

2G spectrum, unclear policies in terms of utilizing white spaces in the sub-GHz licensed spectrum, and the high cost needed to maintain base stations given the poor existing supporting infrastructure. The issues of technology adoption, poor education, multiple language environment and the need to empower the rural population were acknowledged as important in finding a long-term, sustainable solution.

COMSNETS ended with a provocative panel discussion on emerging research topics in communication systems and

networks. It was largely believed that many disruptive trends like rapid growth of mobile communications, increase in traffic, cloud computing and social networking would impact the current and future network systems in fundamental ways. Future research challenges mentioned during the panel were cell-phone data mining, design and deployment of wireless sensor networks, interconnectivity between heterogeneous networks, design of self-organizing complex networks, networks supporting new communication styles, more efficient distribu-

ted networks and computing, and steps towards pervasive computing.

Clearly, a multitude of opportunities and challenges lie ahead. COMSNETS will continue to meet annually to discuss and shape the fast-changing world of communication systems and networks. The Fourth COMSNETS will be held in Bangalore during 3–7 January 2012.

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## MEETING REPORT

### Second state-level S&T conference\*

The second state-level science and technology (S&T) conference was held at the Indian Institute of Science (IISc), Bangalore on the theme, 'Initiatives for Human Resource Development in Science and Technology'. C. N. R. Rao (Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore), while inaugurating the meet emphatically said that focus should be on the training of teachers to create better manpower in science. Rao strongly felt the need for a five-year programme exclusively aimed at training science teachers. He also said that participation of individuals in science is important. He explained that there is nothing like 'pure' and 'applied', but only science that is being applied and science that is yet to be applied. The first S&T conference was held in 2010 on the

theme 'Science and Technology for Sustainable Development' at the same venue.

Besides teacher training, other strategies for human resource development in S&T were discussed. Though the INSPIRE programme of the Department of Science and Technology (DST), Government of India (GOI), is an already existing scheme, it was proposed that more such measures should be taken in adequate numbers. Universities and higher education institutes need to expose the students to scientific work. A greater number of researchers (Ph Ds) is also required. It was suggested that the twelfth Five-Year Plan, which is to begin in 2012, must focus on improving the human resources of the institutions engaged in science education and research. Virtual classrooms and finishing schools to train the students must be included in the education system. School curriculum, which at present leads to rote learning, must be made flexible. At the higher education level, enough freedom needs to be in place for selection of combinations of science subjects.

The conference also desired for industry and academia to work together. It was

put forth that industries should not recruit based on brand name, but on talent. The use of information and communications technology in education, science communication and rural development was presented. Some programmes for technology-enhanced learning, such as the National Programme on Technology Enhanced Learning, Reforms and Technology Assisted Education for School Curricula, National Mission on Education through Information and Communication Technology, etc., initiated by leading Indian institutions in collaboration with the Ministry of Human Resource Development, GOI, were described. While highlighting the role of women in science, it was brought to the notice of the participants that India though has the highest number of qualified women in S&T, it has very less women researchers. The need for refresher courses for women with break in scientific career and the lack of awareness about the schemes initiated by DST, were recognized.

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\*A report on the second state-level science and technology conference held during 26–28 May 2011 at the J. N. Tata Auditorium, Indian Institute of Science, Bangalore, and jointly organized by the Karnataka State Council for Science and Technology, Vision Group on Science and Technology and the Department of Science and Technology, Government of Karnataka.