistant Professor on October 23, 2008. He obtained Ph. D. degree from Institute of Physics, Bhubaneswar and did his postdoctoral research in the Tata Institute of Fundamental Research, Mumbai. His primary research interests are in the field of Lattice Gauge Theory, Quark Gluon Plasma, Phase Transition, Topological Defects, Stochastic processes.

### Promotions :

During the year 2008, Bose Institute underwent a thorough revision of academic designations and pay scales, from the UGC scale to the Science & Technology scales. The process of placement in the new scale is still under way. In this circumstance, the usual list of promotions earned by the employees during the year has not been included in this issue.

### Retirements :

- Prof. Manas Chakraborty, Sr. Professor, Department of Chemistry retired on superannuation January 31, 2008.
- Sri Jogendra Nath Das, Technician (Sr. Gr.), Workshop retired on superannuation on January 31, 2008.
- Sri Tarapada Das, Sr. Mechanic (Gr. I), Workshop retired on superannuation on February 29, 2008.
- Sri Bankim Dutta, Technician (Sr. Gr.), Workshop retired on superannuation on December 31, 2007.
- Prof. Swati Sen Mandi, Sr. Professor, Department of Botany retired on superannuation on August 31, 2008.
- Sri Tushar Kanti Mukhopadhyay, Accounts Officer - I, Administration retired on superannuation on December 31, 2007.
- Sri Nityananda Patra, Attender - II, Department of Microbiology retired on superannuation on January 31, 2008.
- Sri Dilip Pramanik, Helper - E, Madhyamgram Experimental Farm retired on superannuation on August 31, 2008.
- Sri Jamuna Prasad, Helper - G, Department of Microbiology retired on superannuation on August 31, 2008.
- Prof. Pabir Kumar Saha, Sr. Professor, Department of Botany retired on superannuation on August 31, 2008.
- Sri Kishori Mohan Saha, Attender - II, Workshop retired on superannuation on February 29, 2008.
- Sri Alakananda Sarkar, Asstt. Registrar - I, Administration retired on superannuation on October 31, 2008.
- Smt. Manju Turi, Helper - E, Administration retired on superannuation on November 30, 2008.

## FORTHCOMING EVENTS

Symposium on **"Integrating Physics, Chemistry, Mathematics and Biology to Understand Living Systems"** December 4 to 6, 2008, *Contact persons : Prof. M. Kundu and Prof. J. Basu (Chemistry).*

23rd National Seminar of IASLIC on **"Library Profession in Search of a New Paradigm"** December 10 to 13, 2008. *Contact person : Dr. Arun K. Chakrabarty (Library).*

International Symposium on **"Microwaves and Millimeterwaves : Basics and Technology"** January 14 to 16, 2009, *Contact person : Dr. A. Mitra (CAPSS).*

*We condole the untimely death of*  
**Smt. Manisha Banerjee,**  
**Asst. Registrar, SAIF on October 3, 2008**