

CSIR NEWS

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Team CSIR



Dr A. P. J. Abdul Kalam, President of India, visits Indian Institute of Petroleum, Dehra Dun

His Excellency, President of India, Dr A. P. J. Abdul Kalam recently visited the Indian Institute of Petroleum (IIP), Dehra Dun. The significance of the day can be gauged from the fact that since its inception in 1962, this is the first time that an Indian President has visited IIP. Not only is Dr Kalam the President of India, but he is also a renowned nuclear scientist. He addressed the scientific community of the institute, giving a definite direction for future research. In spite of his hectic schedule, Dr Kalam took the time to invite questions from the audience after his address and answered them at length. The scientists and entire staff of the institute were mesmerized by his presence and the thought-provoking address. A book written by Dr Dinesh Chamola, Hindi Officer, IIP, consisting of Hindi poems for children, was presented to the President. A couplet was recited by Dr Chamola in honour of the President.

Hon'ble Governor of Uttaranchal Shri Sudarshan Agarwal, also present on the occasion, addressed the gathering. He recalled his earlier visit to IIP on the inaugural function of Oil and Gas Conservation Fortnight, 2004, held on 15 January 2004. During that visit he had flagged off the publicity van running on Bio diesel. He emphasized the need for development of technologies for alternate sources of energy such as bio-diesel.



(Top) Dr A. P. J. Abdul Kalam, President of India, addressing the distinguished gathering
(Above) Dr Dinesh Chamola, IIP, presenting a book consisting of Hindi poems for children, to the President of India, Dr A. P. J. Abdul Kalam



Seen during President's visit are: Dr A.P.J. Abdul Kalam, President of India ; Shri Mani Shankar Aiyar, Minister of Petroleum and Natural Gas; Shri Sudarshan Agarwal, Governor of Uttaranchal, Dr M. O. Garg, Director, IIP; Dr A. Datta, Chairman Organizing Committee; Dr Dinesh Chamola, Hindi Officer

On the occasion Hon'ble Minister of Petroleum and Natural Gas, Shri Mani Shankar Aiyar was also present. Before the arrival of the President, discussions were held by Dr M. O. Garg, Director, IIP; Dr A. Datta, Scientist G and Chairman Organizing Committee and Dr A. K. Gupta, Scientist G with Shri Aiyar. Dr S. K. Chopra, Senior Advisor MNES; Shri Sudhir Kumar, JS, CSIR and Smt Leena Mehandale, ED, PCRA, New Delhi, also participated in the discussion. The eminent personalities among the invited guests were Dr S. Vardarajan, former Director General, CSIR; Dr T. S. R. Prasada Rao and Shri Sudhir Singhal, former Directors, IIP; Smt Santosh Kashyap, Minister Uttaranchal State; Shri S. C. Gudiya, Chairman, Awaas Salahkar Parishad, Government of Uttaranchal and Heads of Local Organisations. The Senior Ex-Scientists of the Institute were also among the audience. Dr Dinesh Chamola, Hindi Officer, IIP compered the programme.

Address of Dr A. P. J. Abdul Kalam, President of India

"Friends, my good evening to all of you. I am very happy to visit Indian Institute of Petroleum. This is my second visit. Always I believe, this is one of the great Institutions who have contributed in a big way particularly in the energy sector. First I would like to greet all of you who have contributed, the former Directors, contributed for the Indian Institute of Petroleum, the scientists and technologists and staff and all the distinguished guests who have assembled here. I was thinking what to talk to you and then I have selected the energy independence. Fortunately today morning, I visited very interesting Institution, the ONGC, which is celebrating 50 years of its contribution. Now I am visiting the Indian Institute of Petroleum and I am tempted to talk about the energy independence.

As you all know, our annual requirement of oil is 114 million tonnes. Significant part of this is consumed in the Transportation Sector. This is very important particularly for the Indian Institute of Petroleum. Nearly 90% of the oil we import goes to keep our transport system running and of course our economy also. We produce only about 25 % of our total annual requirement. I understand

that ONGC has got ambition to double it to 50%. The presently known reserves are fast depleting. Future exploration of oil and gas may give mixed results. The import cost of oil and natural gas today, it is better to know, is over Rs 120,000 crores. Oil and gas prices are escalating; the cost of a barrel of oil has doubled within a year. It was about 30\$ - 35\$, today 65\$ and still increasing. Our Oil & Gas Minister, who is here, is concerned. This situation has to be combated. Our economy cannot be run by a few countries of the world. What do you say? Is it correct? We have to run our economy. How you do that?

Keeping in mind the changing scenario I would suggest the Indian Institute of Petroleum to provide thrust to research in the areas, apart from the petroleum area, of alternate sustainable energy sources such as bio-fuel, photovoltaic cell for conversion of solar energy into electricity and hydrogen fuel cell.

Dr Garg just now was talking to me that in the bio-fuel area you have entered in a big way. I am very happy. I would like to congratulate you as it has got tremendous potential. We have nearly 63 million hectares of wasteland available in the country, out of which 33 million hectares of wasteland have been allotted for tree plantation. Certain multi-

purpose trees such as *Jatropha* can grow well in wasteland with very little water. Once grown, the crop has fifty years of life. Fruiting can take place in this plant in two years. I planted this tree near Thanjuwar called Vallabh. There is one Women Engineering College which is the knowledge center. They have adopted 64 villages of 3 lakh people. They have given them the physical connectivity, electronic connectivity and knowledge connectivity. Their main cultivation is vegetables, fruits and *Jatropha*. They have got biomass plant for power generation and solar power generation. So all the 64 villages have got economic prosperity.

Coming to the bio-fuel. It yields upto five tonnes per hectare oil seeds and produces two tonnes of bio-diesel. Presently, the cost of bio-diesel through the plant is approximately Rs17 to Rs19 per litre which can be substantially reduced through choice of right size of the plant and using high yield variety plantation. Bio-diesel has so far not been used for a power plant of large capacity. However, chemical analysis indicate that bio-diesel can safely be used in gas turbines in combined cycle mode, as they are normally used for high capacity power plants. Use of bio-diesel in diesel engines has been well demonstrated.

A quick estimate of land requirements to meet the fuel needs of a 500 MW combined cycle power plant is 2,70,000 hectares, which is significantly large. The yield of bio-diesel is 1.6 tonnes/hectare. The bio-diesel requirement for a 500 MW is approximately 4,40,000 tonnes per annum operating at 70% plant load

factor. The bio-diesel cost is estimated to be around Rs 20 per litre, which accounts for all the costs associated with plantation and seed collection, oil extraction, transesterification and transportation.

Indian Institute of Petroleum should work with industry and agriculture universities to design, develop and commission a bio-fuel plant of one million tonne capacity per annum. It should also carry out research to increase the blending of bio-fuel with diesel from the existing 5% in a progressive manner so that we can aim at a power plant or a prime mover run exclusively on bio-fuel. Just now I discussed with your Director. The research is also required to improve the oil content of *Jatropha* seed from the present 33% to at least 50% by weight. Another area of interest will be to develop seeds, which can give regular fruiting throughout the year. Development of such seeds can increase the productivity substantially.

Now next area is hydrogen fuel and then solar fuel. Regarding solar energy I would like to give you one information, that is, the current high capital costs of solar power stations can be reduced by grid-locked 100 MW sized. Very Large Scale Solar Photovoltaic or Solar Thermal Power Stations in the very near future. Particularly I would like you to do the research in this area. Breakthroughs in nano-technologies promise significant increase in solar cell efficiencies from current 15% values to over 50% levels. These would in turn reduce the cost of solar energy production. Now in nano-technology, by merging of carbon nano tube and carbon photo-voltaic

cells you get CNT based Photovoltaic cell which has efficiency just about 50%. IIP in collaboration with other research institutions should aim to develop a commercial product within the next three years. This will definitely be an important contribution of IIP to achieve self-sufficiency in energy.

In conclusion energy scenario is going to see a new power generation. Very soon the oil & gas will co-exist with bio-diesel oil. It is high time that we realise the fact that we work towards the fuel of the future. Fuel of the future you have to work. I suggest that IIP should think now about re-aligning its research contribution from petroleum to alternate futuristic fuels.

My best wishes to all members of Indian Institute of Petroleum for success in their mission of assisting the nation in working towards achieving energy independence by the year 2030. During the last 45 years the Institute has carried out pioneering research in the hydrocarbon sector and has led many products for industrial application. I am happy to know that Institute has filed over 3 dozens patents in India and abroad and it is having industrial partnership in every one of its projects. I congratulate the Institution for its significant contribution for the growth of the petroleum refining and processing sector.

Hence I have discussed with you new areas. You should graduate from the petroleum research to the bio-fuel, solar energy, and hydrogen fuel. That's how you must focus for next ten years."

CGCRI launches Erbium Doped Fibre Amplifier

THE Central Glass & Ceramic Research Institute (CGCRI), Kolkata, and Network Systems Technology (NeST), Cochin, formally launched Erbium Doped Fibre Amplifier (EDFA) at a function organized in presence of press. Dr H. S. Maiti, Director, CGCRI, Kolkata welcomed the guests, delegates, media persons and the staff members present on the occasion. He opined that launching of EDFA would facilitate India to make a steady entry into the international market of hardware in addition to the success in the global software in addition to the success in the global software market. He also expressed his gratitude to the NeST for their able cooperation in developing of EDFA.

Shri S. N. Sharma, Head, Planning Division, CSIR, expressed his satisfaction on this development and was of the view that the successful development of EDFA had created a milestone in the history of CGCRI's R&D conducted in network model under CSIR's network programme. Shri R. S. Buttoo, Sr. Director & Head, Photonics Division, Department of Information Technology, Government of India, praised CGCRI and NeST for this success. Dr Javad K. Hassan, Chairman, NeST Group of Companies, in his address made a brief introduction on NeST Group of Companies and expressed his happiness that in the near future, India would be in a position to compete with China in the global hardware market related to



Shri B. Bhattacharjee and Dr Javad K. Hassan, jointly launching the EDFA product. Seen on the left of Dr Hassan are: Dr H. S. Maiti, Director, CGCRI, and Dr K. Suresh Nair, Director, R&D, NeST

photonics. He also opined that development of sophisticated hardware ensured sustained development of a nation and said that the development of EDFA is a giant step towards establishment of an efficient hardware infrastructure in the country. He said, this device will pave the way for introduction of fibre to the home (FTTH) technology in our country. Shri B. Bhattacharjee, Special Adviser to the Chairman, Atomic Energy

Commission and Chairman, Research Council, CGCRI in his warm address thanked CGCRI and NeST for a glorious success. He expressed his sincere debt to all concerned with this development. On this occasion, Dr S. K. Bhadra, Scientist, made a brief presentation on how the EDFA works and explained its performance in cable TV (CATV) network. Vote of thanks was proposed by Dr K. K. Phani, Scientist G, CGCRI, Kolkata.

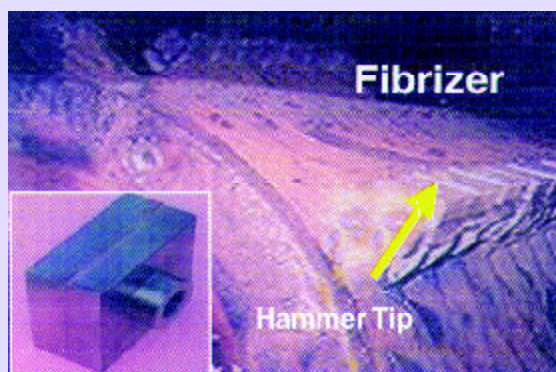
New Projects at RRL, Bhopal

The new projects taken up at the Regional Research Laboratory (RRL), Bhopal, in the recent past include:

1. Development of cast in-situ copper based MMCs for Naval Applications and Simulation of their Microstructural Features vis-à-vis properties through FEM Analysis, Naval Materials Research Laboratory, Ambemath, Rs 990,000.
2. Development of Cost and Energy Efficient Materials for Feed and Pressing Worms and Screws and Cage Bars of Oil Expellers, Rs 1.353 million, Indian Council of Agricultural Research, New Delhi.
3. Modifications of PPG/PEG Floor Lining, Rs 661,200. Crescent Technologies Pvt. Ltd., Bhopal.

Fibrizer Hammer Tips for Sugar Mills

THE Regional Research Laboratory (RRL), Bhopal, has developed cost effective fibrizer hammer tips for sugar mills. Hammer tips are the most essential components of a fibrizer unit of a sugar mill used for fibrizing the sugar cane. Fibrizer hammer tips have been developed for use in Sugar Mills under a project entitled 'Development of cost effective fibrizer hammer tips for sugar mills' sponsored by TIFAC, Sugar Technology Mission, New Delhi. The study comprises laboratory scale investigation of the existing hammer tip materials and development of modified hammer tip materials involving compositional and microstructural modifications. Field trial analysis indicated that the developed hammer tips perform 1.2 times better than the conventional imported ones. The developed components would be cheaper by around 50 per cent as compared to the conventional (imported ones) ones with improved performance thereby leading to substantial monetary savings in view of the large volumes of consumption of the component in various sugar mills in the country.



Fibrizer fitted with the hammer tips developed at RRL, Bhopal, under field trials. Inset-Hammer tip

NISTADS – WAITRO International Conference on ICT



Seen from left are: Dr David Grier, Second Vice-President, WAITRO; Prof. Rajesh Kochhar, Scientist, NISTADS, New Delhi; Shri V.K. Gupta, Director, NISTADS, New Delhi; Dr R. Chidambaram, Principal Scientific Adviser to Government of India; Dr Bjorn Lundberg, President, WAITRO; Ms. Goay Peck Sim, Secretary General, WAITRO; Ms. Nirmala M. Pieris, Head, Industrial Technology Institute, Sri Lanka; Dr S.P. Vasireddi, Chairman, Vimta Labs Ltd, Hyderabad

THE National Institute of Science, Technology and Development Studies (NISTADS), New Delhi and World Association of Industrial and Technological Research Organizations (WAITRO) jointly organized an International Conference on ICT as an Enabling Tool for Sustainable Development: Challenges and Opportunities for Research and Technology Organizations in the recent past. The Conference aimed to provide a forum for sharing experiences, case studies, results of development activities, ideas, applications and research results and collaboration opportunities in ICT technologies particularly in research and technology organizations. The sub-themes of the Conference were: ICT and Small and Medium Enterprises; ICT and Agriculture; ICT and Services; ICT and Traditional Knowledge and Crafts.

The Conference was inaugurated by Dr R. Chidambaram, Principal Scientific Advisor to Government of India. The inaugural address by Dr Chidambaram dwelt on

the theme of 'coherent synergy' required in the context of S&T activities, which, as he said, is vital for the fast development of a country like India. Dr Chidambaram emphasised that a country has to exercise choices for development of technologies, necessary for generation of wealth, national security and for improving the quality of lives of its people. These choices must be made based on technology foresight, which, according to him, combines technology forecasting and technology assessment. He listed a number of technologies, which, as he opined, are strategically required to be developed in the context of India, namely, nuclear technology, space technology, advanced manufacturing, new materials, nanotechnology, ICTs, technologies that would enhance competitiveness of SMEs, and various rural technologies.

He held that adequate policy initiatives and institutional development are required that would embed technology development in a strong and vibrant innovation ecosystem. This alone can sustain the velocity of research required for fast development of the country.

He dwelt on the importance of ICTs in services and manufacturing sectors. He also pointed out that ICT development has many dimensions, like super computers, rural connectivity, software export, hardware development. He cautioned that while data handling capability may be multiplied, the difference between data, information, knowledge and wisdom has to be born in mind.

Dr Bjorn Lundberg, President, WAITRO welcomed participants on behalf of WAITRO. He thanked NISTADS for acting as a host and providing hospitality for the Conference. He said that like nanotechnology and new materials technologies, ICT has provided a platform that will drive innovations in the coming decades. Today, ICT is single most important technology for enhancing competitiveness. He informed that 60% contribution to productivity growth in USA and 40% in Europe has been due to ICT. He said that particularly for SMEs, ICT offers great opportunities for bringing about in-house, customer-oriented and supply-chain related business solutions. RTOs too must develop capacity to absorb ICT so as to provide better services, he opined.

Shri V.K. Gupta, Director, NISTADS, welcomed all the participants on behalf of NISTADS. He elaborated the use of ICT to strengthen national and international collaborations in R&D projects, 55 network projects each involving multiple laboratories at various levels, and developing and maintaining a knowledge grid for CSIR. He said that NISTADS has greatly benefited in its association with WAITRO in the past and hoped that more benefits will follow in future as well with this continued relationship.

Apart from the Inaugural Session, the research papers on the varied sub themes of the two days Conference were presented in the subsequent three sessions.

In the first session, chaired by Prof. Rajesh Kochhar the focus

was on adoption of ICT in small and medium enterprises for enhancing their competitiveness. The four papers were presented in this session. The first presentation was made by Shri Hemant Verma of Confederation of Indian Industry (CII) on 'Enhancing competitiveness of Indian SMEs through ICT'. He gave an overview of the functioning of CII, a non-governmental and not-for-profit organisation, industry driven and industry managed and has a federal structure, governed by memoranda and rules. The second presentation was made by Shri Mohd. Ghazali Mohd. Yunos of SIRIM, Malaysia on 'ICT as an enabling tool for development of SMEs in Malaysia'. His presentation was under four sub-heads: Malaysia's progress, SMEs as defined in Malaysia, initiatives to promote ICT adoption and new/future plans for growth in this sector. The next speaker was Dr Charles G. Kwesiga of Uganda Industrial Research Institute (UIRI). He spoke on 'Mainstreaming ICT for Uganda's development strategy (ICT and small & medium enterprises)'. He presented an overview of the steps undertaken in Uganda for economic development with a special emphasis on ICT strategy of UIRI. The fourth and the last speaker of the session was Prof. A.B. Gidamis of the African Institute for Capacity Development (AICAD), Kenya. He spoke on 'The role of AICAD through information and communication technology in socio-economic development and poverty'. The primary issues highlighted were raising awareness, community mobilisation, and individual and

community empowerment. The presentations were followed by question-answer session.

Three papers presented in the second session dealt with the issues concerning the adoption of ICT in research and technology organizations and online benchmarking in RTOs and research programmes. The first presentation made by Dr Nirmala M. Pieris, First Vice President WAITRO, was on 'Adoption of ICT based strategies: experiences from industrial technology institute (ITI)'. Focus of the presentation was on the countries ICT situation, the general overview of the stages of ICT adoption at ITI, strategies, hurdles and interventions for end user participations at ITI and the present position of ITI. Dr Goay Peck, SIM Secretary General, WAITRO, spoke on Enhancing RTO competitiveness through benchmarking. He discussed the activities taken up by WAITRO to support RTOs in terms of RTOs management through training process, knowledge management and benchmarking; RTO technology transfer through workshops; and RTO technology for development through EU programs, publicity, promotion and membership services through publicity materials. Megat Akbarrudin Ismail, NPC, Malaysia, presented a case study of Malasiyan Industrial Energy Efficiency Improvement Project (MIEEIP). The focus of the presentation was on why benchmarking and what is community of practice.

The third session was chaired by Shri V. K. Gupta, Director, NISTADS. Referring to

the Traditional Knowledge Digital Library (TKDL) project of CSIR-NISCAIR, Shri Gupta demonstrated that how ICT has been used to protect traditional knowledge of Ayurvedas, Unani and Siddha and related biological resources in the country. Four papers were presented in the session. Prof Rajesh Kochhar, former Director, NISTADS, presented a brief overview of Dhokra traditional craft under the topic 'ICT and traditional crafts: New opportunities'. The topic of the second speaker Ntsika Msimang of the session was 'The adoption of open source software as a tool for sustainable development in South Africa: successes and challenges'. Dr Vishwas Chavan, NCL, Pune, highlighted the role of ICT in biodiversity conservation. Dr R. Hirwani gave presentation on exploring business opportunities of e-knowledge for public funded R & D institutions.

The following important recommendations emerged from the Conference:

- WAITRO may organize a workshop on the general theme of 'research process outsourcing' in near future with about 40 participants. Shri S. P. Vasireddy's offer on behalf of his organization, VIMTA Labs Ltd, to host such a workshop and meet the hospitality expenses.
- WAITRO may initiate on exploratory basis a web-enabled Knowledge Network among its member organizations to share knowledge and experiences on various issues of common interest to them.
- Examining the possibilities of extending/developing a knowledge grid among the WAITRO member countries.
- Organising a joint programme on SMEs entrepreneurship skills particularly utilizing the ICT tools.
- E-benchmarking must be strengthened further and extend to many more organization and countries.
- Promotion of open source wherever there is possibility in a phased manner and effort made to develop tools for the open source.
- E-benchmarking to go on and continued.
- Online benchmarking must be initiated in many more organizations spread over various countries.
- Possibilities of extending the TKDL project software developed by NISCAIR to other countries, particular African and other Asian countries.
- NISTADS in cooperation with WAITRO Secretariat may take the lead to formulate project on the above lines.
- TKDL project should be replicated in other WAITRO member countries in the developing world.
- Open source software's should be promoted as a matter of policy.
- To undertake massive task of biodiversity database by networking relevant institutions.
- e-knowledge marketing potential of publicly funded R&D institutions should be exploited.

CECRI holds Faculty Training and Motivation Programme

A scheme on Faculty training and motivation has been formulated in the Tenth Plan to upgrade knowledge-base and skills of the science teachers in the schools and faculty members in colleges. CSIR has been entrusted to implement the scheme. As a preliminary step, the Central Electrochemical Research Institute (CECRI), Karaikudi, adopted the nearby colleges in Sivagangai District and organized the programme at CECRI, Karaikudi. About 20 science faculty members of the nearby colleges participated in the programme. Prof. A. K. Shukla, Director, CECRI, inaugurated the programme. In his Inaugural Address, he briefed the participants about the latest developments in science and technology at the international as well as the national level. CECRI Scientists delivered lectures highlighting the advancements in instrumental analysis. Demonstration of sophisticated analytical instruments such as, AFM, AAS, FTIR, SEM, Spectroscopy, TG-DTA, XRD etc., and thin film depositions were conducted for the benefit of the participants. Dr A. Rajendran, Deputy Director, delivered the Valedictory Address and distributed the certificates. Earlier, Dr G. Venkatachari, Deputy Director and the Chairman of the Organizing Committee welcomed the gathering. Shri R. Meenakshisundaram, Scientist and the Convener of the Organizing Committee, proposed the Vote of Thanks.

Advanced Course in Bioinformatics 2005-2006



Padamshri Dr Lalji Singh, Director, CCMB, addressing the gathering during the inauguration of Advanced Course in Bioinformatics 2005-06. To his left are : Dr J. S. Yadav, FNA, Director, IICT; Dr S. R. S. Prasad, CDAC, Hyderabad and Course Coordinator Dr U. S. N. Murty

THE fourth batch of Advanced Course in Bioinformatics was inaugurated recently at The Indian Institute of Chemical Technology (IICT), Hyderabad, by the Chief Guest Padamshri Dr Lalji Singh, Director, Centre for Cellular and Molecular Biology, Hyderabad. The five months' full time Advanced Course in Bioinformatics has been jointly organized by IICT, CDAC and JNTU.

In his inaugural address Dr J. S. Yadav, Director, IICT, stressed the need for bioinformatics to do more qualitative research by combining the skills of a biologist and the talent available in the field of information technology.

Later, the Chief Guest spoke about the prospects of bioinformatics and what is in store for science in future by exploiting bioinformatics. Dr Singh said that the database of human genome project is complete and today the genetic profiles of most of the animals/bacteria/virus are available. He expressed that bioinformatics goes a long way in therapeutic usage to identify the trouble causing gene. He also felt that the research in future would be *in-silico* with the help of bioinformatics. The Course Coordinator Dr U. S. N. Murty, Scientist F and Head, Biology Division, IICT, gave an overall view about the entire course and the modules. Dr S. R. S. Prasad of Centre for Advanced Computing, Hyderabad, was also present on the occasion. Dr M. Mahboob, Scientist, Biology Division, IICT proposed a Vote of Thanks.

CSIR Foundation Day Celebrations at Laboratories/Institutes

ALL the 38 CSIR Laboratories/Institutes celebrated the CSIR Foundation Day on 26 September with great pomp and gaiety. The programmes organized on this occasion by CBRI, CECRI, CGCRI-Khurja Centre, CSIO, NEERI and NISCAIR are highlighted here :

Central Building Research Institute (CBRI), Roorkee

CBRI observed 'Open Day' on 26 September 2005 to commemorate the CSIR Foundation Day. The institute was kept open to the public and school children to interact freely with the scientists of the institute. Prof. V. S. Raju, Lead Partner, Byrraju Foundation, Hyderabad (former Director, IIT, Delhi and Prof. IIT, Madras) was the Chief Guest and Prof. Prem Vrat, Director, IIT, Roorkee, graced the occasion as the Guest of Honour.

The Chief Guest Prof. Raju congratulated scientists and staff members of the institute for carrying out various R&D programmes connected with the Building Science & Technology. The R&D work of CBRI has benefited the society, particularly the rural people of the country. He told that the nation is indeed proud to have an organization like CSIR in the Indian sub-continent under the aegis of the Ministry of Science & Technology. He congratulated Dr R.A. Mashelkar, DG, CSIR, and the entire scientific



Seen during the CSIR Foundation Day Celebration at CBRI, from left are: Prof. Prem Vrat, Director, IIT, Roorkee; Prof. K. Ganesh Babu, Director, CBRI; Prof. V. S. Raju, Lead Partner, Byrraju Foundation, Hyderabad, and Shri N.K. Shangari, Scientist, CBRI

community of CSIR for its successful completion of sixty three years.

Prof. Raju mentioned that CBRI has immensely contributed to the development of low-cost building technologies keeping in view the utilization of waste materials. It has also provided solutions to conserve energy in building sector and has played very important role in construction and rehabilitation of houses and buildings in earthquake affected areas in the state of UP, Uttaranchal, Gujarat, Maharashtra and other parts of the country.

In his inaugural address, Prof. K. Ganesh Babu, Director, CBRI, welcomed the Chief Guest and highlighted the institute's R&D activities. He told that the scientist of CBRI and other CSIR labs are facing a great challenge to keep pace with the development in different parts of the globe and it is indeed a matter of great satisfaction that our country is now considered as one of the greatest resources of the

world market as the Scientists of this country have proved their worth. CBRI has always played a vital role in finding appropriate solutions for providing houses and buildings to meet the aspirations of the people of this country. Uttranchal is considered a home of disasters as it falls in severe earthquake prone area. The problem of landslide, hill storms, avalanches etc. are a common feature. CBRI is providing its services in the planning and development of the

Foundation Day Celebrations

tourist centers and hinterland in the state of Uttranchal. Prof. Prem Vrat, Director, IIT, Roorkee, Guest of Honour, apprised that Dr R.A. Mashelkar and all scientific community deserves special appreciation as S&T is an engine for growth and development of the

country. He saluted the CSIR Network. The commemoration was completed with the presentation of mementoes to the staff members who were retired during the year.

Dr Gopal Ranjan, Director General, College of Engg., Roorkee, Brig. Sharma, BEG&C and

Dr Madhuraka Saxena, Principal, also graced the occasion. Shri N.K. Shangari, Scientist Coordinator (DC&E) welcomed the audience, introduced the Chief Guest as well as proposed a Vote of Thanks.

Central Electrochemical Research Institute (CECRI), Karaikudi

At CECRI, Prof. Anil K. Bhatnagar, VC, Pondicherry, Central University, Pondicherry, was the Chief Guest on the occasion.

In his presidential address, Prof A. K. Shukla, Director, CECRI, briefed the contributions of Prof Anil K. Bhatnagar in the field of solar energy and other areas of non-conventional energy systems. Prof Anil K. Bhatnagar delivered the CSIR Foundation Day Lecture on 'Sources of energy'. In his lecture, the Chief Guest pointed out that in 2020 the energy requirement of our country would be doubled and stressed that the scientists should concentrate on



Prof. Anil K. Bhatnagar, VC, Pondicherry Central University, Pondicherry, delivering the CSIR Foundation Day Lecture at CECRI

alternative sources of energy at a cheaper cost. In his lecture he spoke about the different sources of energy including conventional as well as non-conventional. The staff retired since last foundation day and the staff who have completed 25 years of service were honoured during the

foundation day celebrations. Prof A. K. Shukla distributed the mementoes to them. Dr D. C. Trivedi, Deputy Director, CECRI distributed the cash awards to the wards of CECRI staff who came out in flying colours in school examinations. The Chief Guest Prof Anil K. Bhatnagar distributed the prizes to the wards of CECRI staff who won prizes in competitions organized by the Institute.

Earlier, Dr D. C. Trivedi, Deputy Director, welcomed the gathering. Shri K. V. Kunhiraman, COA, CECRI, proposed the Vote of Thanks.

Central Glass & Ceramic Research Institute (CGCRI), Khurja Centre

The centre observed open day on the occasion of CSIR Foundation Day, for students of different colleges and schools. The Institute was also kept open for the

general public. Live demonstrations of various techniques and pilot plants were given to the visitors. Science students were informed about various research and

development schemes. An interesting film on space science was shown by Shri D. P. Karmakar, Scientist, CGCRI.

Among many other interesting

Foundation Day Celebrations

programmes, personality development programme, coordinated by Shri Kaushal Kumar of the Institute grabbed the attention of the students. Students from the Teacher's Training College, Bulandshahar, local polytechnic college and some other schools participated in the programme.

Dr L. K. Sharma, Scientist-in-Charge, explained the achievements of the laboratory and CSIR in general and also proposed a Vote of Thanks.

Students being given the live demonstration of a technique in the pilot project of the Institute



Central Scientific Instruments Organisation (CSIO), Chandigarh

CSIO celebrated CSIR Foundation Day by observing an Open Day on 26 September. All the labs of CSIO were kept open for general public. About thousand visitors, including students from various schools, engineering colleges, university and general public went around various laboratories of the organization.

In the afternoon Prof. Harsh Vardhan, former Director, CSIO, delivered the Foundation Day Lecture and in his address he traced the history of CSIR from the years of its inception. He emphasized the importance of quality research and development of world-class instruments through hard work.

Dr Pawan Kapur, Director, CSIO, while welcoming the Chief Guest highlighted the aims and goals of CSIR and its contributions in the field of science and technology. He also talked about various incentive and awards schemes of CSIR for

young scientists and school children, Dr Kapur also presented an overview of the on-going projects and future plans of the organization.

CSIO staff members who have completed 25 years of regular service and who have retired during September 2004-August 2005, were honoured by presenting mementoes

and shawls. The programme concluded with the prize distribution to the winners of various competitions held as a part of CSIR Foundation Day and Hindi Fortnight Celebrations.

Shri M. R. Masan, COA, proposed a Vote of Thanks.



Dr Pawan Kapur, Director, CSIO, addressing the staff on the occasion of CSIR Foundation Day Function

National Environmental Engineering Research Institute (NEERI), Nagpur

NEERI organized various functions and observed Open Day on the occasion of CSIR Foundation Day. The innovator of 'Param Super Computer' and Padma Shri awardee, Dr Vijay Bhatkar was the Chief Guest. Shri Dev Raj Sikka, Chairman of Indian Climate Research Programme and Indian Weather Climate Research Programme was the Guest of Honour. As a part of science motivation programme, about 1300 students from schools and colleges visited the institute. Scientists of various divisions explained the ongoing activities to the students. An audio-visual presentation highlighting the achievements of the institute was also screened for the visitors.

Delivering the keynote address, Dr Vijay Bhatkar emphasized on a need for setting-up a new trend of collaborative research, to pave the way for more advancements in the field of Science & Technology. He opined that this will not only help research Institutes to enter into a new arena of Public-Private Partnership but also create more wealth for the nation. Dr Bhatkar traced the history of CSIR laboratories and explained how these Institutes are involved in inter-institutional and



Dr Vijay Bhatkar delivering the keynote address

inter-disciplinary research resulting in the gradual emergence of a new 'Innovation-Centric India'.

In an invigorating speech, Dr Vijay Bhatkar said that as India became one of the biggest markets for sale of technology to industry in post-liberalization era, national research institutes should think seriously about their role. Citing an

example of New Millennium Indian Technology Leadership Initiative (NMITLI), Dr Bhatkar said that the concept of venture funding is now an integral part of CSIR. He pointed out that in the field of environmental engineering, there are many challenges lined up for scientists. He expressed a serious concern over e-waste.

Dr Vijay Bhatkar stated that six trillion litres of wastewater is released into River Ganga everyday. This has posed a serious water pollution problem. The greatest technology in the 21st century will not be information technology but environmental technology and NEERI will have to play a major role. He called upon the young scientists to strive for innovation of green technologies towards sustainable development.

Shri Dev Raj Sikka urged the scientists to collaborate and advance science and technology for the welfare of the country. He said that meteorology and environmental science & engineering are highly interactive disciplines. Without knowing the basic aspects of meteorology and their implication, it is difficult to do basic research on environment, he added. Elaborating on the global climate changes, Shri Sikka said that chemical



Shri Rajesh Biniwale explaining to school children



Shri Dev Raj Sikka delivering the lecture

significant achievements of the Institute. He assured that NEERI scientists are keen to develop affordable environmentally sound technologies. NEERI has been invited to carry out EIA studies for Dubai Municipality and conduct EIA oriented programmes for Kuwait, he said. Dr Devotta further informed that NEERI would assist Philippines Government. in their EIA on highway projects and conduct a training programme on solid waste management on behalf of World Bank.

composition of the atmosphere is changing frequently which is disturbing the earth's climate. With reference to Indian climate, he warned that in future the total monsoon rainfall may decrease.

Earlier, Dr Sukumar Devotta, Director, NEERI, in his welcome address detailed the

Dr Devotta briefed on projects on dearsenification of water, water quality management and quality assurance/quality control, sponsored by international organizations like UNICEF, WHO and USEPA. He informed that the Treatment Stabilization and Disposal Facility for hazardous waste and incinerator for hazardous

materials and solvents would be installed at Nagpur very soon as per the directions of the Supreme Court Monitoring Committee for hazardous waste. Facilities for rainwater harvesting, organic waste composting and solar water heating systems would be installed at NEERI, he said. As a part of environmental awareness programme, Dr Devotta said that NEERI has started a 'Science Motivation Programme' for teachers and students. On this occasion, mementoes were presented to NEERI employees, who had completed 25 years of service in CSIR and retired during the previous year. Dr S.P. Pande, Scientist & Head, R & D Planning Unit introduced the dignitaries and a Vote of Thanks was proposed by Dr J.S. Pandey, Science Secretary.

National Institute of Science Communication and Information Resources, (NISCAIR), New Delhi

NISCAIR celebrated CSIR Foundation Day on the 26 September 2005 at its Pusa Campus. NISCAIR also played host to about a thousand students who visited its campus on the occasion of Open Day.

Dr Prodipto Ghosh, Secretary, Ministry of Environment and Forests, Government of India, presided over the event. In his address, Chief Guest Dr Ghosh, expressed sincere appreciation of the publications of NISCAIR that



Dr Prodipto Ghosh, Secretary, Ministry of Environment and Forests, Government of India, delivering CSIR Foundation Day Lecture

spanned the spectrum covering resource encyclopedias, research journals, popular science magazines and books. However, he singled out the tremendous strides made by the Traditional Knowledge Digital Library (TKDL) for special praise, particularly in the context of prevention of misappropriation of knowledge. He also expressed his great happiness at the inclusion of two journals from NISCAIR in the list of the prior art journals used for prior art search before grant of patent(s) by the International

Foundation Day Celebrations

Search Authorities. He pointed out that India's role in the protection of traditional knowledge and leading role against biodiversity has not gone unnoticed in the global arena. Though India did not seek it, the Chair of the Like-minded mega-diverse countries was unanimously offered to India.

He concluded with the hope that NISCAIR would grow beyond TKDL. That in the months to come Components of Biodiversity Digital Library (CBDL) would also be established in a phased manner and cover the taxonomic hierarchical structure of kingdom classification, namely, Monera, Protocista, Fungi, Animalia and Plantae. This would be for the benefit of the country and all developing nations.

Earlier, Shri V. K. Gupta, Director, NISCAIR said that the Foundation Day celebrations have traditionally been a time to take stock—a time to look back at achievements and a time to plan ahead. He referred to the year 2002 when NISCOM and INSDOC merged to form NISCAIR and the strategic business plan that was drawn up at that time defining the

mission and ambitions of the new institute. It was then, he said, that the employees of NISCAIR had vowed to work hard to gain national and international recognition. He said he was happy to announce that NISCAIR had, through its work, gained significant national recognition as was evident in the coverage on NDTV today and the glowing references made to it by the Health Minister at Arogya Health Mela.

He said much of the international recognition has come courtesy the TKDL, which is prestigious collaborative project between NISCAIR and the Department of Indian Systems of Medicine and Homoeopathy, Ministry of Health and Family Welfare, India. The TKDL database contains details of thousands of herbal treatments drawn from age-old health systems. So far, 10 million of an estimated 30 million pages of texts in Sanskrit, Arabic and Persian have been translated and entered into the digital library. That the Traditional Knowledge Digital Library (TKDL) is making its presence felt globally is also reflected in the major news stories carried by both the Washington Times (23/09/2005)

and the London Sunday Telegraph (18/09/2005).

He said that international recognition of NISCAIR's efforts is also reflected by the fact that two of NISCAIR'S journals have been selected in the list of the prior art search journals used for prior art search before grant of patent(s). These Indian journals are Indian Journal of Traditional Knowledge (IJTK) and Medicinal and Aromatic Plant Abstracts (MAPA). India has now joined the select list of thirteen nations and shares the seventh position with France and Switzerland. In his assessment of the significant work done by NISCAIR in other fields he highlighted the contribution of the E-journal consortium, which gives CSIR scientists access to 3300 journals on their desktops. He said the work has been completed two years ahead of schedule. He also spoke about the National Science Digital Library (NSDL), a major project being given shape at NISCAIR. He appreciated the upward trend shown by the subscription base of all NISCAIR journals. Earlier, Dr Gian Singh, delivered the Welcome Address. Shri S. K. Rastogi proposed the Vote of Thanks.

The event concluded with a colourful cultural programme in which the extended NISCAIR family participated. Prizes were distributed to the winners of the contests organized to mark CSIR Foundation Day.



Students visiting the exhibition organized by Raw Materials Herbarium & Museum of NISCAIR during the Open Day



Dr R.A. Mashelkar, Director General, CSIR, visits NISCAIR/NISTADS

DR R.A. Mashelkar, Director General, CSIR, recently visited National Institute of Science Communication and Information Resources (NISCAIR), and National Institute of Science, Technology and Development Studies, New Delhi.

He expressed his immense pleasure at witnessing the changed NISCAIR, which has not only gone through the magical transformation in its functioning but also in the ambience as the campus has got a new look.

He highlighted the impact NISCAIR has made at national as well as at international level. Recently, NISCAIR was on the front-page news in Washington Times, (23 September 2005) and in the London Telegraph (18 September 2005) too. NDTV had also continually aired a programme on NISCAIR activities on CSIR Foundation Day. He said that progress on Traditional Knowledge Digital Library has been extremely well-recognized. The project has become the basis of norms/standards setting at international level. This was acknowledged by no less a person than Dr Kamil Idris, Director General, WIPO in his personal letter to him.

He informed that International Search Authorities



Dr R.A. Mashelkar, Director General, CSIR, delivering his address during his visit to NISCAIR/NISTADS. Also seen on dais from left are: Shri S.K. Rastogi, Shri V.K. Gupta, Director, NISCAIR/NISTADS, Dr M.U. Khan and Shri Pradip Banerjee

such as European Patent Office are very keen to access TKDL, which has today 10 million pages of information. Access on TKDL to International Patent Offices would be provided only after preparing adequate safeguards and this would contribute significantly in protection of our traditional knowledge. TKDL in Unani, Siddha and Yoga are also likely to become a large repository for initiating projects based on reverse pharmacology for creating new drugs and medicines so that we are able to achieve health for all by 2020.

Already, a Golden Triangle Project has been initiated by CSIR in close collaboration with ICMR and Department of Ayush. Dr Mashelkar said that it was his expectation and belief that TKDL would be able to act as a catalyst for this national project for not only cre-

ating collaboration among national institutions, drug and pharma industries but to even facilitate participation of large multi-nationals and, therefore, benefit both Indian science and the Indian people.

Dr Mashelkar expressed his happiness about the fact that the SAARC Secretariat has already decided to replicate TKDL for SAARC Member Countries.

He said it gave him great pleasure to recount the significant achievement that has been achieved recently by NISCAIR, which relates to the inclusion of two journals, viz. Indian Journal of Traditional Knowledge and Medicinal and Aromatic Plants Abstracts in the Non-Patent Literature list of PCT minimum thus bringing India to the seventh position out of 13 nations whose journals find a place in this coveted list of 'prior art journals'.

He said it was heartening to see the phenomenal growth in the subscriber base of NISCAIR Journals from 2000 when it was 2800 to 13,323 in 2004. That this upward trend is continuing is encouraging.

He also commented on E-Journals Project which is another extremely useful project implemented by NISCAIR whereby under this national project, by spending additional 10

per cent funds, there has been an increase in access to scientific and technical journals from 50-150 per laboratory to 3000 plus journals published by 11 prestigious international publishers. He said it was praiseworthy that NISCAIR has been able to complete all the activities on this network project two years ahead of the schedule.

National Science Digital Library, Dr Mashelkar pointed out, is yet another project from which academia has large expectations. This project is likely to enhance access to knowledge for students of remote areas by providing them access to courseware practically at no cost. Networking with universities, colleges, academia, which is being pursued under this project, is likely to create long-term linkages not only for NISCAIR, but also for CSIR.

Dr Mashelkar expressed his happiness about the NISCAIR Style Guide, which he released.

He emphasized that an institute is known not only by its products and services, but it is the air and the ambience in the institute that matters. Recalling his days at NCL, he said that the air in NCL smelt different. "The moment we used to enter NCL, it used to be a different atmosphere and environment. The same, I think we can say today confidently about NISCAIR."

Earlier, Shri V.K. Gupta, Director, NISCAIR and NISTADS welcomed Dr Mashelkar.

Dr Mashelkar also inaugurated the new main gate and recently renovated reception hall of NISCAIR/NISTADS.

National Workshop on Applications of Informatics in Marine Biodiversity Conservation

Realizing the role of information technology in sustainable resource management, the National Institute of Oceanography (NIO), Goa will be holding a three day National Workshop on Applications of Informatics in Marine Biodiversity Conservation during 5 to 7 December, 2005. The faculty, experts in applications of various information and communication technology tools, will provide both lectures and a hands-on-session. The workshop will cover various sub-themes under following emerging areas:

Biodiversity Informatics: Past, present and future with specific reference to marine biodiversity of developing world; cataloguing marine biodiversity, digitization of specimen collections; specimens to species banks; ecological niche modeling.

Bioinformatics: Past, present and future; bioinformatics databases; Genome2function: methods and approaches; hands-on-session.

Chemoinformatics: Molecular structure representation and viewing; challenges in molecular database searching; natural products as drugs; predicting physico-chemical/biological properties from molecular structures; from targets to ligands; marine chemistry and informatics.

For further information please visit www.nio.org or contact:

Dr C.T. Achuthankutty

Coordinator

Bioinformatics Centre

National Institute of Oceanography

Dona Paula, Goa – 403 004

Phone: 0832-2450277; Fax : 0832-2450606

E-mail: achu@nio.org