





सी एस आई आर-उत्तर पूर्व विज्ञान तथा प्रौद्योगिकी संस्थान, जोरहाट CSIR-NORTH EAST INSTITUTE OF SCIENCE & TECHNOLOGY, JORHAT

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Connecting Science & Technology for a Brighter Tomorrow

CSIR-NEIST TRANSFERS THREE TECHNOLOGIES FOR COMMERCIALIZATION



Dr D Ramaiah, Director, CSIR-NEIST handing over the technology package of Jor Lab L-8 to Mr Jayanta Saikia, Manager, M/s Radhabari Tea Company in presence of the technology team and other staff members.



Dr D Ramaiah, Director, CSIR-NEIST handing over the technology package of Liquid Deodorant Cleaner to Mr Parsha P Bordoloi from M/s JPL Industries in presence of the technology team and other staff members

CSIR-NEIST transferred the newly developed improved variety of Lemongrass, 'Jor Lab L-8', to M/s Radhabari Tea Company Private Limited, Golaghat (Assam) on 2 August 2017 for commercial cultivation and processing. Mr Jayanta Saikia, Manager of the company also undertook demonstration of the cultivation practice and its oil processing under the supervision of Dr Mohan Lal, Scientist & technology team leader. The Institute also transferred its process technology on Liquid Deodorant Cleaner for commercialization to M/s JPL Industries, Tinsukia on 29 August 2017. Mr Parsha P Bordoloi, representative from the company signed the technology transfer agreement. Mr Bordoloi also undertook training/demonstration of the technology under the supervision of Dr Tridip Goswami, Pr Scientist & technology team leader.

CSIR-NEIST INKS MOU WITH NGOS FOR IMPLEMENTING CSIR AROMA MISSION







Clock-wise from top left: Dr D Ramaiah, Director, CSIR-NEIST handing over the signed MoU to Mr R K Barman, President, Juriya Aromatic Small Farmers' Unit, Goalpara on 24 October 2017. Dr G N Qazi, Chairman, Research Council, CSIR-NEIST, handing over the signed MoUs to Mr Tankadhar Podh, Manager, Social Action for Odisha and Mr Joram Neni, Chairman, Subansiri Research & Social Welfare Society, Arunachal Pradesh.

CSIR AROMA MISSION LAUNCHED AT MIZORAM



Shri Lal Thanhawla, Hon'ble Chief Minister of Mizoram, delivering his address on the occasion.

Hon'ble Chief Minister of Mizoram, Shri Lal Thanhawla launched the 'CSIR-Aroma Mission' at Lunglei, Mizoram on 24 August 2017 in presence of CSIR-NEIST team led by Dr P Sengupta, Director-in-charge. Under this flagship programme of CSIR, CSIR-NEIST aims to boost cultivation of economically important aromatic plants like Citronella, Lemongrass and Patchouli in NE region, thus helping the farmers to take up farming of alternative crops with better economic value. The Institute will be working closely with several local NGOs to promote the cultivation of these plants which require less attention and can be done in unproductive waste lands including those affected by water scarcity. It is hoped that the initiative would not only boost the cultivation but also help in value-addition of aromatic plants which will greatly benefit the aroma industries. At a solemn ceremony held at Convention Centre, Lunglei, Hon'ble Chief Minister, Shri

Shri Lal Thanhawla addressed an august gathering of farmers, members from the All Mizoram Farmers' Union and other dignitaries besides CSIR-NEIST team. Dr P Sengupta while speaking on the occasion highlighted the aims and objectives of the Mission programme and said that in the next three years, a minimum of 800 hectares of land in the North Eastern region is likely to be brought under cultivation of various aromatic crops while generating employment among rural youth and creating trained and skilled manpower leading to economic upliftment of the rural people.

CSIR AROMA MISSION LAUNCHED AT MANIPUR



Dr Najma Heptulla, Hon'ble Governor of Manipur, delivering her address on the occasion.

CSIR-NEIST launched the CSIR Aroma Mission project in the state of Manipur on 19 September 2017. Dr Najma Heptulla, Hon'ble Governor of Manipur launched the programme in a solemn ceremony held at CSIR-NEIST Branch Laboratory, Imphal, in the presence of Dr D Ramaiah, Director, CSIR-NEIST and staff members. In her address during the function, Dr Heptulla stressed the importance of biodiversity conservation and extended her help & support for the mission programme in the state. A Memorandum of Understanding (MoU) was signed and exchange between CSIR-NEIST and All Manipur Trained Medicinal & Aromatic Plants Promoters Consortium for implementation of the CSIR Aroma Mission in 500 hectares of land in the state of Manipur. The launching function was also attended by Dr Pinaki Sengupta, Chief Scientist, CSIR-NEIST as guest of hounour and Dr S P Saikia, Principal Investigator, CSIR Aroma Mission.

CSIR-NEIST CELEBRATED THE 71ST INDEPENDENCE DAY



 $\label{eq:def:DrD} \textit{Dr}\,\, \textit{D}\,\, \textit{Ramaiah, Director, CSIR-NEIST inspecting the Guard of Honour.}$



Dr Ramaiah delivering his address on the occasion.

CSIR-NEIST celebrated the country's 71st Independence Day with great joy and enthusiasm on 15 August 2017 with a flag hoisting ceremony held in front of the Administrative Block. CSIR-NEIST staff members along with their families, students and teachers of NEIST Kendriya Vidyalaya (KV) turned in large numbers to celebrate the day. Dr D Ramaiah, Director, CSIR-NEIST inspected the Guard of Honour and unfurled the National Flag followed by the National Anthem played to mark the celebration. Dr Ramaiah then took the salute of march past performed by CSIR-NEIST fraternity and students of KV. Delivering his address on the occasion, Dr Ramaiah recalled the vision, sacrifices and determination of our past leaders, freedom fighters and citizens which led to the country's independence and developments over its journey of 70 independent years. He exhorted everyone present to renew their responsibilities as a citizen and continue to work for national integrity and contribute in nation building process. Dr Ramaiah also gave a brief of the contribution of CSIR and particularly CSIR-NEIST towards the society over the years. As a part of the celebration, sweets and replicas of National Flag were later distributed to all present.

CSIR-NEIST CELEBRATED THE 76TH CSIR FOUNDATION DAY



Dr Mukul R Jain delivering the 76th CSIR Foundation Day Lecture

CSIR-NEIST celebrated the 76th Foundation Day of its apex body, Council of Scientific & Industrial Research (CSIR) on 25 September 2017 with a day-long programme at its premise. A special function was held at Dr J N Baruah auditorium wherein Dr Mukul R Jain, Senior Vice President, Zydus Research Centre, Cadila Healthcare Limited, Ahmedabad graced the function as Chief Guest and delivered the Foundation Day Lecture. Dr D Ramaiah, Director, CSIR-NEIST presided over the function. In his welcome address, Dr Ramaiah briefed some of the significant contributions of CSIR over the years. He also mentioned about the association of CSIR-NEIST with Zydus Cadila regarding joint programmes on drug development. Delivering the CSIR Foundation Day Lecture on the topic, 'Should Indian Pharma Industry Change its Generic Mindset? Can India Discover New Drugs?', Dr Jain contemplated deeply

on the general psyche and position of our nation particularly in the Pharmaceutical industry in development of novel drugs. He mentioned that although the Indian Pharma Industry is stereotyped as a Generic Industry, it is indeed a global hub for pharmaceutical products which is reflected in the no. of products manufactured. Reiterating the potential of the country to innovate and develop new drugs, he highlighted the various growth drivers for Indian Pharma Industry such as skilled manpower, state-of-the-art infrastructure facilities, and policy support from the Govt. Dr Jain further touched upon the evolution of Indian Pharma Sector vis-a-vis Patent scenario and said that the vision of Zydus is to establish itself as a fully research based pharma company by 2020. On the occasion, CSIR-NEIST publication, 'Annual Report 2016-17' was released by the Chief Guest. Employees who retired during September 2016 to August 2017 were felicitated with CSIR Sanman Patras & Mementoes and also those who completed 25 years in Council's

Council's service were felicitated. Further, certificates and prizes were distributed to the winners of various competitions held under the occasion Drawing, Essay, Debate and Quiz competitions held among the school students and staff members. Like previous years, this year also, CSIR-NEIST awarded cash prizes to SC/ST students of NE region who secured the highest percentage in class X from various state boards under the 'CSIR scheme of cash award for SC/ST students'. Further, 'CSIR-NEIST Golden Jubilee Scholarship scheme for bright students of NE region' 2016-17 was awarded to 2 (two) meritorious students from Assam belonging to economically weak background. The programme was attended by dignitaries, invitees, eminent personalities from in and around Jorhat district, besides CSIR-NEIST fraternity. As a part of the celebration, CSIR-NEIST also observed 'Open Day' during which students from in and around Jorhat and general public visited the Institute and interacted with scientists.



ST/SC students felicitated on the occasion with Dr D Ramaiah, Director, CSIR-NEIST and Dr Mukul R Jain, Chief Guest of the function

23RD DR J N BARUAH MEMORIAL LECTURE HELD AT CSIR-NEIST



Dr D Ramaiah, Director, CSIR-NEIST delivering welcome address on the occasion.



Padmabhushan Dr A V Rama Rao delivering the 23rd Dr J N Baurah Memorial Lecture.

The 23rd Dr J N Baruah Memorial Lecture was held at CSIR-NEIST on 1 September 2017 with a special programme at Dr J Baruah auditorium. The programme was jointly organized by Dr J N Baruah Memorial Trust; Assam Science Society (Jorhat branch) and CSIR-NEIST. It is to be mentioned that Dr J N Baruah Memorial Lecture is held annually in the honour and fond memory of Late Dr J N Baruah, Former Director of CSIR-NEIST and an eminent scientist and educationist from Assam. Padmabhushan Dr A V Rama Rao, Founder, Chairman & Managing Director, Avra Laboratories Pvt.Ltd., Hyderabad, graced the occasion as Chief Guest and delivered the Memorial Lecture while Dr R S C Jayaraj, Director, Rain Forest Research Institute, Jorhat attended as Guest of

Honour. The function was presided over by Dr R C Boruah, Former Outstanding Scientist, CSIR-NEIST & President, Assam Science Society (Jorhat branch). Dr D Ramaiah, Director, CSIR-NEIST delivered the welcome address. Delivering the Memorial Lecture on 'Science and its Relevance to Society', Dr Rama Rao spoke about his journey as a Scientist, Technologist and Entrepreneur. He very lucidly explained some of the complex compounds like Duanomycin, Glucasomine, Vancomycin, Diazepam and AZT (the first HIV drug) and his work in synthesizing these compounds which have directly impacted the Indian drug industry and outside. Dr Rao also spoke about his journey in establishing the Avra Laboratories and the various industrial projects handled by it. On the occasion, the bust of Late Dr J N Baruah was unveiled by the Chief Guest, at the Dr J N Baruah Auditorium premises. Delivering his speech

appealed to all and particularly the Assam Science Society to promote & educate the importance of sustainable use of natural sources and to motivate the teachers to inculcate scientific temperament among the students. Dr Manash Protim Baruah, son of Late Dr J N Baruah in his short speech extended his personal greetings and gratitude to the distinguished speaker for the exemplary lecture on this memorable day. In his Presidential Address, Dr R C Boruah extended his gratitude to the Chief Guest for his exemplary lecture which he said is important for a science oriented society and very much relevant to the significance of the day. As a part of the event, this year the Late Dr J N Baruah Student Scholarship was awarded to Mr Partha J Dutta, a student of class XI (science) of Crescent Academy, Jorhat. The programme was attended by an august gathering of CSIR--NEIST fraternity, invited guests, dignitaries, members from the Assam Science Society, Dr J N Baruah Memorial Trust and school students.



Dr A V Rama Rao, unveiling the bust of Late Dr J N Baruah in presence of Dr D Ramaiah, Director, CSIR-NEIST and other dignitaries.

राजभासा हिंदी सप्ताह संपन्न

प्रत्येक वर्ष के भांति इस वर्ष भी सीएसआईआर—उत्तर—पूर्व विज्ञान तथा प्रौद्योगिकी संस्थान, जोरहाट ने राजभाषा हिंदी को कार्या<mark>लयीन कार्य में उत्तरोत्तर</mark> वृद्धि करने के लिए संस्थान में राजभाषा हिंदी सप्ताह का आयोजन किया एवं संस्थान के विशाल सभागार में नगर राजभाषा का<mark>र्यान्वयन समिति एवं हिन्दी</mark> ्र भाषा के विकास के लिए समर्पित संगठन "पूर्वाशा हिन्दी अकादमी", जोरहाट के संयुक्त तत्वावधान में विभिन्नि कार्यक्रमों के सा<mark>थ 14 सितम्बतर को हिंदी</mark> दिवस समारोह भव्य रूप से मनाया गया। हिन्दी सप्ताह का शुभारंभ 4 सितम्बर 2017 में किया गया। राजभाषा सप्ताह के दौरान कई प्रकार के प्रतियोगिताओं और हिन्दी कार्यशालाएँ का आयोजन किया गया। सप्ताह का समापन 14 सितम्बर 2017 को हिन्दी दिवस समारोह के रू<mark>प में किया गया। कार्यक्रम का</mark> शुभारंभ हिन्दी अधिकारी एवं सचिव, नगर राजभाषा कार्यान्वयन समिति श्री अजय कुमार ने भारत सरकार के गृह मंत्री के हि<mark>न्दी दिवस संदेश पढ़कर किया।</mark> समारोह के मुख्य अतिथि असमियाँ मूल की हिन्दी कवियित्री एवं लेखिका श्रीमति रेणु बरुआ उपस्थित थीं। श्रीमति बरुआ "पूर्वाशा हिन्दी <mark>अकादमी", जोरहाट</mark> की अध्यक्ष हैं। संस्थान के लिए यह पहला अवसर था जिसमें आम जन मानस में हिन्दी के प्रचार प्रसार से जुड़े गैर सरकारी संगठन "पूर्वाशा" को भी हिन्दी दिवस मनाने के लिए इस मंच पर आमंत्रित किया। इस अवसर पर मुख्य अतिथि ने निस्ट के अधिकारियों एवं कर्मचारियों को हिन्दी में काम करने के लिए प्रोत्साहित किया। असमियाँ एवं हिन्दी भाषा में समरूपता की व्याख्या की। उन्होनें महापुरुष शंकरदेव की भाषा ब्रजावली के उल्लेख करते हुए हिन्दी के साथ तालमेल को समझाया। निस्ट के निदेशक डॉ डी रामाय्या ने अपने सम्बोधन में सभी कार्मिकों एवं "पूर्वाशा" के सदस्यों को हिन्दी दिवस की शुभकामना दी एवं कार्यालय में राजभाषा हिन्दी के प्रचार-प्रसार पर बल दिया। राजभाषा नियम के अनुसरण में संस्थादन में राजभाषा हिंदी गतिविधियों एवं सुविधाओं का उल्लेख किया। संस्थान में चल रहे हिन्दी कार्यक्रम का ब्योरा भी प्रस्तुत किया। इस अवसर पर संस्थान के मुख्य वैज्ञानिक श्री सुबोध चन्द्र कलिता ने अपना स्वागत भाषण प्रस्तुत करते हुए "पूर्वाशा" एवं सदस्यों का आभार व्यक्त किया । हिन्दी के प्रति समर्पण एवं प्रचार प्रसार के क्षेत्र में महत्वपूर्ण योगदान के लिए श्रीमति रूनु बरुआ को निदेशक निस्ट द्वारा सम्मानित किया गया। कार्यक्रम के अंत में पुरस्कार वितरण समारोह में 4 से 14 सितम्बर के दौरान आयोजित विभिन्न प्रकार के हिंदी प्रतियोगिताओं हिंदी श्रुत लेखन, हिंदी प्रश्नोात ही के विजेताओं को मुख्यत अतिथि महोदय के कर कमलों से पुरूस्काओर एवं प्रमाणपत्र से सम्मानित किया गया। हिंदी शिक्षण योजना भारत सरकार के अंतर्गत प्रबोध/प्रवीण/प्राज्ञ हिंदी भाषा पाठ्यक्रम पास स्टाफ सदस्यों को प्रमाण पत्र प्रदान किया गया।



संलग्न फोटो मुख्य अतिथि के रूप में बोलते हुए हिन्दी कविथित्री एवं लेखिका श्रीमति रेणु बरुआ एवं मंचासीन (दायें से) निस्ट, जोरहाट के मुख्य वैज्ञानिक डॉ सुबोध कलिता एवं संस्थान के निदेशक डॉ डी रामाय्या

PROJECT DEVELOPMENT WORKSHOP ON TECHNOLOGY EMPOWERMENT OF NORTH-EAST: WATER, ENERGY AND COMMUNICATION SOLUTIONS (TENE-WECS) HELD AT CSIR-NEIST

A three-day Project Development Workshop on 'Technology Empowerment of North-East: Water, Energy and Communication Solutions (TENE-WECS)' was held at CSIR-NEIST during 2-4 November 2017. The workshop was organized by CSIR-NISTADS, New Delhi in association with CSIR-NEIST and supported by AICTE under a flagship project of CSIR-NISTADS & AICTE aimed at empowering 90 technical institutes and colleges of North East in the areas of Energy, Water and Communication. The main objective of the workshop was to provide a platform for close interaction between the technical institutes, CSIR-NISTADS and AICTE for development of project proposals and their future implementation. The workshop was inaugurated on 2 November, 2017 which was presided over by Dr D Ramaiah, Director, CSIR-NEIST and graced by Dr P K Mishra, President (NEKF) & Vice



Participants of the Workshop along with the organizing team

Chancellor, Kaziranga University as the Chief Guest. The technical sessions held during 3-4 November 2017 saw intensive discussions and hands-on exercise on project(s) formulation followed by their evaluation under the technical supervision of experts from AICTE led by Prof Dileep N Malkhede, Adviser (RIFD), CSIR-NISTADS team led by Dr Vipan Kumar, Head-Project Monitoring & Evaluation and Prof Rupam Kakoti, Head-Energy Sciences, Tezpur University. A short press meet was also held on 4 November 2017 chaired by Dr P Goswami, Director, NISTADS. The concluding session was held on 4 November 2017 presided over by Dr P Goswami, Director, CSIR-NISTADS. Altogether 27 faculty members from 23 technical institutes & colleges of Assam, Arunachal Pradesh, Meghalaya, Mizoram, Nagaland and Sikkim participated in the workshop.

CSIR-NEIST ORGANIZED STUDENT-SCIENTIST INTERACTIVE PROGRAMME UNDER JIGYASA

A 3-day programme under CSIR's Student-Scientist connect programme. 'JIGYASA' was organized by the institute at its premise during 28-30 August 2017. A total of 70 students of standard IX from Kendriya Vidyalaya-NEIST, Jorhat and Kendriya Vidyalaya-Air force Station, Jorhat attended the programme along with 4 teachers. The Programme is expected to connect 1151 KVs with 38 National Laboratories of CSIR and will target 100,000 students and nearly 1000 teachers annually. The programme commenced with a short inaugural function at Dr J N Baruah Auditorium on 28 August 2017. Mr Partha Paul, Scientist & Coordinator of the programme spoke about the genesis of the programme and the various activities to be covered during the period. Dr D Ramaiah, Director, CSIR-NEIST in his address to the students encouraged them to make the most of it by taking active participation in all the sessions. He further added that the younger generation are the future of our nation and through this programme, CSIR aims to reach out and nurture these



Participating students and teachers of JIGYASA program along with Director, CSIR-NEIST and organizing team members.

young minds by exposing them to the scientific developments taking place in various Institutes and thus motivating them to be a part of nation's growth. The 3-day programme included notable presentations by various resource persons on topics like Astrophysics, Mathematics, Nano-science, Chemistry, Zoopharmacognosy Biology and alike with practical experiments. Besides technical lectures, a session on career guidance was also held wherein various career opportunities in the field of science & technology were apprised to the students. The programme concluded with a Valedictory function held on 30 August 2017 wherein certificates were distributed to all the students and the teachers.

CSIR-NEIST EXTENDED TRAINING TO SCHOOL DROPOUTS UNDER CSIR 800 PROGRAMME

Under the on-going series of training programmes held under CSIR 800 programme, CSIR-NEIST imparted training on Mushroom cultivation and cultivation of aromatic plants and oil distillation techniques to 17 school dropout students of the Institute of Cultural and Rural Development (I-CARD), Baghchung, Jorhat at its premise during 2-3 August 2017. The main aim of the programme was to train and encourage the unemployed youth to adopt these low cost technologies for income generation by venturing into commercial production and be self sustained. The training programme included detailed demonstration and hands-on training on cultivation practice. The programme was coordinated by Dr S P Saikia, Sr Scientist.



Trainees of the programme with CSIR-NEIST team during the hands-on demonstration

STUDENTS VISIT CSIR-NEIST ON VARIOUS OCCASIONS





Mr Madhurjya Saikia, Senior Technical Officer, interacting with the students of Gyan Yatra programme at Dr J N Baruah Auditorium, CSIR-NEIST.

Under Gyan Yatra (Educational Tour) programme of Rashtriya Madhyamik Shiksha Abhiyan Jorhat held annually, about 2800 students of class IX along with around 200 teachers from 46 schools of Jorhat visited CSIR-NEIST during 30 October to 3 November 2017. Also, 385 studenst and teachers from Lakhimpur, Dhemaji, Dima-Hasao and Karbi Anglong Distrcits of Assam visited the institute under Chief Minister's Gyan Jyoti Programme during November 2017. During the period, the students visited various divisions and interacted with the scientists. Besides, more than 500 students from 8 schools of Jorhat, Nagaon and Sivasagar districts visited the Institute on various occasions during October-November 2017.

PAPERS PUBLISHED

In International Peer Reviewed Journals

- 1. Phukan A, Borah S J , Bordoloi P, Sharma K, Borah B J, Sarmah P P, Dutta D K: An efficient and robust heterogeneous mesoporous montmorillonite clay catalyst for the Biginelli type reactions, Advanced Powder Technology, 2017, 28(6), p: 1585-1592
- 2.Borah G, Borah P, Patel P: Cp*Co(III)-catalyzed ortho-amidation of azobenzenes with dioxazolones, Organic Biomolecular Chemistry, 2017, 15, p: 3854
- 3.Gawale Y, Sekar N, Adarsh N, Joseph J, Kalva S K, Pramanik M, Ramaiah D: Carbazole-Linked Near-Infrared Aza-BODIPY Dyes as Triplet Sensitizers and Photoacoustic Contrast Agents for Deep-Tissue Imaging, Chemistry— A European Journal, 2017, 23 p: 6570 6578
- 4. Goswami L, Neog K, Sharmakumud, Gogoi P: A metal-free cascade reaction of β-halo-a,β-unsaturated aldehydes and 1,4-dithiane-2,5-diols: synthesis of polycyclic 2-formylthiophenes, Organic Biomolecular Chemistry, 2017, 15 p: 6470-6473
- 5.Bhuyan D, Saikia L: Scavenging Pd2+ on Amine-Functionalized SBA-15: A Facile Synthesis of Leach-Free Pd0 Nanocatalyst for Base-Free Chemoselective Transfer Hydrogenation of Olefins, Chemistry Select, 2017, 2(22), p: 6350-6358
- 6.Das B, Chakrabarty B, Barkakati P: Separation of oil from oily wastewater using low cost ceramic membrane, Korean Journal of Chemical Engineering, 2017, https://doi.org/10.1007/s11814-017 -0185-z
- 7.Bhuyan D, Saikia M, Saikia L: ZnO nanoparticles embedded in SBA-15 as an efficient heterogeneous catalyst for the synthesis of dihydropyrimidinones via Biginelli condensation reaction, Microporous and Mesoporous Materials, 2017, 256, p: 39-48
- 8. Velmurugan N, Lee H-M, Cha H-J, Lee Y-S: Proteomic analysis of the marine-derived fungus Paecilomyces sp. strain SF-8 in response to polycyclic aromatic hydrocarbons, Botanica Marina, 2017, 60(4), p: 381-392
- 9. Dutta L, Bhuyan P J: Synthesis of highly functionalized indeno[1,2-b] furans, Tetrahedron Letters, 2017, 58(36), p: 3545-3548
- 10. Saikia P, Goswami T, Dutta D, Dutta N K, Sengupta P, Neog D: Development of a flexible composite from leather industry waste and evaluation of their physico-chemical properties, Clean Technologies and Environmental Policy, 2017, p: 1-8

- 11. Baruah Swagata, Borthakur Somadrita, Gogoi Sanjib: Directing group assisted copper-mediated aroylation of phenols using 2-bromoacetophenones, Chemical Communications, 2017, 53(65), p: 9133-9135,
- 12. Borah A, Sharma A, Hazarika H, Sharma K, Gogoi P: Synthesis of 1-Azaanthraquinone: Sequential C-N Bond Formation/Lewis Acid Catalyzed Intramolecular Cyclization Strategy, The Journal of Organic Chemistry, 2017, 82 p: 8309-8316
- 13. Khanraa R, Bhattacharjee N, Dua T K, Nandy A, Saha A, Kalita J, Manna P, Dewanjee S: Taraxerol, a pentacyclic triterpenoid, from Abroma augusta leaf attenuates diabetic nephropathy in type 2 diabetic rats, Biomedicine Pharmacotherapy, 2017, 94 p: 726-741
- 14. Pal M, Khan R: Graphene oxide layer decorated gold nanoparticles based immunosensor for the detection of prostate cancer risk factor, Analytical Biochemistry, 2017, 536 p: 51-58.
- 15. Dutta P, Dey T, Dihingia A, Manna P, Kalita J: Antioxidant and glucose metabolizing potential of edible insect, Brachytrupes orientalis via modulating Nrf2/AMPK/GLUT4 signaling pathway, Biomedicine and Pharmacotherapy, 2017, 95 p: 556-563
- 16. Chaliha B, Lahkar L, Doley A, Kotoky R, Saikia S P, Nath S C: Screening of some lesser known tree-borne oilseed plants from North-East India for their oil content and major fatty acid components, Prostaglandins, Leukotrienes and Essential Fatty Acids (PLEFA), 2017, 126 p: 9-19
- 17. Kotoky R, Saikia S P, Chaliha B, Nath S C: Chemical compositions of the essential oils of inflorescence and vegetative aerial parts of Elsholtzia blanda (Benth.) Benth. (Lamiales: Lamiaceae) from Meghalaya, North-East India, Brazilian Journal of Biological Sciences, 2017, 4(7), p: 19-23
- 18. Tripathi A M, Yadav A, Saikia S P, Roy S: global gene expression pattern in a forest tree species, Tectona grandis (Linn.F.), under limited water supply, Tree Genetics Genomes, 2017, 13.66 p: 1-12
- 19. Hazarika M, Sonowal S, Saikia I, Boruah P K, Das M R, Tamuly C: Biogenic synthesis of Ag-Au-In decorated on rGO nanosheet and its antioxidant and biological activities, Materials Research Express,

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- 20. Tamuli K J, Dutta D, Nath S, Bordoloi M: A Greener and Facile Synthesis of Imidazole and Dihydropyrimidine Derivatives under Solvent-Free Condition Using Nature-Derived Catalyst, Chemistry Select, 2017, 2(26), p: 7787-7791
- 21. Borra Satheesh, Chandrasekhar D, Khound Susmita, Maurya Ram Avatar: Access to 1a,6b-Dihydro-1H-benzofuro[2,3-b]azirines and Benzofuran-2-amines via Visible Light Triggered Decomposition of a-Azidochalcones, Organic Letters, 2017, 19(19), p: 5364-5367.
- 22. Baruah U, Gautam A, Saikia M, Borphukan S, Saikia P J, Baruah S D: Monodisperse copolymer nanosphere assembly by miniemulsion polymerization, European Polymer Journal, 2017, 96 p: 111-118
- 23. Sarmah S, Bordoloi D, Goswamee R L: Surface modification of paddy husk ash by hydroxyl-alumina coating to develop an efficient water defluoridation media and the immobilization of the sludge by lime-silica reaction, Journal of Environmental Chemical Engineering, 2017, 5(5), p: 4483-4493
- 24. Passari A K, Mishra V K, Singh G, Singh P, Kumar B, Gupta V K, Sharma R K, Saikia R, Donovan A O, Singh B P: Insights into the functionality of endophytic actinobacteria with a focus on their biosynthetic potential and secondary metabolites production, Scientific Reports, 2017, 7 p: 11809
- 25. Reddy A P, Sastry K N V, Kovvuri J, Nagarajan A, Reddy V G, Sayeed I B, Nayak V L, Maurya R A, Kamal A: Visible Light Driven Coupling of 2-aminopyridines and a-Keto Vinyl Azides for the Synthesis of Imidazo[1, 2-a] pyridines and Their Cytotoxicity, Chemistry Select, 2017, 2 p: 8158 - 8161
- 26. Saikia I, Hazarika M, Hussian N, Das M R, Tamuly C: Biogenic synthesis of Fe2O3@SiO2 nanoparticles for ipso-hydroxylation of boronic acid in water, Tetrahedron Letters, 2017, 58(45), p: 4255-4259 27. Hussain N, Das M R: Magnetically recoverable graphene-based nanocomposite material as an efficient catalyst for the synthesis of propargylamines via A3 coupling reaction, New Journal of Chemistry, 2017, 41 p:12756-12766
- 28. Das T, Saikia B K: Nanodiamonds Produced from Low-Grade Indian Coals, ACS Sustainable Chemistry Engineering, 2017, 5, p: 9619-9624. Highest Impact Factor paper: IF-5.951
- 29. Boruah P K, Szunerits S, Boukherroub R, Das M R: Magnetic Fe3O4@V2O5/rGO nanocomposite as a recyclable photocatalyst for dye molecules degradation under direct sunlight irradiation, Chemosphere, 2017, 191 p: 503-513
- 30. Kozlov M N, Artemkin S B, Podlipskay T Y, Nebogatikov N A, Das M R, Fedorov V E: Colloidal dispersions of molybdenum disulfide with a narrow particle size distribution, Russian Chemical Bulletin, International Edition, 2017, 66(6), p: 963-968
- 31. Kozlova M N, Poltarak P, Artemkina S B, Das M R, Sengupta P, Fedorov V E: Gold nanoparticles deposited on the surface of low-dimensional niobium trisulfide and vanadium tetrasulfide, Materials Today: Proceedings, 2017, 4 p: 11411-11417
- 32. Saikia I, Hazarika M, Yunus S, Mintu P , Das M R, Borah J C, Tamuly C: Green synthesis of Au-Ag-In-rGO nanocomposites and its a-glucosidase inhibition and cytotoxicity effects, Materials Letters, 2018, 211 p: 48-50
- 33. Pramanik S, Das M R, Das D, Das P: Sustainable Redox Chemistry Route to Multifaceted Fe-Pd Heteronanostructure: Delving into the Synergistic Influence in Catalysis, Chemistry Select, 2017, 2 p: 4577-4585
- 34. Borah A, Sharma A, Hazarika H, Gogoi P: Synthesis of 2,3-Disubstituted 1,4-Naphthoquinones via Metal-Free C(sp2)-H Functionalization followed by Suzuki Cross-Coupling Reactions, Chemistry Select, 2017, 2 p: 9999- 10003
- 35. Singh A, Kumar M R, Mohanty D D, Singh C, Biswas R, Srinagesh D: Crustal Structure Beneath India and Tibet: New Constraints From Inversion of Receiver Functions, Journal of Geophysical Research: Solid Earth, 2017, 122 p: 1-21

In National Peer Reviewed Journals

- 1. Banik D, Bora P P, Kumar V S, Bezbaruah R L: Conspectus on Indian Gymnacranthera and Myristica, Rheedea, 2017, 27(1), p: 1-12
- 2. Choudhury R, Saikia J, Saikia B K: Mineralogical and ash geochemical studies of coal-mine shale and its hydrocarbon potential: A case study of shale from Makum coalfield, Northeast India, Journal of the Geological Society of India, 2017, 90(3), p: 329-334

In Proceedings of Seminars/Conferences

1. Saikia R, Sarma R: Programme topic: Multi -Omics approach for Microbial Community Profiling, In: 7th Symposium of the DNA Society of India, DST-IASST, Guwahati, 17 & 18 November 2017.

Colloquium held

Date: 1 August 2017

Topic: Tapping the potential of hottest hotspot of the world biodiversity: Phytochemical profiling of medicinal plants from SAHYADRI (Western

Speaker: Dr K V Radhakrishnan, Pr Scientist, CSIR-NIIST, Trivandrum

Date: 9 October 2017

Topic: Cancer Drug Research: My Experiences

Speaker: Dr Rituraj Konwar, Senior Scientist, CSIR-Central Drug Research Institute (CSIR-CDRI), Lucknow

Farewell

The following member(s) of the staff have retired from Council's service on superannuation from CSIR-NEIST during August 2017 to November 2017.

- 1.Md. Mukibur Rahman, Sr Technical Officer
- 2. Mr Padmeswar Saikia, Lab Assistant
- 3. Mr Chandra K Pathak, Lab Assistant
- 4. Mr Domai R Das, Lab Assistant
- 5. Mr Biren Das, Group C (Non Tech)
- 6. Dr Pranab Barkakati, Chief Scientist
- 7. Mr Chandradhar Tamuli, Lab Assistant
- 8. Mr Biren Chandra Bora, Lab Assistant 9.Ms. Alokananda Sengupta, Sr Principal Scientist

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