

CSIR in Media



CSIR Touching Lives

News Bulletin

21st to 31st December 2018



‘Need to focus on value addition and technology to increase Farmer’s Income’

CSIR-CFTRI

30th December, 2018



Experts shared their thoughts on the benefits of 'Virgin Coconut Oil' at CFTRI on Wednesday

MYSURU: Realising the Indian government's vision of doubling a farmer's annual income by 2022 will be possible only if we increase our focus on three aspects: technology, value addition and marketing, said chairman of the Coconut Development Board, Government of India Raju Narayan Swamy on Wednesday. Swamy, who inaugurated the national conference on 'Virgin Coconut Oil' organised by the

board in association with CSIR-CFTRI, said that value-based products that can be made using agricultural produce would be a driving force in enhancing farm income. "There are as many as 25 value-added products made from coconut including Neera Honey, Neera Sugar, ice cream and cookies. But, of all these products, what needs most attention is virgin coconut oil – unrefined oil – the health benefits of which are many. However, they have not been tapped to the optimal extent compared to what has been achieved in foreign countries. This is the primary reason we are with CFTRI. We are taking technology to the farmers' doorstep. I genuinely believe this is a humble beginning towards achieving the target of doubling farmers' income," said Swamy.

He said that the board, in collaboration with Indian Institute of Science, was working towards using artificial intelligence for the farmers' benefit. "With the help of Central Plantation Crops Research Institute, we are working on drones that will be able to identify stress in coconut trees including chlorophyll content before these problems can be discerned by the eye. This technology is used widely in Sri Lanka," Swamy said.

He added that paucity of expert coconut tree climbers had prompted the need to develop robots that could perform the task. "There is a long way to go in this project. It will take years for this to become a reality. We have also signed a memorandum of understanding (MoU) with the Indian Institute of food Processing, Tanjavaur, to come up with a coconut ice cream procuring machine," Swamy added.

Swamy said that the board was putting its best foot forward in order to draw more youngsters towards agriculture. "We conducted quiz in Chennai in November, and will soon hold walkathons and marathons in the major metro cities in association with The Times of India. We are also keen on improving our profile in areas such as Puducherry and Lakshadweep, where our presence is either limited or not there," the coconut board chief said, adding that the board was looking to set up its outlets in five select railway stations and airports.

CSIR-CFTRI director KSMS Raghava Rao endorsed Swamy's observations on the role of value-addition to improve a farmer's financial situation. "In the days to come, we will try to work on more products that can be made using coconut milk," said Rao.

Published in:
[The Times of India](#)

Farmers trained to cultivate aromatic crops

CSIR-IHBT

29th December, 2018

Tribal farmers from West Kameng, West Siang and Tawang districts of Arunachal Pradesh visited CSIR-IHBT, Palampur, for a two-day awareness-cum-training programme on the process and technologies to cultivate aromatic crops under CSIR's Aroma Mission. The farmers were imparted training on the process to cultivate various varieties, including damask rose, wild marigold, rosemary, Valeriana jatamansi and Matricaria chamomilla.

Rakesh Kumar, principal scientist-cum-training programme organiser, said the farmers were imparted practical exposure on field preparation and management of nursery, nutrients, weed, insect, pest and disease and post harvest management of aromatic crops. The crops have a huge potential in the world market as the essential oils obtained from these are used in perfumes, fragrances and flavours.

The farmers were accompanied by Dr Nima D Namsa, Assistant Professor, Tezpur University, Assam.

Published in:

[The Tribune](#)

A Joint Front

CSIR-IGIB

28th December, 2018

"An open source drug discovery programme allows capabilities to be linked and used, at negligible cost. India has already taken a step in this direction," says Samir K Brahmachari, Founder Director, CSIR-IGIB, and Former Director General, CSIR.

Why do we continue to have an Ola after Uber or a Flipkart after Amazon, and not the other way? One possible answer could be that we are comfortable with status quo and hence, despite being smart, not keen to innovate. Another probable reason could be that even if we are keen, our present ecosystem does not encourage disruptive risk-taking projects. As someone who has helped design India's own disruptive programme in innovation - an open source drug discovery programme (OSDD) - I would believe that disruptive innovations do happen in the country, albeit facing resistance. A decade after OSDD was launched to tackle the problems posed by diseases that are endemic to developing countries like India - with tuberculosis (TB) being its first disease target - the programme has been subsumed into the India TB Research and Development Consortium project. The novel method of asset utilisation and capacity building at a negligible cost, which is what OSDD is all about, can be a powerful strategy in dealing with other neglected diseases too. In fact, other countries are following India's footsteps, and it is high time we take a fresh look at the economic and scientific benefits OSDD offers (read more in *Current Science*, 25 November 2018). In his recent book *We Do Things Differently*, futurologist Mark Stevenson devotes an entire chapter to the OSDD project for discovering novel drug targets and potential new TB drug therapy by spending \$12 million or 0.5 per cent of \$2.6 billion which is what the pharmaceutical industry usually spends to develop a new drug. The scientific benefits that OSDD brings through crowd sourcing and asset optimisation only adds to its value.

When we envisioned this project, crowd sourcing to solve scientific problems was virtually unknown in the sector. Apart from crowd sourcing, the OSDD programme created a virtual laboratory space. It facilitated the creation of an open network between national laboratories, government agencies, research enterprises, scientists and students globally. We brought together 10 Council of Scientific and Industrial Research (CSIR) laboratories, 14 industry partners and over 50 universities and colleges from India and several individuals and laboratories abroad. The computational and laboratory facilities were repurposed to host and train. For the first time, existing infrastructure like C-DAC Garuda - the country's grid computing initiative that connects 45 institutes and computer centres in 17 cities - provided its supercomputing facility to college and university students. We collaborated through an indigenously developed online portal (Sysborg 2.0) supported by N.R. Narayana Murthy of Infosys and offline laboratory work with open-notebook. Over 9,000 participants from nearly 130 countries got registered with OSDD, majority from India. OSDD volunteers undertook the mammoth task of re-annotating the genome of *Mycobacterium tuberculosis* (M.tb) by reading over 45,000 scientific papers in just four months. Utilising the information on the functional annotations of the M.tb genome, OSDD proposed a novel concept of metabolic persister genes as a potential combination of drug targets for existing antibiotics. Further, systems level mapping of the metabolic complexity in M.tb revealed possibilities of trying a combination of existing medicines as a new therapy.

Reaching Far and Wide

The public financing of R&D costs allowed OSDD to work with Contract Research Organisations, thereby reducing developmental cost at close-to-marginal cost and potentially creating higher affordability of drugs. The OSDD thus carved out a niche in public private partnerships. It has also influenced India's intellectual property policy. The National Intellectual Property Rights Policy (2016) states that India will continue to utilise the legislative space and flexibilities in international treaties to encourage R&D, including open source-based research for new inventions for prevention, diagnosis and treatment of diseases, especially those that are life threatening and those that have high incidence in India.

The informal adoption of open access policy aims at reliability and transparency of public funds and their utilisation in public funded research. Today, we have an Open Source Pharma Foundation in which Ratan Tata and the Board of Tata Trusts have committed \$3 million. It aims to promote crowd sourced and computer-driven drug discovery, IT-enabled clinical trials with open data and crowd sourcing (including a possible results-based financing mechanism to fund them) and generics manufacture.

The OSDD model has inspired other drug discovery programmes. The just concluded Paris Open Source Summit is an example. The Center for Research and Interdisciplinarity, University of Paris, a participant of OSDD, is now a full-fledged centre built on open research, open innovation, open education and open space. In fact, they are hosting the next Open Source Pharma Foundation meet in March 2019.

Bill Gates, who built his empire on proprietary software, tweeted that open innovation is the way forward for drug discovery in neglected diseases. The next decade will be the age of massive digital transformations in healthcare, and the pharmaceutical industry will feel the need to embrace the open source ideology. Various open source movements, such as in software and education, have showcased that billion-dollar industries can be built and sustained through the open source model. The same would apply to the pharmaceutical industry too.

India has taken the first step towards the open source drug discovery movement. Given enough encouragement, the idea will prove to be disruptive enough to help the world meet unmet medical needs.

Published in:
[Business today](#)

CSIR-IIIM conducts training prog for farmers

CSIR-IIIM

27th December, 2018

A one day special training programme on “Cultivation, Processing, Value Addition & Marketing of Aromatic Crops” under CSIR-Aroma Mission for farmers of Arunachal Pradesh was conducted today by CSIR-Indian Institute of Integrative Medicine (IIIM), Jammu.

A group of farmers from West Siang, West Kameng and Tawang districts of Arunachal Pradesh attended training programme. Dr Ram Vishwakarma Director, IIIM welcomed the farmers and apprised them about Aroma Mission. Dr Vishwakarma in his address informed farmers that through Aroma Mission CSIR aim to accelerate developmental process of farmers in the remote areas of the country including North Eastern states. He assured full support from IIIM side to the farmers from Arunachal Pradesh under Aroma Mission.

Dr Nima Namsa, Assistant Professor, Tezpur University, who was heading delegation of farmers apprised audience about expectations of the visiting farmers from Arunachal Pradesh. Dr Sumeet Gairola, Scientist, IIIM gave detailed introduction to IIIM Aroma Mission activities in different parts of the country including North Eastern states. He pointed that Aroma Mission has brought farmers and scientists from two Himalayan states viz., Jammu and Kashmir (Northwestern Himalaya) and Arunachal Pradesh (Northeastern Himalaya) situated at the extreme ends of the country together.

Scientists from IIIM, Dr Ravi Shanker, Dr Rajendra Bhanwaria, Dr VP Rahul and KK Sharma imparted training to the visiting farmers ranging from cultivation and processing of aromatic crops to their marketing and value addition.

Dr SR Meena and Chandra Pal Singh gave field demonstration on agrotechnology and essential oil distillation of various aromatic crops at IIM Chatha farm, Jammu to the visiting farmers. Quality planting material of Lavender, Ocimum, Lemongrass, Rosagrass, Salvia, Jammu Monarda and Geranium for 50 acres area was given to the visiting farmers. Event concluded with vote of thanks by Dr Sumeet Gairola. He thanked CSIR, NEDFi Guwahati, attending farmers, participants, research scholars and media for supporting this event.

Published in:
[The Nothliners](#)

CSIR-IITR

27th December, 2018

Reader's choice - Popular articles on Research Matters for 2018



Bengaluru Dec 27, (Research Matters):

9. Oneer -- CSIR's answer to the problem of safe drinking water



Clean drinking water is an essential prerequisite for good health. Drinking contaminated water leads to diseases like cholera, diarrhoea, dysentery, hepatitis A and typhoid. A new device developed by the Council of Scientific and Industrial Research, CSIR's Indian Institute of Toxicology Research (CSIR-IITR) may soon put an end to clean water woes and help make access to clean drinking water a reality, writes Paramananda Barman and Vijay Satokar.

Published in:
Research Matters

CSIR stands tall with 10 innovations in 2018

CSIR



India's first biofuel powered flight launched by the CSIR from Dehradun to Delhi on August 27

Hyderabad: The Council of Scientific and Industrial Research has had an exciting 2018 where India's first biofuel powered flight, aerospace technology, research in rare diseases, stroke, artificial intelligence and water disinfection have seen a major boost. Ranked 9th in the world, amongst a total of 1,207 government institutions, according to Scimago Institutions ranking, the institute has come a long way. These are ten exciting achievements which are going to take shape in the year 2019. First biofuel powered flight from Dehradun to Delhi on August 27, 2018: The indigenously produced

26th December, 2018 aviation biofuel technology took its maiden flight on August 27. This enables India to join the club of nations that use biofuel in aviation, reducing greenhouse gas emissions by 15 per cent and sulphur oxide emissions by 99 per cent. The objective is to evaluate the system performance in 20 flights and collect the data so that the design for the 19-seater aircraft can be finalized. Mission of sickle cell anaemia, started in 2018 was to understand the genetic basis of the disease. The management of SCA, genome editing and stem cell research approach for the treatment of the disease were included. The aim is to have an on-ground implementation of an affordable, accurate and accelerated diagnostic kit. Development of a new clot buster, PEGylated Streptokinase for the treatment of ischemic strokes, deep vein thrombosis, pulmonary embolism which will help in the treatment of strokes. With 72,611,605 million Indians suffering from rare diseases there is a need for cost effective genetic tests which can be provided to the people. CSIR is working with a private

company for licensing of 27 approved genetic tests which can be used commercially and will be launched in 2019. Stents made from simple polymer-metal composites unlike the memory alloy based stents have been developed at a much lower cost by CSIR, whose technology is being transferred to two companies for commercial use. These stents will be cheaper than the currently available stents. Stents are not only used in the heart but also in other parts of the body like in urinary problems where the use is going to increase.

Artificial intelligence super computer with a cutting edge technology has been developed. AI has also been developed for differentiating human and cattle movement from that of vehicles to check on the drug influx at the borders. The system generates an alarm and sends sky information via email and text messages. Drinking water disinfection system has been developed where the technology has been transferred to a private water purifier to make water at Rs 2 paise per litre available. Presently the model is only of community level of 450 LPH capacity and will be scaled up to 5000 to 1 lakh litre per day.

2,119 hectares have been developed in 15 months for aroma mission where the aroma crops like damask rose, palmarosa, chamomile and improved variety of lemon grass are studied. Waterless tanning technology with tanners in all clusters will protect the water bodies as the traditional technology used in tanneries is harmful for water bodies. While 50 tanneries are using this technology now it has to be transferred aggressively so that the water bodies can be saved. Eco-friendly disposal of municipal solid waste by utilising the gases. The technology developed has been transferred to a private company and commercial use has to be within a period of 5 years.

Published in:

[Deccan Chronicle](#)

Science Congress gets underway

CSIR-IICT



Former Secretary of the Department of Science and Technology T Rama Swamy, NITW Director Prof NV Ramana Rao and others paying tributes to Srinivasa Ramanujan on the occasion of his birth anniversary at NIT Warangal on Saturday

The young talent in the country is the power-house of knowledge, innovation and enterprise, former Secretary to the Government of India – Department of Science and Technology (DST) - T Rama Swamy said at the inaugural event of the first Telangana Science Congress jointly organised by the Telangana Academy of Sciences (TAS) and National Institute of Technology Warangal (NITW) here on Saturday. Talking of the theme of the Telangana Science Congress – ‘Science and Technology for Sustainable Development of Telangana State’, he said science has been

24th December, 2018 synonymous with progress and prosperity from time immemorial. “The objective of the Science Congress is to create technology that is ‘Bearable, Viable and Equitable’, Bearable for Mother Nature, Viable for Industries and Equitable for people across sections of the society,” he said. NITW Director Prof NV Ramana Rao, who is also the Chairman of State Level Organising Committee of Telangana, began his inaugural address by paying tributes to distinguished Indian scientists, who made outstanding contributions to Indian Science, Technology and Education. He said that the main driver for NIT Warangal to collaborate with Telangana Academy of Science and organising the First Telangana Science Congress is to provide a forum for discussing scientist developments and propagating scientific knowledge among the people. Prof K Narsimha Reddy, President of Telangana Academy of Sciences; and Dr S Chandra Shekhar, Director CSIR - IICT spoke on the occasion. Prof K Laxma Reddy, organising secretary briefed about the

conference. He said nearly 300 research papers are shortlisted for presentation. Added to this, there will be 5 Distinguished Lectures and 36 Invited Lectures during these three days. The three-day programme will have multiple sessions, guest lectures and paper presentations under six broad themes. Next three days are expected to create a stimulating scientific environment.

Published in:
[The Hans India](#)

2-day science expo showcases innovative projects

CSIR-IICT



Hyderabad: With 300+ innovative projects and models on display, the third Annual two-day Open House Science & Technical Expo was inaugurated at GITAM (Deemed to be University), Hyderabad on Friday. Under the guidance of teachers, students made a stunning display of their innovative projects and models based on various themes of Mathematics, Science, and Computer. S Chandrasekhar, Director, CSIR – IICT, Hyderabad; Nikhila Reddy, Joint Collector, Sangareddy, Premkumar Arumugam, Associate Vice President, Biology Solutions, GVK Biosciences, and Prof. V Govardhana Rao, Retd. Professor, IIT Bombay inaugurated the grand annual festival as chief guest and guest of honour.

23rd December, 2018

DVVS R Varma, Resident Director, Prof. Ch Sanjay, Principal, School of Science, G Rambabu, Convener, Science Expo were also present on the occasion. They released the forthcoming PRAMANA-2019 brochure and teaser at the end of the inaugural session. Science Fusion dance performed by GITAMITES in the inaugural received a lot of applause. Premkumar said that it is a great opportunity to the students to showcase their talent and interact with the other students and scientists. Nikhila Reddy expressed unhappy that we had great scientists but we are far behind to get the patents and recognition. She appealed to the students that they have to think differently and enhance their curiosity.

Published in:
[The Hans India](#)

Piezoelectric materials hold key for Energy Generation: Dr. Prasanta Kumar Panda, Chief Scientist, CSIR-NAL, Bangalore

CSIR-NAL

22nd December, 2018



Bangalore: City-based CMR Institute of Technology (CMRIT), Department of Physics organized a guest lecture on piezoelectric materials at the college premises, today. Renowned scientist Dr. Prasanta Kumar Panda, Chief Scientist, CSIR-NAL, Bangalore was the chief guest of the session.

Dr. Prasanta Kumar Panda, Chief Scientist from country's premier research agency, National Aeronautics limited (CSIR-NAL), said, "Piezo electric materials have promising applications in Aeronautical Engineering, Energy Harvesting and Radar Technology. Budding engineers are showing interest in making energy harvesting

devices through Piezoelectric and currently the NAL laboratory has developed technology to attain high power of the order of 600-700PC per newton, which is a considerable achievement." He elaborated on the special properties of piezoelectric materials, which possesses the ability to produce voltage under application of stress and how also spoke about how NAL has successfully produced Piezo electric Zirconium Titanate (PZT) powder-making technology, which is being transferred to private players, in order to develop accelerometers. The session gave an insight on the field of piezoelectric sensors on PZT applications in making pressure and temperature sensors in Gas Turbines, that at high speeds of Mach Number 1 (Sound speed), how high vibration level in aircrafts has to be contained and processes like poling, sintering, used to make PZT powder.

Published in:
[The Pioneer](#)

Hill farmers drawing towards fragrance of bright wild marigold flowers

CSIR-IHBT

21st December, 2018

With traditional farming turning to be non-remunerative due to monkey, wild animal and stray cattle menace as well as uncertain weather conditions, farmers of Hill States like Himachal Pradesh, Uttarakhand and Jammu & Kashmir are drawing towards the fragrance of bright wild marigold flowers like never before. This, with the help of scientists from the CSIR- Institute of Himalayan Bioresource Technology (IHBT), Palampur, who have developed 'Him Gold', a high-quality new variety of the wild marigold flower, *Taget Minuta*. For, the marigold crop offers a suitable substitute as it remains unaffected by these biotic and abiotic factors. The farmers from the region have already produced 3.5 tonnes of essential oils, a natural oil extracted from the flower in just two years since the development of the 'Him Gold'. In India, a total 4 tonnes of essential oils is produced to cater the demand of high growth perfumery, pharmaceutical, food flavouring and agriculture industries among a few others.

Dr Sanjay Kumar, Director CSIR-IHBT, Palampur said that agro and process technology package of the crop has also been developed and transferred to the farmers to help them extract maximum from the production. The farmers can meet the growing demand as at present requirement of wild marigold oil in India is met with imports from France, Brazil, Kenya and Australia. It has high demand, guaranteed buyers and lucrative prices, he said.

The price of *Tagetes* oil varies from Rs 7,000 to Rs 10,000/kg. Farmers can obtain net returns of 1.2 to 1.5 lakhs per hectare by growing this crop and producing essential oil within a period of 5-6 months. Dr Rakesh Kumar, Principal Scientist associated with the project added that the farmers, rural women and unemployed youth were imparted awareness cum training programmes on cultivation and processing of the essential oil.

“A good number of farmers have already taken up the cultivation and more are showing interest,” said Dr Rakesh Kumar. So far, an area of about 214 hectares has been bought under wild marigold cultivation by more than 600 farmers in the hilly region. The crop is suitable for cultivation in the plains as well as on the hills as a mono-crop or inter-crop in orchards/forest/medicinal/ aromatic plants, he added.

The efforts are already getting recognition. Vineet Sood, an entrepreneur and farmer from Kullu district of Himachal Pradesh who has adopted the farming of this crop under the guidance of the CSIR-IHBT clinched Ultra International ICONIC Farmer Award for impactful contribution made towards cultivation and popularization of *Tagetes minuta* crop in the district at International Congress of Essential Oil held in Bengaluru in August 2018.

This is just the beginning. The market is huge considering that this essential oil has extensive range of uses such as anti-inflammatory, antifungal and antibacterial, owing to which it is useful for curing wounds, eczema, diaper rash, skin treatment, the treatment of psoriasis, as well as for better skin. Also, it has almost no side-effects as compared to most of the conventional drugs and medicines, said the experts. Increase in the demand for natural personal care products and pleasing aromatic cleaning agents is another driver of the marigold essential oil market.

According to reports, worldwide, production of the essential oil of *T Minuta* is around 20-22 tonnes per annum with South Africa leading the race by producing about 6.5 tonnes of essential oil/year followed by India (4 t/ha) and Zimbabwe (2 t/ha).

Published in:

[The Pioneer](#)

CSIR-CMERI

Shanti Swarup Bhatnagar Memorial Tournament-2018 Zonal-IV

DURGAPUR: The 50th Shanti Swarup Bhatnagar Memorial Tournament-2018, Zonal-IV was inaugurated on December in the CSIR-CMERI Colony, Durgapur by Dilip Kumar Agasty, Mayor, Durgapur Municipal Corporation in the presence of Prof. (Dr.) Harish Hirani, Director, CSIR-CMERI, Durgapur, J Paul Anchery, Former Captain, Indian Football Team, Prof. Alok Dhawan, Chairman, CSIR-Sports Promotion Board, Dr R K Sinha, Secretary, CSIR Sports Promotion Board and other eminent dignitaries.

Shanti Swarup Bhatnagar Memorial Tournament is a platform created by CSIR Sports Promotion Board after the sudden demise of the founder Director General, Dr.S.S. Bhatnagar in 1955.

The main objective is to bring together the participation of all CSIR laboratories across the country to build a committed CSIR family and create team spirit and to promote sports at national/international level.

In his Welcome Address, Prof. (Dr.) Harish Hirani, Director, CSIR-CMERI, Durgapur, welcomed all the participants and the attending dignitaries. Dr. Harish Hirani focused upon the pivotal importance of Sports in the holistic development of an individual. He stated that more important than Winning or Losing it is the inculcation of the Sportsman Spirit that should have precedence over others.

Dilip Kumar Agasty, Mayor, Durgapur Municipal Corporation, Chief Guest, congratulated and wished luck to Dr. Hirani for the



SSBMT-2018 event. He stated that such events with Nation-wide participation are an excellent opportunity for the Sports Enthusiasts. He welcomed all the participants to the Beautiful City of Durgapur and hoped they will enjoy their stay here.

J Paul Anchery, Former Captain, Indian Football Team, thanked Dr. Hirani and his team. He stated that Dedication, Sincerity and Perseverance are the key parameters for a successful professional Life. He said that such events provide a degree of relaxation from the busy Professional Lives and therefore should be enjoyed to the fullest Prof. Alok Dhawan, Chairman, CSIR-Sports Promotion Board and Director, CSIR-IITR, Lucknow, welcomed all the participants and expressed his gratitude to Dr. Hirani for undertaking the responsibility of managing the SSBMT in CSIR-CMERI, Durgapur Prof. Dhawan stated that the SSBMT is a platform for the CSIR family members to interact with each other and share their values and experiences with each other. He wished luck to all the participants.

About 375 participants from different part of the eastern region such Kolkata, Bhubaneswar, Roorkee, Dehradun, Jamshedpur, Lucknow attended the event.

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Morning India



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