

CSIR-NISCAIR-DST National Workshop “Science, Technology & Innovation Policy: Optimising Communication & Information Research”

Science and technology policies play an important role in shaping a country’s research and development. India has had a few science and technology policies since independence that have shaped science and technology in the country. The latest policy in place is the Science, Technology and Innovation Policy of 2013. Devising science, technology and innovation policies requires considerable inputs and envisioning future needs so that such evidence-based policies can foster scientific research, accelerate technological developments and create innovative products and processes.

In view of the need for optimizing communication and encompassing information research when crafting science, technology and information policies, the CSIR-National Institute of Science Communication and Information Resources (CSIR-NISCAIR), organised a national workshop on “Science, Technology & Innovation Policy: Optimising Communication & Information Research” during 23-25 January 2018 at the NASC Complex, New Delhi in collaboration with the Department of Science and Technology, Government of India. About 100 participants including scholars, researchers, scientists, practitioners, policy makers and students from all parts of the country participated in the workshop.

Addressing the participants and invitees during the workshop’s inaugural function, Dr. Manoj Kumar Patariya, Director, CSIR-NISCAIR stated that the workshop’s aim was to provide insights and underscore the interventions of communication and information research while devising and implementing the science, technology and innovation, policies, plans and strategies.



Dr. Manoj Kumar Patariya, Director, CSIR-NISCAIR addressing the gathering. On the dais (from right) Dr. H. Purushotham, Chairman and Managing Director, National Research Development Corporation (NRDC); Prof. K.K. Dwivedi, Vice Chancellor, ITM University, Gwalior; Dr. R.S. Sangwan, Director, Academy of Scientific and Innovative Research (AcSIR); Dr. Neeraj Sharma, Head and Advisor, Policy Research, DST; Dr. Akhilesh Mishra, Senior Scientist, Policy Research, DST

Dr. Neeraj Sharma, Head and Advisor, Policy Research, Department of Science and Technology who was Guest of Honour, highlighted the importance of data and evidences in devising STI policies. Dr. H. Purushotham, Chairman and Managing Director, National Research Development Corporation (NRDC) said that suitable communication strategies are vital to make STI policies more effective. He also stressed on the important role of social media as a communication platform.



Dr. Neeraj Sharma, Head and Advisor, Policy Research, DST

Prof. K.K. Dwivedi, Vice Chancellor, ITM University, Gwalior who was the Chief Guest of the inaugural session, said that policy implementation is as important as policy making to make the STI policy a successful one. Prof. Dwivedi delved on strengthening the industry-academia R&D ecosystem to promote a culture of innovation in the country. He added that this is possible through linkages between universities and national research laboratories.

Chairing the inaugural session Dr. R.S. Sangwan, Director, Academy of Scientific and Innovative Research (AcSIR) stated that needs of the common man should be kept in mind while preparing policies and inculcating scientific temper in the society should be integrated into policy initiatives.

Dr. Akhilesh Mishra, Senior Scientist, Policy Research, Department of Science and Technology proposed the vote of thanks.

Launch of CSIR-NISCAIR Mobile App

CSIR-NISCAIR, keeping pace with information technology development and trends, launched its mobile app on the occasion. Introducing the 'CSIR-NISCAIR Mobile App', Mr. C.B. Singh, Senior Principal Scientist and Head, Information Technology Division, CSIR-NISCAIR stated that the mobile app is a handy tool to access all CSIR-NISCAIR research journals and popular science magazines. A demonstration of the App was also given following which the dignitaries released the mobile app.



Launch of the CSIR-NISCAIR Mobile App

Dr. Manoj Kumar Patariya, Director, CSIR-NISCAIR added that the App would make science communication efforts of the Institute even more effective. The app also has a social media button, which allows users to connect with NISCAIR through various social media websites.

Panel Discussion on “Understanding STI Structure in India”

The inaugural session was followed by a panel discussion on “Understanding STI Structure in India”, which was chaired by Prof. Rupinder Tiwari, Punjab University, Chandigarh who stated that policy implementation was more difficult than devising policies.



Prof. Rupinder Tiwari, Punjab University

While Dr. V.P. Singh, President, ISCOS spoke about human resource development programmes in science communication and stressed on aligning policy initiatives to help farmers in the country, Dr. Anil Saumitra of Atal Bihari Vajpayee Hindi Vishwavidyalaya, Bhopal said that a balance between STI policy, humanity and R&D is vital and stressed on the need to use local languages for wider dissemination of the STI policy.



Dr. Anil Saumitra, Atal Bihari Vajpayee Hindi Vishwavidyalaya, Bhopal

Dr. Balram Pani of Bhaskaracharya College, Delhi University expressed his view that science should blend with innovation and that interest of the masses should be kept in mind so that policy makers can make an inclusive policy. Dr. Deepak Gupta of the Himachal Pradesh Council for Science and Technology spoke about various science communication and popularization activities of the Council. Dr. Sandeep Singhal, Senior Scientist, CSIR-CSIO spoke on peer-to-peer science communication.

Communication Implication & Opportunities

Dr. R.K Bhandari, Former Director, CSIR-Central Building Research Institute, Roorkee chaired the session on “Communication Implications and Opportunities”. In his opening remarks, Dr. Bhandari shared his concerns related to the communication strategies and suggested that better communication strategies need to be formulated to make STI policy more effective. Dr. Manoj Kumar Patariya, Director, CSIR-NISCAIR who was co-chair of the session emphasized the need for evidence-based policy.



Dr. R.K Bhandari, Former Director, CSIR-Central Building Research Institute, Roorkee

Speaking on the role of private universities in science communication, information science and planning, Prof. Mayur Yergeri of NMIMS University said that the policy framework should strongly address open innovation. Dr. P.S. Navaraj, Former Principal, Annai Fathima College, Chennai spoke on the science of science communication. Dr. Jyoti Yadav, Head, PME, CSIR-Institute of Genomics and Integrative Biology said that there seemed to be a lack of connect and collaboration when it came to communication strategies. She was of the view that IT tools need to be better harnessed to strengthen communication. Dr. Nadeem Bashir of the Government College for Women, Srinagar stated that for enhancing science communication in J&K, ICT implementation in the state needs to be improved. Others who spoke during the session included Dr. Atul Kumar Agarwal, Senior Principal Scientist, CSIR-Central Building Research Institute and Dr. Ruchi Singh Gaur, Amity University.

STI Policies: Global Scenario and Comparative Analyses

Dr. K.J. Ramesh, Director-General, India Meteorological Department chaired the session on “Global Scenario and Comparative Analyses of STI Policies”. Dr. Jagdish Chander, Department of Science and Technology, New Delhi who was the lead speaker of the session said that research and survey inputs and data collection from target and stakeholder groups is an

essential part of developing science policies. Dr. Chagun Basha, Centre for Policy Research, Indian Institute of Science, Bengaluru, Dr. G. Mahesh, CSIR-NISCAIR, Ms. Kirti Sharma, Central University of Gujarat and Dr. Mahruf Orewale, National Centre for Technology Management, Nigeria were the other speakers of the session.



Ms. Kirti Sharma, Central University of Gujarat



Dr. Chagun Basha, Centre for Policy Research, Indian Institute of Science, Bengaluru



Dr. G. Mahesh, CSIR-NISCAIR



Dr. Mahruf Orewale, National Centre for Technology Management, Nigeria

Innovative Tools, Modes & Means

Dr. P. Goswami, Director, CSIR-NISTADS chaired the session on innovative tools, modes and means. In his opening remarks, he said that innovation related to science should be properly narrated. Dr. R.S. Beniwal, Senior Principal Scientist, CSIR-NISCAIR suggested that policies should be formed on the basis of data, evidence and proper analysis. He mentioned that cultural theory or grounded reality is mostly ignored while shaping science policies. There is a need to come up with customised policies and problems should be discussed related to policy making, he added.



Dr. P. Goswami, Director, CSIR-NISTADS (Chair) and Dr. R.S. Beniwal, Senior Principal Scientist, CSIR-NISCAIR (Co-chair)

Pre- and Post-STI Policy Impact: Information Analytics

In the session on impact of STI Policy, Dr. Sanjay Mishra, Scientist, Department of Science and Technology spoke on less coverage of science in newspapers and magazines and suggested that science communication should be introduced in the undergraduate curriculum. In his talk, Dr. Venkatesh Dutta, Babasaheb Bhimrao Ambedkar University, Lucknow said that cultural theory or grounded reality is mostly ignored while shaping science policies. There is a need to come up with customised policies, he said.



Dr. Venkatesh Dutta, Babasaheb Bhimrao Ambedkar University, Lucknow

Science Communication Research & STI Policy

Dr. V.K. Srivastava, President, Indian Science Writers Association while chairing the session on science communication research and STI policy suggested that the Industry Academia (R&D) Ecosystem in India which is essential to promote the innovation scenario in the country should be strengthened. Giving his views on science communication research and STI Policy Dr. B.K. Tyagi of Vigyan Prasar, New Delhi said that science communication is not yet recognized as an academic course in India and there is a need to enable and strengthen channels of communication between the scientific community and policy makers.



Dr. B.K. Tyagi, Vigyan Prasar

Information & Informatics Support

Dr. Ajay Pratap Singh from Lucknow University chaired the session on information and informatics support. Speaking on science, technology and innovation policy in the context of tribal indigenous knowledge in India, Dr. Singh shared his concern about policy lacunas. Dr. K. Raghu Babu of Andhra University, Visakhapatnam said that policy benefits should reach villages.



Dr. Ajay Pratap Singh from Lucknow University (Chair) and Mr C.B. Singh, Senior Principal Scientist, CSIR-NISCAIR (Co-chair)

Ms. Charu Verma, Principal Scientist, CSIR-NISCAIR, New Delhi, presented her work under the title “BIG DATA: Transforming Governance for Inclusive Society”. She informed that the current work is in line with the Technology Vision 2035 that includes “Leadership in ICT: Towards Transforming India into a Digitally Empowered Society and Knowledge Economy”. She summarized the science and technology policy implications and imperatives like global uniform standards for ensuring data quality, define data ownership for different set of healthcare services, new set of rules for data privacy and finally education to remove the dearth of skills and talent for data analytics.



Ms. Charu Verma, Principal Scientist, CSIR-NISCAIR

Roundtable Discussion

A highlight of the workshop was a roundtable discussion on the topic, “Towards a Comprehensive Indian STI Ecosystem” chaired by Dr. Sunil Kumar Agarwal, SEED Division, Department of Science and Technology, New Delhi. Prof. M. Sai Baba, Principal Scientist, NIAS, Bengaluru and Dr. Ram Aasre, Principal Scientist, IARI, ICAR, Delhi were the experts.



Prof. M. Sai Baba, Principal Scientist, NIAS, Bengaluru

To set the context of the discussion, Dr. Sunil Kumar Agarwal showed a film titled “Light of hope: Let the light spread with positivity and hope” that made the audience aware of how slum dwellers devoid of basic natural resources such as natural light, live in darkness even during day time. He made the workshop participants aware about the various solar technologies promoted by DST benefitting the slum dwellers and the rural masses. He said that DST is making efforts to connect different groups and various technologies with the rural sector and that the Team SEED of DST is endeavoring to scale up green tech solutions.

Prof. M. Sai Baba, Principal Scientist, NIAS, Bengaluru gave his views for a comprehensive Indian STI ecosystem. For this, highly skilled and motivated manpower is essential to make the country progressive in all domains and innovation is the key to solving many of the societal problems, he opined.

Dr. Ram Aasre, Principal Scientist, IARI, stated that through suitable policy interventions, there has been steady progress in the agricultural sector in general. Dr. Ravi Agarwal spoke about

CSIR-NAL's achievement of successfully flying its 14-seater indigenous aircraft SARAS on 24 January 2018. He said that the lightweight aircraft that consumes lower fuel could be used for a variety of purposes.

Summing up and Closing

Dr. P. Goswami, Director, CSIR-NISTADS, Dr. Prabhat Ranjan, Executive Director, TIFAC, Dr. Manoj Kumar Patairiya, Director, CSIR-NISCAIR, Prof. Krishan Lal, Co-Chair, IAP for Science and Former President, INSA, Dr. Akhilesh Mishra, DST and other prominent guests joined the workshop's valedictory function.



(From right) Dr. Manoj Kumar Patairiya, Director, CSIR-NISCAIR; Dr. P. Goswami, Director, CSIR-NISTADS; Mr. Jayant Sahasrabudde, Organising Secretary, VIBHA; Prof. Krishan Lal, Former President, INSA; Dr. Prabhat Ranjan, Executive Director, TIFAC, and Dr. Akhilesh Mishra, DST at the workshop's valedictory function

Prof. Krishan Lal who was the chief guest of the event spoke at length about the need for a robust STI policy and how science and technology led innovation can be a major driver of national development. He stressed on “high-quality science for innovation” and emphasized on the inclusion of people with a strong science background for designing robust STI policies. Dr. Akhilesh Mishra highlighted the need for connecting science to society. Dr. P. Goswami focused upon the innovation part of STI policies and suggested various measures to achieve it. He pointed out the significance of communication in achieving these goals with a well-planned strategy.

Dr. Prabhat Ranjan discussed the “Technology Vision Document 2035” which is being prepared by TIFAC. The Vision Document envisages the technologies to be developed to fulfill the needs of every Indian. He said that both technology development and its diffusion should occur at a breakneck pace.

A new episode of *Science Wience* “Say Hello to Virus – On extreme edge of life” made by a professional Mr. Ashutosh in partnership with TIFAC was launched by Prof. Krishan Lal. This video is now available on YouTube and Facebook.

Mr. Jayant Sahasrabuddhe, Organising Secretary, VIBHA while chairing the session said that people and decision-makers should be aware of the implications of emerging technologies and that is where science communicators and scientists have a role to play. He emphasized the role of effective communication in achieving this objective by disseminating the scientific information to masses in regional languages.

In his concluding remarks, Dr. Manoj Kumar Patairiya stressed on the need to connect public, industries and policymakers to develop robust science, technology, and innovation policy. He said that ‘connecting’ everyone is the keyword and there should be a conglomeration of people from all walks of life. He mentioned that policymaking should be based on data and demand.

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