

## **Water issues haven't got much attention in India: NIAS Director**

“Water issues haven't got the attention they deserve in India”, said Dr. Baldev Raj, the Director of the National Institute of Advanced Studies (NIAS), Bangalore. He was delivering the inaugural talk of the two-day discussion meeting on “Bridging innovations in academic institutions to society”, which began at NIAS today. The meeting, sponsored by the Department of Science and Technology (DST), is jointly organised by NIAS and the Thematic Unit of Excellence, Indian Institute of Technology (IIT) Madras.

Indian academic and research institutes are innovating quite a lot. Many of the innovations aim to address challenges faced by people at the bottom of the pyramid. However, converting them into usable products has remained a challenge. Attended by people from the academia, incubatees, industry, administrators, and funding agencies, the meeting aims to find ways to disseminate technologies developed in the academic institutions of the country.

In his opening remarks, Prof. T Pradeep from IIT Madras noted that though IIT Madras has produced 500 patents in the last decade, only 50 of them have progressed into startups. “As a result, innovations are not going out of the academia, and a bridge between the industry and academia is necessary”, he said. According to him, in the US, there are 165 million entrepreneurs in the age group of 18 and 25.

Dr. Sanjay Bajpai from the DST observed that there is no mechanism to get user feedback for the products developed in the country. He also said that “people are not aware of the technologies developed to address social challenges”. Prof G U Kulkarni from the Centre for Nano and Soft Matter Sciences highlighted the critical roles of the investments in translating a lab prototype into a finished product. Prof. V. Ramgopal Rao from IIT Bombay suggested that in any research project, 40% of the funds have to be reserved for developing solutions to socially relevant problems. According to him, lack of facilities to fabricate nanoscale devices is a big challenge Indian startups are facing while try to scale up their business.

Prof. Anil Kumar from IIT Bombay said that many projects are run with qualitative and dynamic targets, and according to him, this should change. He also observed that cities have become too expensive for startups. Dr. Tata Narasinga Rao from the International Advanced Research Centre for Powder Metallurgy and New Materials, Hyderabad suggested that research institutes and industries should support each other. Dr. A. K. Ghosh from the Bhabha Atomic Research Centre, Mumbai said that varying local conditions in India poses a challenge for technology developers.

Prof. Satish Vasu Kailas of the IISc shared his experiences in developing machines at IISc. Over the last seventeen years, his lab has consciously avoided buying machines, and focussed on developing them in-house. According to him, through this process, his lab has saved more than Rs 39 crores. Commenting on the lack of skilled manpower in the country he said, “We need engineers, not engineering degree holders”. Prof. Bodh Raj Mehta IIT Delhi shared his experience of working with a solar cell company in the Silicon Valley, USA. Taking a cue

from the Silicon Valley, he suggested Indian researchers and entrepreneurs not to depend too much on the Government. Prof. Kishore M. Paknikar, the Director of the Agharkar Institute said that water solution providers should ensure accountability of private providers and active involvement of the local Government. Prof Mohan Kumar, water expert from the IISc said that striking a balance between reliable water supply and long-term sustainability is a big challenge. He also emphasized the need to develop cheap sensors for water quality monitoring.

Anshup of InnoNano Pvt. Ltd, a technology company incubated at IIT Madras, noted that though new technologies are critically required in water, older technologies are still in use. Dr. Nitin Kale of NanoSniff Technologies Pvt. Ltd, a company incubated at IIT Bombay observed that the lack of funds and facilities to fabricate electronic devices are the major issues this company is facing. There were also talks from Praveen Poddar of Mahavir Pumps, Kolkata, Radhika Sastry of InnoKriti, Bangalore, Saket Kumar of Human Media Lab, Canada, and Dr. Kshipra Misra of Rite Water Solutions.

“There is a huge burden of noncommunicable diseases like diabetes and hypertension in rural areas,” said Dr. Krishnan Swaminathan from the Kovai Medical Center and Hospital (KMCH), Coimbatore, who studies links between diabetes and pesticides. He stressed on the need for Indian doctors to also focus on data collection and research. Dr. Prashanth Vaijayanth, also from KMCH, made a case for indigenizing the manufacture and maintaining high quality of products such as heart valves, stents and pacemakers. The cost of importing heart valves, for example, is 5 times higher than making it in the country, he said.

Following his talk, Dr. Vijaya Lakshmi described efforts taken by her organization, the Development Alternatives Group, to provide kits for detecting drinking water quality and developing water quality maps across the country. Mr. Rajeev Kumar, Secretary to the Government of West Bengal, spoke next, highlighting factors such as adaptability, individual focus and political support to be considered while implementing innovative technologies in communities.

### **About**

A discussion meeting on “Bridging innovations in academic institutions to society” was held at the National Institute of Advanced Studies (NIAS), Bangalore. It is being organized by NIAS and the Thematic Unit of Excellence, Indian Institute of Technology Madras; and sponsored by the Department of Science and Technology.