

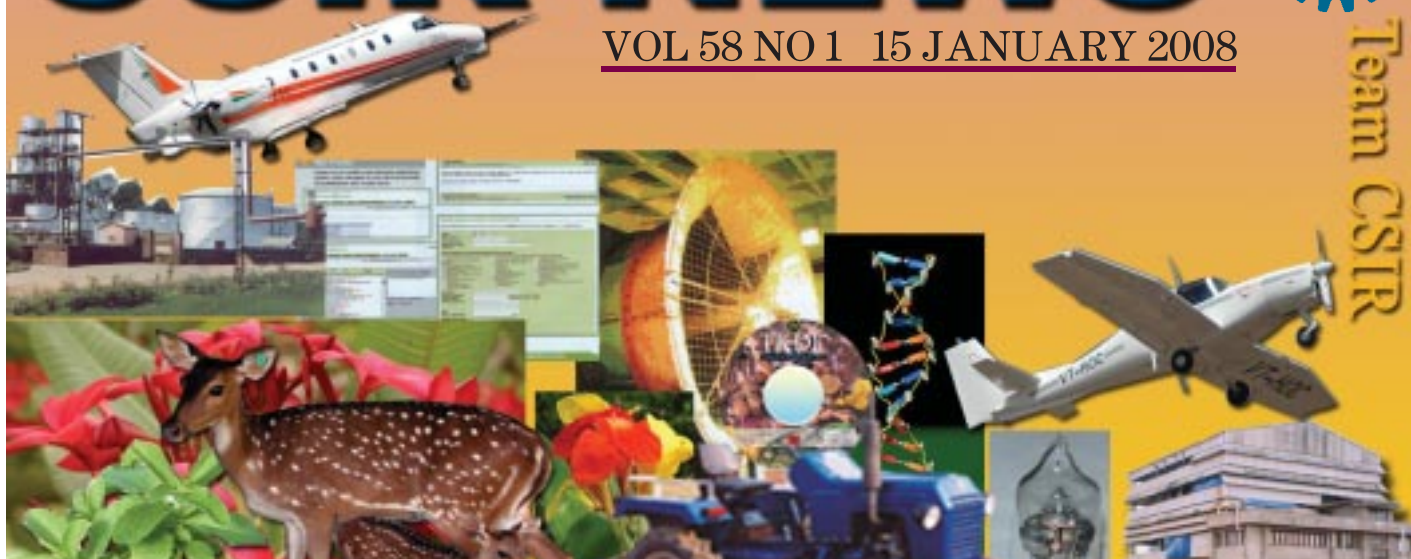
# CSIR NEWS

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Team CSIR



## NGRI introduces a New Marine Geophysical Technique in India for Offshore Oil Exploration Studies

**T**he very high rate of depletion of hydrocarbon reserves has been a matter of major concern in the present Indian scenario, where huge amounts, to the tune of 120,000 crores of Indian rupees, are being spent annually to meet the demand. In order to mitigate this recurring massive expenditure, new strategies with innovative technology need to be explored in frontier areas of oil sector. Previous extensive MT studies on land in both Saurashtra and Kachchh region have provided clear indications of the hydrocarbon rich sedimentary layers on land provinces of Kachchh and Saurashtra and paved the way for possible potential in Gulf of Kachchh region.

CSIR News  
wishes its  
readers  
A Happy  
New Year

Dr T. Harinarayana, Project Leader, National Geophysical Research Institute (NGRI), Hyderabad, has recently applied a new geophysical tool like Marine Magnetotelluric (MMT) technique in the Gulf of Kachchh region of Gujarat, for the first time in India with the collaboration of Scripps Institute of Oceanography (SIO), USA. The equipment consists of two sensitive magnetometers to record the magnetic field signals and four silver-silver chloride electrodes located at 5 m length of four arms attached to the central unit to measure electric field signals. It is a major survey programme launched by NGRI with the funding support of CSIR and Directorate General of Hydrocarbons (DGH), New Delhi.

Continuous Land MT measurements have also been carried out simultaneously during the period of offshore data acquisition at two locations near Suthri in Kachchh. This has helped in applying the improved remote reference techniques.



## R & D Highlights

A Russian research vessel *Boris Petrov* was engaged and six US scientists led by Prof. Steve Constable from Scripps Institute worked together with NGRI scientists. Under this project, data were acquired at 30 MT locations in the offshore region of Kachchh with bathymetry ranging from 15 m to as deep as 2000 m. The deployed instruments have recorded the signals at sea bottom for 2 days continuously before recalling to the sea surface with remote operation.

NGRI has been working on land for the last three decades using land magnetotelluric technique in geologically problematic areas such as volcanic rock covered areas and also Himalayan thrust zones for oil exploration and has now ventured into marine environment. Dr T. Harinarayana led as a party chief,



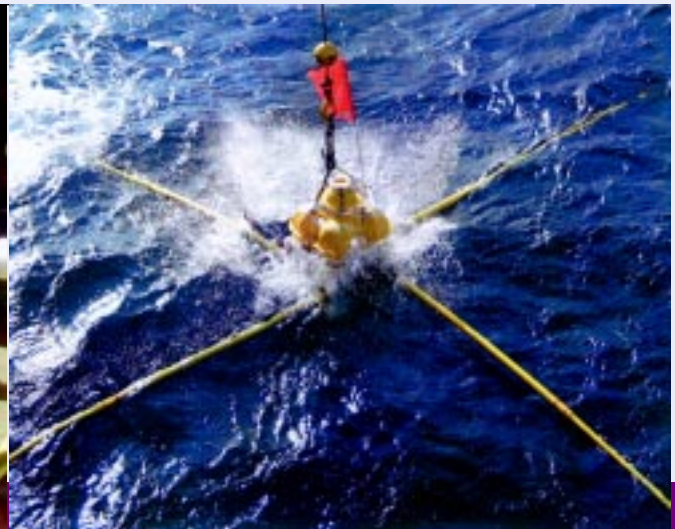
*Boris Petrov*, the Russian vessel used for the survey

the whole team consisting of 11 scientists from NGRI, six scientists from SIO and three scientists from NCAOR for this complex marine operation, where the tidal waves are as high as 9 to 12 m. With the

successful implementation of this new technique in India, whole of east and west coast of India has opened up for new investigations with this technique for hydrocarbon exploration.



Marine Magnetotelluric equipment being assembled in the vessel



Marine Magnetotelluric equipment being deployed into the sea

## Indian contributors to IPCC — the 2007 Nobel Peace Prize winner, with Prime Minister of India



**I**ndian contributors to IPCC, the 2007 Nobel Peace Prize winner, with Prime Minister of India Dr Manmohan Singh. There are apparently 72 contributors at various levels, since the formation of IPCC in 1988. The Prime Minister invited all of them for a presentation party and 41 members attended the function. All were given individual citation.

There are at least eight members from CSIR, of which five attended.

(See also *CSIR NEWS* 15 November and 15 December 2007)

## R & D at the SERC's Wind Engineering Facility

**R**ational assessment of wind loads, and responses are important requirements for ensuring safety and economy in the design of the buildings and structures. Boundary layer wind tunnel studies continue to be the reliable method of assessment of wind effects. The Wind Engineering Laboratory (WEL) of the Structural Engineering Research Centre (SERC), Chennai, besides carrying out in-house R&D activities, has been rendering significant services to the industry by providing solutions to their complex problems

through wind tunnel testing. Wind induced interference effect between structures is a typical example where BLWT testing is considered as a reliable design tool. Many power plant structures such as tall chimneys and cooling tower have been tested both in isolated and in grouped configurations as shown in Fig. 1 (p. 4).

The boundary layer wind tunnel (BLWT) facility available at SERC has the test section dimensions of 1.8 m (H) × 2.5 m (W) and 18.0 m (L). The total length of the BLWT is 52 m. The maximum wind speed

attainable at the test section in the empty tunnel condition is about 55 m/s. The tunnel has a flexible ceiling arrangement (Fig. 2, p. 4).

### Highlights of some of the recent activities:

#### *Pressure Measurements of a Tall Building*

Detailed pressure measurements have been carried out on a rigid model of a 185m tall building with a geometric scale of 1:250 (Fig. 3, p. 5). The model has been instrumented with a total of 83 pressure taps at five different levels



Fig. 1 – Wind tunnel experiments on chimneys and cooling towers



Precision turn table for positioning the structural models



Howden-Sirocco fan that generates wind



Fig. 2 — The Boundary Layer Wind Tunnel (BLWT) at SERC

along the height . Pressure data have been collected for different angles of wind incidence ranging from  $0^\circ$  to  $180^\circ$  in steps of  $15^\circ$  interval. All the data have been collected at a reference mean velocity of 12 m/s at the height of

the model. Through integration of pressures, statistics of force coefficients based on body axes have been computed and subsequently translated in to drag and lift coefficients based on wind axes. The critical wind angles are found corresponding to  $0^\circ$ ,  $90^\circ$ ,  $75^\circ$  and  $135^\circ$  for the purpose of structural analysis.

Investigation was carried out on a 1:100 scale pylon model of a typical cable stayed bridge (Fig. 4, p. 5). The

pylon made of acrylic material has typically an 'H' section in the direction of the carriageway and has an 'A' shape in the perpendicular direction . The model has a total height of 50 cm, with the spacing between the two legs equal to 15 cm at the bottom and 10.6 cm at the top. The two legs have a box type of cross-section measuring 2.5 cm×1.8 cm in plan. Response studies on the model of the pylon structure were conducted for a wind speed range from 6 to 16 m/s. Analysis was carried out to determine base



Fig. 3 — View of the model in wind tunnel



Fig. 5 — Experimental studies on across wind spectrum on a tall square building including interference

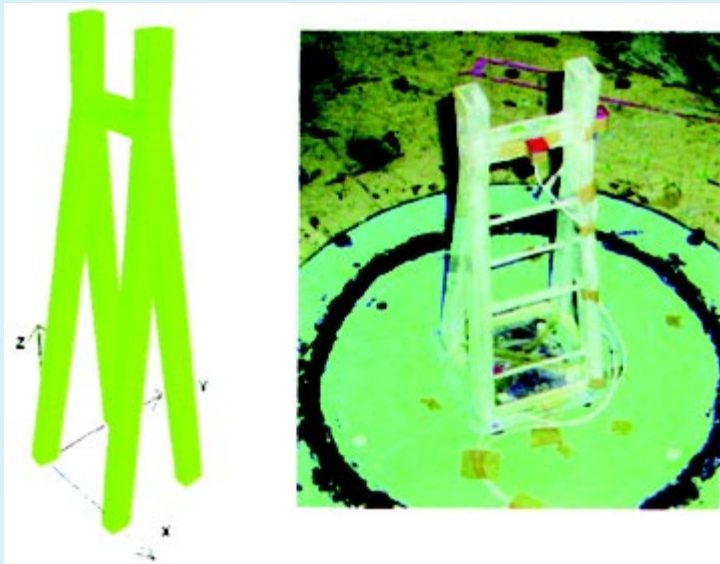


Fig. 4 — Wind tunnel experiment on a bridge pylon model

bending moment, drag coefficient ( $C_D$ ) and gust response factor (GRF). The overall mean base bending moment showed that H-shaped face attracted more wind than A-shaped face due to the presence of the deep horizontal member located at a higher elevation of the pylon (at 41

cm). The value of  $C_D$  was 2.31 for A-shaped side facing the flow and 2.19 when the flow was perpendicular to the H-face. The above  $C_D$  values are with reference to the model height. Based on the analysis of along-wind bending moment, an average value of GRF was computed as 1.46. Wind tunnel tests have been carried out to investigate the wind-induced interference effects on a square prism model due to presence of another similar square prism. The test prism was located at the centre

of the turn table with its central axes X and Y being parallel and normal to the flow direction in the wind tunnel. Only the test prism model was instrumented (Fig. 5). The interference prism was placed randomly at five different locations ( $x/B=1/2, -1/2, -3, -6$  and  $-8$ , where B represents the side of the square), and for each of the locations,  $y/B=1$  and 2. Based on the test data the model across-wind force spectrum coefficient (MCFSC), due to interference was experimentally evaluated. Based on the limited interference study, interference factor varied between 0.6 to 1.08. The results obtained showed a good agreement with those results reported in literature for the isolated and interference cases. For the isolated case, the normalized model across-wind force spectral coefficient (MCFSC) is seen to be independent of wind speed. However, for interference case, the above parameter is dependent on wind speed. As expected the variance of model across-wind force



Fig. 6 — Operational wind turbine load measurements using a new portable 32-channel data acquisition system

spectrum changes with reference to isolated cases depending on the position of interfering body, (1B), and comparison of wind tunnel results with Australian Code values, for the isolated case has also been made and a good agreement is obtained.

### Field Instrumentation

The wind tunnel investigations are supplemented by full scale field measurements of wind and structural response. The field



Fig. 7 — A roof top tubular lattice tower and a 3D-frame with angle sections under study

experiments laboratory has several technologically up-to date portable sensors, such as sonic anemometers to measure 2 or 3 components wind velocity and direction, tri-axial accelerometers and 32 channel voltage and strain conditioning and measurement system for the wind and response studies (Fig. 6). The laboratory has been recently equipped with a

16 channel telemetry system for wireless data acquisition on roof top towers which are located in existing buildings in city centers (Fig. 7). The field experiments group has a mobile field laboratory van and is specialized in wind turbine tower operational fatigue load measurements and are currently involved in the development of a low cost wind turbine in collaboration with National Aeronautical Laboratory (NAL), Bangalore and M/s Sangeeth Industries, Coimbatore, under the NMITLI scheme. Design of a 120 m guyed meteorological measurement mast for C-WET, and a 60 m tall guyed

tilt-up/down type of wind turbine support tower under the NMITLI project, composite wind turbine blade modeling for structural analysis and flapping mode natural frequency verification in the field, are some of the highlights of capability for full scale experiments (Fig. 8). Apart from the field investigations, several proof checking of wind sensitive structures have been completed and development of infrastructure for Computational Fluid Dynamics (CFD) is also in progress. Under the



Fig. 8 — Wind turbine support tower

11<sup>th</sup> five year plan the field group is planning the measurement of cyclone wind characteristics to understand the reasons for failure of engineered structures under dynamic action of wind under-cyclone conditions, under a network project involving CRRI, CBRI, CMMACS, and SERC.

## NIPER-Kolkata inaugurated at its Mentor Institute, IICB

**N**ational Institute of Pharmaceutical Education and Research (NIPER), Mohali, is the first national level institute in pharmaceutical sciences with a proclaimed objective of becoming a centre of excellence for advanced studies and research in pharmaceutical sciences. The institute has been declared as an Institute of National importance by the Government of India through Act of Parliament (NIPER Act 1998 & NIPER Amendment Act 2007). National Manufacturing Competitiveness Council (NMCC), the Working Group on Drugs and Pharmaceuticals set up by Planning

Commission for the 11th Five Year Plan and the Standing Committee of Parliament for Ministry of Chemicals and Fertilizers have recommended setting up of additional NIPER-like institutes in different parts of the country. Overall six such institutes, one each at Ahmedabad, Kolkata, Hajipur, Hyderabad, Guwahati and Raebareli are being set up under the 11<sup>th</sup> Five Year Plan, with the active guidance of different mentor institutes. NIPERs at Ahmedabad, Hyderabad, Kolkata and Hajipur are going to start classes from the academic session 2007-08.

An education and research

institute like NIPER performs multidimensional role. Through creation of trained manpower and knowledge, it creates new attractors for entrepreneurship and creates new entrepreneurs itself. Thus a self sustaining Wealth-Knowledge-Manpower cycle is created. The pharmaceutical industry in India is rapidly moving from generic business towards new drug discovery. The industry requires quick transformation from lower-end supplier to an innovator for future growth and survival. Success of this transformation is dependent not only on state-of-the-art drug discovery programme but also are



**Above** (from left) Shri Ram Vilas Paswan, Union Minister of Chemicals and Fertilizers and Steel, unveiling Foundation Stone accompanied by Shri Buddhadeb Bhattacharjee, Chief Minister of West Bengal, Shri Sudhangshu Seal, MP, Dr Sujan Chakraborty, M.P. and Shri B.K. Handique, Minister of State for Chemicals & Fertilizers and Parliamentary Affairs; Prof. S. Roy, Director, IICB honouring Union Minister, Shri Paswan with a memento.

**Left:** Prof. S.K. Brahmachari, Director General, CSIR receiving the memento



taking a leap into generating knowledge and technologies on which future therapeutics will be based. Seamless integration of Chemistry, Biology, Informatics and Pharmaceutical sciences is essential for the success, and this will form focus of the NIPERs being set up now.

Director General, CSIR, had asked Indian Institute of Chemical Biology (IICB), Kolkata, to act as the Mentor Institute for NIPER-Kolkata. IICB was declared as Mentor Institute to start new NIPER-Kolkata at IICB by a Government of India Notification of 6 September 2007. The Union Minister of Chemicals and Fertilizers and Steel Shri Ram Vilas Paswan inaugurated NIPER, Kolkata at IICB on 5 November 2007.

The classes will be held at IICB till the new institute comes up at Baruipur, a place in the outskirts of the city. IICB will provide NIPER with infrastructure and faculty. NIPER, Kolkata will introduce

specific and inter-disciplinary courses in Pharmaceutical Sciences & Technology from the academic year 2007-08. Initially three postgraduate courses, namely Medical Chemistry, Natural Products and Pharmacoinformatics would be offered at this institute. It is a residential institute offering hostel accommodation now arranged by IICB. It will admit students for the M S (Pharm) and presently 30 students have already been admitted for the PG course here. The intake capacity however may increase per year for a two-year course. The classes of this academic session have been started from 6 November.

Inaugurating the NIPER-Kolkata, Shri Paswan said, "Pharmaceutical sector is an important sector which lacks in efficient manpower and hence the Government has decided to increase the number of NIPERs in the country. Accordingly four new NIPERs would start functioning in the current year." Though the

NIPER would operate from IICB here, the land for it has already been allotted by the State Government at Baruipur, he informed. He expressed his gratitude to the Chief Minister of West Bengal for providing the land for NIPER and requested more land for this purpose.

Chief Minister of West Bengal, Shri Buddhadeb Bhattacharjee was present at the inaugural function as the Chief Guest. The function was also graced by Minister of State for Chemicals & Fertilizers and Parliamentary Affairs Shri Bijoy Krishna Handique; Member of Parliament and Member of Parliamentary Standing Committee on Science and Technology Dr Sujan Chakraborty and Member of Parliament Shri Sudhangshu Seal and many other distinguished guests including Dr Samir Kumar Brahmachari, the then Director, IGIB and presently Director General, CSIR; Prof. P. Rama Rao, Director, NIPER-Mohali; Shri



Students of NIPER-Kolkata share the dais with guests

Purnendu Chatterjee, a renowned industrialist; Shri Sabyasachi Sen, Secretary, Commerce & Industry, West Bengal and Directors of different laboratories, Registrar of Jadavpur University, etc.

Chief Minister of West Bengal Shri Buddhadeb Bhattacharjee said, "India produces drugs in almost all therapeutic categories, but there is a scarcity of trained technical manpower in pharmaceutical research. The NIPER will help in meeting this demand." He informed that the chemical and petrochemical hub, which is to come up in Haldia, will help pharmaceutical industry. He expressed that West Bengal will be a State of cluster of institutes of national importance soon. The first Biotechnology Park at Kharagpur will be a reality in 2-3 years with the help of IIT, Kharagpur and University of Berkeley, California.

Prof. Siddhartha Roy, Director, IICB, in his welcome address expressed the necessity to create such institutions in promoting innovation led pharmaceutical industry and hasten technological revolution. Dr Sujan Chakraborty said that NIPER will act as Nodal Pharmaceutical Research Centre in India to utilize our knowledge, our biodiversity, flora and fauna in preparing drugs. Shri Handique recalled the fact that under the National Pharmaceutical Policy in Common Minimum Programme the Union Government is committed to provide essential and life-saving drugs at reasonable price. NIPER will act as an academic and research institute to make the pharmaceutical industry grow faster and increase the export of medicines, he added.

## EM Laboratory set up at Andhra University by NGRI



Dr V.S. Sarma and Shri S. Nageswara Rao, Scientists, involved in the fabrication of electrical and EM scale modeling equipment

**F**ollowing the signing of a Memorandum of Understanding with Andhra University (AU), Visakhapatnam, under Research Institute and Universities Interaction Programme, the National Geophysical Research Institute (NGRI), Hyderabad, has rendered expertise to AU for establishing an Electromagnetic Model Laboratory at its Geophysics Department.

Dr V.S. Sarma and Shri S. Nageswara Rao, Scientists, NGRI, have helped the department in fabricating an electrical and electromagnetic scale modeling equipment.

This facility will be useful for the students and research fellows in electrical and electromagnetic research dealing with mineral exploration studies.

Earlier, Joint Secretary, in the Department of Chemicals and Petrochemicals Shri Gurdial Singh Sandhu in his introductory speech informed that the State Government has already allocated a plot of land for the establishment of the new institute. The Adviser, Department of Chemicals and Petrochemicals and former Secretary of the same department Smt. Satwant Reddy informed that the Centre plans to set up five NIPERs in addition to NIPER- Kolkata and within 2012 the enrolment in all the additional NIPER will be 1,200. The Centre

will invest around Rs 200 crore to set up each NIPER.

The function ended with a vote of thanks by Dr Asish Banerjee, Project Coordinator, NIPER-Kolkata.

It may be mentioned here that pharmaceutical industry is one of the rapidly growing industries, making around 10% domestic growth and 15% growth in the export market. The total value of pharma production in India is approximately Rs 70,000 crores. Globally, India is today the fourth largest in terms of volume and 13<sup>th</sup> largest in terms of value.



### Seventh Asian Computational Fluid Dynamics Conference

The Seventh Asian Computational Fluid Dynamics (CFD) Conference (ACFD7) was held during 26-30 November 2007 at the National Science Seminar Complex (NSSC), Indian Institute of Science (IISc), Bangalore. The conference was jointly organized by the National Aerospace Laboratories (NAL), Bangalore; IISc; C-DAC Pune; IIT Bombay and the CFD Division of the Aeronautical Society of India.

The Asian CFD (ACFD) Conference, first held at Hong Kong in 1995, has become a very popular and useful event for the CFD researchers and practitioners as it provides an international forum for the exchange of new ideas in the area. This prestigious conference is held once every two years in an Asian country and the six previous conferences were held in Hong Kong, Japan, India, China, Korea and Taiwan respectively.

ACFD7 had a very good response, with 165 papers from 14 countries submitted for presentation. After review, 111 papers were selected for presentation in 34 technical sessions. In addition to these contributed papers, there were seven keynote presentations in important areas of CFD by renowned experts from India, Germany, Korea, China, Taiwan, Russia and USA along with 20 invited talks by experts from India, Japan, Korea, USA and UK. The total number of registrants for ACFD7 was about 220 with around 30 foreign participants from Korea, Japan,

Singapore, China, Taiwan, UK, USA, Italy, Germany, Sweden and Austria.

The Inaugural Function was held in the J. N. Tata Auditorium, NSSC on 26 November 2007. Dr A. R. Upadhyya, Director, NAL and Chairman, National Advisory Committee, ACFD7, presided over the function, Prof. R. Narasimha, Chairman, Engineering Mechanics Unit, JNCASR, was the Chief Guest. Prof. Jaw-Yen Yang, National Taiwan University and Chairman ACFD6, and Dr T. S. Prahlad, former Director and Distinguished Scientist, NAL and Consultant, C-CADD, were the Guests of Honour.

The papers presented in ACFD7 covered a wide spectrum of topics ranging from mathematical models and algorithms to a variety of CFD applications for real-life problems with multiple physical and geometrical complexities. The invited papers addressed novel concepts in flow solution algorithms, advanced turbulence modeling, multidisciplinary optimization, efficient grid-free methods for aerospace applications, CFD analyses of reacting flow in IC engines, flow through turbo-machinery components, wind turbine design, naval hydrodynamics and high performance computing for scientific problems. The conference proved to be a professionally rewarding and intellectually stimulating experience for the participants.

### International Conference on Aerospace Science and Technology

Established in 1959, the National Aerospace Laboratories (NAL), Bangalore, will be celebrating 2008-09 as its Golden Jubilee Year. As a part of NAL's Golden Jubilee celebrations, an International Conference is being organized, to create a forum to exchange information on the latest advances in aerospace science and technology and to explore networking possibilities to achieve technological advancement on a global scale. This conference is intended to provide a platform for international R&D organizations, academia and industrial agencies to present their latest achievements and explore the possibility of deriving synergies. It will also showcase the Aerospace Technologies of NAL. The conference will comprise keynote addresses, invited talks, and contributed papers as well as exhibits from industries.

A website for this 'International Conference on Aerospace Science and Technology' was launched on 27 November 2007 by Dr A. R. Upadhyya, Director, NAL. The website can be accessed at <http://www.nal.res.in/nal50/incast>.

## Importance of Biodiversity in Current Scenario: National Conference at NBRI

**A** two-day National conference on 'Importance of Biodiversity in Current Scenario' was organized by the National Botanical Research Institute (NBRI), Lucknow, on 22-23 November 2007. About 45 scientists, experts and researchers from various parts of India participated in the conference organized in Hindi. Prof. Surendra Pratap Singh, Vice Chancellor, Hemvati Nandan Bahuguna University, Uttarakhand, was the Chief Guest at the inaugural function.

Prof. Singh in his inaugural address enlightened about the species diversity and ecosystem functioning. Delivering his lecture, entitled, 'Species diversity and



Dr Rakesh Tuli, Director, NBRI delivering his welcome address. Seated on the dais (from left) are: Dr J.K. Johri, Scientist, NBRI; Prof. S.P. Singh, Vice Chancellor, H.N. Bahuguna University, Srinagar and Dr P.B. Khare, Scientist, NBRI

ecological functioning', Prof. Singh said that in the last six years, owing to excessive exploitation and mismanagement of biodiversity, more than 5000 plant species had become extinct or were at the verge of extinction. He said that Himalaya was the origin of about 31.06% of the 10,000 plant species found here. But owing to excessive exploitation, 214 species have become endangered, out of which 37 species need immediate attention for their conservation. He

pointed out that range of genetic level diversity was more in the sea organisms compared to land. In forests, study of lower group of plants was equally important as that of higher plants, because they have moulded themselves according to the ecological condition and environment. He described three types of species: First one, which is prominently seen, second, which

prominently takes part in ecological functioning and the third one which has become rare and endangered. Some plant species were location specific. Out of 25 hotspots in the world 15 are present in tropical forests. Madagascar, the Philippines,



Prof. S.P. Singh, Vice Chancellor, H.N. Bahuguna University, Srinagar, delivering his lecture



Dr Rakesh Tuli being conferred the Vigyana Ratna award by Dr D.D. Ojha of Indian Society of Health Environment, Education and Research, Jodhpur



Sundaland, Brazil, Atlantic forests, the Caribbean, south and east part of India, Burma and Sri Lanka are the hottest spots, he mentioned. He stressed the need to sensitize the people towards plants and animals.

Earlier, at the outset, Dr Rakesh Tuli, Director, NBRI, while welcoming the chief guest and participants said that it was a matter of delight that common citizen is becoming increasingly aware about biodiversity. He said that 99% assessment of biodiversity has been more focused on higher plants but in case of lower group of plants and microorganisms, less than 1% work has been carried out. He stressed the importance of genomic approaches in biodiversity estimation. Dr Tuli also elaborated the evaluation of biodiversity studies, taxonomic revisions, conservation biology, molecular taxonomy, bar-coding, being carried out at NBRI.

Dr J.K. Johri, Convener of the conference, gave the genesis of the conference and informed that a total of 63 abstracts were received from different parts of the country. Forty-five research presentations were made out of which six were invited lectures. The two-day conference was divided into three sessions, namely, Biodiversity — Significance and Social beliefs, Biodiversity — Ecological, Sociological and Regulatory aspects and Biodiversity — Economical aspect. A souvenir of the conference and Hindi magazine, *Vigyan Vani*, published by the institute were also released on this occasion.

On this occasion Dr Rakesh Tuli, Director, NBRI, was conferred upon the Vigyana Ratna Award By Dr D.D. Ojha of Indian Society of Health Environment, Education and Research, Jodhpur, for his outstanding contributions in this field.

The concluding session of conference was presided over by Dr Rakesh Tuli. He stressed the need for employing the latest biotechnological tools for estimating, conserving and sustainable use of biodiversity of our country. Dr S.K. Tewari, Scientist, NBRI, presented the vote of thanks.

## National Seminar on Anti-diabetic Plants

The North East Institute of Science and Technology (NEIST), Jorhat, organized a National Seminar on 'Plants in Diabetes: Prospects and Challenges' during 5-6 November 2007 with joint initiatives of Asian Network of Research on Anti-diabetic Plants (ANRAP), a Dhaka, Bangladesh based WHO collaborating centre for research in diabetes. The seminar was attended by a galaxy of distinguished scientists from Bangladesh and different parts of India besides the scientific community of NEIST. Notable, among others, who participated were Dr Liaquat Ali, Professor of Biochemistry and Cell Biology, BIRDEM, and Dr Biswanath Mukherjee, Member, ANRAP Board of India.

Air Commdr B. Keshav Rao, VSM, AOC, 5th Air Force Hospital, Jorhat, was the Chief Guest at the inaugural function, who delivered the inaugural lecture and Dr P. G. Rao, Director, NEIST, acted as the Chairperson. The seminar was the first in the country in the sense that so far a series of seminars on the topic were held which were mostly confined to the boundaries of Bangladesh only, but diabetes is now a days considered as a serious world problem and there is an urgent need to hold seminars in other parts of the world as well and since India is considered as a capital of diabetes, the ANRAP has moved out to hold seminars outside Bangladesh and selected NEIST, Jorhat, for holding the seminar.

In his inaugural address the Chief Guest described the dangers of the disease, e.g. heart-stroke, kidney failure, blindness, liver problems and mentioned about how the number is increasing at an alarming rate throughout the globe. He emphasized the need for finding new and more effective medicines for the treatment of the disease.

Dr Liaquat Ali spoke on the origin of ANRAP in 1988 in Dhaka and its objectives and importance to develop database on diabetic patients of South-East Asia and to find out new potent plant sources to control the diabetic disease. Since North East India is a rare hub of medicinal plants, he felt

that research in this part of India would lead to the discovery of new anti-diabetic plant sources.

Dr Biswanath Mukherjee spoke on the problem of diabetes in India. He particularly emphasized the need to organize awareness programmes on prevention and control of this complex disease.

Dr P. G. Rao, Director, NEIST, highlighted the activities of NEIST-Jorhat by mentioning that the laboratory has multidisciplinary research programmes on medicinal and aromatic plants, plant chemistry, discovery of new bioactive molecules and network projects for pharmacological study, etc.

Divided into several technical sessions, the seminar was essentially a meeting of the best minds of both the countries, India and Bangladesh, on the subject.

## Training on *Java citronella* and Vermicompost

The North East Institute of Science and Technology (NEIST), Jorhat's branch at Itanagar, Arunachal Pradesh conducted a one-day Awareness-cum-training programme on cultivation of *Java citronella* and Production of Vermicompost jointly with the Ringtey Denny Society of Kurung Kume district of Arunachal Pradesh at Palin on 10 October 2007 under a DBT funded project. Altogether 80 women and three male participants belonging to different SHGs working under Ringtey Denny Society of Palin took part in the programme. The participants were demonstrated the cultivation technique of citronella for economic benefit. The NEIST branch has also distributed 5000 citronella slips to the SHGs through the society for plantation. More planting material will be distributed in the next planting season. The NEIST branch has also been actively considering the introduction of some of the rural technologies as developed by NEIST and other CSIR labs like low dust chalk, liquid deodorant cleaner, moulded leaf cup/plate machine, etc. for socio-economic development of Palin and some other places of Arunachal Pradesh in near future to help boost the rural economy of Palin and nearby villages.



Demonstration of the extraction of oil of aromatic plants at BTAD



### NBRI organizes Teacher's Training and Motivation Programme



Dr Rakesh Tuli, Director, NBRI, addressing the participants of the training programme

A teacher's training and motivation programme was organized at the National Botanical Research Institute (NBRI), Lucknow, during 22-27 October 2007 at the initiative of Human Resource Development Group (HRDG), CSIR, New Delhi. Fourteen teachers of various inter, graduate and postgraduate colleges of Lucknow actively participated in this training programme. The training was coordinated by Dr S.N.

Singh, Scientist-F, NBRI. During the five-day training programme lectures were delivered by the scientists of NBRI on different aspects of emerging areas of plant science, like biotechnology, bioremediation, drought resistance, climate change, floriculture and usar land reclamation. Teachers were also exposed to practical demonstrations in the respective areas. The programme was appreciated by all the participants

which was found very effective and give them an impetus to the new facets of plant science. The training would be supportive in communicating and creating interest among the students more effectively to brush up their minds for motivation to choose science as career in their future studies.

### Dr K.C. Gupta appointed Acting Director of IGIB

Following the taking over of Dr Samir K. Brahmachari, Director, Institute of Genomics and Integrative Biology (IGIB), Delhi, as Secretary, DSIR and Director General, CSIR, w.e.f. 12 November 2007 (FN), Dr K.C. Gupta, Scientist G, the senior-most Scientist of IGIB, has been appointed Acting Director, IGIB, for a period of six months or till the appointment of the regular Director, whichever is earlier.



The participants of the training programme along with Dr Rakesh Tuli, Director, NBRI and some of the faculty members

## CSIR Director General visits IICT

**P**rof. Samir K. Brahmachari, Director General, CSIR and Secretary, DSIR, visited the Indian Institute of Chemical Technology (IICT), Hyderabad, on 28 November 2007. This was Prof. Brahmachari's first visit to IICT since he took over the charge of the coveted position of Director General, CSIR on 12 November 2007.

A Bhatnagar Prize-winner and one of the country's leading scientists in the field of Genome Analysis, Genetic Engineering, Biophysical Methods and Structural Biology, Prof. Brahmachari, in his address to the IICT staff members, committed full support to the existing plans and programmes of IICT. "Whatever projects and proposals are received in the Headquarters, CSIR would give its full support, expediting these fast," he assured. He termed IICT

and CCMB (Centre for Cellular and Molecular Biology — another CSIR laboratory in Hyderabad), as jewels in the crown of CSIR and remarked that because of good reputation of these institutes, expectations from these are very high. Since CSIR is a public institution, spending public money, we are accountable to each and every penny spent on us and we should work very hard to justify the trust reposed in us, he added.

Prof. Brahmachari further said that as Director General of the 38 laboratories of CSIR, he won't interfere in the work of individual labs, but would only try to fine-tune their efforts. It would be like Zubin



Prof. Samir K. Brahmachari, Director General, CSIR, addressing the staff of IICT

Mehta's symphony, acclaimed all over the world; where Mehta only fine tunes the work of, say 100 musicians playing different instruments. Post mortem of the earlier CSIR projects, finding fault with them, won't serve any useful purpose. "Rather, I would look to the future and work for the growth of the Indian science, taking it to the centre stage," said Prof. Brahmachari.

Earlier, Dr J. S. Yadav, Director, IICT, welcomed the Director General and enlightened the gathering with his achievements and dynamism. Dr A.C. Kunwar, Director-Grade Scientist, IICT, proposed a vote of thanks.



Dr J. S. Yadav, Director, IICT, welcoming Prof. S.K. Brahmachari, Director General, CSIR



## Revision of CSIR Fellowships

The various fellowships of the Council of Scientific & Industrial Research have been enhanced as follows:

**Revision of fellowships w.e.f. 1<sup>st</sup> September, 2006 (up to 31-3-2007):**

Category	Existing Fellowship	Revised Fellowship
JRF & SRF (NET)	8000-8000-9000	10000-10000-12000
JRF (GATE)	8000-8000-9500	10000-10000-12000
SRF (Direct)	9000	12000
SRF Direct- (Medical, Engineering, Pharmacy, Veterinary Sciences)	9500-9500-10000	12000-12000-13000
SRF (Extended)	10000	13000
Research Associate (1)	11000	16000
Research Associate (2)	11500	16000
Research Associate (3)	12000	16000
JRF/SRF/RA in Research Scheme	As above	As above

**Revision of fellowships w.e.f. April 1, 2007:**

Category	Revised Fellowship (pm)
JRF & SRF (NET)	12000-12000-14000
SPM Fellowship (SPMF)	15000-15000-18000
JRF (GATE)	12000-12000-14000
SRF (Direct)	14000
SRF Direct- (Medical, Engineering, Pharmacy, Veterinary Sciences)	14000-14000-15000
SRF (Extended)	15000
Research Associate (1)	16000
Research Associate (2)	17000
Research Associate (3)	18000
JRF/SRF/RA in Research Scheme	As above
Senior Research Associateships	Will be revised as per recommendations of VI Pay Commission

Contingency in case of SPMF has been enhanced from Rs. 50,000 to Rs. 70,000.

Contingency in case of all other fellowships remains the same until further orders.

<http://csirhrdg.res.in>

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