

**CSIR-North East Institute of Science & Technology, Jorhat**  
*Connecting Science & Technology for a Brighter Tomorrow*

**New Year's Day address by Dr G Narahari Sastry, Director, CSIR-NEIST**



Dr G Narahari Sastry (center), Director, CSIR-NEIST delivering New Year's Day Address. Dr Kalyani Medhi, Sr Scientist and Mr Ajay Kumar, Hindi Officer, CSIR-NEIST read out the address in Assamese and Hindi respectively.

Dr G Narahari Sastry, Director, CSIR-NEIST addressed all the staff members on 1 January 2020 in the newly recreated Ecology and Biodiversity Park, CSIR-NEIST. Welcoming a new decade and a new year 2020, Dr Sastry in his address shared a message of hope, confidence, positivity and encouragement for the Institute in the year ahead. He contemplated for working together with the vision to generate knowledge for empowering, particularly NE Region, through S&T intervention. "To achieve the vision, the institute has to focus on areas like rural development, herbal formulation, petroleum, coal, tea, quality control, incubation, encouraging innovators & entrepreneurs, etc", he said. He also shared some glimpses of the Institute's activities and achievements in the year 2019 in terms of technologies developed and transferred by the Institute, awards received, publications, tie-ups with different organizations for collaboration in various scientific pursuits, skill development programmes, societal activities, etc. He urged everyone to gear up for future challenges and continue to work collectively for the betterment of the society. Dr Sastry declared the year 2020 as the "Year of Revitalizing NEIST for Strengthening North East".



CSIR-NEIST Staff members attending the New Year's Day Address.

**CSIR-NEIST organized first ever Students' Conference Gyantarang 2020**



Above: Dr R S Sangwan, Director, AcSIR presenting an overview of AcSIR in his address at the inaugural ceremony. Below: Release of Gyantarang Souvenir by the dignitaries and student representatives.



CSIR-NEIST has for the first time organized a scientific event for the research scholars christened

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as Gyantarang 2020 during 23-25 January 2020. The event was the brainchild of the Director, CSIR-NEIST Dr G Narahari Sastry to bring together all the research scholars of the Academy of Scientific and Innovative Research (AcSIR) functioning under CSIR from all across the country to brainstorm on the 17 Sustainable Development Goals (SDGs) identified by United Nations (UN). The idea behind the event was also to bridge a connect between the young scientific minds from all over the country for achieving excellence through a rapport building which will facilitate exchange of knowledge, information and construction of robust scientific notions, goals and strategies. The three-day event had a colourful kick-start on 23 January 2020 wherein a galaxy of dignitaries and scholars from various CSIR Institutes and other organizations participated. The event was inaugurated with the opening remarks made by the student conveners Dr Himakshi Sarma and Mr Prachurjya Dutta who highlighted the objective of the programme. Dr G Narahari Sastry, Director, CSIR-NEIST in his welcome address elaborated on the importance of such an event. He said that this kind of brainstorming sessions among the research scholars will lead towards more of applied oriented research which will be holistic in nature and fruitful to address societal problems. Further, he urged the students to spend at least 10-30% of their time in gathering knowledge about subjects which are not directly connected to their research areas to broaden their horizon and stressed upon participating in such events to infuse more zeal and vigour to pursue their research goals. In his address to the participants through video conference, Dr Shekhar C Mande, Director-General, CSIR, appreciated the vision behind organizing such an event and said that such endeavours should be given more importance in the future too because scientific excellence can only address the common societal problems. Dr R S Sangwan, Director, AcSIR narrated the very basic idea of instituting AcSIR in the country. He elucidated on the importance of having large number of Ph Ds in the country and said that the fundamental difference of obtaining a Ph D under AcSIR from rest of the institutions is the social

relevance of the thesis which is one of the mandatory criteria. The notable activity in the three-day event was the five minutes flash presentation or through video display on 17 Sustainable Development Goals (SDGs) of United Nations (UN), where students highlighted the issues and voiced their concerns in urging the research fraternity of India to align their research objectives with the UN Sus-

**Glimpses of various activities held under Gyantarang**



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-tainable Development Goals which is very much attuned to UN's objective to address and alleviate some key and critical issues currently plaguing the globe. The three-day event also witnessed friendly matches on 23 January 2020 which were played between AcSIR students and CSIR-NEIST and the participants from other regions of India in various sporting events viz., cricket, volleyball, badminton, table tennis and carom, cultural extravaganza, poster session and several key note lectures by eminent personalities. Series of key note lectures were delivered by Dr B Gopalan, Chief Scientific Officer and Executive Director, Orchid Chemicals and Pharmaceuticals Ltd., Chennai; Dr Sanjay Kumar, Director, CSIR-IHBT, Palampur; Dr Alok Dhawan, Director, CSIR-IITR, Lucknow; Dr Amitabha Chattopadhyay, CSIR-CCMB, Hyderabad; Dr A Chakraborty, Head-HRDG, CSIR; Dr K Ravikumar, Assoc. Director, AcSIR, Dr Ajay Dhar, Assoc. Director, AcSIR and Dr I Suryanarayana, Former Scientist, CSIR-NEIST; Dr V Subramanian, Chief Scientist, CSIR-CLRI, Chennai; Dr S Venkata Mohan, Dr Ramanuj Narayan and Dr K Rajender Reddy, all Senior Principal Scientists from CSIR-IICT, Hyderabad. It may be mentioned that CSIR has a pan India presence with 38 Institutes spread all across the length and breadth of the country. This event has proved to be a big draw for AcSIR research scholars which has created an ambience, congenial enough for a brainstorm on collaborative research and technological development in the merging frontiers of interdisciplinary sciences.

**Consultative meeting on food processing cum technology exhibition held at CSIR-NEIST Branch Lab, Imphal**

A consultative meeting on food processing cum techno exhibition under CSIR Connect North East was held at CSIR-NEIST Branch Lab, Imphal on 24 January 2020. The event was inaugurated by Shri N Biren Singh, Hon'ble Chief Minister of Manipur in presence of Dr R K Ranjan Singh, Hon'ble Member of Parliament, Manipur; Dr Shekhar C Mande, Director General, CSIR & Secretary, DSIR, Govt. of



Dr Shekhar C Mande, Director-General, CSIR & Secretary, DSIR, speaking about CSIR Connect North East programme.



CSIR-NEIST staff with Dr Shekhar C Mande, DG-CSIR; Dr KSMS Raghavarao, Director, CSIR- CFTRI, Mysore; Dr Sanjay Kumar, Director, CSIR-IHBT and delegates from the state govt. depts.

India; Dr KSMS Raghavarao, Director, CSIR-Central Food Technological Research Institute, Mysore; Dr Sanjay Kumar, Director, CSIR-Institute of Himalayan Bioresource & Technology, Palampur and several other delegates besides scientists from CSIR-NEIST and its branch lab, Imphal. Dr Mande in his address highlighted the potential of food processing sector which he said has immense scope in the North East Region considering the diverse food and horticultural products produced in the region. He mentioned that focus should be on how the CSIR technologies can be implemented in North East, even in remote areas to get maximum benefits. Shri Biren Singh in his address expressed gratitude to CSIR for extending support in entrepre-

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-neurship development in the state and requested CSIR to provide solutions to conserve and preserve traditional paddy varieties of the State. He also urged CSIR to provide necessary technology for increasing productivity of such paddy varieties. The programme was attended by officials from State Depts., Business Groups, Entrepreneurs, cluster farmers groups, etc. Dr R K Ranjan emphasized the need to understand and utilize the technological opportunities available at CSIR for the development of the state. A total of 13 stalls were exhibited including from CSIR-NEIST, IHBT, CFTRI, Local entrepreneurs, NGOs, etc.

### **Sensitisation programme on opportunities for start-ups and entrepreneurs in the agri and allied agri sectors held at CSIR-NEIST**



Dr G Narahari Sastry, Director, CSIR-NEIST addressing the participants on the occasion

The North East Agriculture Technology Entrepreneurs Hub (NEATEHUB) and CSIR-North East Institute of Science & Technology (CSIR-NEIST) jointly organised a Sensitisation Programme on opportunities for startups and entrepreneurs in the agri and allied agri sectors. The programme was held at CSIR-NEIST on Monday, the 27<sup>th</sup> January 2020. Speaking on the occasion, Dr G Narahari Sastry, Director, CSIR-NEIST emphasised the need for pursuing innovation with passion in order to build robust businesses. He mentioned the need for thinking beyond the ordinary and to create business which will generate employment for the people in the NER. He said that CSIR-NEIST and NEATEHUB will collaborate to help and support agri-based entrepreneurs to innovate and scale up



Participants of the sensitization programme along with officials from both CSIR-NEIST and NEATEHUB.

their ventures. He also mentioned that CSIR-NEIST will be happy to bring all the relevant contributions from all the CSIR laboratories and other governmental institutions of the country for the benefit of the people of North East India and in this regard, already Rural Women Technology Park and STINER is going to play major role in the entrepreneurship movement at grass roots levels. As per the suggestion of Director, CSIR-NEIST, a WhatsApp group among the participants were also formed as 'Jorhat Innovators' where information on government initiatives towards start-up and entrepreneurship will be circulated time to time and innovators and entrepreneurs can ask any relevant information. Dr Sastry also emphasized to meet with all the participants again on 28 February, 2020 on the occasion of National Science Day to discuss various issues on entrepreneurship development. It may be mentioned here that NEATEHUB was established last year at the Assam Agricultural University (AAU) Jorhat campus with an aim to create a sustainable environment for upcoming entrepreneurs of the north-eastern region in the agriculture and its allied branches by providing the necessary technical support and guidance. The Incubation Centre is first-of-its-kind in the north-eastern region and is among the 28 such hubs established for agri entrepreneurs across the country as a Section 8 not for profit organisation with funding from the NITI Aayog and the Department of Agriculture Cooperation and Farmers' Welfare's flagship scheme – Rashtriya Krishi Vikas Yojana — Remunerative

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Approaches for Agriculture and Allied Sectors Rejuvenation (RKVY-RAFTAAR), Government of India. CSIR NEIST also has been in the forefront of developing new technologies using its R&D facilities and in its commercialisation in the North East Region. The institute is extensively working on developing need-based technologies for the region as well as in rural development. Several MSME agro-based technologies of CSIR-NEIST like biofertilizers, banana fibre, mushroom cultivation, high yielding varieties of aromatic plants, liquid and solid deodorant, technologies on management of vectors and healthcare sector based on medicinal and aromatic plants have been developed and transferred to many parties across the country. Dr K Karthikeyan, Chief Executive Officer of NEATEHUB, in his presentation to the participants outlined the various services which are being offered by the Incubation Centre. He cited examples of some of the successful ventures of NEATEHUB who have made a mark for themselves through their innovative business ideas, products and services. On its part, the Incubation Centre is committed to providing appropriate support through its network of mentors, market linkages and funding initiatives.

### CSIR-NEIST conducted second Socio-Economic, Health & Agriculture Survey under CSIR 800 programme

A team of 12 research scholars, medical staff and HR personnel went to Deka Gaon, Pulibor, Jorhat (approximately 5km from CSIR-NEIST campus) for the second CSIR-800 visit during 9-11 January 2020 for socio-economic, health and agriculture survey. The survey held under CSIR 800 is aimed to gain first hand experience about the socio-economic, agriculture and health status of the nearby villages on one hand and to create and nurture a sense of social consciousness and responsibility of Science and Technology to address the problems of the local people. The team visited two schools named Deka Gaon Anganbadi Kendra and Lower Primary School and interacted with students and teachers regarding quality of education and physical fitness in terms of school performance,



*Glimpses of the survey conducted at Deka Gaon*

academic activities and services. The fitness survey regarding their health was done and documented. Some important science related videos were shown in order to motivate the students towards science. Later, some stationery items such as pen, pencil, duster, eraser, chocolates and charts of periodic table were distributed among the students. The team also visited various households of Deka Gaon and interacted with the villagers for collecting data of each member of the family like BMI, BP, Pallor test, hearing test etc and details about their regular diet. Considering the importance of awareness on health and hygiene especially among women, the team also shared information about the importance of menstrual hygiene and birth control. For the economic survey, data of income generation, expenditure, and awareness about government schemes for rural upliftment were collected and documented. Water samples from various sources were collected for water-quality analysis at CSIR-NEIST. On 11 January 2020, a meeting was held in the village wherein Dr G Narahari Sastry, Director, CSIR-NEIST accompanied by his wife Dr Madhvi Sastry and a team of scientists interacted with the villagers and disseminated information about skill development programmes and rural technologies of the institute which can create livelihood and employment opportunities for the educated unemployed youth,

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and women folk. Later, the Institute distributed its Herbal Anti-Arthritis ointment among the villagers.

### CSIR-NEIST celebrated 71st Republic Day



Above: Dr G Narahari Sastry, Director, CSIR-NEIST inspecting the Guard of Honour. Below: Dr Sastry delivering his address on the occasion.



CSIR-NEIST celebrated 71st Republic Day with much zeal and enthusiasm with a day-long programme at its premise on 26 January 2020. A flag hoisting programme was held in front of the administrative block wherein Dr G Narahari, Director, CSIR-NEIST addressed the staff members. Dr Sastry inspected the Guard of Honour and unfurled the National flag followed by march past performed by NEIST staff & KV-NEIST students. Amidst a large gathering of CSIR-NEIST staff & their family members, students & teachers of KV-NEIST, Dr Sastry called upon everyone to take pride and be

responsible in protecting the sovereignty and integrity of the country and contribute in the growth and development of the nation. He cited that in 1976, India became the first country to make “scientific temper” as a fundamental duty of every citizen that helps in developing Secularism, Humanism & Spirit of enquiry and reform. He urged everyone to work unitedly and dedicatedly for the development of science, technology and scientific temperament for the society. He also mentioned the various technological contributions of the institute, some of which have become pan India technologies such as VSK mini cement plant technology during 1970s, improved varieties of Lemongrass, Citronella, Herbal anti-arthritis formulation, etc. As a part of the celebration, replicas of National Flag and sweets were later distributed to the children and various sports activities were held at CSIR-NEIST play ground.

### CSIR-NEIST transferred technology on Banana Fibre Extraction Process



Dr G Narahari Sastry, Director, CSIR-NEIST handing over the Technology Transfer Agreement to the Proprietor, M/s J C Lang Enterprises, Imphal in presence of Shri L Jayantakumar Singh, Hon'ble Minister of Health & Family Welfare, Law & Legislative Govt. of Manipur, Mr A Guneshwar Sarma, CEO, Manipur State Medicinal Plants Board and other officials of CSIR-NEIST.

CSIR-NEIST transferred its technology on Process for Extraction of Banana Fibre to M/s J C Lang Enterprises, Imphal Manipur on 29 January 2020 for commercialization. The technology was transferred in presence of Shri L Jayantakumar Singh, Hon'ble Minister of Health & Family Welfare, Law & Legislative, Govt. of Manipur; Mr A Guneshwar Sarma, CEO, Manipur State Medicinal Plants Board and other officials of CSIR-NEIST. The members also

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Dr G Narahari Sastry, Director, CSIR-NEIST felicitating Shri L Jayantakumar Singh (left), Hon'ble Minister of Health & Family Welfare, Law & Legislative Govt. of Manipur at CSIR-NEIST.

discussed about various S&T interventions that can be appropriately implemented in Manipur to strengthen entrepreneurship development. Shri L Jayantakumar Singh mentioned about the need to increase the promotion of Medicinal and Aromatic Plants cultivation on commercial scale.

### Lectures Series held under NEIST Science Forum

- Speaker:** Dr G Narahari Sastry, Director, CSIR-NEIST  
**Topic:** A Dream Towards Glorious NEIST  
**Date:** 03 January 2020
- Speaker:** Dr J R Kayal, Ex Dy DG, Geological Survey of India  
**Topic:** Seismicity of NE India and it's correlation with the tectonics  
**Date:** 09 January 2020
- Speaker:** Dr Biswajit Saha, Scientist, MSTD Division  
**Topic:** A Tale of Two Metals in Catalysis  
**Date:** 31 January 2020
- Speaker:** Dr Leema Dutta, Research Associate, CSTD  
**Topic:** Awareness on Deadly Novel Corona Virus: All You Need to Know  
**Date:** 31 January 2020

### Papers published

- Raj J Leon, Chockalingam T: Strength and abrasion characteristics of pervious concrete, *Road Materials and Pavement Design*, 2019, 2019, p: 1-1.
- Dihingia A, Ozah D, Borah T, Kalita J, Manna P: Gamma-glutamyl-carboxylated Gas 6 mediates positive role of vitamin K on lowering hyperglycemia in type 2 diabetes, *Annals of the New York Academy of Sciences*, 2019, p: 1-14.  
**Highest Impact Factor paper (IF: 4.295).**
- Roy D K, Tamuli K J, Bordoloi M: Exploiting silver trifluoromethanesulfonate as efficient and reusable catalyst for the synthesis of dihydropyrimidine derivatives under different reaction environments, *Journal of Heterocyclic Chemistry*, 2019, 56 p: 3313-3323.
- Sahoo R K, Tamuli K J, Narzary B, Bordoloi M, Sharma H K, Gogoi K, Bhattacharyya D R: *Clerodendrum viscosum* Vent leaf extract supported nanosilver particles: Characterization, antiplasmodial and anticancer activity, *Chemical Physics Letters*, 2020, 738 p: 136893.
- Kemprai P, Bora P K, Mahanta B P, Sut D, Saikia S P, Banik D, Haldar S: Piper betleoides C. DC.: Edible source of betel-scented sesquiterpene-rich essential oil, *Flavour and Fragrance Journal*, 2020, 35 p: 70-78.

### Farewell

The following member(s) of the staff have retired from Council's service on superannuation from CSIR-NEIST on 31 January 2020.

- Shri Bharat Buragohain, STO-1