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In The News

CSIR to Promote Industrial R&D in Rajasthan One-day R&D-Industry Meet for MSMEs Organised by CSIR-CEERI

THE CSIR-Central Electronics Engineering Research Institute (CSIR-CEERI), Pilani, organised a one-day R&D-Industry meet for Micro, Small & Medium Enterprises (MSMEs) on 1 March 2017 at Hotel Clarks Amer, Jaipur in association with the Department of Science and Technology (Govt. of Rajasthan), MSME Development

Institute, Jaipur (Ministry of Micro, Small & Medium Enterprises, Govt. of India) and Confederation of Indian Industry (CII), Rajasthan.

Dr. Girish Sahni, Director General, CSIR, Dr. Nivedita Mehru, Director, DST (Rajasthan), and Prof. Santanu Chaudhury, Director, CSIR-CEERI inaugurated the meet by lighting the



Dr. Nivedita Mehru, Director DST, Government of Rajasthan inaugurating the meet

lamp.

In his welcome address, Prof. Santanu Chaudhury, Director, CSIR-CEERI said that the objective of the meet was to start a dialogue and establish a bridge between the research laboratory and the industry. He elaborated that CSIR-CEERI would like to take its R&D outputs to the people through industrial participation. The initiatives by CSIR-CEERI would act as catalysts for the success of Government programmes such as Make in India and Startup India, he said.

Ms Nivedita Mehru, Director, DST (Rajasthan) said that the meet was aimed at exploring and discussing the endless possibilities that could be nurtured with

the harmonious congruence of micro, small and medium industries with that of electronics and allied technologies. The magnificence of digitisation created an architecture that could not only foster innovations and product development, in the context of MSMEs, but it could also contribute to the development of the nation in a big way.

Dr. Girish Sahni in his address said that CSIR would like to bring more synergy among the research laboratories, scientists, entrepreneurs and experienced business people having an interface with the society. The interface with society would create value. He added that in the present scenario our neighbouring country China was leading the whole world. It was planning to hire Indians with lucrative salaries and the creative Indian talent would work for the Chinese economy. Therefore, it was the need of the hour to put our heads, shoulders and minds together in creating synergy. The magic mixture of science, technology and business would create value, he said.

Dr. Sahni said that during the past 75 years, CSIR had given several hundreds of products to the country and many of them were still in the market. He said that CSIR laboratories were prepared to assist industries not only in terms of patents and knowledge but also offer their infrastructure for creating facilities with industry partnership. CSIR would like to set up technology parks in all its laboratories. CSIR had already set up a 500-crore innovation fund from its own earnings and joint technologies created with the help of industry could be seed funded.

In the Plenary Session, Prof. Santanu Chaudhury welcomed the chief guest, Hon'ble Minister of Science and Technology, Government of Rajasthan, Smt Kiran Maheshwari. He gave a brief introduction about CSIR-CEERI and



Prof. Santanu Chaudhury, Director CSIR-CEERI delivering the welcome address



Dr. Girish Sahni, DG, CSIR addressing the gathering



Mr A.K. Jain, MD REIL (Jaipur) speaking at the meet



Mr Pradeep Ojha, Deputy Director, MSME (Jaipur) speaking at the meet



its innovation and incubation centre being established in Jaipur. He explained that the core activity of the centre would be to work as a hub for research and development activities and MSME sector. It would give an opportunity for the scientists as well as the industry professionals to develop and nurture technologies under a common roof. It would also work for MSME to develop new products and market the products.

The centre would also be setting up the testing and standardisation facilities to market the products with an authenticated certification. The centre would also support youngsters coming out of colleges and other institutions in realising their creative ideas through CSIR-CEERI and other CSIR laboratories.

In his address, Dr. Girish Sahni said that scientific capabilities already exist in CSIR laboratories and it would be up to the leadership to invest money in research projects. For any kind of research proposal, CSIR was highly resolved and committed under the leadership of our Hon'ble Prime Minister to bring science and technology to the industry and the masses.



DG, CSIR and Director CSIR-CEERI in discussions with the industrial participants



Smt Kiran Maheshwari, Hon'ble Minister for Science & Technology, Government of Rajasthan addressing the audience

Smt Kiran Maheshwari, Hon'ble Minister for Science & Technology, Government of Rajasthan said that she hoped the incubation centre being set up by CSIR-CEERI at Jaipur would help students and entrepreneurs. She further hoped that CSIR and central government would support the initiatives of the government of Rajasthan. She added that the research work carried out at the laboratories should not be dumped in the form of publications and it required to be implemented for public use.

A white paper was signed between CSIR-CEERI and DST, Rajasthan. Prof. Santanu Chaudhury (Director,

CSIR-CEERI) and Dr. Nivedita Mehru (Director, DST Rajasthan) exchanged the signed documents. A non-disclosure agreement (NDA) was also signed between CSIR-CEERI and REIL, Jaipur. Dr. S.A. Akbar (Head, PMBD CSIR-CEERI) and Mr R.K. Gupta (GM REIL) exchanged the signed documents.

While Ms Nalini Pareek, Scientist coordinated the programme, Dr. Jamil Akhtar, Chief Scientist, CSIR-CEERI proposed the vote of thanks.

After the plenary session, the chief guest Smt Kiran Maheshwari inaugurated the industrial exhibition.



Dr. Girish Sahni, DG, CSIR giving an interview to Doordarshan, Jaipur



Hon'ble Minister Smt Kiran Maheshwari inaugurating the exhibition and visiting the technological exhibits

Industry Meet at CSIR-NAL to Boost 'Make in India' Programme



The first ever Industry Meet was organised on 28 April 2017 by the Bengaluru-based CSIR-National Aerospace Laboratories. This event, jointly organised by CSIR-NAL, NALTech & SIATI was a giant step taken by the CSIR-NAL to reach out to industries in furthering the ambitious 'Make in India' programme of the Government through its technologies and engineering design capabilities.

More than 100 industries from aerospace & defence manufacturing, including leading industries like Boeing, BHEL, BEL, HAL, BOSCH, Tata Advanced Systems, TCS, L&T, Reliance Industries, etc., participated in the event.

Dr. Jitendra J. Jadhav Director, CSIR-NAL offered industries various business opportunities in partnership and collaborative mode and also for creating startups/incubators with industry partnership. As a part of the event, CSIR-NAL showcased its technologies and engineering design capabilities followed by one-to-one interaction. The industry representatives appreciated the technology and engineering design services available at CSIR-NAL and showed a keen interest in collaboration in areas like composites, autoclave

technology, autopilot for MAV/UAV, carbon fibre, design & development of small and medium civil aircraft, etc.



CSIR-CLRI Offers Training to Customs Officials in Examining of Leather

The leather industry in India is still largely export dependent. The industry not only exports leather and leather products, it also imports a variety of inputs including hides, skins and finished leather in compliance with the country's

foreign trade norms. It is often said that complicated foreign trade procedure and inordinate delay in clearing the consignments is one of the important reasons why the country is losing out to its competitors in the leather trade. Therefore, if the country has to facilitate the foreign trade of leather and leather products significantly, it has to put in place a system to clear promptly all consignments which satisfy the norms while bringing meticulously under scanner all those that show deviation.

One of the major impediments that blocks speedy clearance of consignments at port and country border is lack of an adequate number of Customs Officers having specialised knowledge in leather, leather products and components. Therefore, the Indian Customs Authority, which is responsible for monitoring foreign trade and checking the level of compliance with foreign trade norms, felt the need to undertake a capacity building exercise for its personnel to enable them to take quick decisions in respect of import-export consignments.

As a part of the capacity building exercise to enable its officers to distinguish crust from finished leather and make a distinction between leather and non-leather articles clearly, quickly and confidently to achieve the larger goal of prompt clearance of export-import consignments, the Customs Office at Air Cargo Complex of NSCBI Airport nominated ten officers to receive training at RCED (CSIR-CLRI), Kolkata.

The Kolkata office of CSIR-CLRI designed a special programme called "Examination of Finished Leather &



Dr. Dipankar Chaudhuri, Chief Scientist and Head, RCED (CSIR-CLRI), Kolkata, explaining a point to the customs officials



Mr Nayan Sarkar, Technical Officer, RCED (CSIR-CLRI), Kolkata in a theory session. Officers attending the session (from the left) are Mr Suryadipt Kumar Singh, Mr Anil Verma and Mr Devendra Kumar

Products for Export” for the Customs officers. It was a four-day training programme with a blend of theory and practice supplemented by plant visit, discussion and self-study.

The programme covered a number of key areas like i) Microstructure of different hides and skins, their commonalities and distinctive features; ii) Leather making operations and their impact on leather properties and physical appearance; iii) Finishes of various types and their distinctive features and classification; iv) Characteristics of various types of finished leather and their assessment in the light of finish leather certification norms; v) Standard protocols for physical & chemical testing needed for finish leather certification; vi) Leather/non-leather distinction and guidelines for ascertainment of leather products in India and abroad, and vii) Overview of Indian leather industry, its export dependency, economic importance, growth potential, development constraints and expectations such as simpler export procedure and faster customs clearance, etc. which can place this region and the country at par with the competing regions.

The programme commenced on 17 February 2017 and came to an end on 6 March 2017. During the programme, the Customs Officers were taken to three leather-making units in CLC for visit. The officers, who took keen interest in learning, went around the units, watched the ongoing operations and interacted with the unit managers/proprietors to get a comprehensive view of leather-making processes.

The lecture-discussion and demonstrations that formed an important part of the programme were held at the RCED, Kolkata Office. It was observed during and after the programme that the officers could identify the animal

species and distinguish finished leather from the crust leathers independently and with confidence. They also became very familiar with the prevailing country norms for assessment of finished leather and leather articles. In the feedback, the officers expressed complete satisfaction with the training course.



A moment from the demonstration session. Mrs Anusha Mediconda examining a piece of leather under microscope



Factory visit by the team under the guidance of Mr Nayan Sarkar (Technical Officer, CSIR-CLRI). Customs officers seen in the photo (from the left) are Mr Lalit Kishor Merdwal, Mr Harsh Mittal, and Mrs Anusha Mediconda



Dr. Sandipan Chatterjee, Scientist, RCED (CSIR-CLRI), Kolkata demonstrating the TLC technique. The Officers seen in the photo (from the right) are Mr Vikki Kumar, Mr Vishal Kumar (face blocked) and Mr Manish Kumar Sharma

This initiative for capacity building taken by the Customs authority to achieve faster clearance of all export-import consignments is a welcome move for the exporters in this region

and trade in general. It is hoped that this programme will help the regulatory authority achieve the stated goal and facilitate the export trade from this region in a very significant manner.

MoUs

MoU Signed Between CSIR and CII

CSIR and Confederation of Indian Industry (CII) signed a Memorandum of Understanding on the occasion of the CSIR Leadership Meet at Hotel Le Meridien, New Delhi, with the objective to form a “Make in India Technology Venture”.

This joint initiative will cover a large spectrum, including technology development and deployment primarily led by industry and in partnership with academic and research institutions, nationally and globally. It will also attract significantly

higher investments in technology development and technology commercialisation by launching a “PPP Technology Development & Deployment programme” focusing on priority sectors aligning to India’s key aspirations under Make in India, Startup India, Skill India, Clean India, etc.

A high-level apex body named “Technology Development & Deployment Advisory Council” will also be formed under this MoU to drive this proposed joint initiative.

National Technology Day

CSIR-National Institute of Science Communication and Information Resources (CSIR-NISCAIR), New Delhi



Dr. Manoj Kumar Patairiya, Director, CSIR-NISCAIR welcoming the speakers

The CSIR-National Institute of Science Communication and Information Resources (CSIR-NISCAIR), New Delhi organised a Panel Discussion on “Promoting the Spirit of Innovation” on the occasion of the National Technology Day on 11 May 2017. The panellists on the occasion were Dr. H.R. Bhojwani, Former Adviser to Minister of S&T, Head, Planning & Monitoring and Emeritus Scientist, CSIR and Dr. Hanumantha Purushottam, Chairman and Managing Director, National Research Development Corporation (NRDC).

Welcoming the guests, Dr. Manoj Kumar Patairiya, Director, CSIR-NISCAIR set the ball rolling with his comment that innovation was essential for the country but what was much more needed was hand-holding of innovators so that an army of innovators could be created. And it is here that the role of organisations like NRDC and National Innovation Foundation was para-

mount, he said. He also said that a mechanism needs to be put in place where by innovators can spend some time in laboratories

and get an insight into various other aspects related to innovations. Dr. Patairiya also said that going beyond the mandate of inculcating scientific temper, he would like CSIR-NISCAIR to also work for inculcating “innovation temper”.

The Panel Discussion was moderated by Mr Hasan Jawaid Khan, Chief Scientist and Editor, *Science Reporter*. In



Dr. Manoj Kumar Patairiya, Director, CSIR-NISCAIR



Mr Hasan Jawaid Khan, Chief Scientist and Editor, *Science Reporter*

his introductory remarks, Mr Khan said that India was known for its *jugaads*. *Jugaad* could be a good starting point, he said, but there was a need to move beyond *jugaad* to “innovation”, which is scalable, cost-efficient and commercialisable. He said that kindling the spirit of innovation should start right from childhood. Unfortunately, in many cases, it is at this stage that the innovative spirit gets smothered when children do not receive satisfactory answers and when questioning gets frowned upon by parents and teachers.



Dr. H.R. Bhojwani, Former Adviser to Minister of S&T, Head, Planning & Monitoring and Emeritus Scientist, CSIR

Deliberating on the topic of discussion, Dr. H.R. Bhojwani emphasised that innovation does not only come through education and technical background. “We have tremendous creativity among our indigenous people,” he said. Defining innovation as anything that is new to the firm, to the industry, to the country and to the



Dr. Hanumantha Purushottam, Chairman and Managing Director, NRDC

world (as per the Oslo Manual), Dr. Bhojwani also said that innovation is an invention that goes into the economic or social ecosystem. He said that a facilitating environment was required for innovation to take birth, which he very beautifully brought out through the real-life story of a person who found innovative solutions to tricky problems even though he did not possess a high educational qualification. Dr. Bhojwani stressed on the need to motivate and nurture innovation in people who would work in the factories, with their own hands.

Investment and innovation go hand in hand, felt Dr. H. Purushottam. He said that a wholesome innovation ecosystem is built through the right investments that lead to setting up of incubation centres, and also attract venture capitalists and entrepreneurs. He cited the example of China where entrepreneurship was instilled into children right from the childhood – motivating them to solve problems faced by the society around them. Dr. Purushottam stressed on the need to cultivate the habit of questioning so that an innovation culture could be built up. He also gave a presentation on the role of NRDC in promoting and nurturing innovation and innovators in the country.

The programme was conducted by Ms Charu Verma and Mr Sanjay Burde



CSIR-Central Scientific Instruments Organisation (CSIR-CSIO), Chandigarh



CSIR-Central Scientific Instruments Organisation (CSIR-CSIO), Chandigarh celebrated the “National Technology Day” on 11 May 2017 to mark the historic test firing of Shakti-1 nuclear missile at Pokhran Test Range in 1998. The same day also saw two other major events in 1998 — successful test firing of Trishul missile and successful flight of the indigenous aircraft HANSA-3.

The event witnessed a huge gathering of scientists, industrialists, teachers, research scholars, and students. Welcoming the gathering, Prof. R.K. Sinha, Director, CSIR-CSIO, narrated the historical major technological breakthroughs India had witnessed in 1998. He said that these major achievements had elevated the national imagination of scientists and technocrats. He pointed out the changing course of the technological market from being self-reliant to competing in the global market.

Chief Guest, Padma Prof. K.L. Chopra, Former Director, IIT Kharagpur, delivered the National Technology Day Lecture on “*Nurturing*



Prof. R.K. Sinha addressing the gathering



Prof. K.L. Chopra delivering the National Technology Day lecture

Innovations and Entrepreneurship in Knowledge Institutions”. He talked about knowledge-driven science, technologies and innovations created by researchers



in the premier R&D institutions and their translation and transformation by entrepreneurs in S&T technology parks for the betterment of human lives. He emphasised upon building the Innovation Ecosystem by intersecting multi and cross-disciplinary, integrative, and translational principles of knowledge. He further said that such a system would necessarily have to be flexible, dynamic and responsive, with accountable governance.

The day was celebrated as an open day and all the labs were kept open for the general public. Industry members and students went around the lab and interacted with the scientific staffs about the various research activities currently being pursued at CSIO.

CSIR-National Institute for Interdisciplinary Science & Technology (CSIR-NIIST), Trivandrum



As part of the Technology Day celebrations in the National Institute for Interdisciplinary Science & Technology, Thiruvananthapuram, Padma Vibhushan Prof. M.M. Sharma, Former Director, Institute of Chemical Technology, Mumbai, delivered the Technology Day lecture on “*The Crucial Role of Innovation to Trigger Rapid Economic Growth*” on 11 May 2017.

While emphasising the importance of innovation, he said that innovative ideas can be born from good science, which can turn into innovations, technologies for the benefit of mankind which influence economic growth



Dr. A. Ajayaghosh welcoming Prof. M.M. Sharma



directly, while citing some technologies that have changed the fundamentals of business such as Ball Pen, Helicopter, Transistor, CD's, DNA, Vaccines, Antibiotics, Mobile phones, Anaesthetic agent, etc. The veteran of chemical engineering said that innovations cannot be scheduled, they require enough time to mature and many of the innovations had taken years for this process.

He also pointed out that innovation is tough to manage and easy to stifle and the innovator is often harassed because Creativity thrives on Instinct, Uncertainty, Freedom and Iconoclasm while management demands Consensus, Control, Certainty, and Status quo. Half of the great innovations in the world came from great insights, the other half happened by accident and none of them on a schedule and there was no one predictable path to successful innovation. Patience is a mandatory condition if innovation is to thrive.

While congratulating the achievements of CSIR-NIIST, Prof. Sharma emphasised that a fertile relationship between Science and Engineering is required for innovation. The mistakes are common, not because people or firms are incompetent but



Prof. M.M. Sharma delivering the National Technology Day lecture

because they are continuously dancing on the edge of knowledge. The ability to learn from failure is critical to making progress and in India a very important factor affecting Innovations is the total lack of ownership of failures.

Dr. A Ajayaghosh, Director NIIST congratulated all NIIST Scientists for their achievements during the last year both in delivering high science and technological products and process to various industries. Dr. A Sunderesan, Chief scientist proposed the vote of thanks in the function.

CSIR-North East Institute of Science & Technology (CSIR-NEIST), Jorhat



Dr. D. Ramaiah, Director of CSIR-NEIST, addressing the gathering

CSIR-North East Institute of Science & Technology (CSIR-NEIST), Jorhat, celebrated the National Technology Day on 11 May 2017 with signing of agreements for technology transfer, Open Day for students and public and a meeting.

Prof R.K. Khandal, President R&D Business Development, India Glycols Ltd. Noida, graced the meeting as the Chief Guest of the programme and delivered the National Technology Day lecture. The programme was presided by Director CSIR-NEIST, Dr. D. Ramaiah. Besides, the Director of Central Muga Eri Research & Training Institute, Dr. B.K. Singh, veteran and retired scientists were present and ex-staff members of the CSIR-NEIST fraternity, students and research scholars, industry partners, Press & Media also attended the function.

In his opening remarks, Dr. D Ramaiah dwelt upon the significance of the Technology Day, progress of science and technology in the country, vision and leadership of the Hon'ble Prime Minister of India and President of CSIR, Shri Narendra Modi and Hon'ble Science and Technology Minister of India and the Vice-President of CSIR



Prof. R.K. Khandal delivering the Technology Day Lecture



Prof. R.K. Khandal releasing the compendium on CSIR-NEIST technologies



Shri Harsh Vardhan. In his illuminating speech on “*Role of CSIR in making Chemical Industry Self Sustainable*”, Dr. Khandal carried the entire audience with him through his eloquent observations on the progress of the Indian chemical industry vis-a-vis China and his road map for CSIR to making India leaders in the chemical industry. He also urged the CSIR-NEIST scientists to develop their know-how in such a fashion so as to be relevant to the society by providing practical and hands-on solution to the day-to-day problems of the common masses. In tune with the spirit of the day, a “Compendium on CSIR-NEIST Technologies” was also released by the Chief Guest to commemorate the technological feats achieved by the Institute.

In resonance with the spirit of the day two technologies on “Bacterial Formulation for crop enhancement and yield improvement” and “Agrotechnology on Citronella, Jor Lab C-5” were transferred to Lukwah Tea Estate, district Sivasagar, Assam, and “Agrotechnology on Citronella, Jor Lab C-5” to Nahorjan Tea Estates, district Golaghat, Assam.



Transfer of CSIR-NEIST Technologies



Felicitation of Mr. Ajay Pareekh, proprietor of Lukwah Tea Estate, Sivasagar, Assam



A group of visitors during the Open Day

The Jor Lab C-5 is a high-yielding Citronella variety released and dedicated to the nation by Hon'ble Prime Minister of India Shri Narendra Modi. The innovators of the various technologies of CSIR-NEIST in recent times, namely, Dr. Mantu Bhuyan for Anti-Arthritis, Dr. Tridip Goswami for Liquid Deodorant Cleaner, Solid Deodorant and Freshener and Wood Care formulation, Dr. H.P. Dekabaruah for Bacterial Formulation for increase of crop yield

and Dr. Mohan Lal for Agrotechnology for high yield of Citronella along with their team members were feted.

The programme wined up with a vote of thanks by Dr. P. Sengupta, Chief Scientist and Head of Materials Science and Technology Division of the Institute. The day was also declared as an 'Open Day' for students and the general public where more than 100 students and teachers from different schools visited the Institute.



Felicitation of the Group that developed the high yielding Lemon Grass Variety Jor Lab L-8

CSIR-Central Building Research Institute, Roorkee



CSIR-Central Building Research Institute, Roorkee, celebrated the National Technology Day on 11 May 2017 to commemorate technological breakthroughs of Indian technology and inspire young minds in the areas of Science and Technology. Dr. Rajendra Dobhal, Director General, Uttarakhand State Council of Science and Technology, Dehradun, graced the occasion as the Chief Guest and Dr. Bikas Mohanty, Professor, Indian Institute of Technology, Roorkee and Member, Research Council, CSIR-CBRI as the Guest of Honour. Dr. N. Gopalakrishnan, Director, CSIR-CBRI presided over the function.

Addressing the gathering, Dr. Rajendra Dobhal stressed the necessity of “Technology Management” to help in better commercialisation of the new built techniques, so that the technology reaches the target population including the poorest.

He compared the R&D budget of various countries. He pointed out that the country still lacks a consolidated technology database of all the developed technologies. Thus, the information on the latest developments is not available to the investors or public at large.

He said that a scientist cannot be asked to play the role of a businessman. The country needs to develop domain experts and technology management experts to help in the marketing of the newly built technology. Also, the commercial viability of a patent application must be checked and maintained to develop the practice of a much more output-oriented research and development work.

Any technology that does not provide any substantial use to the target market

should be discarded. The technology developed must follow the market and have some use for the target population. He also emphasised on the need of a healthier public-private bonding for the development of technologies and



Dr. N. Gopalakrishnan, Director, CSIR-CBRI, Roorkee delivering the Presidential Address

their commercialisation. The research and development activities should not be limited to a public organisation funded by the government. Also, both private and government research and development facilities should work together and also partner with industries for the development of sustainable and commercially acceptable technologies.

Reminiscing the glorious technological advancement of the country, Dr. Bikas Mohanty motivated



Dr. Rajendra Dobhal, Director General, Uttarakhand State Council of Science and Technology, Dehradun, addressing the gathering

the scientists to further add to the technological prowess of the nation and presented an intriguing lecture on “**Current Challenges and Future Directions in Technology**”. He said that philosophy drives science and technology. It finds a problem, and we need to raise our mental and knowledge level to achieve the solution.

He cited various examples from chemical engineering and biology to explain the process of development of technology. Observation, modelling, search and research play vital role in the development of an economical technology. There is a constant search for the scope of improvement in technology to consume lesser energy. Technology cannot be limited or bound. It exists in different scales from nano, pico, yocto to peta, giga, yotta; and follow various streams from geology, polymer, food to astrophysics and more, he added.

He said that the relationship between science and technology is interdependent. The development of a new technology follows an S-curve of development, improvement, maturity and ageing. These different S-curves over a period form the straight line of progress and development. Any technology developed should have a large target population and should be easy to consume, economical, sophisticated and different. It should have modularity and flexibility in the design to adapt to the changing market scenarios. The cost and time of production of technology should decrease, and it should see an increase in the production capacity.

After the industrial and information revolution, the world is moving forward to achieve improved new socio-economic structures, with a new agro-based “Carbon Neutral” revolution. We need to move forward by maintaining the balance of ecology, with the perspective of economic advance. He

also stressed the importance of “Process Intensification” and explained that the future holds a shift from large to small size industries that produce cheaper, smaller, safer products with less wastage and energy consumption.

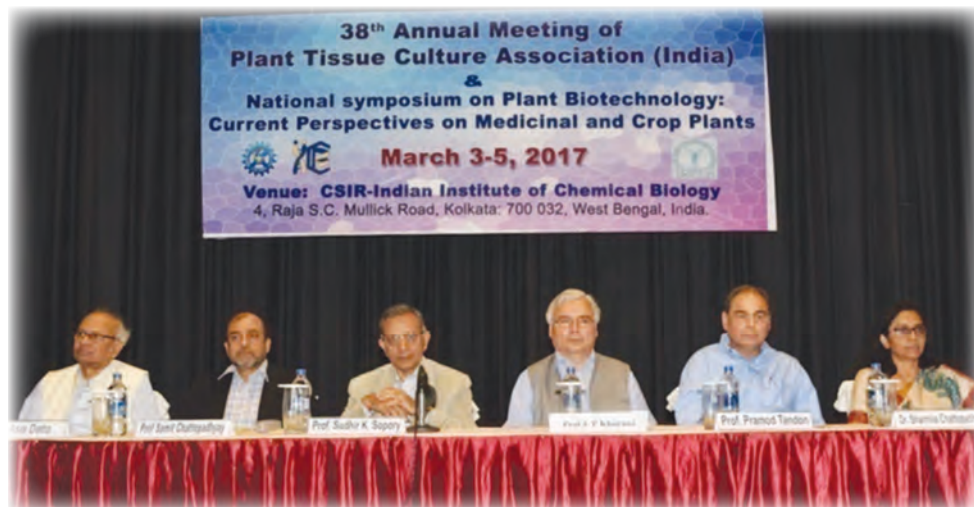
We need to adopt and work to improve the sustainable concepts of recycle society, green technology and biomimicry. He redefined profit stating that profit should equate to the combination of ecology, ethics, and sustainability along with monetary gains.

In his Presidential Address, Dr. N. Gopalakrishnan welcomed the guests and highlighted various scientific achievements of CSIR-CBRI. He motivated the S&T staff to take an interest in understanding the principles and practical applications of science for a brighter future of our nation. He stressed that science should be explored for the benefit of the mankind so as to improve health, income and living standard of the common masses. He said that research and development are the soul of a country and we now need to give emphasis on technological output along with other tangible outputs.

On this occasion, the second book in the CSIR Platinum Jubilee Series, edited by Mr Yadvendra Pandey, Chief Scientist and compiled by Mr Rajeev Kumar Sharma, Mr Pradeep Kumar Yadav and Mr Vineet Kumar Saini on “CBRI Building Business Profile — Process Know-how and Technologies” was released. The latest edition of the quarterly bilingual publication of the Institute, *CBRI Newsletter-Bhavinka* was also released.

Earlier, Dr. A.K. Minocha, Chief Scientist, welcomed the gathering and informed about the significance of the day and presented a formal introduction of Dr. Rajendra Dobhal and Mr S.K. Singh, Senior Principal Scientist, presented a formal introduction of Dr. Bikas Mohanty.

CSIR-IICB Organises National Symposium & Annual Meeting of PTCA



Dignitaries on the dais

The 38th Annual Meeting of Plant Tissue Culture Association (India), “PTCA 2017” and the National Symposium on “Plant Biotechnology: Current Perspectives on Medicinal and Crop Plants” were organised by CSIR-Indian Institute of Chemical Biology (CSIR-IICB), Kolkata, during 3-5 March 2017.

Prof. Samit Chattopadhyay, Director, CSIR-IICB and the Chairman, Organising Committee, welcomed all the participants and dignitaries. Prof. Sudhir K. Sopory was the ‘Guest of Honour’, Prof. Asis Datta was the ‘Guest in Chief’ and Prof. Pramod Tandon Secretary, PTCA (I) delivered the inaugural address.

The symposium was attended by a large number of eminent scientists, young researchers and students from all over India. Dr. Sharmila Chattopadhyay, Principal Scientist, CSIR-IICB, Kolkata was the Convener of PTCA 2017.

Prof. Satish C. Maheshwari



Lighting of the lamp in the inaugural ceremony

delivered the keynote lecture entitled “A Revolution in Chromosome Biology”. Plenary lectures were delivered by Prof. Sudhir K. Sopory, Prof. J. P. Khurana, Prof. Swapan K. Datta and Prof. Asis Datta.



Prof. Mohan Ram & Prof. Timir Baran Jha conducting a scientific session



Captive audience

Illuminating lectures were also delivered by renowned scientists like Dr. K.V. Krishnamurthy, Dr. Ramesh Sonti, Prof. M. V. Rajam, Prof. Sampa

Das, Prof. S. Dutta Gupta followed by interactive poster sessions by research scholars.

Prof. Pramod Tandon delivered the Prof. H.C. Arya Memorial lecture on the second day, which was followed by concurrent scientific sessions comprising presentations by young researchers from different corners of the country.

On the third and final day of the symposium, there was an interesting scientific session of oral presentations by six research scholars followed by concurrent scientific sessions. The valedictory session was addressed by Prof. H.Y. Mohan Ram and Dr. K.V. Krishnamurthy, founder members of PTCA(I). “B.M. Johori Poster Award” and “PTCA 2017 Best Poster Awards” were selected from the posters presented by research scholars and a total of five posters were given awards.

In her concluding remarks, Dr. Sharmila Chattopadhyay expressed her heartiest gratitude to all dignitaries, participants, and the funding agencies for their active role in the organisation of the symposium.



Participants of PTCA 2017

CSIR-IICB Organises National Conference on “Open Access: The Road to Freedom”



The 33rd Annual Convention of the SIS and Conference on “*Open Access: The Road to Freedom*” was organised at the CSIR-Indian Institute of Chemical Biology (CSIR-IICB) during 7-8 April 2017 to brainstorm about issues relating to Open Access to scholarly communication.

The Conference was inaugurated by Prof. Samit Chattopadhyay, Director, CSIR-IICB, who advocated the importance of Open Access in communicating public-funded research. Dr. Jagdish Arora, Director, INFLIBNET, Dr. Arun Kumar Chakraborty, Director General,

RRRLF and National Library, Kolkata, Dr. Naresh Kumar, President, Society for Information Science (SIS), Dr. Manoj Kumar Patariya, Director, CSIR-NISCAIR, New Delhi and Dr. P. Jaisankar, Chief Scientist, CSIR-IICB were among the key speakers. All the participants and dignitaries observed silence in the fond memory of Prof. Eugene Garfield, to pay tribute to the great information scientist.

The main objective of the Symposium was to discuss various important and relevant issues like Scholarly Communication & Open Access Publishing, Predatory Journals, Open Data Initiatives, etc. The





their visibility and impact. Hence, publishing in Open Access journals and setting up institutional archives/repositories are important for scientific advancement. Greater visibility also improves the impact for research work.

Open Innovation has advantages such as faster time to market, reducing R&D and product development costs, tapping a global pool of experts, getting new product ideas, uncovering ready-

conventional research publications do not reach a wide audience even among the scientific community, affecting both made solutions and sharing risks with others.



The two-days meeting was attended by knowledge resource personnel from different institutions, libraries and international publishers. There were more than 130 registered participants including young researchers. The Conference turned into an international one through the participation of professionals from Bangladesh, and an invited talk delivered by Kathleen Shearer, Executive Director, Confederation of Open Access Repositories (COAR), Canada through video conferencing. Apart from that, about 15 eminent personalities delivered invited talks during the Conference. A significant number of experts from various disciplines participated in the

Conference.

During the conference, 57 research papers were presented in seven different sessions including the Garfield Session. On the second day, there was a panel discussion on a very pertinent and timely topic “*Subscription Journals, Open Journals and Prepublication Archives: Do Ways of Science Communication Influence Progress of Science?*”.

The conference and the annual convention of the SIS concluded with Dr. Narayan Chandra Ghosh, Organising Secretary, SIS-2017 conveying his heartiest gratitude to everybody involved in the Conference directly or indirectly for the fruitful deliberations.



Honours & Awards

Dr. Rahul Bhambure from CSIR-NCL receives DST Early Career Research Award

Dr. Rahul Sharad Bhambure, Senior Scientist from CSIR-National Chemical Laboratory (CSIR-NCL), Pune, has received the Early Career Research Award from the Department of Science and Technology (DST), New Delhi. The award carries a research grant for a project led by him titled “*Designing of a high-throughput clone for cytoplasmic expression of the refolded Ranibizumab*”.

Dr. Bhambure has been working with CSIR-NCL since March 2016 in the Chemical Engineering and Process Development Division. He has done his PhD in Chemical Engineering from Indian Institute of Technology, New Delhi, and post-doctoral research at University of Delaware, USA. He has expertise in process development for biopharmaceutical drug substances and his areas of research interest

include process development, scale-up, and technology transfer for recombinant proteins and oligonucleotide therapeutics.

The Early Career Research Award constituted by the Department of Science and Technology, New Delhi, provides a research support to the young scientists who are in their early career for pursuing exciting and innovative research in frontier areas of science and engineering.

The project led by Dr. Bhambure envisions the development of an indigenous clone for high throughput cytoplasmic expression of biologically active refolded form of Ranibizumab. Ranibizumab is an antibody fragment given in the treatment of vision loss associated with age-related macular degeneration and diabetic retinopathy.



Dr. Vijayakumar From CSIR-NIIST Receives Kerala State Young Scientist Award

Dr. Vijayakumar, Scientist, CSIR-National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram has been conferred with the Kerala State Young Scientist Award to honour his outstanding contributions in Chemistry. The award instituted by the Kerala State Council for Science, Technology and Environment (KSCSTE) carries a grant of Rs. 50,000, a startup research grant, and travel support for a visit abroad for presenting the research work at a conference.

Dr. Vijayakumar received the award from Shri Pinarayi Vijayan, Chief Minister of Kerala at the 29th Kerala Science Congress held at the Mar Thoma College, Thiruvalla, Kerala during 28-30 January 2017.

Dr. Vijayakumar received his PhD in Chemistry from the University of Kerala in January 2008 based on the work done in the area of “Functional Supramolecular Materials” under the guidance of Prof. A. Ajayaghosh at CSIR-NIIST, Thiruvananthapuram. Subsequently, he worked as a Postdoctoral Research Fellow (January 2008-December 2010) at the



Organic Materials Group, National Institute for Materials Science (NIMS), Tsukuba, Japan. Later he worked as an Assistant Professor (January 2011-December 2012) at the Department of Applied Chemistry, Graduate School of Engineering, Osaka University, Japan.

His current research interests at NIIST include organic electronics and photovoltaics, perovskite solar cells, supramolecular smart materials, and organic-inorganic hybrid thermoelectric materials. He is a recipient of the Ramanujan Fellowship and Member of American Chemical Society & Royal Society of Chemistry.

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