

CSIR IN MEDIA



CSIR

NEWS BULLETIN

16 TO 20 NOVEMBER 2021



CSIR-APEDA skill devp prog concludes

CSIR-CFTRI

20th November, 2021

Dimapur, November 20 (MExN): CSIR-Central Food Technological Research Institute (CFTRI) & Agricultural & Processed Food Products Export Development Authority (APEDA) conducted five-day skill development training on value addition on fruits, vegetables and spices at Nagaland Tool Room & Training Centre (NTTC), Dimapur.



A press release received here stated that the training concluded with a valedictory programme on November 19 with L Mongkum, President, BAN (Business Association of Nagas) as chief guest and Taliwati Longchar IEDS, Joint Director & HoD, MSME Development Institute, Dimapur as guest of honour.

Speaking on the occasion, Mongkum encouraged the trainees to innovate and work towards becoming entrepreneurs who will be able to provide job opportunities to many other young people. He stressed that in order to excel in any chosen field, skill development is very important and the passion and dedication will determine how successful one can be. Jamir also reiterated that the BAN is committed to help the entrepreneurs in linking them with various financial institutions and assist in market linkages.

Meanwhile, Taliwati Longchar encouraged the trainees to take risk and give value added services in their chosen fields. He also shared about how registering with the MSME would facilitate in aiding the entrepreneurs in availing investments from various financial institutions.

The facilitators for the training were Dr Ng Iboyaima Singh, Chief Scientist, CSIR-CFTRI, Shailaza R and Er Sahu from CFTRI. Altogether 32 trainees from Dimapur and Kohima attended the training and were awarded with.

Arunachal: CSIR-CIMAP organizes training-cum-demonstration programme under Aroma Mission-II

CSIR-CIMAP

20th November, 2021

PASIGHAT (By Maksam Tayeng)- CSIR-Central Institute of Medicinal and Aromatic Plants organized two training-cum-demonstration programme for cultivation and processing of aromatic crops under Aroma Mission-II at Runne village, on Wednesday and at Mebo village, Mebo on Thursday. These programmes were conducted with the local support from the



Department of Horticulture, East Siang district.

Training-cum-Demonstration Programme at Runne village, Pasighat started with the welcome address by Kaling Taloh, a farmer who is cultivating aroma crops in his field and then Oter Gao, Horticulture Development Officer, East Siang district delivered his talk about schemes of state Government.

The lecture on Aroma crops and aroma mission was delivered by Dr RK Srivastava, Sr Scientist and Nodal Scientist for Aroma Mission, NER, CSIR-CIMAP, Lucknow. While Israr Ali spoke about improved cultivation practices of Patchouli and Rose and its economics, Manoj Kumar Yadav discussed about Lemongrass and Citronella and its benefit to the farmers. Total of 82 farmers including women participated in the programme and gained knowledge about technical and financial issues of the aroma crops. Team CSIR-CIMAP also distributed the planting material of improved varieties developed by CSIR-CIMAP. The techniques of plantation and nursery preparation were also demonstrated to the participants.

Published in:

Arunachal24

A Pact For Greater Impact: MoU Signed Between SRMAP And IICT-Hyderabad

CSIR-IICT

19th November, 2021

Amravati: SRM University-AP, which is advancing with international academic standards, has taken another step towards expanding its research. The prestigious Council for Scientific and Industrial Research (CSIR) – Indian Institute of Chemical Technology (IICT) Hyderabad has agreed to collaborate with SRM University – AP in front-line areas of Science & Technology. Dr



S Chandrasekhar, Director, IICT-Hyderabad and Prof. D Narayana Rao, Pro-Vice-Chancellor, SRM University-AP signed the Memorandum of Understanding (MoU) on 18th Nov 2021.

Front-line research and extensive exchange of scientific insights in the fields of emerging Science and Technology between the two organisations will be the main focus of the MOU. According to the MoU, in addition to teaching, research and training in selected fields will also be provided to scientists and PhD scholars. Dr Chandrasekhar and Prof. D Narayana Rao discussed the setting up of the Atal Innovation Center and Analytical Center at SRM University soon. Dr Shailaja, Dr M. Chandrasekharam, Dr Pratima Mayankar of CSIR-IICT, Dr Anil Suresh and Dr S. Mannathan of SRM-AP were also present on this momentous occasion.

Published in:

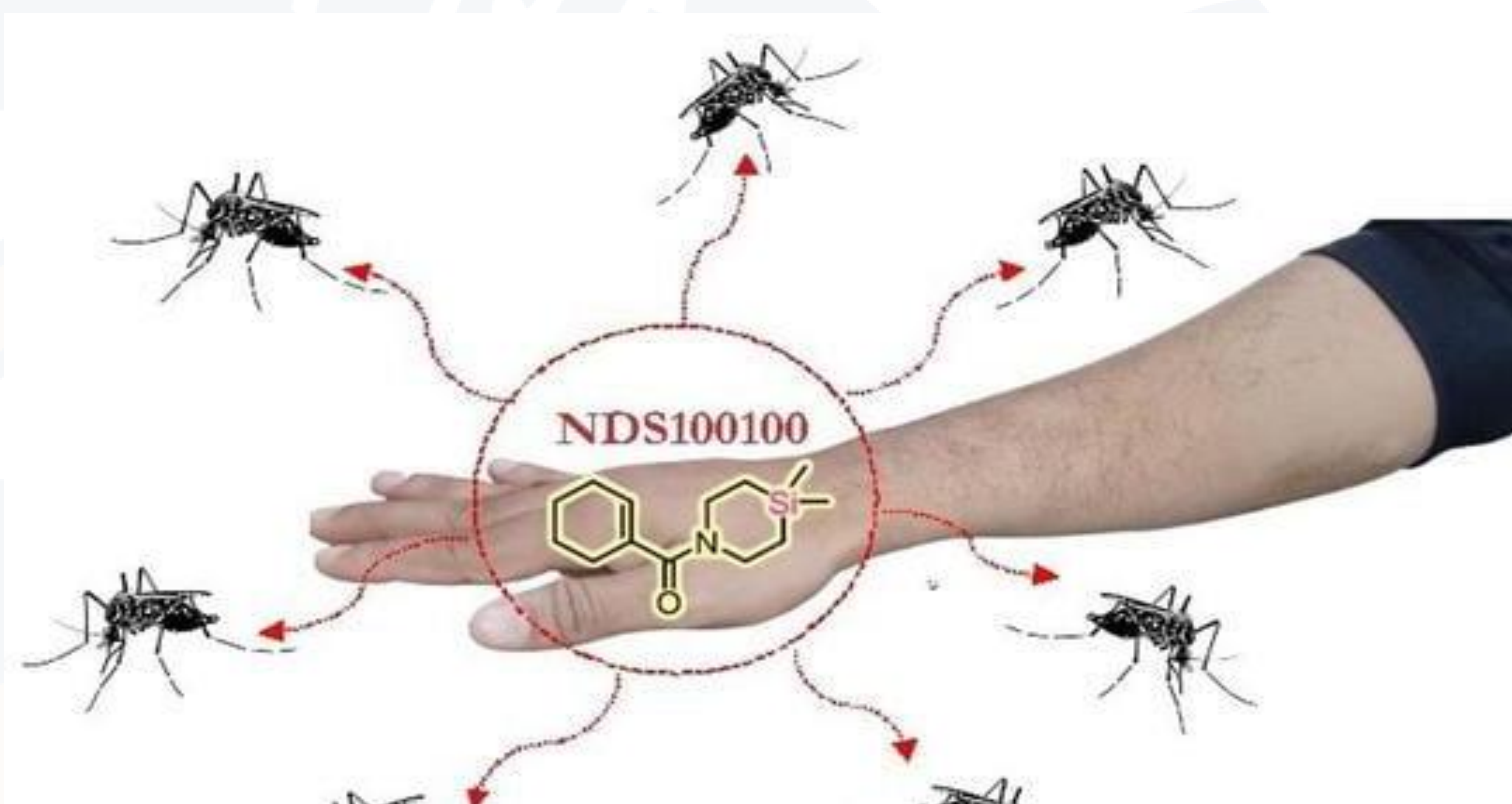
[India Education Diary](http://www.indiaeducationdiary.com)

Novel mosquito repelling molecule synthesised by CSIR-NCL scientists

CSIR-NCL

18th November, 2021

A team of researchers from the CSIR-National Chemical Laboratory (CSIR-NCL), Pune, has synthesised a potent molecule that helps repel adult female *Aedes Aegypti* mosquitoes which are vectors of debilitating and often fatal diseases such as dengue and chikungunya and also vectors of the Zika virus.



During the Covid-19 pandemic, several states in India reported an alarming increase in dengue, chikungunya and Zika virus cases, putting an additional burden on already stretched healthcare facilities due to coronavirus.

A research team led by Dr D S Reddy, currently the director of the CSIR-Indian Institute of Integrative Medicine, Jammu, used the “silicon switch” approach to synthesise a library of compounds based on the DEET scaffold, which is the present-day’s gold-standard insect repellent. Out of the 25 compounds synthesised, one of the molecules offered longer duration of protection than DEET (N,N-Diethyl-meta-toluamide), suggesting that the incorporation of silicon improves efficacy. Results of this exciting study have been published in the journal ACS Omega.

The lead authors of the paper, Dr Avalokiteswar Sen and Dr Srinivasa Reddy, are confident about the prospects of the findings. However, the identified molecule needs to undergo several studies, including long-term safety assessment, before it reaches the market. “The discussions are on with some leading companies to take forward this insect repellent molecule for further studies towards commercialisation. Twenty-five silicon-containing piperidines were

synthesised, and the influence of silicon incorporation on insect repellency was investigated. One of the compounds showed better protection time than the gold-standard DEET and corresponding carbon analogs. The novel organosilicon mosquito repellents possess the potential to be developed as effective mosquito repellents,” said Dr Sen.

“The main goal of this research was to understand the effect of silicon introduction on insect repellency. Since our previous research indicated that the replacement of C with Si improves potency and other pharmacokinetic parameters, ^{25,32} the 4,4- dimethyl-1,4-azasilinane part was kept constant while the other groups were varied,” said Dr Reddy.

The research team included Akshay S Kulkarni, Remya Ramesh, Safal Walia, Shahebaz I Sayyad, Ganesh B Gathalkar, Seetharamsing Balamkundu, Manali Joshi, Avalokiteswar Sen, and Dr Srinivasa Reddy.

Published in:

[Hindustan Times](#)

धनबाद. पेट्रोल-डीजल की बढ़ती कीमतों पर बोले राज्यपाल रमेश बैस वैज्ञानिकों को नये विकल्प पर काम करने की है जरूरत

वरीय संवाददाता > धनबाद

राज्यपाल रमेश बैस ने कहा कि पेट्रोल-डीजल की कीमतें लगातार बढ़ रही हैं. लोग इलेक्ट्रिक वाहन की ओर बढ़ गये हैं. ऐसे वक्त में नये आविष्कार बड़ा बदलाव ला सकते हैं. वैज्ञानिकों को नये विकल्प और आविष्कार पर काम करने की जरूरत है. उन्होंने नये विकल्पों को लेकर उम्मीद जताते हुए कहा कि कई बार अखबारों के माध्यम से यह पता चलता है कि एक सामान्य-से मिस्त्री ने पानी से चलने वाली गाड़ी का आविष्कार कर दिया. अगर एक सामान्य मिस्त्री ऐसा कर सकता है, तो क्या हमारे वैज्ञानिक ऐसा नहीं कर सकते? राज्यपाल बुधवार को धनबाद दौर पर थे. वह केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान (सिंफर) के प्लेटिनम जुबली समापन समारोह में बतौर मुख्य अतिथि शामिल हुए. श्री बैस ने वैज्ञानिकों को संबोधित करते हुए कहा कि देश में कोयला का प्रचुर भंडार होने के बावजूद हमें आयात करना पड़ रहा है. विदेशी कोयले के मुकाबले यहां के कोयले में ऐश प्रतिशत कहीं ज्यादा है. क्या हम इस विसंगति को दूर नहीं कर सकते.

आविष्कारों को मान्यता व पेटेंट दिलाना जरूरी : राज्यपाल ने कहा कि आज 100 प्रतिशत पोटैश आयात हो रहा है, जबकि देश के किसानों को सर्वाधिक पोटैश की जरूरत है. हमारे पास पोटैश तैयार करने के

सिंफर के प्लेटिनम जुबली समापन समारोह के मुख्य अतिथि थे राज्यपाल



दीप प्रज्वलित करते राज्यपाल रमेश बैस .

फोटो | प्रभात खबर

चेन्नई स्थित संयंत्र का ऑनलाइन उद्घाटन

राज्यपाल श्री बैस व अतिथियों ने तकनीक आधारित दो पुस्तकों का संयुक्त रूप से विमोचन किया . इसके पश्चात राज्यपाल ने सिंफर की मदद से चेन्नई में विकसित संयंत्र का ऑनलाइन उद्घाटन किया . यहां के वैज्ञानिकों ने घरेलू कचरा के तरल पदार्थ से पोटैश निष्कासन के लिए चेन्नई में पायलट संयंत्र तैयार किया है . इसे देश के दूसरे शहरों में भी विकसित किया जा सकता है . समारोह को नीति आयोग के सदस्य पद्मश्री डॉ वीके सारस्वत, सांसद पशुपतिनाथ सिंह, सिंफर रिसर्च काउंसिल के अध्यक्ष प्रो . एस द्वारका दास व सिंफर के निदेशक डॉ प्रदीप कुमार सिंह ने भी संबोधित किया .

पढ़ें पेज 02 पर

राज्यपाल ने क्या कहा

- विदेशी कोयला के मुकाबले यहां के कोयला में ऐश प्रतिशत ज्यादा, इस विसंगति को दूर नहीं कर सकते
- कोयला व पोटैश के आयात को कम करने पर जोर

दुनिया को आगे ले जा रहे तंत्र-मंत्र और यंत्र

राज्यपाल रमेश बैस ने कहा कि वह अटल बिहारी वाजपेयी मंत्रिमंडल में जब मंत्री थे, तो उनके पास खनन का भी प्रभार था . उस दौरान उन्होंने देश-दुनिया के कई खनन क्षेत्रों का दौरा किया, पर धनबाद कोयलांचल में पहली बार आये हैं. उन्होंने कहा कि तंत्र-मंत्र और यंत्र दुनिया को आगे ले जा रहे हैं. रामायण काल में रावण के पास मंत्र से चलने वाला हवाई जहाज था. आज यंत्र से चलने वाले हवाई जहाज हैं. महाभारत काल में संजय सब कुछ देखता था और अब हम टेलीविजन पर सब देख लेते हैं. वह मंत्र का वक्त था और आज यंत्र का जमाना है.

लिए पर्याप्त रॉ-मैटेरियल भी है. हमारे वैज्ञानिक इस क्षेत्र में और शोध करें, ताकि हमें आयात की जरूरत न पड़े. उन्होंने स्वदेशी को अपनाने पर जोर दिया. कहा कि इससे देश के राजस्व को विदेशों में जाने से रोका जा सकता है. उन्होंने कहा कि ऐसा नहीं है कि

हमारे देश के वैज्ञानिक नये-नये शोध और आविष्कार नहीं कर रहे हैं, पर उनके आविष्कारों को मान्यता व पेटेंट नहीं मिल पा रहा है. पेटेंट कराने के लिए उन्हें चक्कर काटने पड़ते हैं. इसलिए नये रिसर्च के साथ-साथ उन्हें मान्यता दिलाने की भी जरूरत है.

आज हम जो शर्ट पहनते हैं, उसकी कॉलर का पेटेंट भी विदेश के पास है. यहां आविष्कारकों की कमी नहीं है, जरूरत है, उन्हें बेहतर सुविधा व संसाधन मुहैया कराने की. इसके लिए हमें अपने अंदर देश प्रेम की भावना को जागृत करना होगा.

Published in:

Prabhat Khabar, Hindustan, Awaj, Dainik bhaskar, Dainik jagran,

Guv urges scientists to introduce new ideas in clean energy

TIMES NEWS NETWORK

Sindri: Governor **Ramesh Bais** on Wednesday urged the scientists to come up with innovative ideas and indulge in pathbreaking research in the field of fuel and clean energy in order to reduce dependence on imports.



Addressing the 76th foundation of Central Institute of Mining and Fuel Research (CIMFR) at Dhanbad as the chief guest, Bais said, "The way fuel prices are increasing these days and the fact that people have started shifting to electric vehicles, it would be a great service to the nation if the scientists are able to extract hydrogen from water molecules."

He added, "It is unfortunate that despite having enough coal reserves we have to depend on import of coal."

He further said, "The nation has seen the days of mantra and tantra but the future belongs to yantra (mechanism) and the Indian scientists have the calibre to regain the past glory of the nation in the field of science and technology."

Bais expressed concerns

over Indian scientists not getting enough recognition and facing difficulties in getting their research patented. He called upon the youngsters not to look towards the west for their career and serve the nation with full might. "It pains me when I come to know that talented youths migrate to foreign countries in search of greener pastures and the younger generation has no command either over Hindi or English and the language of the nation at best can be defined as Hinglish," Bais said.

Meanwhile, the governor inaugurated a Potash extracting plant from spent ash based on CIMFR technology and set up in Chennai online on this occasion. NITI Aayog member Dr V K Saraswat said: "Coal is to remain the prime source of energy for another 180 years but the need-of-the-hour is to make this source of energy more efficient and clean for future generations."

The chairman of CIMFR's research council, E S Dwarkadas, said that the world would witness a sea change in the field of different technologies and the Indian scientists need to keep abreast with technological advancements for future needs.

A step towards 'Atmanirbhar Bharat' GACL, Vadodara and CSIR-IICT, Hyderabad are awarded a patent for the production of Hydrazine Hydrate

CSIR-IICT

17th November, 2021

At present, Hydrazine Hydrate is 100% imported product in India and there was a need for import substitution of this high value super speciality chemical product. Keeping to its reputation of a leading Chlor-Alkali-Chemical company, promoting green technology, GACL took up a project to develop Hydrazine Hydrate technology in close association with Indian Institute of Chemical Technology IICT, Hyderabad, one of the flagship CSIR laboratories.

VADODARA, India, Nov. 16, 2021 /PRNewswire/ -- Gujarat Alkalies and Chemicals Limited (GACL), Vadodara and CSIR-Indian Institute of Chemical Technology, (CSIR-IICT), Hyderabad have achieved success in developing indigenous environment friendly technology to manufacture super speciality chemical Hydrazine Hydrate (H_6N_2O). Patent Office, Government of India has awarded a joint patent for 20 years to CSIR and GACL for invention entitled 'An improved process for production of Hydrazine Hydrate'. Hydrazine Hydrate finds its applications in various industries such as Agrochemicals, Polymers, Water treatment, Fuel cells, Space applications etc. At present, Hydrazine Hydrate is 100% imported product in India and there was a need for import substitution of this high value super speciality chemical product.

Keeping to its reputation of a leading Chlor-Alkali-Chemical company, promoting green technology, GACL took up a project to develop Hydrazine Hydrate technology in close association with Indian Institute of Chemical Technology (IICT), Hyderabad, one of the flagship CSIR laboratories. Hydrazine Hydrate technology has been developed through a series of steps involving simulation, data collection, laboratory experiments and bench scale operations. This process was refined and optimized with pilot plant operations. It was further scaled up to commercial scale plant through computerized modelling.

Based on this indigenous and environment friendly technology, GACL is setting up a

commercial scale plant at its Dahej site at an estimated cost of Rs.405 Crores to manufacture 10,000 MTA of Hydrazine Hydrate. Commissioning of this plant is expected by first quarter of 2022. GACL is a Company promoted by Government of Gujarat and has two manufacturing facilities in Vadodara and Dahej in Gujarat. The Company has distinguished itself with its focus on R&D. It has improved product and production processes with its R&D initiatives. Focus on greener and cleaner technologies is another important aspect of this ISO certified organisation. With this strong foundation and recently awarded HH patent, GACL aspires to take lead in development and manufacturing of downstream speciality chemicals. Currently, India is importing Hydrazine Hydrate from Europe and other countries. Hydrazine Hydrate as an import substitute product with world-class quality will help in reducing country's dependency on imports, thereby saving of valuable foreign exchange. It will also strengthen India's quest to become 'Atmanirbhar Bharat'- a vision of Hon'ble Prime Minister of India for making India a self-reliant nation.

About GACL Gujarat Alkalies and Chemicals Limited (GACL) was established in the year 1973 in Vadodara, Gujarat to manufacture Caustic Soda and allied products. Promoted by the Government of Gujarat, by harping on cutting edge technology, groundbreaking research and development and through strategic diversification, GACL has emerged as one of the largest manufacturers of caustic soda with around 12% share in domestic caustic soda market. From an initial capacity of 37,425 TPA caustic soda, the organization has enhanced its capacity to 4,30,000 TPA and the facilities are spread over 2 complexes at Vadodara and Dahej. From its two facilities, GACL now offers 36 products. GACL is also the first state promoted enterprise to adopt renewable wind energy to fuel its progress. The Organisation has a current total installed Wind Power capacity of 171.45 MW and 35 MW Solar Power Project for its captive use, which caters more than 25% of energy requirements.

For further information, you may contact Mr. G S Paliwal, Executive Director (Marketing) (Tel. 0265-6111000)(Extn. 331); Mr. P G Pujara, Advisor to MD (Extn. 242); Mr. D B Jain, Advisor to MD (Extn. 675); Mr. S S Bhatt, Company Secretary & CGM(Legal & CC) (Extn. 454) from GACL or Dr. S. Chandrasekhar, Director (Email: director@csiriict.in); Dr. K

Ravindranath, Chief Scientist & Head of Instrumentation & Reaction Engineering Pilot Plant (Email: kajjam@iict.res.in); Dr. Shailaja Donempudi, Chief Scientist & Business Development & Research Management, from CSIR-IICT, Hyderabad.

Central Institute of Mining Fuel Research celebrates its platinum jubilee

CSIR-CIMFR

17th November, 2021

As Dhanbad-based, Central Institute of Mining Fuel Research (CIMFR), the premiere research institute of Council of Scientific and Industrial Research (CSIR), celebrated its platinum jubilee, state Governor Ramesh Bais stressed on path breaking research to solve issues affecting humanity and urged scientists to develop technology to produce Hydrogen as clean source of fuel out of water.



He was speaking as the chief guest during the function that was hosted at the institute's auditorium at Barwa Road. Also present at the event were eminent scientist and NITI Aayog member Vijay Kumar Saraswat; Director General of CSIR, Shekhar C Mande and Chairman of Research Council of CIMFR, ES Dwakadasa besides Dhanbad MP, PN Singh. Bais, "Such research will not only help generate clean sources of energy but also help in realising the vision of self-dependence in every area of our Prime Minister, Narendra Modi."

Exhorting youth to work with the passion for all round development of the country he said, "Research should be done with passion, with the intention of solving issues that the nation is facing."

He also expressed concern over brain drain. He said, "There was a time when students from across the world used to visit the prominent universities of our nation like Nalanda and Vikramshila University but now many of us feel proud claiming that their children are pursuing education in foreign colleges and universities."

Highlighting the issue of coal being imported from foreign countries despite its availability in India, Bais said that existing anomalies need to be sorted out by the scientific fraternity.

Saraswat, during his speech laid emphasis on translational research, patenting etc and said that due India is laying stress on phasing out of carbon for which there is an urgent need to control the emission of thermal power plants and simultaneously lay emphasis on the usage renewable source of energy

“The challenge before us in the coming days is the production of Hydrogen as a clean source of fuel from coal,” said Saraswat and while laying emphasis on development of indigenous technology for self-dependence.

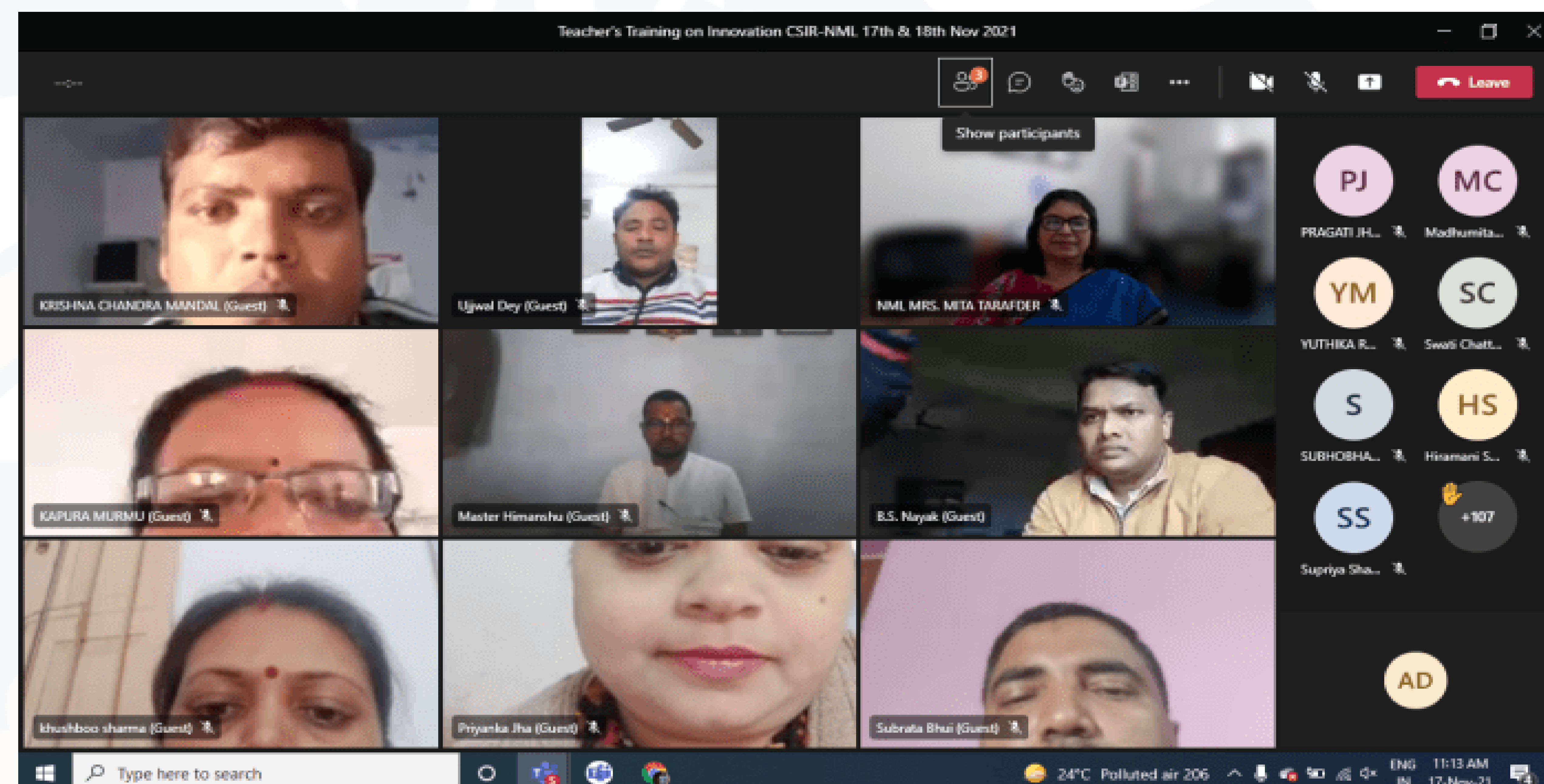
Institutes like CIMFR and IIT (ISM) should work for the development of all equipment needed for mining be it hammer or sledge that’s needed for mineral exploration. He said, “It is a pity that despite the presence of huge reserves of minerals all the equipment required for mineral extractions are imported from foreign countries.”

Teachers must inculcate innovative urge in students: Dr. Mita Tarafder

CSIR-NML

17th November, 2021

Jamshedpur, Nov 17: A virtual training program on “Teacher’s Training on Innovation” was organized by CSIR-National Metallurgical Laboratory (NML), Jamshedpur on 17 and 18 November, 2021 under the aegis of CSIR Integrated Skill Initiative & CSIR Jigyasa 2.0. This program was arranged for the teachers who are already engaged in teaching profession and also for B.Ed. and M.Ed. students who aspire to take up teaching as a profession in future.



The main objective of this training programme was to introduce the participants to techniques and tools of innovative teaching and train them to impart knowledge to their students in a comprehensive and innovative way. Attempt has also been made to improve the core and generic skills of the participants through this two-day training. The inaugural programme commenced with the welcome address delivered by Dr. Mita Tarafder, Skill Training Co-ordinator, Chief Scientist and Head, KRIT Division, CSIR-NML.

In her address, Dr. Tarafder urged the teachers to understand and inculcate innovative mindset in students. She appreciated them for the important role they all were playing in framing the future of India and assured them that the scientists at CSIR-NML would always be available to help them.

This was followed by an address delivered by Mr. Pankaj Kumar, Assistant District Education Officer, East Singhbhum. He explained how important it was to develop creativity in children’s learning in today’s era of innovation and knowledge and encouraged the teachers to

be more creative. Dr. Mita Tarafder gave an insight about the upcoming training session to the participants. She briefly spoke about CSIR Integrated Skill Initiative and CSIR Jigyasa 2.0 programs and various societal training programs conducted at CSIR-NML. She suggested that the teachers should try to adopt a fun approach to teach science to students and explained how the participants could derive benefit by attending this two-day programme.

With her address, the inaugural programme came to an end. Dr. Sanghita Mridha, one of the organizers of this program, proposed the vote of thanks.

The virtual event was attended by more than 120 participants.

IIM and CSIR-NML Jamshedpur organize branch level Best welder competition

CSIR-NML

17th November, 2021

Jamshedpur, Nov 17: A two-day corporate program “Branch Level Best Welder Competition” was organized by Indian Institute of Metals (IIM), Jamshedpur Branch in association with CSIR- National Metallurgical Laboratory (NML), Jamshedpur under the aegis of CSIR Integrated Skill Initiative. The main objective of the two day exercise was to



select five top welders in five different categories that included Best Structural Welder (GMAW), Best Pipe Welder (SMAW), Best Pipe Welder (GMAW) and Best Pipe Welder (GTAW).

Five welders selected at this competition will be representatives at the national level competition which will be organized by the committee of National Welding Seminar (NWS) and will represent IIM, Jamshedpur Branch. Twelve competitors enrolled for the Best Welder competition.

The welcome address at the inaugural programme was delivered by Dr Indranil Chatteraj, Director, CSIR-NML during which he spoke of the importance of welding and the present requirement of qualified welders in industries. Dr Chatteraj encouraged all participants to compete in the spirit of winners.

Chief Scientist and Head, Engineering Division, CSIR-NML Pravesh Kumar Dhawan elaborated on the welding facilities available at CSIR-NML that ranged from in-house

prototype preparation to facilities being used for welding training programs and research and maintenance activities. He mentioned about various state-of-the-art facilities available at CSIR-NML including Robot Integrated MIG welding facility, High Speed Imaging System, Stereo Microscope along with CMM and welding simulators used for various activities.

Secretary of IIW, Jamshedpur Branch, Dr Anand Prabhakaran introduced the Chief Guest of the inauguration program Sanjay Kedia, the Chief of Mechanical Maintenance at Tata Steel and also holds the position of Chairman, IIM, Jamshedpur Branch. In his inaugural address Dr Kedia talked about IIM and its various activities. He emphasized on the importance of the skill of a welder in manual as well as automatic welding processes and admitted that there was a huge skill gap that existed and needed to be addressed. He appreciated the help and support provided by CSIR-NML in organizing this contest and said that he would look forward to future collaborations with CSIR-NML at a higher level.

Dr Anand Prabhakaran provided a brief insight into the upcoming contest and the instructions to be followed by the participants. He said that there were two rounds of assessment, Visual and Radiographic, according to ISO and ASME standards respectively. Certificates of participation and certificates to the winners of the contest in each category would be provided by IIM, Jamshedpur Branch.

During the interaction session, Dr Mita Tarafder, Chief Scientist and Skill Nodal of CSIR-NML mentioned that the contribution of Council of Scientific and Industrial Research (CSIR) in the national skill ecosystem was significant. “Since 2016, CSIR-NML is regularly conducting skill development in the area of welding for rural as well as urban unemployed youth focusing on innovative product development to eliminate the skill gap,” she said.

Mosquito repelling molecule discovery

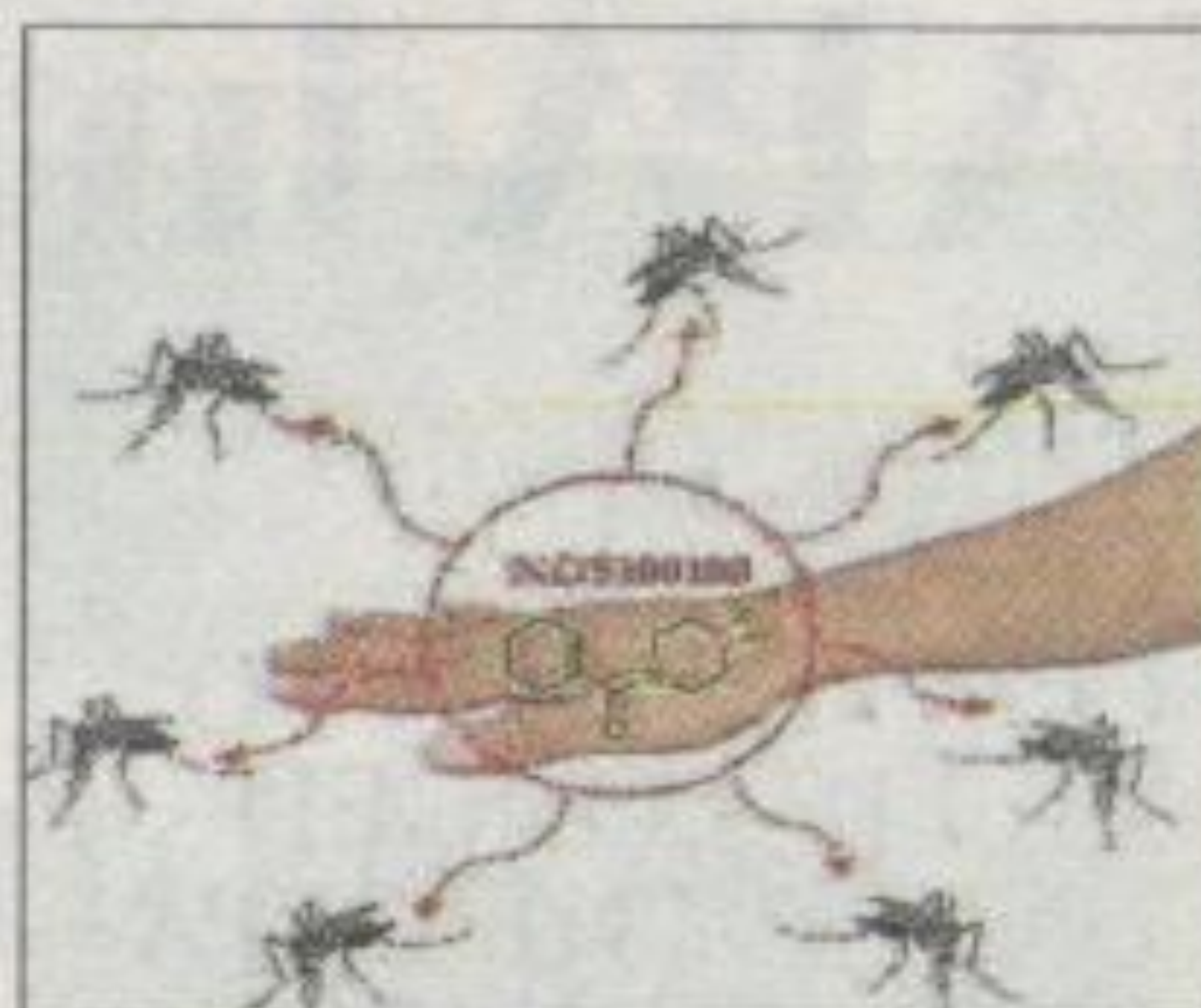
CSIR-NCL team synthesised molecule that helps repel the adult female Aedes Aegypti mosquito

Dheeraj Bengrut

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PUNE: A team of researchers from the CSIR-National Chemical Laboratory (CSIR-NCL), Pune, has synthesised a potent molecule that helps repel adult female Aedes Aegypti mosquitoes which are vectors of debilitating and often fatal diseases such as dengue and chikungunya and also vectors of the Zika virus. During the Covid-19 pandemic, several states in India reported an alarming increase in dengue, chikungunya and Zika virus cases, putting an additional burden on already stretched healthcare facilities due to coronavirus.

A research team led by Dr D S Reddy, currently the director of the CSIR-Indian Institute of Integrative Medicine, Jammu, used the "silicon switch"



Results of this study have been published in the journal ACS Omega. HT PHOTO

approach to synthesise a library of compounds based on the DEET scaffold, which is the present-day's gold-standard insect repellent. Out of the 25 compounds synthesised, one of the molecules offered longer duration of protection than DEET (N,N-Diethyl-meta-toluamide), suggesting that the incorporation of silicon improves efficacy. Results of this exciting study have been published in the journal ACS Omega.

The lead authors of the paper, Dr Avalokiteswar Sen and Dr Srinivasa Reddy, are confident about the prospects of the findings. However, the iden-

tified molecule needs to undergo several studies, including long-term safety assessment, before it reaches the market. "The discussions are on with some leading companies to take forward this insect repellent molecule for further studies towards commercialisation. Twenty-five silicon-containing piperidines were synthesised, and the influence of silicon incorporation on insect repellency was investigated. One of the compounds showed better protection time than the gold-standard DEET and corresponding carbon analogs.

"The novel organosilicon mosquito repellents possess the potential to be developed as effective mosquito repellents," said Dr Sen.

"The main goal of this research was to understand the effect of silicon introduction on insect repellency. Since our previous research indicated that the replacement of C with Si improves potency and other pharmacokinetic parameters, 25,32 the 4,4-dimethyl-1,4-azasilinane part was kept constant while the other groups were varied," said Dr Reddy.

CSIR-CIMAP

17th November, 2021

औषधीय व सगंध पौधों की उन्नत कृषि प्रौद्योगिकियों पर किसानों के लिए सीमैप में प्रशिक्षण कार्यक्रम शुरू

लखनऊ। सी.एस.आई.आर.-केन्द्रीय औषधीय एवं सगंध पौधा संस्थान (सीमैप), लखनऊ में तीन दिवसीय प्रशिक्षण कार्यक्रम का शुभारंभ मंगलवार को किया गया। इस कार्यक्रम में देश के 14 राज्यों के 31 जनपदों से 40 प्रतिभागियों ने भाग लिया। गुरुवार तक चलने वाले इस प्रशिक्षण कार्यक्रम का उद्घाटन सीमैप के निदेशक डॉ. प्रबोध कुमार त्रिवेदी ने किया। निदेशक, सीएसआईआर-सीमैप ने प्रतिभागियों को संबोधित करते हुये कहा कि औषधीय एवं सगंध पौधों की विश्व स्तरीय मांग को देखते हुए इनकी खेती करना आवश्यक हो गया है।

घटते जल स्तर तथा जानवरों से होने वाले नुकसान की समस्या के कारण भी औषधीय एवं सगंध पौधों की



खेती की मांग बढ़ी है। इस संस्थान के वैज्ञानिकों के अथक प्रयासों द्वारा किसानों के लिये औषधीय एवं सगंध पौधों की उन्नत प्रजातियाँ विकसित की गयी हैं जिनसे किसानों को अधिक से अधिक पैदावार व लाभ मिलेगा। उन्होने आगे कहा कि अगले दो दिन चलने वाले इस प्रशिक्षण कार्यक्रम में सीमैप के वैज्ञानिक आर्थिक रूप से महत्वपूर्ण औषधीय एवं सगंध पौधों की

खेती पर विस्तार से चर्चा करेंगे तथा साथ ही प्रसंस्करण एवं भंडारण की तकनीकियों पर भी चर्चा करेंगे जिससे किसानों के उत्पादन को राष्ट्रीय तथा अंतर्राष्ट्रीय स्तर की गुणवत्ता को बनाया जा सके और उसका अधिक तथा उचित मूल्य किसानों को मिल सकें। इन औषधीय एवं सगंध फसलों में मुख्यतः नीबूघास, पामारोजा, जिरेनियम, तुलसी इत्यादि हैं। वर्तमान

में इनके तेलों की मांग विश्व बाजार में अधिक है। आज के प्रशिक्षण कार्यक्रम में डॉ. संजय कुमार, नोडल प्रशिक्षण कार्यक्रम व प्रधान वैज्ञानिक ने संस्थान की गतिविधियों तथा प्रदत्त सेवाओं के बारे में प्रतिभागियों को जानकारी दी तथा आज के तकनीकी सत्र में डॉ. संजय कुमार ने नीबूघास व रोशाघास के उत्पादन की उन्नत कृषि तकनीकी प्रतिभागियों से साझा की डॉ. सौदान सिंह ने मिंट की उत्पादन तकनीकी पर प्रतिभागियों से विस्तार से चर्चा की। डॉ. राजेश वर्मा ने जिरेनियम की वैज्ञानिक खेती के बारे में प्रतिभागियों को जानकारी दी इस अवसर डॉ. संजय कुमार, डॉ. राम सुरेश शर्मा, डॉ. सौदान सिंह, डॉ. सुदीप टंडन, डॉ. राजेश वर्मा, दीपक कुमार वर्मा इत्यादि उपस्थित रहे।

Published in:

Jansandesh, Navbharat Times, Rastriya Sahara

Awareness/ demonstration on Cultivation, Processing, Marketing of Medicinal & Aromatic plants held at Srinagar

CSIR-IIIM

16th November, 2021

One day Awareness cum demonstration programme on Cultivation, Processing and Marketing of Medicinal and Aromatic plants was today organized at CSIR- Indian Institute of Integrative Medicine (IIIM), Jammu and Kashmir under the supervision of Director CSIR IIIM Jammu, Dr. D. Srinivasa Reddy and Head, CSIR IIIM, Srinagar, Dr. Zabeer Ahmad, here. Director



Agriculture Kashmir, Choudhary Mohamamd Iqbal was the chief guest on the occasion. Speaking at the event, the Director Agriculture highlighted the importance of medicinal and aromatic plant sector for income and revenue generation of farmers and efforts needed to boost this sector by integrating all concerned agencies like universities, colleges, allied department like Agriculture and Floriculture for making this sector more promising and profitable. Iqbal thanked organizers of the programme and highlighted role and contribution of CSIR IIIM in promoting Cultivation and Processing Technologies of Medicinal and Aromatic plants. He also stressed on having such more programmes in future for awareness of public towards this sector. The programme was held in two main sessions by adopting all necessary SOPs regarding COVID-19 safety guidelines. Inaugural session was followed by technical session and interaction with participants, farmers, growers and other stakeholders for suggestions / comments and any related queries.

Field visit was also arranged for live demonstration of various field related activities. The Inaugural session started with a formal welcome address by Dr. Shakir P Sultan (Organizer of the Programme). He apprised the participants about the main objective of the event regarding promotion of medicinal and aromatic plant cultivation for income and employment

generation and highlighted the role of IIIM in promotion of Aroma sector in J&K. Dr. Shakir praised the efforts of CSIR-IIIM for organizing the programme in the best possible manner. He gave description of many high value aromatic plants Like Lavender, Rose cultivated on large scale in different parts of the country and J&K with an aim to increase farmers income by cultivation of these high value cash crops. Dr. Qazi Parvaiz Hassan (Co – Nodal, CSIR Aroma Mission) gave a detailed presentation highlighting prospectus and scope of Aroma industry in J&K and also gave an overview of CSIR Aroma mission and its importance for cultivation of medicinal and aromatic plants for better returns and income generation. Dr. Shahid Rasool (Incharge, Field station, Bonera, Pulwama) discussed about scope of industrially important Medicinal and Aromatic plants for entrepreneurship development and securing livelihood of growers and farmers.

Prof. Sajad Ahmad Gangoo (Head, Department of Forest Products & Utilization, Faculty of Forestry, SKUAST K) as subject expert gave presentation on “20 medicinal plants for home gardens of Kashmir to cure common ailments” and discussed about opportunities in cultivation and processing of Medicinal and Aromatic plants for farmers so that their income can be increased for better health and income source. Prof. Sheikh Bilal as Invited Guest thanked organizers for conducting such events of high importance which have direct bearing on their livelihood and economic prospectus. At the conclusion of inaugural session, a formal vote of thanks were presented by Dr. Padma Lay. More than 130 participants including growers, farmers, entrepreneurs and local youth from different districts of the valley participated in the programme. The participants attending the event also had an opportunity to take part in face to face interaction and discussion regarding some queries, doubts and supporting help that IIIM and other government departments can provide in this sector for growing and cultivation of these high value cash crops. Also a field visit was arranged for demonstration of field activities related to nursery raising of high value crops like Lavender and Rose for participants and guests followed by lab visit and demonstration of oil extraction at laboratory scale.

Published in:

[5 Dariya News](#)

CSIR-IHBT

16th November, 2021

आत्मनिर्भरता

आईएचबीटी की प्रेरणा से किसानों ने पारंपरिक खेती छोड़ उगाए जरबेरा और गुलदाउदी के फूल

कोरोना काल में काम ठप हुआ तो चंबा के इंजीनियर ने शुरू की फूलों की खेती, इसमें फायदा देख औरों को भी कर रहे जागरूक

राजेश भट्ट | चंबा/ पालमपुर

चंबा के रहने वाले तिलक राज इलेक्ट्रिकल इंजीनियर हैं। नौकरी तो उन्होंने कुछ साल पहले छोड़ दी थी। प्रोजेक्टों के लिए प्राइवेट कंस्ट्रक्टेसी देते थे, जो काम कोरोना काल में पूरी तरह ठप हो गया। ऐसे में उन्होंने कुछ ऐसा करने का सोचा जो स्थाई हो और जिससे आमदनी पर कोरोना महामारी जैसी आपदाओं पर असर न पड़े। तिलक ने 1300 स्ववेयर मीटर में एक पॉलीहाउस का निर्माण करवाया। इसके लिए उन्हें हार्टिकल्चर विभाग से अनुदान भी मिला। इस दौरान तिलक की मुलाकात हार्टिकल्चर विभाग के सब्जेक्ट मैटर स्पेशलिस्ट कृपाल सिंह से हुई। कृपाल ने उनकी और अन्य किसानों की मीटिंग डीसी चंबा के साथ करवाई। इसमें विषय था कि किसानों की आय कैसे

दोगुनी हो। इस मीटिंग में आईएचबीटी पालमपुर के वैज्ञानिक डॉक्टर भाव्य भार्गव आए हुए थे। उन्होंने किसानों को पारंपरिक खेती से अलग फूलों की खेती करने की सलाह दी। तिलक बताते हैं, वैसे तो उनका परिवार सब्जियों की खेती पहले से करता आ रहा था, लेकिन उन्हें लगा कि एक बार फूलों की खेती ट्राई करके देखनी चाहिए। शुरुआत में उन्होंने आईएचबीटी से 1800 पौधे जरबेरा के और 900 पौधे गुलदाउदी के सैंपल के तौर पर मंगवा लिए। कुछ समय बाद पौधों में फूल आ गए। 1300 गुलदाउदी के फूल कार में डाले और जम्मू मार्केट चला गया। वहां एक फूल का रेट 15 रुपए मिला जो सब्जी से 10 गुना अधिक दाम था। वहीं, सीएसआईआर के निदेशक डॉ. संजय कुमार ने कहा कि फूलों की खेती से वहां के किसानों की आर्थिकी मजबूत होगी।

चंबा फ्लोरिकल्चर मिशन में एस्पिरेशन जिला



आईएचबीटी के विकास सोनी ने बताया डीसी चंबा के साथ आईएचबीटी ने एमओयू भी किया है, चंबा फूलों की खेती में एस्पिरेशन जिला है। वहां से और भी डिमांड आ रही है। ट्रेनिंग भी दी गई है।

इसमें है लाखों का फायदा जरबेरा की बिक्री फूलों के पीस के हिसाब से होती है। ब्याहों के सीजन में एक फूल की कीमत 12 रुपये से 18 रुपए भी मिल जाती है। ऐसे में एक किसान करीब ढाई से तीन लाख रुपये कमा लेते हैं। वहीं गुलदाउदी की खेती में भी काफी गुना फायदा मिलता है।



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