

## Time for 'soul-searching' urges PM as Team CSIR completes 60 years

It was the Diamond Jubilee (1942–2002) celebrations for the Council of Scientific and Industrial Research (CSIR) on 26 September 2002. The main function was held in New Delhi at Vigyan Bhavan. Newspapers carried a report on the indelible ink developed by CSIR which is put on the index finger of voters during polls. The advertisement slogan says, 'Giving the nation 100%. Touching everyone's life'. How many people knew about the origins of the ink before 26 September 2002? Has CSIR really tried hard enough to tell people about its efforts? After all, tax-payers need to know what is being done with their money. CSIR is touted as the 'largest publicly-funded industrial R&D system in the world'. Speaking on the occasion, the Prime Minister Atal Behari Vajpayee asked the CSIR to attempt 'soul-searching' and take corrective action. He urged the CSIR to keep up with the mandate of pursuing scientific research and its industrial application in tandem, by expanding public-private partnership in priority areas of research and development. 'To survive and to win in this Battle of Competition, industry and services have to use Knowledge – figuratively speaking – both as a Shield and a Sword', added the Prime Minister.

As an example Vajpayee cited that, after his visit to the Maldives he had been 'struck by the meticulous care with which they have preserved their extremely fragile environment' assisted by technologies. Practical solutions were necessary, and he said, 'we in India have not paid sufficient attention to problems in environmental protection and we are paying a huge price for this neglect'. It is possible, he said, to balance development and environmental protection.

The other challenge, according to Vajpayee, that confronts scientists is that of 'transforming our large scientific and technological base into a dynamic force capable of occupying leadership positions in global research and development'. He felt the need for scientists to 'strengthen focus on the needs of developing countries'. He pointed out that no research would be done in the Western world to tackle the problems of developing countries, such as malaria, nutrition and gainful employment for the poor in their local habitats. He said organizations

like the CSIR, ICAR and ICMR can 'do a lot more'. Vajpayee assured scientists of continued support and said that the Government 'has substantially stepped up support to the country's science and technology establishment in the past four and a half years'.

In his address, Murli Manohar Joshi, Science and Technology Minister also reiterated that, 'we cannot live on our past laurels' and that with continuous introspection 'we need to move upwards and faster on the technology trajectory'. The image of today's India is 'of producing and supporting low-technology products'. For changing this image he said, 'we need to launch intensive efforts for developing innovative technologies and increasing our share of high-tech products'. He said that a Diamond Jubilee Technology Award of Rs 10 lakhs to be given annually, would be set-up to 'spur this movement of globally competent technology development, to technology that is developed in India by Indian innovators, which meets the highest benchmarks of competitiveness and excellence'. Joshi said, 'we are determined to make CSIR a more nimble and more focused organization'. For this, since the last three years, performance appraisal boards had been scrutinizing and reviewing the performance of each of the laboratories of the CSIR. With the exercise having just been completed, the top brass was looking at the implications of the findings.

A committee under the chairmanship of S. K. Joshi would 'work out a grand plan to integrate CSIR organically with IITs and Universities', said Joshi to spur on towards higher levels of achievement. For aiding students in the tools and techniques of research before undertaking a Ph D programme, Joshi announced the launch of CSIR Diamond Jubilee Research Interns Awards. The scholarship amount of Rs 7500 per month would be for two years internship at CSIR laboratories, available to both post M Sc and B Tech students.

On the same occasion, one of CSIR's constituent laboratories, the Centre for Biochemical Technology, New Delhi was renamed the Institute for Genomics and Integrated Biology and the Prime Minister laid the foundation stone of the institute at its new site, on computer, at the jubilee celebrations by pressing a

button. The focus of this institute would be to apply an understanding of genomics towards diagnostics and medical applications.

R. A. Mashelkar, DG, CSIR and Secretary DSIR, said that CSIR, on its journey to its Platinum jubilee, would continue to 'innovate solutions and propel India to its ultimate destination'. He added that 'we hope we have left an indelible mark (referring to the CSIR innovation of the indelible ink) and CSIR would continue to gauge and touch the hearts of Indians and matter more to India'.

Together with the CSIR Young Scientist awards, the following Technology awards were presented for the year 2002:

*Process technology:* Institute of Microbial Technology, Chandigarh for developing an innovative, environment-friendly process technology for production of natural Streptokinase, a life-saving thrombolytic drug and its successful commercialization.

*Biological sciences and technology:* Indian Institute of Chemical Biology, Kolkata for developing a unique herbal formulation, ASMON, used for treating asthma.

*Chemical technology:* Central Salt and Marine Chemicals Research Institute, Bhavnagar and National Aluminium Company, Bhubaneswar for developing an environmentally cost-effective process technology for the production of detergent-grade Zeolite-A of international quality from inexpensive bauxite leachate.

*Engineering technology:* Central Scientific Instruments Organization, Chandigarh for developing a unique Head-Up Display of high reliability for Light Combat Aircraft.

*Business development and technology marketing:* National Aerospace Laboratories, Bangalore for significantly enhancing the business for the laboratory's knowledge base through innovative methods and building strong linkages with major stakeholders.

Mashelkar also announced the 2002 Shanti Swarup Bhatnagar Prizes. These are the following:

*Biological sciences:* Raghavan Varadarajan, Indian Institute of Science (IISc), Bangalore and Amitabha Mukhopadhyay, National Institute of Immunology, New Delhi.

*Chemical sciences:* Tushar Kanti Chakraborty, Indian Institute of Chemical Technology, Hyderabad and Murali Sasstry, National Chemical Laboratory, Pune.

*Earth, Atmosphere, Ocean and Planetary sciences:* G. S. Bhat, IISc, Bangalore and Sankar Kumar Nath, Indian Institute of Technology (IIT), Kharagpur.

*Engineering sciences:* Ashutosh Sharma, IIT, Kanpur.

*Mathematical sciences:* Dipendra Prasad, Harish Chandra Research Institute, Allahabad.

*Medical sciences:* Sunil Pradhan, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow.

*Physical sciences:* Avinash Anant Deshpande, Raman Research Institute, Bangalore and Mohit Randeria, Tata Institute of Fundamental Research, Mumbai.

**Nirupa Sen**

## USA not to ratify the Kyoto Protocol

President Bush of the United States of America had rejected the Kyoto Protocol in March 2001. Little has changed since that time in the stand taken by the US Government. Harlan L. Watson, Senior Climate Negotiator and Special Representative, US Department of State reiterated this line in his press briefing with journalists at the American Embassy, New Delhi on 1 October 2002. Watson said, 'There is no way we can meet the commitments. No apology on our side. We will not be ratifying the Kyoto Protocol at least for the first commitment period. Will there be a new Kyoto Protocol that be decided later in the future, it can be considered then'.

In order to halt global warming due to emissions from greenhouse gases, under the Kyoto Protocol, 38 industrialized nations have agreed to cut their emissions; however, the US refused to sign, arguing that the Protocol's binding commitments would harm their economy. In the US, climate change policy unveiled by President Bush on 14 February 2002, the US would cut greenhouse gas emissions by 18% over the next decade by cutting the greenhouse gas

emissions intensity by the amount it emits per unit of economic activity. Watson said that over the next ten years, the US would avoid more than 500 million metric tons of emission, which would mean taking one out of three cars off the road. The new US climate change policy to slow the growth in the US greenhouse gas emissions also includes use of clean energy technologies and producing cars with better mileage. The US Government has set aside \$ 47 billion for sequestration of carbon and conservation on its farms and forest lands. The US would also lay emphasis on long-term investments on advanced technologies. In the FY 2003, the US would invest \$ 4.5 billion in climate change-related activities, of which \$ 279 million will be for international activities, an increase of 29%, the latter towards enhanced support in the developing world and for bilateral international cooperation.

Both the US and India have agreed to continue their cooperation in energy and environment, especially in areas such as clean and renewable sources of energy, fuel cells, photovoltaic technology and climate modelling. India is to host the

Eighth Session of the Conference of Parties to the Climate Change Convention under a Host Country Agreement signed between the Government of India and the UN Framework Convention on Climate Change to be held between 23 October and 1 November 2002.

While answering questions raised by the press, Watson said that 20% of the US power is from nuclear energy and one of the major issues causing public concern is nuclear waste management, adding that 'quite frankly, nuclear power is not economic'. When queried on the expectations the US had on developing countries, he hastened to add that 'this administration is not asking any developing country to take on a commitment, in regard to reducing greenhouse gas emissions'. When asked by the press whether the US felt alienated for not ratifying the Kyoto Protocol he replied, 'Not really, friends in Australia have

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## RESEARCH NEWS

### Cloning the fish

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In a seminal publication, Brenner *et al.*<sup>1</sup> showed that the coding sequences of the puffer fish, *Fugu rubripes rubripes* are about 7.7 times more enriched than those of human or mouse. Hence, the *Fugu* genome is unexpanded and has never

acquired large quantities of junk DNA. Correspondingly, one will have to put in about one-seventh less laboratory work than required for the human genome<sup>2</sup>. Thanks to the explosive research activities in zebrafish, *Danio rerio* and medaka,

*Oryzias latipes*, we however seem to know a little more about the genome of these fishes. Among these, zebrafish has become a more important model system for the study of vertebrate development because of its ease of use in genetics<sup>3</sup>,