



ISSN 0409-7467

CSIR News

NEWSLETTER OF THE COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH

Volume 68 No. 01 & 02

website: <http://www.csir.res.in>

January 2018

In The News

Report: 17th Indian Science Communication Congress-2017

Science Coverage in Mass Media is Proportionate to Science Awareness

CHAIRING the inaugural session of the 17th Indian Science Communication Congress (ISSC-2017), noted particle physicist turned science communicator and UNESCO Kalinga Prize Winner for Science Popularization Dr. Narender K. Sehgal said that coverage of science in Indian media is dismal and has been declining over the years; though, science coverage in mass media is generally proportionate to science awareness and can be considered as an

indicator to the scientific inclusion of the society, he said.

The 17th Indian Science Communication Congress was held on 21-22 December 2017 at New Delhi. CSIR-National Institute of Science Communication And Information Resources (CSIR-NISCAIR) and the Indian Institute of Mass Communication (IIMC) were the lead organisers of the well-attended two-day event. Scholarly

भारतीय जन संचार संस्थान  Indian Institute of Mass Communication

17th Indian Science Communication Congress (ISSC-2017)
Communicating India's Scientific Wisdom: Changing Paradigms
21-22 December 2017, New Delhi, India

Organized by
CSIR-National Institute of Science Communication and Information Resources (NISCAIR)
Indian Institute of Mass Communication (IIMC)
Indian Science Writers' Association (ISWA)
Society for Information Bharati (SIBHA)
Society for Information Science (SIS)
Indian Science Communication Society (ISCS)

K. G. Suresh

R. K. Bhandari

R. S. Sangwan

Narender K. Sehgal

Kamal Kishore

Manoj Kumar Patariya

Dignitaries on the dais, from left: Prof. K.G. Suresh, Director-General, Indian Institute of Mass Communication; Prof. R.K. Bhandari, Former Director CSIR-CBRI; Dr. R.S. Sangwan, Director, Academy of Scientific and Innovative Research (AcSIR); Dr. Narender K. Sehgal, UNESCO Kalinga Prize Winner for Science Popularization, Mr. Kamal Kishore, Member, National Disaster Management Authority and Prof. Manoj Kumar Patariya, Director, CSIR-National Institute of Science Communication And Information Resources (CSIR-NISCAIR)

societies and bodies involved in science communication including the Indian Science Writers' Association (ISWA), Society for Information Science (SIS), Indian Science Communication Society (ISCOS) and Vigyan Bharati (VIBHA) also partnered with CSIR-NISCAIR

and IIMC in organising the 17th edition of the Indian Science Communication Congress.

Some 200 delegates including science communicators, scientists, researchers, science fiction writers, science enthusiasts, science journalists and students participated in the Congress which had the theme "Communicating India's Scientific Wisdom: Changing Paradigms".

Prof. K.G. Suresh, Director-General, Indian Institute of Mass Communication delivered the keynote address. He said that to reach the masses, scientists have to be communicators as well. Welcoming the gathering Prof. Manoj Kumar Patariya, Director, CSIR-NISCAIR said that the Indian Science Communication Congress has over the years emerged as a platform for brainstorming and engaging in discussions on various facets of science communication with pan India presence of the delegates. Dr. R.S. Sangwan, Director, Academy of Scientific and Innovative Research (AcSIR) who was the Chief Guest said that science communication should evoke a lot more scientific interest among the masses. Mr. Kamal Kishore, Member, National Disaster Management Authority who was the Guest of Honour said that the science of disaster should be communicated to the common man so that losses owing to disasters can be reduced.

A popular science book *Disasters: Short Stories, Essays & Anecdote* authored by Dr. R.K. Bhandari and published by the National Book Trust India was released at the inaugural function.

Spread across 10 parallel scientific sessions including a poster session, nearly 100 presentations and talks were given by the experts and delegates on the various facets of science communication focusing on India's scientific wisdom.



Prof. K.G. Suresh, Director-General, Indian Institute of Mass Communication, delivering his opening remarks



Prof. Manoj Kumar Patariya, Director, CSIR-National Institute of Science Communication And Information Resources (CSIR-NISCAIR) addressing the gathering

Panel discussion on Emerging Worldview on India's Scientific Wisdom

The panel discussion was chaired by Dr. Narender K. Sehgal. During the course of the discussion, Prof. M. Sai Baba of the National Institute of Advanced Studies, Bengaluru said that while coverage of science in traditional media is lower, there is an increased coverage of science in the social media. However, he added that with the prevalence of fake news on social media, one needs to be diligent when following science news on the social media.

Dr. Dinesh Kumar, Former Director, Institute of S&T Communication, University of Lucknow said that language should not be a barrier to science communication and that science communication in vernacular languages should be promoted. Dr. G.P. Pandey of Assam Central University also emphasized that scientific research being carried out in India should find more visibility in regional language mass media. Dr. U.P. Pandey of *Dainik Tribune* called upon the science communicators to focus on regional languages. Mr.



Dr. Dinesh Kumar, Former Director, Institute of S&T Communication, University of Lucknow and Mr. V.P. Singh, President, Indian Science Communication Society

V.P. Singh, President, Indian Science Communication Society shared his view that the rich scientific wisdom in Indian villages needs to be communicated widely. Mr. Nimish Kapoor of Vigyan Prasar stated that we need to brand our ancient science and popularise it better. He was also of the view that there is a need to translate ancient Indian scientific works in foreign languages. Dr. Daljeet Sachdeva of IGNOU highlighted the important role that community radio can play in popularising Indian science. That there is an urgent need to bridge the gap between journalists and scientists was articulated by Dr. Surabi Dahiya of Indian Institute of Mass Communication. The panel gave impetus to communication for shaping the emerging worldview on our ancient scientific wisdom and indigenous scientific knowledge.



Mr Nimish Kapoor from Vigyan Prasar addressing the gathering



Dr. Surabi Dahiya of Indian Institute of Mass Communication

Mass Media & Science Communication

Dr. Rajiv Sharma, Secretary, Science and Engineering Research Board chaired a session and shared his concern that it has become difficult to differentiate between real and fake news. Dr. P. Iyamperumal, Executive Director of Tamil Nadu Science and Technology Centre detailed the science communication efforts of the Centre that included organizing science exhibitions that had virtual exhibits, creating innovation hubs, providing trainings in the area of robotics and special programmes for differently-abled children.

Speaking on the role of media in communicating S&T to the masses, Dr. M. A. Ansari, Professor (Communications), G.B. Pant University of Agriculture and Technology said that media should set the agenda for public discourse, thereby shaping opinion for and against scientific issues that concern the masses. The talk by Dr. Ajitabh focused on the role of social media in science communication and how social media can be a game changer in communicating India's scientific knowledge.

Drawing on several initiatives taken by the CSIR-Central Building Research Institute's youth centric programmes, Dr. A.K. Agarwal of CBRI, Roorkee underscored the need for building scientific temperament in young minds. Prof. H.P.S. Kalra, Professor, Punjabi University, Patiala shared science related aspects mentioned in the Punjabi language scripture, Sri Guru Granth Sahib.

A study about the role of social media in creating awareness about reproductive health among Indian women found that though most of the women in the study were using social media, a majority were not receiving reproductive health related information through social media.

Challenges in science communication in India, motivating school children to study science, communicating S&T policy issues, science communication through radio including internet radio were also topics of discussion that gave emphasis on increasing the effectiveness of science communication through various ways and means.

Mr. V.P. Singh, President, Indian Science Communication Society in his



Prof. Manoj Kumar Patariya, Director, CSIR-National Institute of Science Communication And Information Resources (CSIR-NISCAIR) with participants

lecture said that there is a great demand for science communicators in the country. He said that the many courses on science communication should strive to not only train but should also assist in placing such trained people in suitable jobs related to science communication and science journalism.

Public Health Communication

Promoting and enhancing awareness about public health was the focus of most presentations of a session on health communication. The role of Anna University in community radio as a medium of social responsibility by broadcasting information regarding women health was highlighted. An assessment of national dailies on reportage of health news showed that some newspapers focussed on visual depiction and some others on news story format. Another study showed that while the coverage of health news and reports in mass media is growing, there is scope for further increasing the coverage of health news. Health awareness among Baiga tribal community in Madhya Pradesh was also discussed. Dr. Arvind Dubey, Paediatrician and Science Writer delved on how to write a popular science health article.

Facets of Agriculture Communication

The media does not adequately cover agriculture, noted Mr. Pallava Bagla, Science Editor, NDTV who was a lead speaker of the session on agriculture communication. Through a few recorded videos of agriculture related news stories, Mr. Bagla highlighted the role that the audio-visual media can play in reporting important news. Dr. Anubhuti Yadav of IIMC said that

the farmers need to be made digitally literate and that more science content is required in regional languages. The role of community radio in agriculture communication was highlighted in this session.

Ms. Anupa Lahkar, Assistant Professor from Gauhati University reported that while the reach of television continues to be limited, the radio has better reach and interactive two-way communication programming is a must in today's scenario. Use of ICT for agriculture information sharing by the government through its many programmes was chronicled and discussed. The increasing use of social media for agriculture communication



Dr. Anubhuti Yadav of IIMC and Dr. M. A. Ansari, Professor of Communication of GB Pant University of Agriculture and Technology



Mr. Pallava Bagla, Science Editor, NDTV

and many potential uses of social media was presented by Dr. M. A. Ansari, Professor of Communication of G.B. Pant University of Agriculture and Technology. Social media platforms can be used to enable farmers and agribusinesses to meet and network with other farmers, agribusinesses and consumers domestically and globally. An AgriChat model along the lines used in other developed countries can be introduced in India too.

Agriculture extension services have been pivotal in transferring new skills and knowledge to farmers and have been carried out by public funded institutions. A G.B. Pant Agricultural University study reported that agriculture extension is evolving into advisory services with fulfilling client oriented and demand led needs and involvement of NGOs, farmer organizations and private sector for helping farmers.

Trends in Environment and Risk Communication

That science tourism can be an effective communication tool for promoting scientific heritage was put forward by Dr. Lalit Kumar Sharma of Vigyan Setu Foundation. Many archaeological sites, science museums, science cities, science

parks, observatories, R&D institutions and universities can be potential science tourism sites. Based on a study on the coverage of climate change in major English dailies of India, Ms. Nisa Askari of Aligarh Muslim University reported that the political takes on climate change issues were predominantly covered in the dailies followed by reportage on disaster and risk, awareness and climate change developmental issues.

Vigyan Prasar recently made 13-episode video programmes on the science and technology behind Indian architectural sites. Mr. Navneet Kumar Gupta of Vigyan Prasar briefly gave a narrative about some of them such as evolution and advantages of constructing buildings with bricks, ancient water conservation and water harvesting technologies and so on.

Round table on India's Scientific Wisdom: Communication Strategies

A round table discussion on 'India's Scientific Wisdom: Communication Strategies' had many experts including Prof. K.G. Suresh, Prof. Manoj Kumar Patariya, Prof. Krishan Lal, Dr. C.M. Nautiyal and many other noted science communicators brainstorming on



Prof. Manoj Kumar Patariya, Director, CSIR-National Institute of Science Communication and Information Resources (CSIR-NISCAIR) welcoming Dr. Krishan Lal, former President, INSA



Dr. C.M. Nautiyal

various communication strategies for spreading India's scientific wisdom. Prof. V.K. Malhotra, Member-Secretary, Indian Council of Social Science Research was the chief guest. Mr. Declan Kirrane, Managing Director, ISC Intelligence in Science who joined the panel discussion over Skype from Brussels, Belgium said that there is a unique need to communicating science with policymakers as well as international collaborations.

Highlights

Science based entertainment or Scientainment was a unique highlight of ISCC-2017. The programme that included magic and puppet shows in the evening on both the days saw the delegates and the general audience enjoying and understanding many scientific concepts.

Summing-up the event during its conclusion, Prof. Manoj Kumar Patariya, Director, CSIR-NISCAIR highlighted various recommendations that emerged during the deliberations such as promoting science communication research and academics including training and cross cultural studies. He said that many interesting papers were read at the Science Communication Congress, notable among them being

the study by Dr. Manoj Mishra and his team under the guidance of Prof. Raja Ram Yadav, Vice Chancellor of VBS Purvanchal University on how science communication has played an important role in lowering the instances of casualties caused by snake-bites in the region.

Prof. V.K. Malhotra, Member Secretary, Indian Council of Social Science Research was the Chief Guest at the valedictory session who emphasized on value and respect for interdisciplinarity while dealing with subjects like science communication. Co-Chair of IAP for Science and Former President INSA Prof. Krishan Lal highlighted the significance of academies in promoting science communication and said the institutions like NISCAIR and IIMC are well placed to play major role in professional enrichment with global competitiveness in science communication.

The 17th ISCC-2017 concluded with expectation and promise by one and all that everyone would contribute towards promoting scientific awareness and inculcating scientific temper among masses.

*Contributed by Dr. G. Mahesh,
Swasti Malik, Tanuja and Shubhada Kapil
CSIR-NISCAIR, New Delhi*



CSIR-NAL Airboat Ready to Take on Weeds in Bengaluru Lakes



AN airboat developed at the Bengaluru-based CSIR-National Aerospace Laboratories (CSIR-NAL) is now set to clear out weeds from the Ulsoor Lake in Bengaluru. The first-of-its-kind airboat has successfully undergone trials for over two months.

Ulsoor Lake has been in the news recently for severe degradation. Field trials of the airboat with automotive engine and flat-bottom hull have successfully demonstrated that the airboat met all the parameters and could successfully cut weed and scoop

away the floating waste. The boat has a hydraulic system-based scoop and saw-toothed, sliding weed-cutters at the front.

The CSIR-NAL designed airboat can generate up to 40 hp and push 100 kg of weed. CSIR-NAL scientists plan to go in for a more powerful and sturdy engine – perhaps an engine that can generate up to 150 hp and could be used to clear lakes that are heavily infested with weeds. Airboats have huge propellers above the water and the power is generated from air instead of water to prevent the engine from getting jammed. The powerful propellers push forward the floating weeds and plants to one corner of the lake from where they can be bundled up to be lifted out of the lake.

Apart from regular de-weeding of lakes, the CSIR-NAL designed airboat could also be used during flood disasters, mass transport in marshy-lands, and for tourism. At a cost of about Rs. 20 lakh, the indigenous airboat is still much less expensive than the imported ones.

Apart from regular de-weeding of lakes, the CSIR-NAL designed airboat could also be used during flood disasters, mass transport in marshy-lands, and for tourism.



CSIR-IIIM Scientists Cultivate Bananas for the First Time in J&K

Using tissue culture techniques, scientists of the CSIR-Indian Institute of Integrative Medicine (CSIR-IIIM), Jammu have for the first time successfully cultivated bananas in Jammu and Kashmir.

Samplings of high quality tissue culture variety Bhim Grand Naine (G-9) banana brought from the Agro Division of Cadila Pharmaceutical Limited, Ahmedabad, Gujarat were cultivated over two acres land in the Field Experimental Farm Chatha. The cultivation trial consisted of planting of 2000 samplings of banana plants

in August 2016. The fruit setting commenced in July-August 2017. The plant grew to a height of 6.5 to 7.5 feet and gave yield of 20-30 kg per plant and 20-25 tonnes/acre, which translates to almost Rs. 250-300/banana plant. Farmers could get a net return of approximately Rs. 2.5 lakh by cultivation of this crop on one acre of land.

This is for the first time commercial cultivation of banana has been successfully accomplished in Jammu and Kashmir making it a profitable agriculture venture for farmers of the State.



CSIR-CSIO Transfers Technology of Military Aviation Head-up Display Test Platform to BEL

CSIR-Central Scientific Instruments Organisation (CSIR-CSIO), Chandigarh has pioneered the design and development of aircraft displays with variants of Head Up Displays (HUD). These display aircraft, flight, navigation, target and weapon information to the aircraft pilot in forward view superimposed on the forward scene viewed by the pilot.

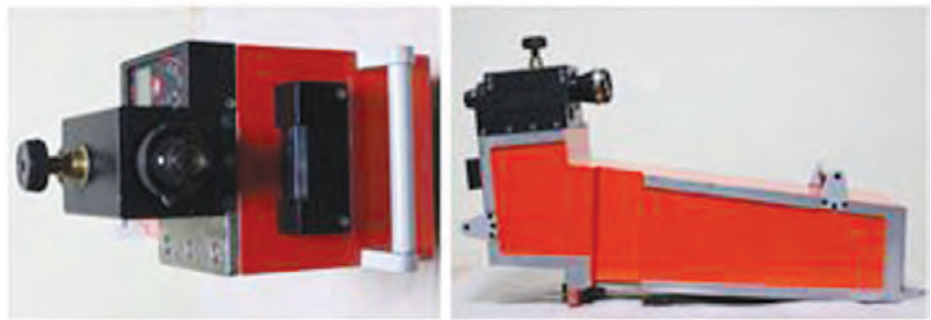
CSIR-CSIO has developed Head Up Displays (HUD) such as HUD Mk1, HUD Mk1N, HUD Mk1-NP, HUD H Series for Light Combat Aircraft (LCA) Air Force, Tejas Navy, Naval LCA Prototype and the Intermediate Jet Trainer Aircrafts, respectively. This achievement has placed India in the select list of countries



capable of such a complex technology.

The Institute has also come up with an "Aviation Cockpit Display Validation Platform - ACDVP" comprising Bore Sighting System and Military Head

Development of this technology package will also help in establishing self-reliance in strategic sector and is in line with Gol's 'Make in India' and 'Innovate in India' initiative.



Up Display Test Platform (MAHTP), which provides optical harmonisation, complete optical and electrical functional testing of Head Up Display Variants, Optical Display Units, Gun Sights, Bore Sighting Tool for Laser Ranger & Marked Target Seeker, etc. for fighter aircrafts (fixed and rotary wing) for pre-flight clearance, post-flight analytics, testing and calibration as well as for military ground based optical displays.

The design can be customised to any aircraft platform. The technology is strategically relevant to the Indian Air Force, and Aviation Wings of Navy and Army.

The technology for Military Aviation Head Up Display Test Platform (MAHTP) was recently transferred to Bharat Electronics Limited (BEL), Ministry of Defence, Panchkula for its licensed production.

The comprehensive aviation test platform provides visual inspection,

system health monitoring through communication, automated testing, fault debugging, repair and maintenance at system level, semi-automated evaluation of optical parameters like parallax error, binocular disparity, photometric characteristics, field of view, camera, etc, and calibration.

The Bore Sighting System (BSS), an opto-mechatronic aircraft ground equipment, which has been certified by the Regional Centre for Military Airworthiness Chandigarh (a body of DRDO – Centre for Military Airworthiness & Certification), is used to install and harmonise head up displays, optical displays and cockpit displays at the desired position in the aircraft cockpit with reference to the aircraft axis (Fuselage Reference Line) ensuring harmonisation within 1mR. Its indigenisation has saved several crores of foreign currency and its modular configuration provides an option to customize the design further for any aircraft platform. Its technology is under licensed production at Bharat Electronics Limited, Ministry of Defence, Panchkula.

Development of this technology package will also help in establishing self-reliance in strategic sector and is in line with GoI's 'Make in India' and 'Innovate in India' initiative. Each aircraft squadron would require one set of MAHP and BSS and hence an estimated FOREX saving of about Rs. 50 crores per aircraft type is estimated.



MoUs

CSIR-CDRI Signs MoU with NIPER for R&D in Pharma

NIPER has signed an MoU with the CSIR-CDRI (Central Drug Research Institute), Lucknow, for research collaboration and development of pharmaceutical sciences. The objectives of the programme are to promote institutional linkages between the CSIR-CDRI and NIPER and provide cooperation through collaborative research programmes in scientific fields of research. Both institutions will jointly identify specific fields of research and faculty/scientist exchange programmes will be mutually conducted for scientific conferences, workshops, symposia, and meetings in the areas of drug discovery.



Visits

Seven-Member Ethiopian Delegation Visits CSIR-IIP

A seven-member delegation, including a Minister and senior officials, from Ethiopia visited the CSIR-Indian Institute of Petroleum on 10 November 2017. The delegation arrived with the aim of signing a twinning programme for training and mentoring Ethiopian scientists, students and industry professionals in the energy and fuels area at the CSIR-IIP.

The Ethiopian delegation comprising State Minister Alemu Sime from Addis Ababa, Ethiopia, General Director of Chemical and Construction Inputs Industry Development Institute (CCI-IDI), Samuel Halala, Deputy-General Director of CCIIDI Hadushom Tuem, steering committee representative from Addis Ababa, Ethiopia, Sefora Hailu, steering committee members at CCIIDI Tesfaye Birhanu and Tetemke Mehari along with director of the testing and research directorate at Addis Ababa,

Muhiye Endrie visited the institute.

Apart from training programmes, CSIR-IIP has potential to offer its talent pool as consultants for industry-specific problems in Ethiopia and also partner in projects.

After a visit to the various laboratories of the institute, the delegation held discussions with scientific officials of the institute including the acting director Dr. A.K. Jain on the ongoing research activity at the CSIR-IIP. The delegation visited the hydroprocessing laboratory, FCC pilot plant, sweetening pilot plant, advanced crude evaluation laboratory, bio-mass conversion laboratory, nanocatalysis laboratory, conversion of waste plastics laboratory and the synthetic and applied chemistry laboratory. The delegation expressed interest in bio-mass conversion, waste plastics conversion as well as in training programmes being conducted by the CSIR-IIP.

Apart from training programmes, CSIR-IIP has potential to offer its talent pool as consultants for industry-specific problems in Ethiopia and also partner in projects.

West Bengal Governor Visits CSIR-CMERI

During his visit the Governor inaugurated the municipal solid waste pilot plant of the institute, which is a part of the 'Zero waste CSIR-CMERI Colony initiative' and also inaugurated the new CSIR-CMERI guest house.



Governor of West Bengal addressing the gathering

West Bengal Governor Shri Keshari Nath Tripathi visited the CSIR-Central Mechanical Engineering Research Institute (CSIR-CMERI) campus in Durgapur on 3 November 2017 on the occasion of the Institute's year-long diamond jubilee celebrations.

During his visit the Governor inaugurated the municipal solid waste pilot plant of the institute, which is a part of the 'Zero waste CSIR-CMERI

Colony initiative' and also inaugurated the new CSIR-CMERI guest house. Professor (Dr.) Harish Hirani, Director, CSIR-CMERI, Durgapur elaborated about the efforts of the institute to address the concerns of the underprivileged citizens by developing solar trees, municipal solid waste management pilot plant, fluoride detection kit, optimum utilisation of construction debris and others.



Governor of West Bengal inaugurating the municipal solid waste pilot plant of the institute

Obituary

Former CSIR-CCMB Director Dr. Lalji Singh Passes Away

Widely regarded as the “Father of DNA fingerprinting in India”, Dr. Lalji Singh, passed away in the last month of the year 2017. He died of a massive heart attack at the BHU Trauma Centre on 10th December.

The 25th Vice Chancellor of the Banaras Hindu University, the fourth Director of the Hyderabad-based CSIR-Centre for Cellular & Molecular Biology (CSIR-CCMB), and a Padma Shri recipient, Dr. Lalji Singh was a simple human being with great original ideas and a greater commitment to the cause of science.

Son of a farmer in Jaunpur, Uttar Pradesh, Dr. Singh completed his BSc, MSc and PhD degrees from BHU – a university he went back to lead as the Vice Chancellor. He pioneered the use of the DNA Fingerprinting technique in forensic investigation of crime and civil disputes. In an effort to convince the government to set up a dedicated centre for DNA Fingerprinting, he set up a DNA testing infrastructure at the CSIR-Centre for Cellular & Molecular Biology (CSIR-CCMB), Hyderabad which he was later to head as Director for 11 years.

Dr. Lalji Singh volunteered to help law enforcement agencies in investigating cases using DNA fingerprinting techniques. He was a frequent visitor to courtrooms appearing as witness and expert and even educating investigators, lawyers and judges.

His first success was a paternity dispute and his first major assignment was the assassination of the former



Prime Minister Shri Rajiv Gandhi in 1991. He pieced together the body parts and identified it as the body of the former PM using DNA tests. This was followed by many other high-profile cases including the Beant Singh assassination case, the Naina Sahni murder case and the Priyadarshini Mattoo rape and murder case. Eventually, the Department of Biotechnology set up the Centre for DNA Fingerprinting and Diagnostics (CDFD) in Hyderabad in 1995. Dr. Lalji Singh’s persistence and painstaking efforts had finally paid off. The DNA Fingerprinting technique has found utility in innumerable cases since then.

Even as Director of CSIR-CCMB, Dr. Lalji Singh set up the Laboratory for the Conservation of Endangered Species (LaCONES) for conservation of endangered wildlife in India. LaCONES notched up several successes including development of universal DNA based marker for identification of wild animals

Son of a farmer in Jaunpur, Uttar Pradesh, Dr. Singh completed his BSc, MSc and PhD degrees from BHU – a university he went back to lead as the Vice Chancellor. He pioneered the use of the DNA Fingerprinting technique in forensic investigation of crime and civil disputes.

from parts and remains, rehabilitation of smuggled star tortoises, detection of certain parasitic, bacterial and viral diseases in endangered animals from different zoological parks and wildlife sanctuaries in India using DNA-based methods, DNA banking of more than 250 species of mammals, birds and reptiles in India, and cryopreservation of gonads from endangered species and their effective revival for production of functional gametes. The facility also produced for the first time in India 'Spotty' a spotted deer fawn and 'Blacky' a black buck calf using artificial insemination.

In 2004, he floated the not-for-profit Genome Foundation for diagnosis and

treatment of genetic disorders especially those affecting underprivileged, rural people. His aim was to establish a pan-India network of centers to deliver diagnostic services at affordable costs to the masses.

Dr. Lalji Singh also did pioneering research on Indian population genomics and showed that the tribes in Andaman Islands were some of the first human beings to migrate out of Africa. His 2009 work reconstructing Indian population history even made it to the cover of *Nature*.

The pioneering contributions of this great scientist and humanist will always be remembered by the country.

In his keynote lecture on the topic "Joy of Doing Useful Inorganic Chemistry", Dr. T. Ramasami said bridging gaps in perspective remains the current challenge of sorts in doing useful chemistry.

Conferences/Symposia

Symposium on Modern Trends in Inorganic Chemistry inaugurated at CSIR-NCL

The seventeenth biennial symposium on 'Modern Trends in Inorganic Chemistry' (MTIC–XVII) jointly organized by CSIR-National Chemical Laboratory (CSIR-NCL), Pune and the Indian Institute of Science Education and Research (IISER), Pune in association with Savitribai Phule Pune University (SPPU), Pune was inaugurated on 11 December 2017 at CSIR-NCL.

The opening lecture was delivered by Prof. A. Chakravorty, Tata Chemicals Distinguished Emeritus Professor and the keynote lecture was given by Dr. T. Ramasamy, former DST Secretary, GoI.

In his opening lecture "An Old Man's Album of Inorganic Chemistry",

sharing the memories of the first MTIC symposium in 1985, Prof. Animesh said that MTIC has remained like a young man giving credits to the happenings in the forum. He informed that Chemical Science is about 300 years old but chemical technology is a few thousand years old. He talked about different technologies in different eras and its development.

Prof. Chakravorty explained what the job of chemists is. The chemists have to come up with new ideas; make, break, measure and eventually use them for a better life. He touched upon topics such as Redox, Voltammetry, X-ray diffraction, Oxo transfer and Twin

isomerisation, Imine to amide oxidation in wet media and different crucial tools in the laboratories. He said, “The lack of ready access to XRD facilities to chemists remained a hindrance to the progress of inorganic chemistry for long.” Concluding his presentation he said, “Inorganic Chemistry will keep scaling for the wonderful things and dreams that lie ahead and beyond. The scaling is itself a big prize.”

In his keynote lecture on the topic “Joy of Doing Useful Inorganic Chemistry”, Dr. T. Ramasami said bridging gaps in perspective remains the current challenge of sorts in doing useful chemistry. He shared some anecdotal stories in the meet. He discussed the greening of the industries focusing on the industrial applications of Inorganic Chemistry. The method for demand driven design and development of useful products by crossing the intellectual barriers in the leather industry was discussed. He talked about the applications of Inorganic Chemistry in building musical instruments like Mridangam and how science is contributing to music as well.

Dr. Ramasami informed about the recent trends in basic research in inorganic chemistry from the perspective of a planner. He said that

there is a significant increase in Gross Expenditure on R&D in India that is attracting talent to science, rejuvenating research in the university sector, stepping up international cooperation in science and improving the gender parity in science. He said MTIC as a part of the larger global effort could explore new research for replacing “Dual Use” Chemicals by viable alternatives without weaponry (dis) use. Researchers tend to seek users for their new findings. In other words solutions are seeking a problem to solve.

Earlier, Dr. Amitava Das, Director, CSIR-CSMCRI, Bhavnagar gave the welcome remarks. Dr. D. Srinivas, Chair, Catalysis and Inorganic Chemistry Division in the opening remarks said that Inorganic Chemistry has moved from molecular level micro understanding to macro level material understanding in our country. He said, “This modern trends symposium is an important forum to present and discuss the latest and most exciting aspects of Inorganic Chemistry.” He presented the crucial contributions made by CSIR-NCL from Inorganic Chemistry point of view.

Prof. Shyam Rai, IISER, Pune and Prof. Avinash Kumbhar, Dept. of Chemistry, SPPU also gave the opening remarks.



Dr. D. Srinivas, Chair, Catalysis and Inorganic Chemistry Division in the opening remarks said that Inorganic Chemistry has moved from molecular level micro understanding to macro level material understanding in our country.



Prof. Animesh Chakravorty delivering the opening lecture



Dr. T. Ramasamy giving the keynote lecture

Training Programmes/Workshops

Four-day Training Programme on ETIS 2017 begins at NML

Dr. I. Chattoraj, Director, CSIR-NML in his welcome speech mentioned that the delegates would utilize this opportunity to visit various laboratory facilities so that they can develop a wider knowledge about the excellent R&D facilities of this laboratory.

A Professional Training Programme on “Experimental Techniques in Iron and Steel making (ETIS 2017)” was organized by CSIR-National Metallurgical Laboratory (CSIR-NML), Jamshedpur in association with CSIR-NML Technology Business Innovation Centre (TBiC) during 5-8 December 2017.

Dr. Mita Tarafder, Training Co-ordinator of Professional Training Programme (PTP) welcomed the participants and appreciated delegates for coming to CSIR-NML to attend this four day professional training programme. She briefly mentioned about the parent organization Council of Scientific & Industrial Research (CSIR) and the 37 laboratories working in five clusters: Physical Science, Chemical Science, Biological Science, Engineering Science and Information Science. The National Metallurgical Laboratory is under the Engineering Science cluster working in the domain of metals, materials and metallurgy.

Dr. I. Chattoraj, Director, CSIR-NML in his welcome speech mentioned that the delegates would utilize this opportunity to visit various laboratory facilities so that they can develop a wider knowledge about the excellent R&D facilities of this laboratory. Through this training programme, they will also be able to develop contacts with scientists for future R&D collaboration and consultation. He also mentioned that CSIR-NML will always be providing R&D support for the growth of the Industry.

Dr. D. Bandhopadhyay, HOD of Metal Extraction and Recycling (MER)

division, described that the training is designed for plant engineers, research scholars and faculty members which will have theoretical classes in the forenoon sessions and hands-on sessions followed by case study and laboratory visits. He discussed various experimental techniques such as Sintering, Pelletization, Melting, Refining, Casting etc. in Iron and Steel-making processes. He congratulated MER and RPBD Division for conducting this programme.

Dr. Amitava Mitra, HOD of Research Planning & Business Development (RPBD), deliberated on the importance of the professional training programme which not only offers a platform for knowledge sharing but also develops interactions between R&D laboratory, industry & academia. He mentioned that this training is a small initiative of CSIR-NML for developing collaborative partnership with industries. He also indicated that the programme is conducted in association with CSIR-NML Technology Business Innovation Centre (TBiC) for promotion of technology based entrepreneurship in this area.

The Inaugural programme concluded with vote of thanks by Ashok Kamaraj, Technical Training Co-ordinator of MER division of this training programme. He thanked all the delegates from organizations such as Tata Steel Limited, Gerdau Steels India Pvt Ltd., Tata Sponge Iron Limited, PSG College of Technology, Coimbatore and Bangladesh Council of Scientific and Industrial Research (BSCIR) who had come to participate in the programme.

Hands-on Training Course on Spectroscopic and Chromatographic Techniques at CSIR-CSIO



Participants in the training programme

A four-day “Hands-on Training Course on Spectroscopic and Chromatographic Techniques” was inaugurated at the CSIR-Central Scientific Instruments Organisation (CSIR-CSIO), Chandigarh. The training programme was organised by CSIR-CSIO and majorly sponsored by the Haryana State Council for Science and Technology and Punjab State Council for Science and Technology. The entire course was distributed in two capsules including:

- **Capsule program I:** Spectrometric & Spectroscopic Techniques (Atomic Absorption Spectroscopy, UV-Vis Spectroscopy, Photoluminescence Spectroscopy, Auger Electron Spectroscopy, Fourier Transform-Infra red Spectroscopy)
- **Capsule program II:** Chromatographic Techniques (Adsorption



The training programme in action

(liquid/solid) Chromatographic Separation, HPLC, LCMS, IC & GC)

In the inaugural session, Prof. R.K. Sinha, Director CSIR-CSIO said that he truly believed that engagement of faculties of different universities

Prof. R.K. Sinha, Director CSIR-CSIO said that he truly believed that engagement of faculties of different universities attending this training will certainly make this training programme fruitful and productive since CSIR-CSIO has state-of-the-art equipment and facilities on which the candidates will be given hands-on training.

attending this training will certainly make this training programme fruitful and productive since CSIR-CSIO has state-of-the-art equipment and facilities on which the candidates will be given hands-on training. He further added that CSIR-CSIO has experience in conducting such programmes as similar courses have been conducted for participants from foreign countries as well.

The main objective of this workshop is to provide hands-on training on various spectroscopic and chromatographic characterization techniques to the selected participants. The programme included theoretical classes along with practical demonstrations in different labs. This will be helpful in analysis of materials, food, water, pharmaceutical and soil sample analysis.

Honours & Awards

Dr. Manoj Kumar Patairiya Receives Lifetime Achievement Award for Science Communication



Dr. Manoj Kumar Patairiya, Director, CSIR-NISCAIR being honoured by UP Governor Shri Ram Naik for his Lifetime Achievement in Science Communication at Marvellous Records' Legends Summit, Lucknow in the presence of UP Women & Child Welfare Minister Ms. Ritu Bahuguna Joshi and UP Law and Justice Minister Shri Brijesh Pathak

Dr. Manoj Kumar Patairiya, Director, CSIR-National Institute of Science Communication And Information Resources (CSIR-NISCAIR), New Delhi was recently awarded by Uttar Pradesh Governor Shri Ram Naik for his Lifetime Achievement in Science Communication at the Marvellous

Records' Legends Summit, Lucknow held on 9 December 2017 at the Indira Gandhi Pratishthan, Vibhuti Khand, Gomti Nagar, Lucknow.

The programme was attended by a large number of people including Cabinet Ministers in the UP Government including Minister of Women Welfare,

Family Welfare, Maternity, and Child Welfare and Tourism, Dr. Rita Bahuguna Joshi and Law Minister Shri Brajesh Pathak.

The Marvellous Records Book of India is published by the Aviral Foundation every year, in which outstanding performers from different regions across India and in different fields are profiled.

Dr. Manoj Kumar Patairiya joined as Director of the CSIR-National Institute of Science Communication And Information Resources (CSIR-NISCAIR), New Delhi in 2016. In his earlier assignment, Dr. Patairiya was the Additional Director General, Prasar Bharati (Doordarshan/All India Radio), where he was responsible for setting up the Kisan TV Channel to realize the vision of Hon'ble Prime Minister of India Shri Narendra Modi. He also served as the Channel Head of DD Kisan Channel.

A well accomplished scientist and science communicator, Dr. Patairiya has served as Adviser/Scientist 'G' in the Department of Science & Technology, Govt. of India. Dr. Patairiya is decorated with prestigious national and international awards including Global Science Popularization Award by Centre for Global Studies, Houston, USA; Indira Gandhi National Award by Ministry of Home Affairs; Dr. Atmaram Award by Ministry of Human Resource Development; Bhartendu Harischandra National Award by Ministry of Information & Broadcasting; Chaudhary Charan Singh National Award by Ministry of Agriculture & Farmers' Welfare, and Dr. B.C. Deb Award by Indian Science Congress, etc.

Dr. Patairiya has two Indian Patents to his credit besides developing several gadgets, prototypes and educational aids. He has conceptualized and undertaken a number of research and

development projects in collaboration with R&D institutions, universities and other government, non-government and international institutions. He has conducted training programmes, created academic courses, established Centres for Science Communication and Science Archives, organised conferences, and started special programmes on Technology Communication, Risk Communication, Spirit of Innovation, International Cooperation, etc.

Dr. Patairiya's innovative efforts towards science communication, motivational research, innovation, management, governance, and policy development have made significant impact leading to growth and development of the science and technology ecosystem. He has authored books on biotechnology, environment, and science communication, and co-edited the widely acclaimed books – *Sharing Science and Science Meets Communication* – and has a large number of high standard research and popular science publications to his credit.

Dr. Patairiya has been a Member of the Scientific Committee of the International Network on Public Communication of Science & Technology (PCST), Australia, Founder Editor of the *Indian Journal of Science Communication*, and Former President of the Indian Science Writers' Association. He was a Visiting Professor of Global Communication in S&T at the Chungnam National University of the Republic of Korea and serves on Editorial Boards of different research journals in India and abroad. Recently he has been elected as the Vice Chair of the International Inter-Academy Group on Science Communication which is a recognition of India's leadership position in science communication at the global level.



Dr. Patairiya's innovative efforts towards science communication, motivational research, innovation, management, governance, and policy development have made significant impact leading to growth and development of the science and technology ecosystem.

Nominations are invited for
Shanti Swarup Bhatnagar Prize
for
Science and Technology 2018

The Council of Scientific & Industrial Research (CSIR) invites nominations for the Shanti Swarup Bhatnagar (SSB) Prizes in Science and Technology for the year 2018. The SSB Prizes are to be given for research contributions made primarily in India during the past five years. The age of the nominee for the SSB Prize 2018 should not be more than 45 years as on 31 December 2017.

The SSB Prizes are awarded for notable and outstanding research, applied or fundamental, in the following disciplines: (1) Biological Sciences, (2) Chemical Sciences, (3) Earth, Atmosphere, Ocean and Planetary Sciences, (4) Engineering Sciences, (5) Mathematical Sciences, (6) Medical Sciences and (7) Physical Sciences. The SSB Prize carries with it a citation, cash award and a plaque for each scientist selected for the award.

Nominations addressed to Scientist Incharge - SSB YSA Unit, Human Resource Development Group, CSIR Complex, Library Avenue, Pusa, New Delhi 110 012 should be sent as per the prescribed proforma (original + 2 copies) along with reprints of significant publications of the last 5 year's period on or before 31 March 2018.

Softcopy (in PDF format) of duly filled proforma and significant publications of the nominee are also required in a USB/Pen drive. The details of the SSB Prize and the prescribed proforma for nomination may be obtained from the above address or may also be downloaded from the **website: <http://csirhrdg.res.in>**

Printed and Published by

Dr. Manoj Kumar Patariya on behalf of CSIR-National Institute of Science Communication And Information Resources

Dr. K.S. Krishnan Marg, New Delhi -110 012 and printed at NISCAIR Press

Dr. K.S. Krishnan Marg, New Delhi -110 012

Editor : Hasan Jawaid Khan; **Assistant Editor :** Sonali Nagar

Design: Neeru Sharma & Sarla Dutta; **Production:** Pankaj Gupta

Phone: 25848702; Fax: 25847062; E-mail: csirnews@niscair.res.in; hjk@niscair.res.in

Website: <http://www.niscair.res.in>

Please direct all Subscription-related queries to:

Sales & Distribution Officer, NISCAIR; E-mail: sales@niscair.res.in; Phone: 25843359

Annual Subscription: Rs 500; Single Copy: Rs 50.00

RN 4512/57