

## ***Vigyanika*-International Science Literature Festival**

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VIGYANIKA-International Science Literature Festival was organized as part of IISF 2020 during 22<sup>nd</sup> to 24<sup>th</sup> December. The programme was co-ordinated by CSIR-National Institute of Science Communication and Information Resources (CSIR-NISCAIR), Ministry of Earth Sciences (MOES) and Vijnana Bharati (VIBHA).

At the inaugural session, Dr Ranjana Aggarwal, Director, CSIR-NISCAIR & CSIR-NISTADS stressed on the relationship between science and society. If science is not brought on to a common platform where its concepts are understood by people, they will not understand what scientists do inside the four walls of labs.

Dr Shekhar C. Mande, Secretary, DSIR and Director General, Council of Scientific & Industrial Research, in his keynote address, expressed his appreciation for taking scientific literature to the general public through the event 'Vigyanika'. He highlighted the importance of science communication in fighting the current COVID-19 infodemic and fake news.

Shri Tathagata Roy, Former Governor of Meghalaya and Tripura, the chief guest of the inaugural session, said superstition meddles with our scientific thinking and there must be a distinction between superstitions and religious outlook.

Prof. Ashutosh Sharma, Secretary, Department of Science and Technology, Government of India in his presidential address emphasized the importance of IISF to amplify the universality of science and how it seeks to fulfil the directive in the Indian constitution to develop the scientific temper, humanism and inquiry. He highlighted the importance of importance of science communication for scientists as well as for the public.

Among the lead speakers, Dr Vijay P. Bhatkar, President, Vijnana Bharati, exhorted the need for enabling integration of

local languages with technology to sustain and preserve science communication in regional languages. Prof. Finarya Legoh, Vice-Chair, AASSA Special Committee on SHARE Communication, Indonesia talked about the lessons learnt during the COVID-19 pandemic and the resilient nature of human spirit. Prof. K.G. Suresh, VC, Makhnallal Chaturvedi National University of Journalism and Communication, Bhopal highlighted the need of science communication to accommodate not just regional languages, but dialects and rich folklore to reach the population with no access to digital space. Dr Kanan Purkayastha, Special Advisor (Science and Environment), United Kingdom shared the concerns for timely communication to target audiences regarding the uncertainty around scientific findings. Prof. Hak-Soo Kim, Former Chair & Founder, AASSA Special Committee on SHARE Communication, South Korea stressed that cooperative and interdisciplinary teamwork among scientists and policymakers is the need of the hour for effective communication of scientific information to tackle misinformation, especially regarding COVID-19 pandemic and climate change.

### **Panel Discussions**

The first panel discussion on science literature in Indian regional languages was chaired by Mr Nandan Kudhyadi, Science film maker, Ex-member of Academic Council of the Film & Television Institute of India, Pune. In his introductory remarks, he talked about the importance of science fiction in science communication. Dr Ashutosh Jawadekar, a dentist by profession from Pune talked about science fiction and scientific literature in Marathi. He said science and literature go hand in hand, and complement the rich Marathi heritage of India.

Dr T.V. Venkateswaran, Vigyan Prasar, presented different mediums used in the communication of science in Tamil. He summarized the communication trends observed in the contemporary world today as hard (didactic), speculation (fantastic) and social (critique). Mr ASKVS Sharma, Former Chief Scientist, CSIR-Central Food Technological Research Institute, Mysuru opined on the need for more growth and efforts in the field of science fiction in modern Kannada. Prof. (Dr) Dipak Kumar Sarma, Professor of Surgery & Head of the

Department of Emergency Medicine, Gauhati Medical College & Hospital, Guwahati, Assam discussed the history of Assamese science literature and its development in the field of science fiction and fantasy. The panelists discussed the major challenges faced while communicating science through regional languages and measures needed to fill up the lacunae for making science fiction an effective medium to communicate science.

The second panel discussion on the theme “Socio-political & Economic Canvas Reflected in Biographies of Scientists” was chaired by Dr Shivprasad M. Khened, Director, Nehru Science Centre, Mumbai. In his introductory remarks he dwelt on the need to study the history of science. Like other natural sciences such as Physics and Chemistry, history uses various methods of enquiry such as observation, classification, experiment and formulation of hypothesis and analysis of evidence before interpreting and reconstructing the past.

This was followed by a presentation by Dr Aditya Kolachana, Assistant Professor, Department of Humanities and Social Sciences, IIT Madras, Chennai who talked about the socio-political and economic effects on the lives of two renowned mathematicians: Srinivasa Ramanujan and his mentor, G.H. Hardy. The beauty of their relationship was that irrespective of their opposing religious beliefs, they collaborated in science for the greater good of society. Dr Madhura Niphadkar, Postdoc Researcher, Azim Premji University, Bengaluru reflected on two stalwart naturalists, Charles Darwin and Salim Ali. She elaborated on how the socio-political scenario affected their lives and the contemporary beliefs in science at their time.

Dr Rajeev Singh, Assistant Professor, Department of Chemistry, Atma Ram Sanatan Dharma College, University of Delhi talked about the two contemporary scientists, Prafulla Chandra Ray and Madam Curie by focussing on their autobiographies, ‘Life and Experiences of a Bengali Chemist’ and ‘Madam Curie: A Biography by Eva Curie’ respectively. Their story tells us that if one is committed to science, one can contribute to the socio-economic cause too apart from being a scientist. Ms Sharvari Kulkarni, Research Scholar, BITS Pilani outlined two biographies highlighting the contribution of women in Physics, Mathematics and Space: ‘Lise

Mietner' by Veena Gavankar written in Marathi and 'Hidden Figures: The Untold Story of the African American Women Who Helped Win the Space Race'. She elaborated the remarkable contribution made by these women scientists irrespective of the discrimination they faced.

The third panel discussion was on the topic "Communicating Risks and disasters – the Covid-19 experience". The session was chaired by Dr Nakul Parashar, Director, Vigyan Prasar who said that science communicators need to be cautious about what they write. They should check for the correctness and completeness of information they gather.

Dr (Ms) Kamaljit Ray, Ministry of Earth Sciences, stressed on the role of her ministry in mitigating disasters which had played an active role even during the lockdown. Dr Geeta Vani Rayasam, Head, Science Communication & Dissemination, CSIR provided an overview of various initiatives taken by CSIR labs in mitigating the Covid-19 pandemic. Ms Subhra Priyadarshini, Chief Editor, *Nature India*, talked about the problems faced by scientific watchdogs, the scientific journalistic community. It's important to communicate unanswered questions and limitations of science alongside the hope we provide to public, she said. Mr Prasad Ravindranath, Science Editor, *The Hindu*, deliberated on the actions taken by *The Hindu* in mitigating the pandemic like highlighting the use of masks when there were differences of opinion among the scientific community. He said that there should be transparency in sharing scientific data. Mr Pallava Bagla, Science Photo Journalist empathized the need for communicating risks in regional languages. Dr Manas Pratim Das, All India Radio, Kolkata, highlighted that even in the press releases provided by various agencies there were factual differences, which often puts science communicators in a difficult position.

### **Scientific Session**

The scientific session "Expanding the Science Communication Footprint: New Tools, Modern Approaches" was chaired by Dr Anurag Agrawal, Director, CSIR-Institute of Genomics and Integrative Biology, New Delhi. In his introductory remarks, Dr Anurag Agrawal mentioned about the advances of science

communication and the role it is playing in tackling the pandemic currently.

Scientific papers and reviews related to science communication were presented during the session. The topics ranged from social media communication to an analysis of the *COVID-19 Bulletin* published by CSIR-NISCAIR, from efficacy of virtual engagement for students to learn science to AI-based museum technologies and innovative digital technologies to take scientific information to children during the pandemic.

### **Valedictory Session**

The Valedictory session of Vigyanika 2020, *Science & Technology Communication: Paving the Path to Atmanirbhar Bharat & Global Welfare* was chaired by Prof. M. Sai Baba from NIAS, Bangalore. He emphasized the role of science communicators in the society since the common people always look forward to science and scientists to find solutions to the problems they face. A common platform where the commoners and the researchers come together to discuss the issues has to be developed to bridge the gaps, he said.

Dr. Manoj Kumar Patariya, Adviser, DST stressed on the importance of preserving the local and regional languages that are vanishing or are at the verge of vanishing and also preserve the local literature. He stressed on the need to bring newer technologies like augmented virtual reality into science communication to make it more user friendly. Dr. Gabriel Gomez from Chicago State University emphasized on the role of science communicators in making people understand the positive and negative sides of newer technologies. Dr. Ankuran Dutta, Associate Professor & Head, Department of Communication and Journalism, Gauhati University, stressed on the importance of promoting science communication and digital and media literacy. Prof. Dr. Anjana Singh from Nepal Academy of Science and Technology (NAST), provided a glimpse of the impact of COVID outbreak on women in Nepal.

Among the other highlights of Vigyanika was a multilingual Vigyan Kavi Sammelan in languages such as Hindi, Gujarati, Marathi, Konkani, Punjabi and Telugu.

A special session “Pratidhwani” was also organized where Prof. Joy Sen from IIT Kharagpur reflected on the topic “Sir J.C. Bose – The forerunner of Ancient Indian Science in the contemporary world”.

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*First published in February 2021 issue of Science Reporter, published by CSIR-NISCAIR*