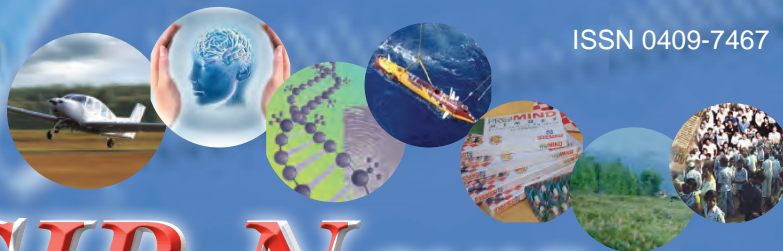




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In The News

International Conference and Exhibition Organised by CSIR-CIMFR on “Energy and Environment: Challenges and Opportunities (ENCO-2019)”

“CSIR is known for its cutting edge R&D in diverse areas and is a globally benchmarked organization,” said Hon’ble President of India, Shri Ram Nath Kovind.



Dr Harsh Vardhan, Union S&T Minister, felicitating the Hon’ble President of India, Shri Ram Nath Kovind with a “Coal-ball”

Hon'ble President appreciated CSIR for its globally acclaimed work in the field of science & technology and specifically CSIR-CIMFR for its contributions in coal-based, energy-oriented research and for developing safe, productive and sustainable mining methods.



Inauguration of the event

The CSIR-Central Institute of Mining and Fuel Research (CIMFR), Dhanbad, organised an International Conference and Exhibition on Energy and Environment: Challenges and Opportunities (ENCO-2019), during 20-22 February 2019 at Vigyan Bhawan, New Delhi. The conference was inaugurated by the Honourable President of India, Shri Ram Nath Kovind.

The three-day conference was aimed at identifying research and development requirements to

develop new methods, technologies and applications for clean, safe, cooperative sustenance of society, environment, energy and industries in the post-2020 era.

Speaking on the occasion, the Hon'ble President appreciated CSIR for its globally acclaimed work in the field of science & technology and specifically CSIR-CIMFR for its contributions in coal-based, energy-oriented research and for developing safe, productive and sustainable mining methods.



(From Right to Left) Dr Pradeep K. Singh, Director, CSIR-CIMFR; Dr Harsh Vardhan, Union S&T Minister; Hon'ble President of India, Shri Ram Nath Kovind; Dr V.K. Saraswat, Member, NITI Aayog and Dr Shekhar C. Mande, DG-CSIR and Secretary, DSIR



Hon'ble President delivering his address

The president further drew the attention of the audience towards current concerns about energy and environment not only for developing countries but also for developed ones. “Global trends show that coal will remain the predominant energy source for most countries, including India, while renewable sources will also grow,” said Hon'ble President and urged the gathering to come up with actionable ideas on environmental issues related to using of fossil fuels and viable alternatives.

He also recalled India's commitments in the Paris Agreement and said that India had many commitments at the Paris Climate Conference expressing the strong desire to control carbon emission by Nationally Determined Contribution targets. Further, he advised the audience to deliberate on the development of eco-friendly technologies for green mining to ensure environment-friendly use of natural resources.

During the Conference, Dr Harsh Vardhan, Union Science & Technology Minister, inaugurated an industrial exhibition in the Vigyan Bhawan Lawn. During his address,

he mentioned that the world today recognises India's achievements, initiatives and visionary approach in the field of clean energy. He talked about the world's largest and innovative energy-efficient lighting programme of India with 330 million LED lights which reduced the emission of carbon dioxide by 32 million tonnes per year.

Dr Harsh Vardhan said that energy use needs to be optimal to make its supply sustainable. Though, worldwide coal is the predominant source of energy, hydroelectric, nuclear, solar and other renewable sources of energy are being considered as low carbon alternatives.

Addressing the gathering, DG-CSIR and Secretary-DSIR, Dr Shekhar C. Mande, said, “In the Paris Agreement, a target has been set for achieving less than two degrees of temperature change. India is one of the very few countries which is on target to meet the targets defined in the Paris Climate Change Agreement.” Further, he also briefed about the achievements of CSIR labs.



Dr Harsh Vardhan addressing the gathering



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Dr Shekhar C. Mande, said, “In the Paris Agreement, a target has been set for achieving less than two degrees of temperature change. India is one of the very few countries which is on target to meet the targets defined in the Paris Climate Change Agreement.”



Release of Souvenir

Dr Pradeep K. Singh, Director, CSIR-CIMFR, said that energy is the lifeline of the modern society. In today's world, a nation's commitment for energy and environment is the most important indicator for its sustenance.

Member, NITI Aayog, Dr V.K. Saraswat, in his keynote address said, "The theme of the conference Energy & Environment is most timely because all of us know that energy is the lifeline and this lifeline is coming under stress due to increasing demand." Energy use is an indication of the growth of the nation. Per capita energy consumption directly indicates the GDP of the nation, he added.

Earlier, during his welcome address, Dr Pradeep K. Singh, Director, CSIR-CIMFR, said that energy is the lifeline of the modern society. In today's world, a nation's commitment for energy and environment is the most important indicator for its sustenance.

During the event, a Souvenir was also released and Dr Vardhan presented the first copy of the Souvenir to the Hon'ble President. Earlier, he was also presented with a "Coal-ball".

Around a thousand delegates from India and abroad participated in the conference, including policymakers, regulators, thought leaders, managers, entrepreneurs, administrators, practising engi-neers, environmentalists, geo-environmentalists, researchers, academicians and technocrats. The conference was marked by keynote papers, oral presentations and poster presentations.



Visit to exhibition

Converting Paddy Biomass into Green 'Biocoal'

Scientists of the CSIR-National Physical Laboratory (NPL), New Delhi, have devised a solution to deal with the problem of stubble burning. The scientists have called for conversion of paddy biomass into green 'biocoal' to be used in thermal power plants.

According to a study published in *Current Science*, this conversion of paddy stubble into green product biocoal through torrefaction process would also help farmers to earn money using the agriculture residue. Besides, by optimizing the processing parameters of torrefaction process, desired

calorific value of torrefied product has been achieved, as per the study conducted in Haryana. It also pointed out that 10 per cent use of torrefied product with coal can consume 140 million tonnes of rice straw, thus considerably reducing the consumption of fossil fuels and also cutting down environmental pollution and greenhouse gas (GHG) emission.

Similarly, residue of other crops like wheat, sugarcane, oilseed, maize and cotton which is estimated to be around 500 million tonnes in the country, can be used as biocoal in thermal plants after torrefaction.



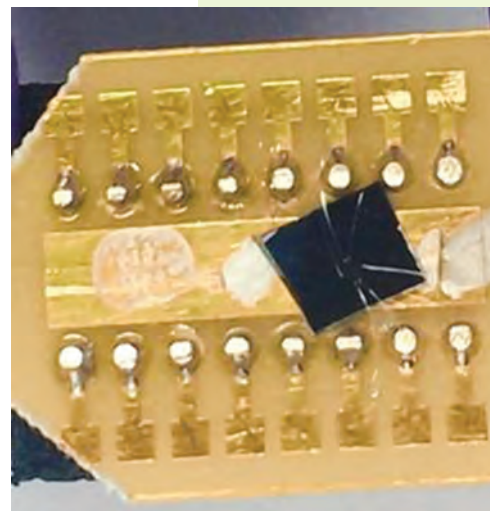
CSIR-NPL Develops Device for Single-layer Graphene

Researchers at Delhi's National Physical Laboratory (CSIR-NPL) have designed a low-pressure chemical vapour deposition (LPCVD) device that allows high quality, single-layer graphene measuring 4 inches in length and 2 inches in width to be grown. The quality of the single-layer graphene is metrology-grade, and can be used in next-generation quantum devices.

The LPCVD device developed indigenously costs about Rs. 5,00,000, which is one-tenth of the imported ones. The quality of the single-layer graphene grown using this device is also superior. The team led by Dr

Bipin Kumar Gupta from the Advanced Materials and Devices Metrology Division at CSIR-NPL published its study in *ACS Omega*.

The team is ready to transfer the technology with some institutions showing interest Single-layer graphene grown by the team has even been used for a specific study for quantum hall resistance metrology at Tata Institute of Fundamental Research (TIFR) in Mumbai.



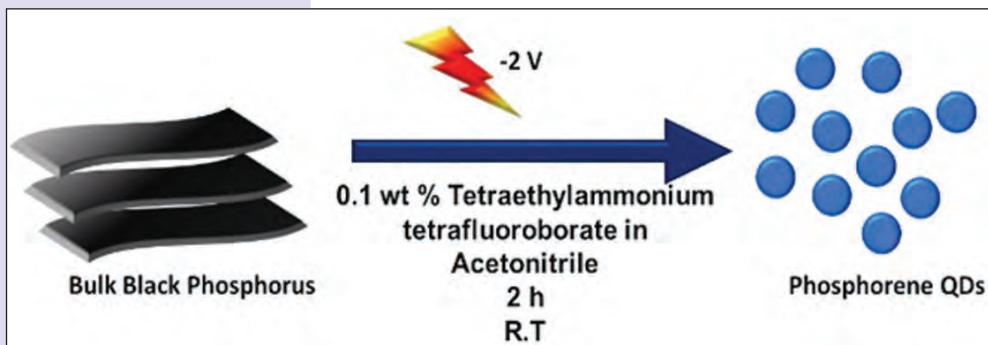
Electrosynthesis of Nitrogen-Doped Blue Luminescent Phosphorene Quantum Dots (NPQDs)

Researchers from CSIR-Central Electrochemical Research Institute (CERI), Karaikudi, have reported a facile one-step route for the electro-synthesis of Nitrogen-Doped Blue Luminescent Phosphorene Quantum Dots (NPQDs) from Black Phosphorous (BP) at room temperature. This is the first report

on the electro-synthesis of NPQDs.

The researchers further evidenced that the nitrogen percentage in NPQDs can be varied by the appropriate choice of solvent and supporting electrolyte. NPQDs synthesised in this work have an average size of 6 ± 1.5 nm ($N=50$) and exhibit ca. 88.7% quantum efficiency¹.

Scheme 1 is the typical illustration of the electrochemical synthesis of nitrogen-containing PQDs (NPQDs-1 from BP1). During the electro-synthesis, we apply -2.0 V to the BP modified glassy carbon electrode vs Pt quasi-reference electrode in



Scheme 1: Electro-synthesis of NPQDs from bulk black phosphorous

de-aerated acetonitrile containing 0.1 wt% Tetraethyl ammonium tetra fluoroborate (TEATFB) as supporting electrolyte. The choice of non-oxygenated, non-aqueous medium and supporting electrolyte resulted in the *in situ* “N” incorporation and prohibited the formation of oxidized products. Figure 1 shows the comparative Transmission Electron Micrographs (TEM) of BP and NPQDs.

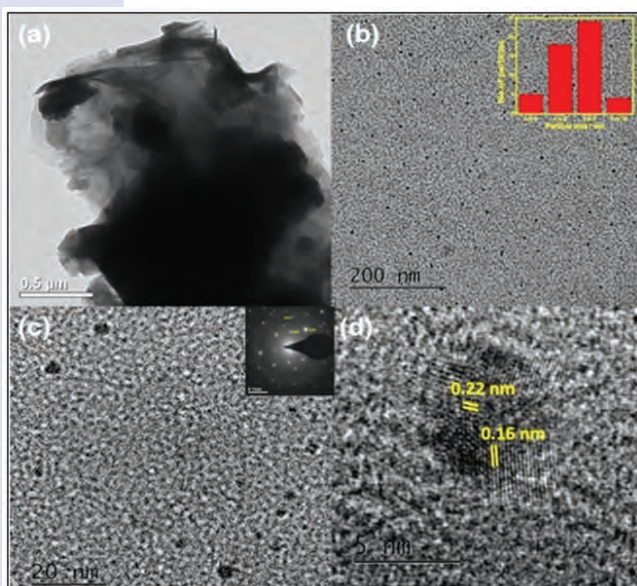


Figure 1. (a) TEM image of bulk BP (b & c) TEM image of NPQDs-1 (b inset) Particle size distribution of NPQDs (c inset) SAED pattern of NPQDs (d) HR-TEM images of NPQDs

Reference

M.O. Valappil, M. Ahlawat, V.K. Pillai, S. Alwarappan, *Chemical Communications* 54 (83), 11733-11736

CSIR-NISCAIR Organises Regional Workshop on Paid News, Fake News and Ethics in Science Breakthroughs



Dr Manoj Kumar Patariya, Director, CSIR-NISCAIR, addressing the gathering. On the dais from right to left: Prof. Yoo Hang Kim, President of AASSA; Prof. Krishan Lal, Co-chair, IAP for Science; Prof. V.L. Dharurkar, VC, Tripura Central University; Mr Harish Yadav

The tentacles of the all pervasive paid and fake news are spreading to science breakthroughs as well. This undesirable spread has adverse repercussions among all stakeholders including researchers, scientists, science communicators, students and the lay public. It is vital to not only recognise the problems but also evolve solutions that can arrest the generation and spread of these unethical practices.

To share, discuss, brainstorm and find solutions, the Association of Academies and Societies of Sciences in Asia (AASSA), Indian National Science Academy (INSA),

CSIR-National Institute of Science Communication and Information Resources (NISCAIR) and the InterAcademy Partnership (IAP), jointly organised the Regional Workshop on “Science Breakthrough: Paid News, Fake News and Ethics” during 20-22 February 2019.

About 50 experts including science communicators, policymakers and scientists from seven Asian countries *viz.*, South Korea, Thailand, Vietnam, Indonesia, Nepal, China and India congregated in New Delhi to share their experiences, discuss and brainstorm on the instances and impact of fake news on science

Dr Manoj Kumar Patariya, Director, CSIR-NISCAIR said that the topic of the regional workshop is of great concern worldwide and can only be tackled through sustained and accurate communication efforts.

breakthroughs, misinformation in the digital age, dissemination of paid and fake news, ethical dimensions, etc.

Welcoming the guests during the evening welcome reception session, Dr Manoj Kumar Patairiya, Director, CSIR-NISCAIR said that the topic of the regional workshop is of great concern worldwide and can only be tackled through sustained and accurate communication efforts.



Dr Manoj Kumar Patairiya, Director, CSIR-NISCAIR delivering the Welcome Address

In an enthralling keynote address, Dr V.L. Dharurkar, Vice Chancellor, Tripura Central University, recounted several instances of inaccurate scientific reporting. He said fake news arises when truthfulness, responsibility, objectivity and ethics are set aside.

Echoing similar sentiments, the chair of the session, Prof. Krishan Lal, Co-Chair, IAP for Science and former President, INSA said that greed for money, power and influence leads to the generation and propagation of fake news.

In a Science Magic Show, later in the evening, Mr Harish Yadav from Jaipur, Rajasthan put on an interesting show on mentalism which captivated the participants.

Proposing the vote of thanks, Mr Hasan Jawaid Khan, Chief Scientist, CSIR-NISCAIR said that fake news has made its presence felt in the field of science as well and a recent example was the anti-vaccine movement fuelled by misconceptions.

During the inaugural session the next day, giving his opening



Prof. V.L. Dharurkar, VC, Tripura Central University, delivering the keynote address



Prof. Krishan Lal, Co-Chair, IAP for Science delivering his address



Mr Harish Yadav from Jaipur putting on an interesting show on mentalism



remarks and setting the tone for the discussions, Prof. Manoj Kumar Patairiya, Director, CSIR-NISCAIR, said that an interdisciplinary approach is required in science communication and that the Regional Workshop on SHARE Communication that draws on a number of experts in Asia in the areas of science, health, agriculture, risks and environment is

an ideal platform to discuss the paid news, fake news and ethics in science breakthroughs.

Prof. J.P. Khurana, Vice President (International Affairs), Indian National Science Academy in his keynote address highlighted the role played by the science academies in India which among other things are also communicating about scientific



From left to right: Dr Manoj Kumar Patairiya, Director, CSIR-NISCAIR, New Delhi; Prof. Yoo Hang Kim, President of AASSA; Prof. Mooha Lee, Executive Director, AASSA, Korea; Prof. K.G. Suresh DG, IIM, New Delhi; Prof. J.P. Khurana, VP (International Affairs), INSA, New Delhi; Dr Narendra K. Sehgal, UNESCO-Kalinga Prize Winner for Science Popularisation

Dr Narender K. Sehgal, UNESCO-Kalinga Prize Winner for Science Popularisation, also a Guest of Honour of the inaugural function, highlighted the unethical scientific studies sponsored by commercial interests. He expressed concern that such scientific studies can mislead not only the masses but also the researchers and scientists.

Prof. Yoo Hang Kim in his address said that the boundary between true and fake news has become blurred. He called upon scientists to keep their guard and take an active role to prevent misuse of social media in scientific matters.

developments in the country.

Dr Rama Swami Bansal, Head, International S&T Affairs Directorate, CSIR, Guest of Honour at the inaugural function highlighted the many contributions of CSIR and dwelled upon the measures taken for communicating them to the masses.

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Prof. K.G. Suresh, Director General, Indian Institute of Mass Communication was the Chief Guest of the inaugural function. In his address, Prof. Suresh said that one of the reasons of misinformation is because researchers are not willing or are not able to reach out to the media. Prof. Suresh said that there is



Prof. K.G. Suresh during his address



Prof. Yoo Hang Kim, addressing the audience

a need to create an army of internet warriors to combat fake news.

The President of AASSA, Prof. Yoo Hang Kim in his address said that the boundary between true and fake news has become blurred. He called upon scientists to keep their guard and take an active role to prevent misuse of social media in scientific matters. He added that it is the duty of the scientists to protect the general public by using this scientific knowledge and expertise to ferret out misinformation, half-truths, lies and fake news which are rampant in the social media.

Shri S.P. Mishra, Deputy Executive Director, Indian National Science Academy proposed the vote of thanks.

The inaugural session was followed by four scientific sessions and a panel discussion spread over two days.

Impact of Fake News on Science Breakthroughs: A Global Concern

Prof. Anjana Singh of the Nepal Academy of Science and Technology, Lalitpur, Nepal, speaking on the

effects of fake news said that Nepal is also grappling with the menace of fake science news and remarked that there is a need to create a news ecosystem that values truth.

Dr Wijitra Suriyakul Na Ayudhya, Director of Collection Division, Information Technology Museum, Thailand, speaking on man-made errors in reporting scientific information said that the museum where she works has a group to check the authenticity of science news and bust myths.

Prof. Yatish Agarwal, Dean, School of Medical and Paramedical Health Sciences, Guru Gobind Singh Indraprastha University, New Delhi said that with a huge and fast-growing medical industry, the reasons of fake, planted and paid medical news are obvious.

Dr R.K. Bhandari, Chairman, Forum on Disaster Mitigation, Indian National Academy of Engineering spoke on the challenges of disaster risk communication. He said that many times disasters are sensationalised by the media rather than ethically reporting facts educatively and constructively.

Misinformation in Digital Age: A Challenge for True Science

Why do news reports of scientific breakthroughs fail to engage the public? By way of answering this question, Prof. Hak Soo Kim, Chair, AASSA Special Committee on SHARE Communication stated that we are not emphasising on the problem but merely reporting the news. Prof. Kim was of the view

that public engagement can be better if the reportage focused on the solutions to the problems as well.

Prof. Dinesh Kumar, former Director, Institute of S&T Communication, University of Lucknow said that the public should be cautious about fake and exaggerated reports about herbal medicines. Dr S.K.S. Rathore, Senior Principal Scientist, CSIR-AMPRI, Bhopal, said that validation of science news depends on credentials of scientists, research labs, etc.

Dissemination of Paid News and Fake News: An Analytical Perspective

An analytical perspective of dissemination of paid news and fake news was the focus of the session. Prof. Finarya Legoh, Vice Chair, AASSA Special Committee on SHARE Communication, in her opening remarks, spoke about the need for collaboration to research and check fake news and promote a culture of news that values truth. Dr Xiaomin Zhu, Associate Professor of Philosophy and the Director of Centre for Science Communication, Peking University, China, discussed about Tai Chi – China's ancient Chinese martial art practised for both defence training and health benefits.

Ms Nguyen Tuong Lan, Deputy Manager, Science and Technology Development Forecasting Department, Vietnam Academy of Sciences and Technology, Vietnam, said that there is not enough time to authenticate new information and by the time authentication is done, the undesirable news has rapidly spread



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Dr Rameshwar Singh, Vice Chancellor, Bihar Animal Sciences University, Patna, was of the view that unscrupulous pushing of agenda gives rise to fake news.

Dr N. Ramamurthi, Scientific Officer H, Bhabha Atomic Research Centre, Mumbai, said that we need to worry about large industries that have the power to suppress the truth, deny climate change and falsely claim cures to diseases.

on social media.

Speaking on issues of climate change in the mass media, Prof. I. Arul Aram of Anna University, Chennai, said that journalists need to take care when reporting on uncertainties regarding climate change coverage.

Dr M.A. Ansari, Professor, Agriculture Communication at the G.B. Pant University of Agriculture and Technology, Uttarakhand, said that issues like the impact of climate change on agriculture matters are not being reported by media.

Breaking the Paid News, Fake News Phenomenon: Ethical Dimensions

Dr Surya Pratama and Dr Ashwin Sasongko Sastrosubroto of the Indonesian Institute of Sciences presented a case study about fake news in the social media in Indonesia. They said that the fight against fake news in Indonesia is being led by the government and opined that international cooperation and regulation are required to fight the menace of fake news.

Panel Discussion on “Dealing with Issues: Communication Strategies and Initiatives”

Speaking at the panel discussion, Dr M.H. Srinahari, General Secretary of the Indian Association for Science Fiction Studies, Bengaluru, stated that honesty in reporting and integrity in validation are necessary to combat fake science news. Dr Rameshwar Singh, Vice Chancellor, Bihar Animal Sciences University, Patna, was of the view that unscrupulous pushing of agenda gives rise to fake news.

Dr N. Ramamurthi, Scientific Officer H, Bhabha Atomic Research Centre, Mumbai, said that we need to worry about large industries that have the power to suppress the truth, deny climate change and falsely claim cures to diseases.

Prof. Manoj Kumar Patairiya summed up the proceedings of the two days’ workshop. The workshop recommended that information consumers have to be educated to be vigilant about information received from social media; media literacy to be promoted; medical councils should play a more proactive role in curtailing paid news; countries should set up bodies/programmes that verify scientific information before disseminating it to the public; science academies should play important role in communicating scientific developments to the masses.

Dr G. Mahesh, Senior Principal Scientist, CSIR-NISCAIR proposed the vote of thanks.

*Contributed by G. Mahesh
Senior Principal Scientist
CSIR-NISCAIR*



At the summing up session (from left to right): Dr Manoj Kumar Patairiya, Director, CSIR-NISCAIR, New Delhi; Dr Rameshwar Singh, VC, Bihar Animal Sciences University; Prof. Mooha Lee, Executive Director, AASSA, Korea; Ms Nguyen Tuong Lan, Vietnam Academy of S&T; Prof. Yoo Hang Kim, President of AASSA; Prof. Haak-Soo Kim, Chair, AASSA Special Committee on SHARE Communication, South Korea

CSIR-NEIST Organises Workshop for Young Women on the Occasion of International Women's Day 2019

CSIR-North East Institute of Science and Technology (CSIR-NEIST) organised a “Workshop on Empowering Young Women through S&T interventions” on the occasion of the International Women's Day on 8 March 2019.

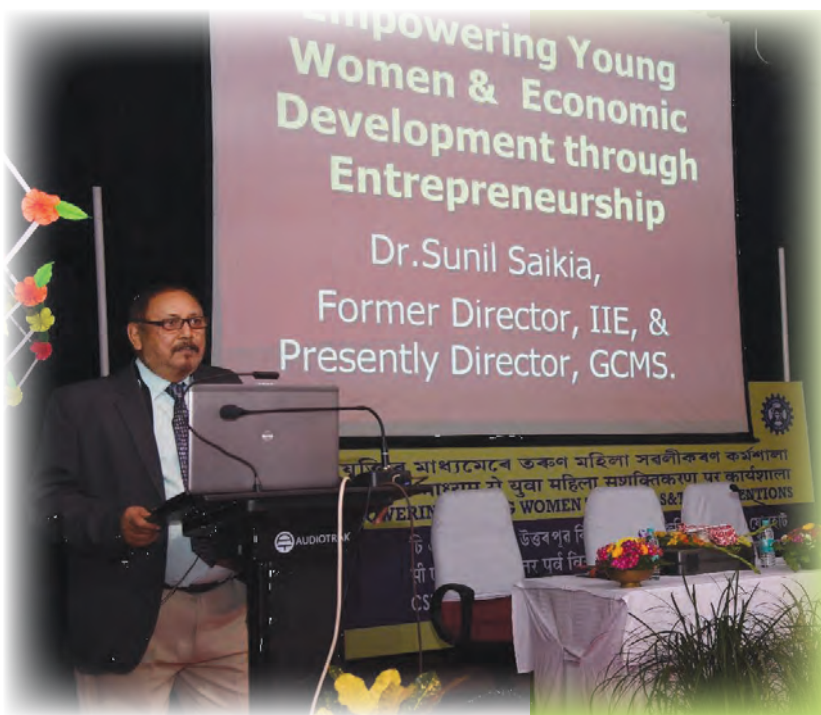
Director, CSIR-NEIST, Dr G. Narahari Sastry in his speech mentioned that women will be equally responsible for the development of the country in future and expected that women would take much more visible roles in the society. To bring women back to science, he mentioned about the scheme “KIRAN” by DBT, Govt of India which allows women to take up projects in research institutes after a gap in their career.

Dr Arup Kumar Misra, Director, ASTEC (Assam Science Technology and Environment Council), was the Chief Guest. In his address, he spoke about the importance of women in shaping mainstream society. He emphasised that women need to understand their rights so that they can play a bigger role.

In the technical session, Dr Sunil Saikia, former Director of Indian Institute of Entrepreneurship and Director, GCMS (GCC Centre of Management Studies), delivered the keynote lecture where he emphasised the need for conducting special entrepreneurial training for women to enable them to start their own



Felicitation of the Chief Guest, Dr Arup Kumar Misra, Director, ASTEC, Govt. of Assam by Director, CSIR-NEIST



Keynote lecture by Dr Sunil Saikia, Former Director, IIE & presently Director, GCMS

ventures. He informed about the financial institutions and banks that have special cells and plans to assist women entrepreneurs. Giving examples of successful women entrepreneurs of Assam, he encouraged the participants to use traditional knowledge and wealth to popularise it globally.

Debanga Pallav Saikia, Founder of “Kharkhowa” Foods, shared his journey from being an MNC employee to the owner of his company “Kharkhowa”. He also shared his experiences and setbacks and explained how an entrepreneur can be different from a businessman. He advised the participants to have

courage, faith and be bold enough in the field of entrepreneurship.

After lunch, an interactive session was held between the resource persons, students and the scientists of CSIR-NEIST (who had worked closely with the entrepreneurs of the country through transferring their own technologies). The opportunities, available schemes, funding sources, registration of the farm, etc. were discussed during the session. Students posed a number of interesting and curious questions which were answered by the panel of experts.

About 110 girl students from Jorhat College, DR College, HPB Girl’s College, Bahana College, Jorhat Science and Technology Institute, Jorhat Central College, Majuli College, JB College and DCB Girl’s College participated in the programme.

The valedictory function was attended by Shri S.C. Kalita, Chief Scientist, CSIR-NEIST as Chief



Dr Jatin Kalita, Head, RPBD during his speech on “S&T interventions of CSIR-NEIST towards entrepreneurship development”



Address by Er S.C. Kalita, Chief Scientist, CSIR-NEIST as Chief Guest during valedictory function



Dr Madhavi Sastry, Project Manager, Deshaw during her presentation



Certificate distribution among the participants by the Chief Guest and Guest of Honour during Valedictory programme

Guest and Dr Madhavi Sastry, Project Manager, Deshaw as the Guest of Honour. Prize distribution among the winners of Quiz and Debate competitions organised among the staff and distribution of certificate of participation among the participants were also conducted.

Later, in the evening, Dr Madhavi Sastry delivered a talk on “Effect of Water-Restructuring Mutations on Ligand Binding to Human Carbonic Anhydrase: A theoretical study” followed by an interactive discussion. The programme ended with a vote of thanks.

Debanga Pallav Saikia, Founder of “Kharkhowa” Foods, shared his journey from being an MNC employee to the owner of his company “Kharkhowa”. He also shared his experiences and setbacks and explained how an entrepreneur can be different from a businessman.

CBRI, Roorkee Organises National Workshop on Utilisation of Bamboo as Building Material in NE Region

CSIR-Central Building Research Institute (CBRI), Roorkee, organised a Two-day National Workshop on “Utilisation of Bamboo as Building Material in NE Region” during 18-19 February 2019. Shri Saurabh Endley, Joint Secretary, Ministry of Development of North Eastern

Region, New Delhi, graced the Inaugural Function as the Chief Guest and Dr N. Gopalakrishnan, Director, CSIR-CBRI, Roorkee, presided over the function.

Addressing the gathering, Shri Saurabh Endley, said that bamboo has been vital in traditional Indian



Shri Saurabh Endley said that there are a lot of misconceptions surrounding the use of bamboo as a building material due to lack of information. There is a need to disseminate information regarding the characteristics of bamboo such as strength, thermal and sound insulation, fire resistivity, shock-bearing capacity during earthquake, etc. in comparison to the prevailing building materials, to promote the use of bamboo as a building material.

construction materials. It is a recyclable material and research is in progress to generate biofuel from its waste. Since bamboo is the natural product of the northeast region, its use as a building material in the area would be very economical.

Shri Saurabh Endley said that there are a lot of misconceptions surrounding the use of bamboo as a building material due to lack of information. There is a need to disseminate information regarding the characteristics of bamboo such as strength, thermal and sound insulation, fire resistivity, shock-bearing capacity during earthquake, etc. in comparison to the prevailing building materials, to promote the use of bamboo as a building material. This will benefit everyone from regional farmers to builders and citizens at large. He appreciated the work of CSIR and CBRI in this direction and motivated them to work in synergy with the State Governments in this regard.

In his Presidential Address, Dr N. Gopalakrishnan informed about the research being carried out at CSIR

and CBRI to use bamboo as a building material. Dr Gopalakrishnan said that the species-dependent characteristics and light weight of bamboo are the biggest challenges in its utilisation in the construction sector. While its weight is positive for damage control during an earthquake, strong winds may prove a challenge. CSIR-CBRI is working to find solutions to these challenges. At the same time, the Institute has proposed to build a testing facility for the investigation of bamboo materials and is also working to establish some standard codes for the utilisation of bamboo as a building material.

On the occasion, the latest edition of the quarterly bilingual publication- CBRI Newsletter/Bhawnika was also released. D.R. Dharmaraju, Senior Principal Scientist conducted the programme; Dr A.K. Minocha, Chief Scientist, presented the formal introduction of the Chief Guest and Shri S.K. Negi, Chief Scientist proposed a vote of thanks.

The technical session commenced with the screening of an overview of CBRI — a film on the National



Shri Saurabh Endley,
addressing the gathering



Presidential Address by Dr. N. Gopalakrishnan,
Director, CSIR-CBRI



Quarterly Bilingual Publication
CBRI Newsletter/Bhawnika released by the dignitaries

Dream of Housing. During the technical sessions lectures were delivered on various aspects related to bamboo and its utilisation.

The dignitaries and participants also visited the “Construction Demonstration Park for Mass Housing” and reviewed the Institute’s R&D achievements. The demonstration park displayed a wide array of technologies developed by the Institute from technologies suitable for both rural and urban spaces to those for different climatic regions, testing facilities, special equipment, etc.

Dr B.B. Singh, IFS, Additional Principal Chief Conservator of Forest & Director, State Bamboo Mission, Madhya Pradesh, graced the Valedictory Function as the Chief Guest and Shri R.S. Sinha, Additional Commissioner, Natural Resources Management, Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, New Delhi, was the Guest of Honour. Dr N. Gopalakrishnan, Director, CSIR-



Display of CSIR-CBRI Technologies
 CBRI, Roorkee presided over the valedictory function.



Dignitaries during the Valedictory Function

Issues related to stability, bio-resistivity, fire retardancy, etc. regarding bamboo as construction material need to be addressed and solutions must be disseminated to the public. Moreover, the utility of bamboo in building construction must be made a part of the curriculum, starting with industrial training, diploma and then undergraduate level courses to develop a pool of skilled craftsmen and experts.

Dr B.B. Singh

Addressing the gathering, Dr B.B. Singh explained that the traditional housing uses bamboo as only one component of the construction, i.e. mud walls, thatching, trusses, columns or floor, whereas with the emerging technology the goal is to use engineered bamboo for complete architectural and interior design, as an alternate for wood. As a leading R&D Institute in the building construction sector, CSIR-CBRI, Roorkee, needs to work towards achieving the same. He said that the issues related to stability, bio-resistivity, fire retardancy, etc. regarding bamboo as construction material need to be addressed and solutions must be disseminated to the public. Moreover, the utility of bamboo in building construction must be made a part of the curriculum, starting with industrial training, diploma and then undergraduate level courses to develop a pool of skilled craftsmen and experts.

Shri R.S. Sinha said that the high consumption of bamboo in the manufacturing sector has the potential to provide large benefits to the farmers, turning the cash flow to the bottom of the pyramid. He emphasised on the use of bamboo for construction work in rural, urban and tourism sectors.

Dr Ajay Chaurasia, Senior Principal Scientist informed that the workshop has been a success with four MoUs signed between CSIR labs and other departments and a network development project proposed wherein CSIR-CBRI, Roorkee, will act as a nodal agency for further work on bamboo.

The programme was attended by about 60 participants from 16 states consisting of programme directors, professors, students, architects, engineers, additional commissioners, scientists, technical officers, entrepreneurs, secretaries, researchers and students from

Karnataka, Madhya Pradesh, Delhi, Himachal Pradesh, Uttar Pradesh, Tripura, Maharashtra, Uttarakhand, Arunachal Pradesh, Nagaland, Gujarat, Kerala, Andhra Pradesh, Haryana, Assam and Odisha.



Appointment

Dr G. Narahari, the New Director of CSIR-NEIST

Dr G. Narahari Sastry, former Chief Scientist, CSIR-Indian Institute of Chemical Technology (CSIR-IICT), Hyderabad, assumed the charge as the Director of CSIR-North East Institute of Science and Technology (CSIR-NEIST), Jorhat, on 19 February 2019.

Dr Sastry's research interests are theoretical and computational chemistry, computational biology, computer-aided molecular design and chemoinformatics. Dr Sastry has made fundamental contributions in the field of noncovalent interactions and developed several important concepts in this area.

Dr Sastry is a JC Bose National Fellow (2015). He was also awarded with the Shanti Swarup Bhatnagar Prize in Chemical Sciences (2011), considered as one of the highest prize for science and engineering in India; National Bioscience award (DBT) 2009, one of the highest for Lifesciences in India; Swarnajayanti Fellowship 2005 (DST); B.M. Birla Award for 2001; BC Deb Memorial Award (2009); CRSI Medal 2011, and AvH Fellowship.

He has delivered more than 300 invited lectures including talks in national and international



conferences. He was a visiting professor at IMS, Japan; LMU, Munich, Germany; Jackson State University, USA, and Kyushu University, Japan. He was elected as a Fellow of the National Academy of Sciences (FNASc), Fellow of the Indian Academy of Sciences (FASc), Fellow of Association of Biotechnology and Pharmacy, Telangana State Academy of Sciences (Founder Fellow) and Andhra Pradesh Academy of Sciences (FAPAS). He is a regular reviewer for some prestigious journals and also in the editorial board of some journals.

Nominations are invited for

G N Ramachandran Gold Medal for Excellence in Biological Sciences and Technology 2019

The Council of Scientific & Industrial Research (CSIR) invites nominations for the **G N Ramachandran Gold Medal for Excellence in Biological Sciences and Technology for the year 2019**. The award is bestowed every year to an outstanding Indian scientist, who has made conspicuously important contributions, applied or fundamental, in the interdisciplinary subject/field of Biological Sciences and Technology. The award would be given for the work done primarily in India during ten years preceding the year of 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 prescribed pro-forma (Original + one copy) along with reprints of five most significant publications of the last 10-year's period by **31 May 2019**. The details of the award and the prescribed pro-forma for nomination may be downloaded from the website www.csirhrdg.res.in

Form IV

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