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भारत का नवाचार इंजन
The Innovation Engine of India

NEWS BULLETIN
26 TO 31 MAY 2023

Compiled by Science Communication and Dissemination Directorate (SCDD), CSIR, Anusandhan Bhawan, New Delhi

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The Innovation Engine of India

Giant leaps in S&T, Space Research and Pharmaceuticals during the last nine years under the stewardship of PM Modi have demonstrated India's scientific temper and prowess to the world and catapulted India to the select league of leading nations with emerging technologies, says Dr. Jitendra Singh

CSIR

31st May , 2023

Union Minister of State (Independent Charge) for Science and Technology, MoS PMO, Department of Atomic Energy and Department of Space and MoS Personnel, Public Grievances and Pensions, Dr. Jitendra Singh today said that under Prime Minister Narendra Modi, last nine years witnessed universal acknowledgement of India's scientific prowess.

The Minister said, during the last nine years under the stewardship of PM Modi, India's scientific temper catapulted India to the select league of leading nations with emerging technologies.

Addressing the 46th Induction Programme for the newly recruited scientists of Ministry of Science and Technology at the Human Resource Development Centre, Ghaziabad of CSIR, Dr Jitendra Singh said despite scepticism and doubts raised in some unscrupulous quarters, the country successfully fought back the Covid19 pandemic. Under the able guidance and leadership of Prime Minister Shri Narendra Modi, Indian pharmaceutical companies developed vaccines in a short time and the Government not only combatted the spread of Covid19 but also exported the vaccine to the developed world and WHO commitments.

Dr Jitendra Singh said, under the Rs. 900 Crore 'Mission COVID Suraksha', announced by Government of India as part of the Atmanirbhar Bharat 3.0 package, the Department of Biotechnology (DBT) delivered four vaccines, augmented the manufacturing of Covaxin, The four vaccines are- ZyCoV-D- world's 1st and India's indigenously developed DNA Vaccine, CORBEVAXTM - India's first protein subunit vaccine, GEMCOVAC™-19 - world's 1st and India's indigenously developed mRNA vaccine and iNCOVACC- world's 1st and India's indigenously developed intranasal COVID-19 Vaccine.

Dr Jitendra Singh said India created a massive jump in its global ranking of Global Innovation Index (GII) from 81st in the year 2015 to 40th in 2022 among 130 economies of the world. The Gross Expenditure on R&D (GERD) has increased more than three times in the last 10 years. India is ranked 9th in terms of resident patent filing while Women's participation in extramural R&D has also doubled in the last 9 years. The Minister said India ranks 3rd globally in terms of number of Startups (77,000) and in terms of number of unicorns (107) in the world. India ranks third among the most attractive investment destinations for technology transactions in the world. India's significant rise in terms of number of publications in SCI journals - globally ranked 3rd now from 6th in 2013. Besides, India occupies 3rd rank in terms of number of PhDs awarded in Science and Engineering (S&E) (nearly 25,000) after the USA and China.

Dr Jitendra Singh said, in line with the Prime Minister's announcement at COP26, India is working towards achieving 500 GW of installed electricity capacity from non-fossil sources by 2030. So far, more than 170 GW of capacity from non-fossil fuel sources has been installed in the country. India stands 4th globally in Renewable Energy Installed Capacity (including Large Hydro), 4th in Wind Power capacity and 4th in Solar Power capacity.

Dr Jitendra Singh said, Space reforms have unleashed innovative potentials of StartUps and within a short span of time, from a couple of Space Start-ups three/four years back, today we have 102 start-ups working in cutting-edge areas of space debris management, nano-satellite, launch vehicle, ground systems, research etc. The Minister said, with the integration of R&D,

Academia and Industry with equal stake, it is safe to say that a Space Revolution led by ISRO along with the Private Sector and Start-ups is on the horizon. In November last year the first-ever private Vikram-suborbital (VKS) rocket was launched by ISRO, setting a new milestone in the 75 years journey of Independent India. In Defence sector, Dr Jitendra Singh said, India's first indigenous aircraft carrier INS Vikrant was commissioned by the Prime Minister at Cochin Shipyard Limited in September 2022 and a couple of days ago the Mig-29K fighter jet made a successful maiden night landing on the carrier. Due to the Government's persistent efforts, Defence exports grew by 334% in the last five years. They touched a record Rs 13,000 crore in Financial Year 2021-22. India is now exporting defence equipment to over 75 countries.

Dr Jitendra Singh said India is among the world's foodgrain, horticulture and livestock-poultry producers and is also partly meeting the global food requirements. Last year the ICAR produced more than 339,000 qt. of seeds and 147.56 million sapling/seedlings/livestock strains, besides various bio-products for availability to the farmers.

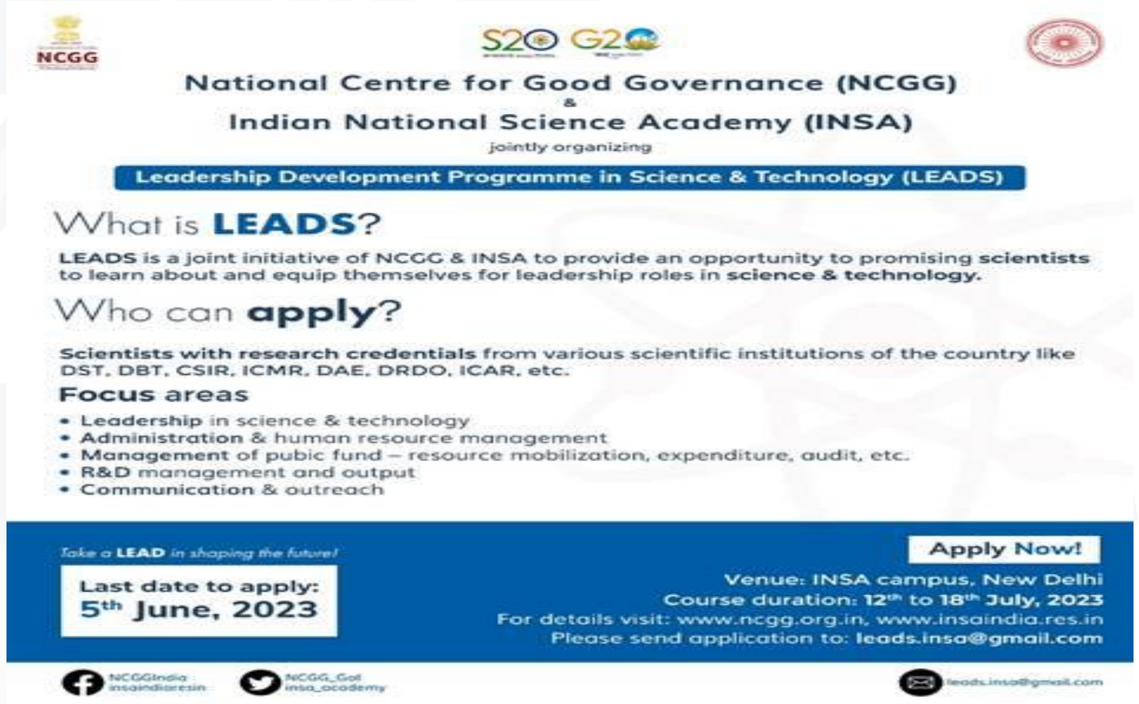
The Minister said the Union Cabinet, chaired by the Prime Minister Shri Narendra Modi, approved the National Quantum Mission (NQM) in April 2023 at a total cost of over Rs.6,000 crore during the period 2023-31, aiming to seed, nurture and scale up scientific and industrial R&D and create a vibrant & innovative ecosystem in Quantum Technology (QT). This will accelerate QT led economic growth, nurture the ecosystem in the country and make India one of the leading nations in the development of Quantum Technologies & Applications (QTA). Dr Jitendra Singh said the new mission targets developing intermediate scale quantum computers with 50-1000 physical qubits in 8 years in various platforms like superconducting and photonic technology. Satellite based secure quantum communications between ground stations over a range of 2,000 kilometres within India, long distance secure quantum communications with other countries, inter-city quantum key distribution over 2,000 km as well as multi-node Quantum network with quantum memories are also some of the deliverables of the Mission.

Published in:
Pib

Union Minister for Science & Technology, Dr. Jitendra Singh focusses on leadership development among scientists for high quality research

CSIR

26th May , 2023



To realise Prime Minister Shri Narendra Modi's Vision of India@ 2047 for scientific and technological advancements during Amrit Kaal, the National Centre for Good Governance (NCGG) and the Indian National Science Academy (INSA) have joined hands and have launched the 'NCGG – INSA Leadership Programme in Science & Technology (LEADS). Recognizing the critical role played by the scientific leadership in driving scientific progress, this joint initiative seeks to empower them with the tools and capabilities required to effectively lead and navigate the rapidly evolving landscape of science and technology.

The Amrit Kaal of Independence marks a significant turning point in India's scientific journey, symbolizing the nation's resolute commitment to nurturing excellence. Prime Minister shri Narendra Modi, recognizing the extraordinary potential of India's scientific community, has played a pivotal role in establishing an enabling ecosystem that fosters innovation and empowers scientists. This approach underscores his unwavering belief in the transformative power of scientific research and technology to propel India's advancement. To translate Prime Minister Shri Modi's vision into reality, Dr. Jitendra Singh, Minister of State (MoS) for Science & Technology as well as Personnel, Pubic Grievances & Pensions, is

working with and motivating scientists and nurturing a collaborative environment with R&D institutions to drive their contributions towards building a prosperous India. With his efforts, a more cohesive and collaborative environment has been fostered, where scientific breakthroughs seamlessly integrate into policies and programmes to bring substantial benefits to the people of the country.

The one-week fully residential programme starting from 12th July, 2023 will take place at the prestigious INSA Campus in New Delhi. Scientists from various renowned scientific institutions, including under the aegis of the Dept. of Science & Technology (DST), Dept. of Biotechnology (DBT), Council of Scientific & Industrial Research (CSIR), Indian Council of Medical Research (ICMR), Dept. of Atomic Energy (DAE), Defence Research & Development Organisation (DRDO), Indian Council of Agricultural Research (ICAR), and other laboratories and institutions, are invited to participate. The programme seeks to bring in scientists who have displayed promising research credentials and demonstrated their potential for leadership positions.

From pioneering space missions to deep ocean exploration, from the National supercomputing mission to the semiconductor mission and mission hydrogen, and advancements in drone technology, India is driving forward numerous ambitious initiatives at an accelerated pace. As these initiatives continue to scale and expand, there arises a pressing need to empower scientists with essential leadership skills.

The leadership programme in Science & Technology has been designed to provide participants with an enriching experience and a deep understanding of emerging areas. Throughout the seven-day programme, scientists will be exposed to subjects such as institution building, statutory functions, governance, excellence in research, management, gender and diversity issues, Scientometrics, recruitment and mentoring of scientific human resources, industry-laboratory collaboration, financial management, interpersonal relations, national needs, resource generation, administration, digital governance, and more. The programme will shed light on the challenges scientists may encounter in science and

technology administration, equipping them with the necessary skills to overcome such hurdles. Participants will also learn how to effectively lead teams, manage resources efficiently, and develop comprehensive strategies to achieve organizational goals. Emphasis will also be placed on building capacities to handle stress, fostering effective teamwork, and managing conflicts that may arise within organizations.

The National Centre for Good Governance (NCGG) was set up in 2014 by the Government of India as an apex–level autonomous institution under the auspices of the Ministry of Personnel, Public Grievances and Pensions. NCGG deals with a gamut of governance issues from local, state to national levels, across all sectors. The Centre is mandated to work in the areas of governance, policy reforms, capacity building and training of civil servants and technocrats of India and other developing countries. So far, NCGG has imparted training to over 3,500 civil servants from 15 countries viz. Bangladesh, Kenya, Tanzania, Tunisia, Seychelles, Gambia, Maldives, Sri Lanka, Afghanistan, Laos, Vietnam, Bhutan, Myanmar, Nepal and Cambodia. At the behest of the Government of India, the Indian National Science Academy (INSA) was established to foster excellence in science. For more than eight decades, INSA has served as an enabler, a think tank, and a mentor for Indian science by leveraging the collective knowledge resources of its 1,000+ fellows who specialize in various branches of science. By nurturing leaders within the scientific community, the LEADS programme aims to drive transformative changes, promote innovation, and establish India as a leader in science-led development in the world.

Nominations for this programme can be made through
https://docs.google.com/forms/d/e/1FAIpQLSejHeTZM4fXU2ez_pPOZnNWAhv84KxO0cvcunRMO-Dy1pYlRw/ viewform before 5th June, 2023.
For further information, please visit
http://www.ncgg.org.in/sites/default/files/notification_document/LEADS-Programme. pdf
http://insaindia.res.in/

Published in:
Pib

Curtain raiser event of 'One Week One Lab' held at CSIR-IIIM

CSIR-IIIM

31st May , 2023

JAMMU, May 30: CSIR-Indian Institute of Integrative Medicine, Jammu, one of the premier research laboratories of the Council of Scientific and Industrial Research (CSIR) under the Union Ministry of Science & Technology, organized the curtain raiser event for its upcoming "One Week One Lab (OWOL)" program. The event marked the release of the brochure for the program.

The attendees at the event included Dr Zabeer Ahmed, Director of CSIR-IIIM, Er Abdul Rahim, Chief Scientist & Head of the RMBD&IST Division, Asha Chaubey, Senior Principal Scientist & Head of the FMB, Dr Dhiraj Vyas, Sr Principal Scientist & Head of the PSA Division among other dignitaries.

During interactions with the media, Dr Zabeer Ahmed, Director of CSIR-IIIM, provided insights into the CSIR's nationwide theme-based campaign, "One Week One Lab."

He highlighted that the CSIR consists of 37 unique laboratories across India, specializing in diverse fields such as genomics, geology, food, fuel, minerals, and materials. Dr Ahmed mentioned that Dr Jitendra Singh, Union MoS in PMO, emphasized the need to showcase and propagate this diversity to society. Thus, the idea of "One Week One Lab" was conceived to serve as a platform for displaying the technologies and innovations of CSIR.

Dr Zabeer Ahmed then proceeded to outline the itinerary for the OWOL program. The first day would feature the Lavender Festival, which will be inaugurated by Dr Jitendra Singh,

Union Minister, in Bhaderwah on 4th June. On the second day, there will be student-scientist interactions and live experiment demonstrations at CSIR-IIIM (Br.) Srinagar.

Students from various schools in the valley will be invited under the Jigyasa program. The third day will host a one-day symposium on Drug Discovery at IIIM, Jammu, with the participation of scientists and scholars from various institutions. This will be followed by a hands-on workshop on quality control of drugs on the fourth day.

The fifth day will involve a young researchers' meet and an awareness program for farmers, which will be held at IIIM, Jammu, and Chatha Farm, respectively.

Additionally, the institute has planned awareness cum training program for farmers in Leh on the sixth day.

The One Week One Lab program will conclude on 10th June with a mega Startup-Conclave in Udhampur.

Published in:
Dailyexcelsior

CSIR-NIScPR, UBA and VIBHA organised One-day Training Workshop on Incense Stick Making

CSIR-NIScPR,CIMAP

30th May , 2023

CSIR-National Institute of Science Communication and Policy Research (CSIR–NIScPR) in collaboration with Unnat Bharat Abhiyan (UBA) and Vijyana Bharati (VIBHA) organized a one-day training workshop on incense stick making at Gram Panchayat Bhawan of Pilli Padav village (Gaindikhata cluster), Haridwar, Uttarakhand on 25 May 2023.

The workshop was aimed towards encouraging and providing training to farmers and women on Incense Stick making technology (know-how) developed by CSIR-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow. The workshop was attended by more than 120 women participants. The event commenced with a welcome address by Ms. Meenakshi Choudhary, Local coordinator, UBA network. The audience was briefed by Dr. Yogesh Suman, Senior Principal Scientist, CSIR-NIScPR. He discussed about the importance of efforts being made jointly by these organizations to create livelihood in rural areas by using CSIR technologies.

Dr. Yogesh Suman, Scientist with CSIR-NIScPR addressing women participants of the incense stick making workshop.

Prof. Ranjana Aggarwal, Director, CSIR-NIScPR joined the event online and briefed the audience about the importance of the incense stick making technology and outlined the difference it created in the livelihood near Shirdi, Maharashtra. She mentioned about the changes this technology has brought in the lives and livelihood, especially of women. She explained about the ecological importance of this technology and how it may contribute to

generate a circular economy by developing a local ecosystem. The gathering was later addressed by Prof. Virendra Kumar Vijay, National coordinator of UBA. He explained about the Unnat Bharat Abhiyan and how it is progressing towards creating the Atma Nirbhar Bharat. The Gram Pradhan Shri Shashi Jhandwal mentioned about the local problems related to unemployment and livelihood and how intervention of such technologies can sort these out. He also thanked CSIR-NIScPR and UBA teams for organizing such a useful training programme.

A Glimpse of Training session

The training session was conducted by Shri Manoj Yadav, Technical Officer from CSIR-CIMAP. The trainees were highly interested in learning which was evident from their active participation. In a very detailed demonstration, Sh. Manoj interacted with the trainees, discussed about the intricacies involved at every step, and arrangements of the raw material by various possible channels. He mentioned that this technology is self-reliant and incense stick can be produced by using household tools.

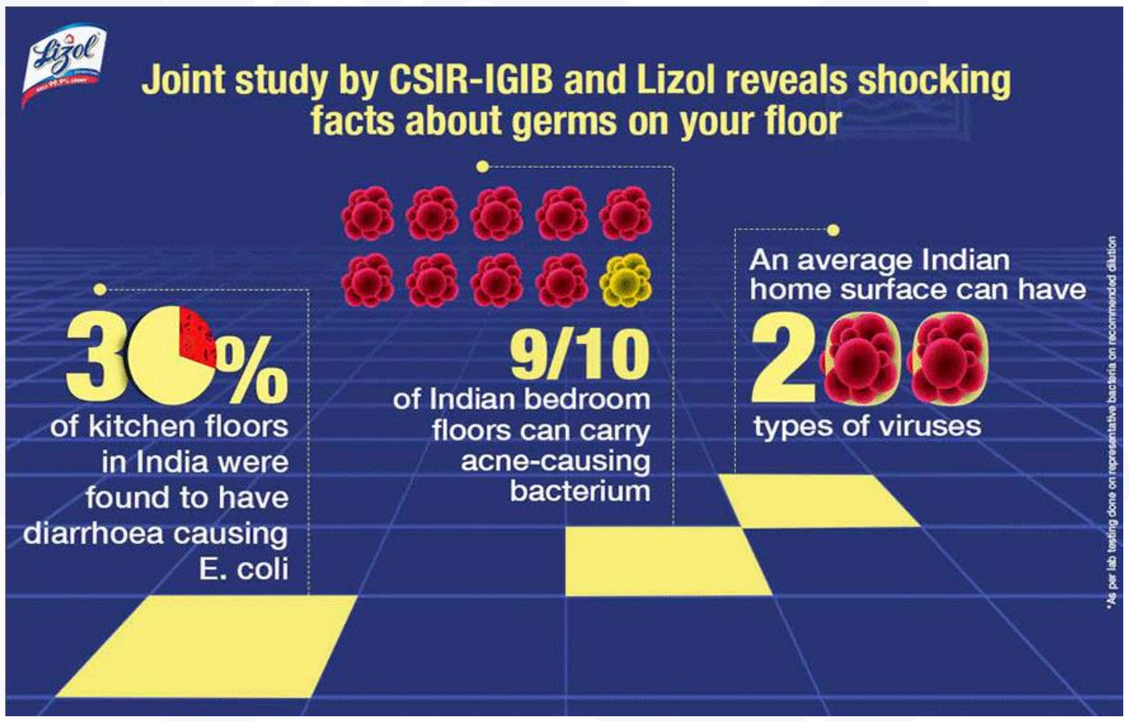
CSIR–NIScPR is organizing a series of such training workshops in collaboration with Unnat Bharat Abhiyan (UBA) and Vijyana Bharati (VIBHA). These programs are focused on creating livelihood opportunities in the villages associated with UBA network. The CSIR-NIScPR team is headed by Dr. Yogesh Suman, Senior Principal Scientist along with Dr. Shiv Narayan Nishad, Senior Scientist; Dr. Vinayak, Senior Scientist, and Ms. Meetali Bharti, Scientist at CSIR-NIScPR.

Published in:
lbgnews

Study reveals that ordinary phenyls kill less than 50% germs and leave your home at risk!

CSIR-IGIB

29th May , 2023



Mops and dusters, vacuum cleaners and cleaning liquids, brooms and wipes are the veritable army we deploy to keep our homes squeaky clean. Despite our best efforts however, germs sneak into the nooks and corners of our immaculate homes, bringing with them disease and discomfort. These microbes that lurk on most surfaces within our homes, can cause several health problems to young and old alike. Unfortunately, the ordinary phenyls we use to combat them and ensure completely clean surfaces are ineffective in killing germs.

Understanding the invisible threats in your home

While germs can breed on almost any surface like countertops, kitchen sinks, carpets, mobile phones and television remote controls, floors bear most of the blame for housing these illness-causing germs. Even though several studies across the world have already indicated that floors inside homes are great breeding grounds for these invisible pests, new Indian research has come up with statistics on the subject that can truly shock you.

Floors are a magnet for germs!

A new study conducted by India's leading government research agency, Council of Scientific & Industrial Research's (CSIR) institution 'Institute of Genomics and Integrative Biology' (IGIB) jointly with Lizol, India's leading floor disinfectant brand, found the presence of over 1000 types of bacteria and 200 types of viruses on floors in Indian homes. The study, conducted to analyse presence of germs and pathogens in Indian homes, found that floor areas

across different rooms harbour illness-causing germs such as, Escherichia coli, Moraxella spp, Brevundimonas spp, Acinetobacter spp. These germs have been responsible for diseases such as diarrhoea and conditions like skin infections, urinary tract infections, acne, eye and bloodstream infections.

In a statistic that compels attention, the study pointed out that just one square foot of your floor can harbour lakhs of illness causing germs! Unfortunately, conventional phenyls which are used by several households, are incapable of eliminating these germs, making the mopping a futile exercise.

Why do floors end up being the hotspot for these germs? These pests enter homes through our footwear, or even bags and clothes, bringing outdoor infection into the house via floors. Many times, bacteria get transferred to the floor when objects carrying microbes interact with it. For instance, when raw food that already has bacteria drops to the floor, there is a high chance of contamination. Dr. Rakesh Sharma, PhD, Chief Scientist at CSIR-IGIB which conducted the study, says, "The germs found in the study are known to be responsible for certain illnesses and hence highlighting the need to maintain clean and germ-free homes."

Safeguard your loved ones from germs

Here are a few easy tips to keep your home floors free of contamination-

Commit to a regular sweeping and mopping schedule to keep floors clean.

Place a doormat at the entrance and ask people to leave their shoes behind, so that they don't carry dirt inside your home.

Keeping pets well-groomed may be a little tedious but it is important not just for their hygiene, but also for your home. How about keeping a towel at the entrance to clean their paws post a walk? Simple but effective.

Using the right cleaning solution is another good move.

However, research indicates that in India, less than 20% homes use a specialized floor cleaner to mop their floors while many use detergents or plain water which are ineffective in dirt and

germ cleaning. Independent lab tests indicate that widely used phenyls are highly inadequate, leaving 50% germs behind after mopping! It is specialized floor cleaners, like Lizol, with disinfecting actives like benzalkonium chloride that offer enhanced cleaning and protection from germs with 99.9% germ kill on floors every time they are mopped ^. For perspective, independent lab tests have confirmed that only 1 cap of Lizol's superior formulation offers 99.9% germ kill ^ and 10X better cleaning * vs 3 caps of phenyl.

Promoting a germ-free environment

Apart from these simple tips, it is critical to understand the importance of using disinfectants and not just regular cleaning solutions.

Says Julie McKinney, PhD, R&D Director, Microbiology and Virology at Reckitt, "The recently conducted study has helped us identify specific germs and pathogens that may be found on floors throughout Indian homes. Over 1000 types of bacteria and 200 types of viruses including E. coli, the most common faecal bacterium, were identified in the study. These findings highlight how important it is to adopt effective floor cleaning and disinfection practices in our daily routines."

Most common ailments stem from unseen germs and viruses that breed right in our homes. These illnesses don't just cost us peace of mind, they result in a loss of productivity as well. Work days and school days are missed, overall fitness of the family takes a hit and in the long run, this impacts the health of all family members adversely.

The Lizol All-in-1 disinfectant surface cleaner is recommended by the Indian Medical Association (IMA). It is available in 7 different fragrances in product packs ranging from 200ml to 5L, along with value refill packs of 750ml and 1.8L. A healthy home is a happy home. Welcome good health into your home by making the right choice of disinfectant cleaners that don't just pretend to do the job, but do it excellently!

Published in:
The Hindu

NIT Srinagar's 8th Int'l Nanotech Conference concludes

CSIR-NPL 29th May , 2023

SRINAGAR, May 29: The five-day 8th International Conference on Nanotechnology, themed "Nanotechnology for Better Living," concluded with an impressive valedictory ceremony held at the National Institute of Technology (NIT) Srinagar today.

The valedictory ceremony was attended by distinguished guests, including Prof Sudhakar Yedla, Director of NIT Srinagar; Prof Venugopal Achanta, Director of Council of Scientific and Industrial Research-National Physical Laboratory (CSIR-NPL); Prof A M Wani, former and first Director of NIT Srinagar and Prof S K Bukhari, Registrar of NIT Srinagar.

The audience comprised delegates from various parts of the country and abroad, among whom was Prof Yashiro Azimo from Japan, a Physics Professor at IIT Delhi and a frequent visitor to the Kashmir's Islamic University of Science and Technology (IUST), Awantipora.

In his address, Prof Yashiro Azimo emphasized the complementary nature of Japan and India, expressing his hopes for more such collaborative events in the future, where international expertise can be shared with Indian students. "Japan needs India more than India needs Japan," he added.

Prof Yedla emphasized the significance of conferences like NBL-2023 in prioritizing societal benefits above all else. These conferences, he said, serve as a platform where institutions can collectively push the boundaries of scientific discovery and pave the way for transformative advancements that positively impact society.

Prof M A Shah, head of the Department of Physics at NIT Srinagar and the Chair of NBL-2023, praised the diverse expertise and ground-breaking research presented by the academicians. He expressed his confidence that the insights gained from the conference

sessions would serve as inspiration and fuel future innovations for the betterment of society. The NIT Srinagar had organized the conference in collaboration with the Indian Institute of Technology (IIT) Banaras Hindu University (BHU), Varanasi, and other esteemed universities such as Parul University, the University of Kashmir, and SKUAST-K.

The valedictory event showcased an exciting art competition, where students from different Government and private schools participated and wowed everyone with their creative skills. Both the participants and the winners were praised for their remarkable talents, highlighting the abundance of artistic potential among these students.

Published in:
Dailyexcelsior

IITR hi-tech device will check air pollution

CSIR-IITR

29th May , 2023

LUCKNOW: The CSIR-Indian Institute of Toxicology Research (IITR) is working on a hi-tech device to help reduce the concentration of ambient air pollution, more effectively than anti-smog guns and smog towers currently used.

What makes the device unique is that it will not only clean air by reducing PM10 and PM2.5 concentration but will also reduce gaseous pollutants from the air, a feature that is unavailable in the present ambient air pollution reduction devices.

The institute has already made the design and technology of the device with the help of a grant of Rs 34.79 lakh given by the DST-Science and Research Engineering Board (SERB) for the project.

Now, the technology has been given to an external agency to fabricate the device. Talking to TOI, the brain behind the design and development of this device, scientist and assistant professor of environmental monitoring division, CSIR-IITR Dr B Sreekanth, who is the project investigator, said, "A few recent ambient air purification devices like WAYU of CSIR-NEERI and Smog-Tower of IIT-Bombay are facing challenges at the field evaluation stage due to their huge size, power requirements and maintenance. However, there is an urge for competent and upgraded device-technology solutions for improved air quality. Hence CSIR-IITR is making a new one".

He said the institute has been conducting air pollution monitoring at nine locations in

Lucknow since 1997 and has also been involved in various national policies and standardizations for air pollution management.

He said, "The proposed device technology is designed for 1,000 cubic metre per hour (m3/hr) intake of ambient airflow and computational simulations found that the design of the device reduced concentration of fine particulate matters (like PM10 and PM2.5) up to 80% and gaseous pollutants (like SO2 and NO2) up to 60%". He said the device technology also oxidizes the concentration of other critical pollutants in the breathing air like carbon monoxide, hydrocarbon and volatile organic compounds. Fabrication of the device is in progress through an external mechanical agency under a turnkey basis based on CSIR-IITR-developed design and geometry.

Published in:
Times Of India

Quality planting material distributes to farmers of Poonch

CSIR-IIIM 28th May , 2023

Council of Scientific & Industrial Research (CSIR)-Indian Institute of Integrative Medicine, Jammu, in collaboration with Department of Agriculture, Poonch, today organised a one day training and planting material distribution programme under CSIR Floriculture Mission here in the Dak Bungalow, Poonch under the patronage of Dr. Zabeer Ahmed, Director CSIR IIIM Jammu.

Additional District Development Commissioner Poonch, Malikzada Sheraz Ul Haq was the Chief Guest of the event. He hailed the initiative of CSIR-IIIM of reaching out to the farmers of the district Poonch and informed that adoption of the floriculture crops like Marigold and Gladiolus can add to the economic returns of the farmers. He emphasized on the judicious utilization of the available resources for achieving maximum profitability. Production of fresh loose flowers like marigold by farmers of the district has local demand due to its use in religious and cultural traditions, he added. He also expressed his gratitude to the participating farmers and impressed upon the officers of the department of agriculture to have a coordinated approach with the CSIR IIIM team for translation of the activities under the Mission for greater outcome.

In the event 95 participating farmer beneficiaries from different areas of the district were imparted training on commercial cultivation and post-harvest technologies for Cut and Loose flower cultivars.

The farmers were also provided the quality planting material of Gladiolus corms and hybrid Marigold seed. Chief Agriculture Officer Poonch, Rakesh Sharma while welcoming the chief guest, Addl. District Development Commissioner Poonch Malikzada Sheraz Ul Haq, Nodal Scientist CSIR Floriculture Mission, Dr. Shahid Rasool, Officers of the Department of Agriculture and participating farmers, gave a brief introduction of the programme and

apprised farmers about the remunerative benefits and entrepreneurial opportunities in commercial cultivation of floricultural crops. He commended the initiative of CSIR-IIIM for extension of activities of the Mission in Poonch district to benefit the farmers. He added that the district offers a huge potential and scope for diversification to the floriculture sector and emphasized collaborative efforts with CSIR IIIM to leverage the benefit through commercial production of floriculture crops by this initiative.

He also highlighted the importance of Marigold which secretes a substance called Terethienyl in the soil which acts as a natural trap to control root knot Nematodes, bacteria and fungi besides it checks white flies, slugs and snails. Because of its fragrance, it repels mosquitoes and beetles also. He also emphasized its cultivation round the year as being used on the occasions of cultural and religious festivals besides its aesthetic and ornamental value. Since it has a shallow root system it improves soil health and makes the soil porous and fertile as well. While interacting with the farmers, Dr Shahid Rasool briefed about the CSIR Floriculture Mission being implemented in the UT of J&K and transformational change it has brought in the commercial floriculture sector. He informed that the Mission is one of the flagship initiatives launched by CSIR for empowering the farmers of the country through commercial cultivation and marketing of region specific floral cultivars.

The activities under the Mission are monitored at micro level by Dr. Jitendra Singh, Union Minister of State for Science and Technology for its optimal implementation to generate maximum opportunities for development of Agritech Start-ups, he added. He further informed that Holistic Agriculture Development program being implemented by the Department of Agriculture and FW in the UT together with deployment of CSIR technologies and scientific interventions can enhance the economic and social status of the farmers and create more employment opportunities through resource optimization and integrated approach to farming practices.

Published in:
Brighterkashmir

CSIR-NCL's week-long programme garners good response

CSIR-NCL

27th May , 2023

CSIR-National Chemical Laboratory (CSIR-NCL), Pune, marked the successful conclusion of its 'One Week One Lab' campaign on Saturday, May 27. During this six-day campaign, the institute was open for the visit to all citizens, and a total of 2,197 citizens visited CSIR-NCL. Jitendra Singh, Minister of Science and Technology, launched the one-week lab project to highlight technical breakthroughs and achievements in Council of Scientific and Industrial Research (CSIR) labs.

Various activities were held at the institute throughout this six-day campaign, including a research exhibition, thematic lectures, panel discussions, a symposium, a start-up expo, and so on. This initiative received a huge response from the citizens. On average, 330 people came each day, with the highest number of visitors on the last day, 545.

Originally, the open day was only scheduled for one day, on integration day, but due to popular demand, it was extended to all six days. Citizens of all ages and from all walks of life attended the exhibition, which included research from seven different fields, including clean energy, circular economy, sustainable chemical industry, bio-therapeutics, C1 chemistry, biomass, and agritech, according to the official.

The clean energy demonstration was the major attraction of the exhibition, where scientists and students demonstrated the work which was done by the department regarding green hydrogen energy. Apart from that circular economy, agritech also received good responses from the citizens.

The theme for the concluding day was 'Circular Economy.' Dr Sameer Chikkali, senior principal scientist, CSIR-NCL, delivered a lecture on 'plastic pollution to a sustainable solution.' His topic was focused on the circular economy of plastics, where he discussed the value chain of the plastic recycling process that includes segregation, pyrolysis, downstream, and upcycling.

He pointed out that Pune city generates plastic waste of about 90 tons per day. Apart from that various other industry experts put light on Circular Economy, especially about plastic waste.

Published in:
Hindustantimes

Interventions in Mizoram for enhancing the livelihood of tribal population by CSIR-IHBT Palampur

CSIR-IHBT

27th May , 2023

CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT), Palampur (HP) is making efforts to revive the economy of the farming community through introduction of high value aromatic crops and low chilling varieties of apple in some potential locations of Mizoram. To implement the project sponsored by Department of Biotehnology, Govt of India, CSIR-IHBT joins hands with College of Horticulture, Thenzawl, Mizoram (a constituent college of Central Agricultural University, Imphal, Manipur) and Mizoram Science Technology and Innovation Council (MISTIC). CSIR-IHBT team visited Mizoram from May 24-27, 2023 for monitoring the growth of aromatic plants and low chilling varieties of apples planted in different locations in Mizoram and College of Horticulture, Thenzawl.

Dr Probodh Kumar Trivedi, Director, CSIR-IHBT, Palampur told that the institute have been sanctioned three projects by Department of Biotechnology, Govt. of India during February 2022 under Inter-Institutional Programme Support on the development and sustainable utilization of bioresources of Mizoram Sub Project: Captive production of Shiitake and Oyster mushroom and their processing for Vitamin D2 enrichment; Sub Project 2: Introduction of low chilling varieties of apple (Malus domestica L.) in Mizoram to improve the livelihood of tribal farmers. Sub Project 3: Livelihood generation through cultivation and value addition of aromatic plants in Mizoram. He said that CSIR-IHBT have the relevant technologies on Shiitake and Oyster mushroom, high value aromatic crops and low chilling varieties of apple. These technologies are being demonstrated at farmers' field in North Eastern state Mizoram along with partner institutes of Mizoram Science, Technology &

Innovation Council (MISTIC), Aizawl and College of Horticulture, Thenzawl, Mizoram (CAU Manipur). CSIR-IHBT team held meeting with Er. H. Lalsawmliana, Chief Scientific Officer, Mr Davy Lalruatliana, Scientific Officer and Dr. Lalchhandami Tochhawng, Scientific officer from MISTIC, Aizawl, Mizoram. Team imparted training to the farmers of village Ailawng of aspirational district Mamit and village Hmuifang of distt. Aizawl on cultivation of low chilling varieties of apple on May 25 -26 2023 along with MISTIC scientific staff. Dr Davy informed that 6400 low chilling apple plants were supplied by CSIR-IHBT under the apple projects have been distributed to the beneficiary farmers in district Aizawl, Thenzawl and aspirational district Mamit during February, 2023 on pilot scale. The visiting team monitored the growth of plants and trained the farmers for apple cultivation techniques. The team observed that survival rate of plants is good and the plants are growing well.

Dr Rakesh Kumar, Senior Principal Scientist, CSIR-IHBT cum PI of the apple and aromatic plant projects and Er Mohit Sharma (Chemical Engineer), Principal Scientist cum Co PI of the aromatic plants project visited College of Horticulture Thenzawl, Mizoram along with the Scientific officers of MISTIC. They held meeting with the scientists and Dean College of Horticulture, Thenzawl. Team observed the growth of apple plants, aromatic plants viz., lemongrass, citronella and damask rose along with MISTIC staff. Dr Rakesh Kumar told that the essential oil obtained from the aromatic plants is traded in the international markets for use in perfumery, flavouring, pharmaceutical and pesticide industries. A training program on agro and process technology of aromatic plants was imparted to the scientists and students of College of horticulture, Thenzawl, farmers and staff of horticulture, Thenzawl, Mizoram. Practical demonstration of essential oil extraction from lemongrass was also given to the trainees on May 26, 2023. More than 60 farmers, horticulture students and scientists participated in these training. Team also monitored the growth of apple plants planted in demonstration plot of College of Horticulture, Thenzawl under the project.

The market potential of aromatic plants is huge as these has an extensive range of uses from insect repellent properties, anti-inflammatory, antifungal and antibacterial characteristics, which make it useful in numerous applications like control of store grain insect pests, wound

healing and treatment of eczema, diaper rash, psoriasis and for skin ointment. Presently, most of the essential oil requirements in India are met through imports from countries such as China, Indonesia, Turkey, France, Kenya, Brazil and Australia.

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CSIR-CIMAP study lowers nicotine content in Tobacco plant

CSIR-CIMAP

26th May , 2023

The CSIR-Central Institute of Medicinal and Aromatic Plants (CIMAP) has successfully lowered nicotine content in the Petit Havana Tobacco plant variety by using a genome editing tool and reduced 60-70 per cent nicotine in it, compared to nicotine content in wild-type plants. CSIR-CIMAP now plans to lower nicotine in commercial varieties to help people quit the habit by working on tobacco plant varieties used in cigarettes, cigars, beedi. As a result of four years of research, CIMAP director Dr P K Trivedi, along with research scholars Dr Deeksha Singh and Shambhavi Dwivedi, succeeded in lowering nicotine in the Petit Havana tobacco plant.

"When several studies highlighted that zero nicotine products were disliked by people who were aiming at de-addiction, we thought why not lower it to the extent that it becomes less harmful and can be given up gradually," said Trivedi.

He explained that there is a biosynthetic pathway for nicotine present in the root of the plant, by which nicotine is synthesised in the root tissue and transported to the leaves. Among the several pathways, only one facilitates nicotine biosynthesis and if it is blocked, there will be zero nicotine in the leaves of the plant.

On the other hand, if instead of blocking, the pathway is regulated, nicotine will be there but its production will slow down, he added. Trivedi said, "We have used CRISPR-Cas9 for genome-editing which is a unique technology that helps scientists edit parts of the genome by adding or altering sections of the DNA sequence. It is much faster, cheaper and more accurate

than previous techniques of editing DNA. CIMAP has also identified a transcription factor in tobacco plant which is a protein that helps turn specific genes 'on' or 'off' by binding to their regulatory regions.

The Institute has altered or knocked out the 'transcription factor' which has helped in lowering Nicotine content in the plant.

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CSIR-IMMT Organised One Day Workshop On "Managing Change In R & D Through Effective Project Monitoring And Evaluation

CSIR-IMMT 26th May , 2023

Bhubaneswar: IMMT is a constituent institute under Council of Scientific and Industrial Research (CSIR) and celebrating its Diamond Jubilee this year 2023-2024. Being an important R & D institute, CSIR-IMMT executes several scientific work through projects mode funded by Government and Private agencies.

Project Monitoring and Evaluation (PME) plays critical role in ensuring progress of these project work in any institute and shapes its output. Considering aforesaid view, CSIR-IMMT, Bhubaneswar organised one day (26th May, 2023) workshop on "Managing Change in R & D through Effective Project Monitoring and Evaluation.

Highlighting the importance of workshop theme Dr Ramanuj Narayan, director of CSIR-IMMT. Dr Ramanuj said, "I welcome you all on behalf of this organizing committee and the institute. We are very fortunate to organize such an event, which is giving such a big platform to discuss the importance and relevance of learning in today's generation. Wherever you receive learning, accept it. It is always proven to be useful". I am also requesting all of you to participate in all the events with full enthusiasm. "Whatever you be, do it with your best, do it with passion".

Delivering the keynote address Dr.Anandharamakrishnan, Director, CSIR-NIIST, Thiruvananthapuram, said, I am very grateful and delighted to be a part of such an auspicious and knowledge sharing session. In today's generation "Even though the scientists working in the CSIR labs are not celebrities, we have a much greater and historic contribution to the world then the others. Works done by scientists are never celebrated or given much significance as the other professions. This event is a good initiation to showcase our work in front of the world"

Also, Dr.Winny Routray, Assistant Professor, NITR, Rourkela delivered her invited lecture. Dr. B S Jena, Head, PME, delivered special lecture about PME. Dr. Jena was felicitated with memento for his invaluable contribution to project monitoring and evaluation department of CSIR-IMMT.

The workshop was attended by about 200 participants from various institutes located in Bhubaneswar, Odisha. The workshop was jointly organised by PME and Environment & Sustainability Department of CSIR-IMMT, Bhubaneswar. With active management by Dr. Ashok Sahu, Head, MPT and BD, Dr.Nabin Kumar Dhal, Head E & Department, Dr. T Pavan Kumar, Senior Scientist, PME and Dr. Manish Kumar etc.

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