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# CSIR News

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## In the News

### Union Minister Dr Jitendra Singh Announces "One Week One Lab" Campaign

*CSIR breakthroughs like drone, heliborne technology, state-of-the-art sewage cleaning machines, Aroma Mission and many others have opened up huge opportunities for developing meaningful and equal stake partnerships among Research, Academia and Industry, says Dr Jitendra Singh.*



Union Minister of Science & Technology Dr Jitendra Singh, who is also the Vice President of CSIR (Council of Scientific & Industrial Research), announced a "One Week One

Lab" theme-based campaign to showcase the technological breakthroughs and innovations in each of the 37 CSIR laboratories/institutes spread across the country, on 26 September 2022.



Addressing the first-ever CSIR Leadership Meet attended by the Directors of CSIR labs, Dr Jitendra Singh said, the legacy of CSIR is built on the cumulative contribution of its several national laboratories and institutes. He said, each laboratory of CSIR is unique and specialises in as diverse areas ranging from genomics to geology, material technology to microbial technology and food to fuel.

The Minister also recalled how the laboratories came together during the COVID pandemic last year and developed several technologies that helped India's fight against COVID. The Minister further said, the success stories of each lab must be brought to the fore of the country through a massive mass media campaign.

Dr Jitendra Singh mentioned that CSIR breakthroughs like drone, heliborne technology, state-of-the-

art sewage cleaning machines, and the Aroma Mission have opened up huge opportunities for developing meaningful and equal stake partnerships among Research, Academia and Industry. The Minister said, the state-of-the-art heliborne survey technology with cooperation from Jal Shakti Ministry was introduced last year in the States of Rajasthan, Gujarat, Punjab and Haryana and this could play an important role in positively contributing to Prime Minister Narendra Modi's Vision and Mission of "Har Ghar Nal Se Jal". Similarly, the mechanised sewage cleaning system developed by CSIR will help in achieving the target of the Swachh Bharat Mission, he added.

The Minister said that under the Prime Minister's leadership, Science & Technology has got an enhanced budget and a very special impetus in the last eight years and the scientific pursuits

and endeavours are now being assigned special importance. He said, the ultimate goal of all scientific innovations is to bring "Ease of Living" to the common people.

Dr Jitendra Singh called upon a pool of over 4,500 CSIR scientists to reorient and revitalise the organisation to emerge as a global centre of innovations in the Amrit Kaal. He said, they must focus on emerging innovations in areas like hydrogen in the energy transition, carbon capture and storage, accessible solar power, plastic recycling and cheap energy storage.

Dr Jitendra Singh said that there should be a Science Pavilion on the lines of DST and DBT at Pragati Maidan. He also urged the DG-CSIR to organise CSIR-Expos in various parts of the country to showcase its technological prowess to various states and

industries, besides other stakeholders.

He asked CSIR and all the science departments to explore S&T innovations needed in the next ten years to make India globally a frontline state in technological achievements and innovations. The Minister said, "We should not restrict our ambition to be the best in India but strive to be the best in the world as India is blessed with the demographic dividend of youth and they can take up any challenge with the right training and motivation."

DG-CSIR, Dr N. Kalaiselvi said in her welcome address that the 21st century is going to be the century of India and for India. She said, the Science and Technology fraternity must rise to the occasion and work hard to make India a respected name in the global arena.

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## Dr Jitendra Singh Inaugurates Bisphenol-A Pilot Plant at CSIR-NCL

Hon'ble Union Minister of S&T Dr Jitendra Singh visited CSIR-National Chemical Laboratory (CSIR-NCL), Pune on 21 August 2022 during which he inaugurated the Bisphenol-A (BPA) pilot plant facility and addressed the staff and students of CSIR-National Chemical Laboratory (CSIR-NCL), Pune.

Bisphenol-A (BPA) is an important feedstock for producing epoxy resins, polycarbonate, and other engineering plastics. The global market for Bisphenol-A is projected to reach 7.1 million tons by 2027, growing at a CAGR of 2% over 2020-2027. The total estimated annual demand of 1,35,000 tons in India is imported today. CSIR-NCL has developed a continuous catalytic pilot scale process for the production of BPA under CSIR's

Bulk Chemicals mission programme. Successful pilot plant trials have been completed continuously 24x7 for nearly 45 days. Nearly complete conversion (90- 99%) of the raw material (acetone) was achieved at steady state operation. The catalyst used in the process is robust. A highly pure colourless BPA is produced in the continuous process.

The uniqueness of the method developed by CSIR-NCL is a novel downstream process technology, which makes this indigenous technology competitive with global benchmarks. This technology will enable import substitution of this essential raw material and help in India's Atmanirbhar initiative. The process is ready for technology transfer and further co-development to a commercial scale.



Hon'ble Union Minister Dr Jitendra Singh while his address to the CSIR-NCL staff and students



Hon'ble Union Minister Dr Jitendra Singh inaugurates the Bisphenol-A Pilot Plant

Hon'ble Minister Dr Jitendra Singh, in his address, highlighted the role of CSIR in innovations and in setting up start-ups and promoting them. He talked about the key initiatives the government has taken up, including the Digital Health, Hydrogen Mission, Aroma Mission, Deep Ocean Mission, etc., which have laid the road map for a new India. He pointed out that we must revisit our approach to understand how we cultivate and sustain in the coming times and strengthen the start-ups. India is a heterogeneous country, and it is time to link academics, research, and industry. Agri-Tech start-ups are not sufficiently emphasised and are hugely unexplored in the country. Youngsters today realise the potential of these unknown areas for a better career. He asserted that the bioeconomy would be one of the main pillars of the economy of

India when we talk of the next twenty-five years.

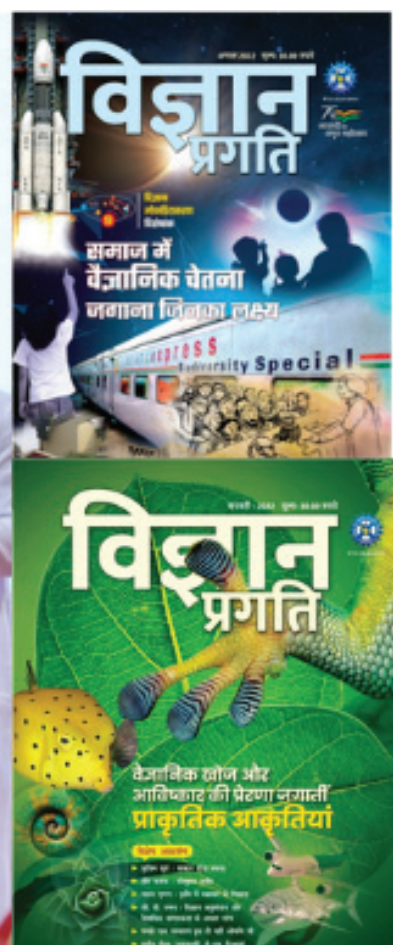
Dr Ashish Lele, Director, CSIR-NCL, in his welcome remarks highlighted the significant contributions made by the lab in the fields of Green Chemistry, Agro-Techniques, Circular Chemistry, and Biochemical Research.

Earlier, Hon'ble Minister Dr Jitendra Singh visited KPIT Ltd and inspected the Fuel Cell bus and facilities. The first truly indigenously developed Hydrogen Fuel Cell Bus was demonstrated last year at the Sentient Labs, an R&D innovation lab, built on technologies incubated by KPIT Technologies Ltd. The Hydrogen Fuel Cell Technology has been developed in collaboration with CSIR-NCL and CSIR-CECRI (Central Electrochemical Research Institute, Karaikudi).

## CSIR's Popular Science Magazine 'Vigyan Pragati' Receives 'Rajbhasha Kirti Award'

CSIR's monthly Hindi popular science magazine — 'Vigyan Pragati' — published by CSIR-National Institute

of Science Communication and Policy Research (CSIR-NIScPR), New Delhi, received the First Position in



the National Rajbhasha Kirti Award. The award was given at the Second All India Rajbhasha Sammelan held during 14-15 September 2022 in the Pandit Deen Dayal Upadhyay Indoor Stadium, Surat, organised by the Department of Official Language, Ministry of Home Affairs, Govt of India. The event was attended by an audience of around 9000.

During the Sammelan, the Director of CSIR-NIScPR, Prof. Ranjana Aggarwal received the prestigious Kirti Award in the presence of Union Minister for Home Affairs Shri Amit Shah. Hon'ble Chief Minister of Gujarat State, Shri Bhupendra Bhai Patel and Hon'ble Ministers of State, Ministry of Home Affairs Shri Ajay Kumar Mishra and Shri Nisith Pramanik also graced the programme.

'Vigyan Pragati' is one of India's oldest popular science magazines

communicating the most recent national & international S&T-related developments, discoveries, inventions and technological advancements in the form of articles, features, science fiction, science poetry, quiz, science cartoons and docudrama in a lucid language. The magazine is popular among children, teachers, researchers, and the public across India and the world. CSIR started publishing this magazine in 1952 which now carries a legacy of seven decades.

Over the years, the readers of 'Vigyan Pragati' have been motivated by its content which aims at igniting curiosity about science among the young and striving to develop an interest in young minds to pursue science. Those engaged in the preparation of various competitive examinations use this magazine as an authentic source of information on science and technology.

During the Sammelan, the Director of CSIR-NIScPR, Prof. Ranjana Aggarwal received the prestigious Kirti Award in the presence of Union Minister for Home Affairs Shri Amit Shah.

## Dr Radha Rangarajan takes charge as Director of CSIR-CDRI

Dr Radha Rangarajan has been actively involved in translational research and product development in the public health arena for the last two decades.



Dr Radha Rangarajan took charge as Director of CSIR-Central Drug Research Institute (CSIR-CDRI), Lucknow on 5 September 2022.

Dr Radha Rangarajan has been actively involved in translational research and product development in the public health arena for the last two decades. Working closely at the interface between academia, start-ups and industry, her experiences span the drug discovery, diagnostics and medical devices sectors.

Between 2003 and 2009, Dr Rangarajan worked in the Drug Discovery division of Dr Reddy's Laboratories in Hyderabad. She served in multiple roles, successfully developing early-stage molecules for various therapeutic areas such as anti-infectives, diabetes and cardiovascular disease. Thereafter, she co-founded Vitas Pharma, a drug discovery and development company focused on novel therapies to treat infections. She leveraged public-private partnerships

to build a highly efficient innovation platform delivering multiple lead optimised candidates, granted patents and companion diagnostics. In 2020, she took on the role of Chief Technology Officer at HealthCubed, a medical devices company, where she was responsible for product development, clinical validation, manufacturing and regulatory affairs.

Dr Rangarajan is a member of the Steering Council of the MedTech Incubator, International Institute of Information Technology, Hyderabad (IIIT-H), a member of the Scientific Program Committee of IHub-Data, IIIT-H, member of the Selection Committee of the NIDHI-Seed Support System at the Atal Incubation Centre-CCMB and member of the Selection Committee for DST INSPIRE Faculty Fellows.

Dr Rangarajan received the Federation of Indian Chambers of Commerce and Industries (FICCI)

Award of Excellence-Women in R&D in 2019. She was selected for the “Champions of Change” initiative of Prime Minister Modi, recognising India’s emerging entrepreneurs in 2017. She led the Vitas Pharma team that received the Discovery Award of the Longitude Prize Committee, UK in 2016 and was a finalist in the *Economic Times* Start-up Awards (Woman Ahead Category) in 2016.

Dr Rangarajan obtained her Bachelor of Science in Biology from Stanford University, Master of Science from the University of Michigan, Ann Arbor, and PhD from Rockefeller University. She was a postdoctoral fellow at the Harvard School of Public Health.

Speaking on the occasion, Prof. Goverdhan Mehta, Chairman of CDRI’s Research Council and

Distinguished Professor of Chemistry, University of Hyderabad said, “CDRI is well poised to traverse an impressive trajectory with the identification of futuristic and relevant areas of research and induction of new talent. Wishing the new director, Dr Radha Rangarajan, who has worked extensively across academia and industry, all the best and CDRI, exciting and productive times ahead.”

On this occasion, while welcoming and handing over the charge, Dr Srinivasa Reddy, Director CSIR-IICT and Director Additional Charge CSIR-CDRI and CSIR-IIIM Jammu said, Dr Radha Rangarajan, has expertise in both the Pharma industry and academia so she will be an asset for the Institute like CSIR-CDRI which is working for affordable healthcare for all.

#### MoUs/Agreements

## MoU for S&T cooperation between CSIR-India and BCSIR, Bangladesh



MoU for S&T cooperation between CSIR, India and BCSIR, Bangladesh being exchanged by Dr N. Kalaiselvi, DG-CSIR and Dr Md. Aftab Ali Shaikh, Chairman BCSIR

In a boost to S&T cooperation between India and Bangladesh, the Council of Scientific and Industrial Research

(CSIR), India, and Bangladesh Council of Scientific and Industrial Research (BCSIR) signed a cooperation MoU and

on 6 September 2022 in New Delhi in the presence of Hon'ble Prime Minister of India Shri Narendra Modi and Hon'ble Prime Minister of Bangladesh, Ms Sheikh Hasina.

Since 1991, CSIR and BCSIR have been pursuing cooperation through S&T Cooperation Working Programmes under the 1991 Protocol between DSIR, GoI and the Science & Technology Division of Bangladesh (now Ministry of Science & Technology). Five Working Programmes have since been successfully executed with the organisation of several thematic joint workshops and training courses. Nevertheless, to further boost the collaborations and enhance its scope,

CSIR and BCSIR decided to conclude a cooperation MoU to rejuvenate the scientific relations between these national research institutions that share visions and missions.

The collaboration under the 2022 MoU shall be executed through the exchange of S&T information, materials and scientists/researchers/scholars; joint S&T seminars/workshops and training courses; joint research projects; use of each other's major facilities; technology partnership/transfer; twinning of institutions for capacity development and extending technical support and services for developing identified Industry sectors.

## Composite Parts for LCA-Tejas from CSIR-NAL

### Helping Nation Build Modern Fighter Aircrafts

Composite structures in LCA contribute 45% by weight making it one of the *world's smallest light weight fighter aircraft*.

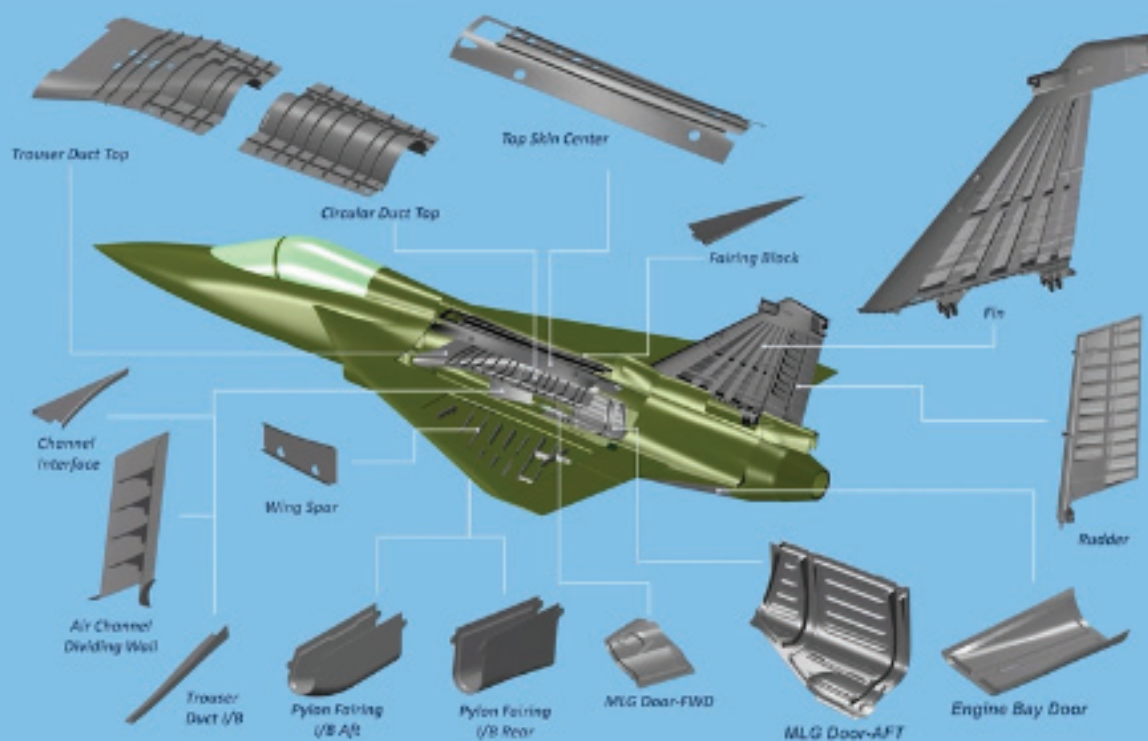
Over the last three decades, CSIR-National Aerospace Laboratories (CSIR-NAL), Bengaluru, has developed many critical technologies for the Light Combat Aircraft (LCA) Tejas and continues to support this major national programme.

Composites offer an attractive option in modern aircraft development as they are lighter, have better mechanical properties, and are fatigue insensitive and corrosion resistant as compared to aluminum alloys. Composite structures in LCA contribute 45% by weight making it one of the *world's smallest light weight fighter aircraft*.

Dr K.N. Raju, former Director, CSIR-NAL, successfully led the national team for composite wing development. The Advanced Composites Division (ACD) has pioneered the design &

development of composite structures using innovative and cost-effective manufacturing technologies including co-curing/co-bonding constructions. ACD-NAL has played a pivotal role in the development of the Fin & Rudder, Wing Spars, Wing Fuselage Fairings, Fairings blocks, Centre Fuselage parts & Undercarriage doors. The innovative technologies developed by CSIR-NAL not only reduce the cost but also improve structural efficiency by minimising the number of mechanical joints. The innovations have resulted in more than 20% savings in cost and 25% reduction in weight.

CSIR-NAL has a tie-up with Tata Advanced Systems Ltd (formerly TAML), for the supply of critical CFC components for the series production of LCA. Supply of critical components



Composite Technologies Developed by CSIR NAL for LCA Tejas

has been completed for the first batch of 20 aircrafts (SP1-20) to IOC standard in 2019 and supply of components to FOC standard is under progress for the next batch of 20 aircrafts (SP 21-40) and is expected to be completed by October 2022.

ACD-NAL has handheld TASL and ensured that parts have been delivered meeting the stringent timelines. The entire quality assurance support for the above programmes has been provided by NAL. As TASL has now matured as a production partner, HAL, in collaboration with NAL, has directly placed a PO on TASL for further supplies for a value of Rs 220 crores. Furthermore, HAL has requested for transfer of technology for the Fin & Rudder and the proposal by NAL is awaiting approval from HAL Board.

### Recent Success

In recent discussions between HAL & CSIR-NAL, the former has desired the direct sourcing of CSIR-NAL developed 15 (fifteen) composite parts for LCA Mk1A from the production partner TASL to fulfil timely deliveries to the Indian Air Force (IAF) for meeting the strategic needs of the country. Under the MoU signed during the years 2008 & 2009, TASL has successfully absorbed the know-how for the production of critical composite parts & delivered parts to HAL for 20 LCA aircraft to IOC standards and components for the next batch of 20 LCA aircraft to FOC standards is under progress under the quality coverage of CSIR-NAL.

In this backdrop, CSIR-NAL & TASL under the agreement signed on 12 July 2022 have agreed that HAL can directly place purchase orders on

TASL for procurement of 15 composite parts for the initial order of 42 sets for LCA Mk1A aircraft. Upon signing of the agreement, CSIR-NAL has issued authorisation to HAL for direct sourcing of the composite parts from its production partner i.e. TASL for LCA Mk1-A under intimation to CSIR-NAL.

For the supplies to be made by TASL based on the know-how of CSIR-NAL, TASL will pay a royalty of 7% of the cost of the PO for the first 50 sets of LCA Tejas Mk1A and 5% thereafter. Furthermore, it is to be noted that even after completion of PO, NAL will continue to receive royalty as long as TASL /HAL make LCA-Tejas aircraft. CSIR-NAL is happy to share that the above agreement has resulted in placing a purchase order by HAL on TASL for sourcing of CSIR-NAL developed 15 composite parts for the LCA MK1A vide HAL purchase order of 10 August 2022.

### Direct Benefits

- The PO by HAL on TASL is of the value of Rs 220 crores which is the highest value of order received by any CSIR-NAL industry partner in the recent past.

### R&D

## Novel Genes for Male Fertility

Approximately, one out of every seven couples is infertile worldwide. Male infertility accounts for ~50% of these cases. The cases range from defects in the male reproductive system to deficiencies in semen quality, and hormonal imbalance. Injuries, infections, chronic illness, lifestyle choices and genetic factors can all lead to infertility in males. However, we do not yet understand the details of how these parameters control fertility.

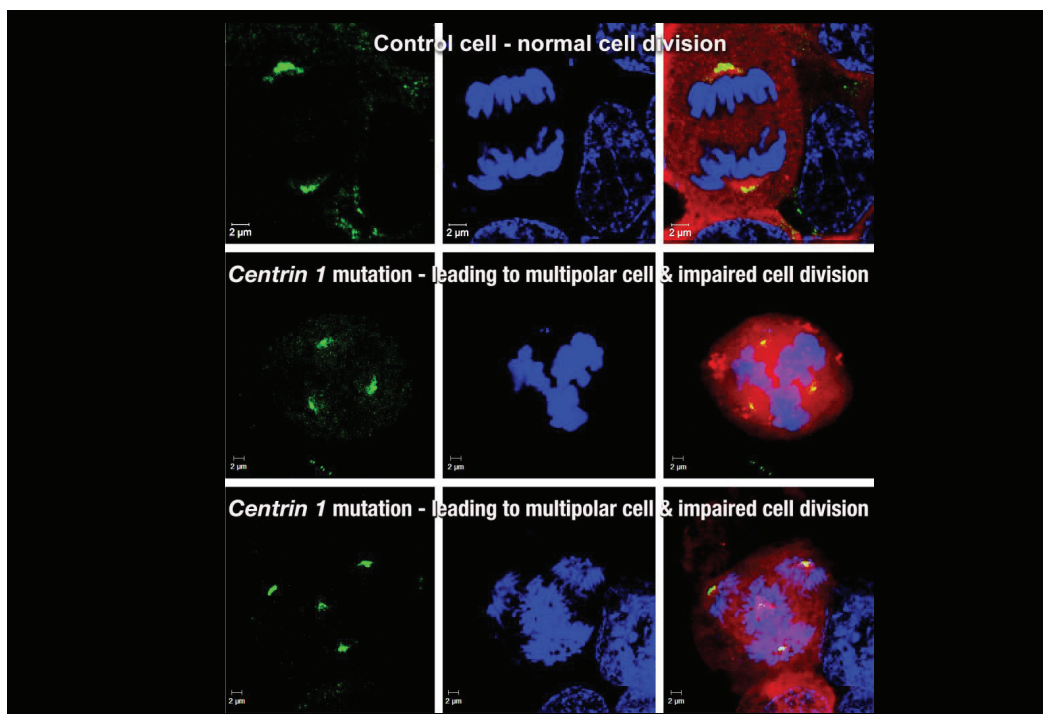
- For the orders received by TASL from HAL, CSIR-NAL will be receiving a royalty payment of about Rs 13 crores.
- Earlier PO value of IOC is about Rs 59 crores and FOC is Rs 84 crores.
- Total value realised by NAL as on date, Rs 129 crores.

### Other Benefits

The composite manufacturing technology that has been developed by CSIR-NAL during the technology denial regime has helped the country to develop 4+ generation fighters. This has led to India being one of the top seven countries with the capability to design, develop and produce a world-class fighter thus saving huge foreign exchange for the country from imports of LCA class aircraft. It would be apt to state that without these weight reduction technologies, LCA might never have taken to the skies!

### Acknowledgements

CSIR-NAL wishes to acknowledge & place on record support received from CSIR, former Directors of CSIR-NAL, HAL & TASL team.



in the rest of the cases, which constitutes the majority of infertility-affected men. They have identified eight novel genes that were defective in these men in India. The study has been recently published online in the journal *Human Molecular Genetics*.

Dr Sudhakar Digumarthi, the lead author of the study, who was a PhD student of CCMB and presently scientist at ICMR-National Institute for Research in Reproductive and Child Health in Mumbai, said, “We first sequenced all the essential regions of all genes (around 30,000 of them) using next generation sequencing in 47 well-characterised infertile men. We then validated the identified genetic changes in about 1500 infertile men from different parts of India.”

Dr Thangaraj, lead investigator of this study and presently Director of the DBT-Centre for DNA Fingerprinting and Diagnostics, Hyderabad, said, “We identified a total of eight genes (*BRDT*, *CETN1*, *CATSPERD*, *GMCL1*, *SPATA6*, *TSSK4*, *TSKS* and *ZNF318*), that were not known earlier for their role in human male fertility”. He

further added that they have identified variations (mutations) in these genes that cause impaired sperm production leading to male infertility.

The researchers have characterised a mutation in one of the eight genes, Centrin 1 (*CETN1*), to understand how the mutation affects sperm production. They demonstrated the impact of *CETN1* mutation in cellular models and found that the mutation arrests cell division, causing insufficient sperm production.

“This study should be a reminder to society that half of the infertility cases are due to problems in men. And many of them are due to genes that come from the parents, often mothers, of these men. It is wrong to assume a couple cannot bear children because of only the woman’s fertility,” remarked Dr Thangaraj.

Dr Vinay Kumar Nandicoori, Director, CCMB said, “The genetic causes established in this study could be used as potential diagnostic markers for male infertility and development of improved management strategies for male infertility”.

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"We have identified that molecular mechanisms regulating the host immune response have not been as potent against the Delta variant of SARS-CoV-2. This also includes the production of interferons, immune molecules often used for antiviral therapies. The study hints at why the Delta variant could spread more easily," said Dr Krishnan Harshan.

## Study demonstrates Delta variant of coronavirus could evade our immune system better

In the last almost three years, there have been many SARS-CoV-2 variants spreading across the world. But their outcomes have varied greatly, with the Delta variant being the deadliest. Dr Krishnan Harshan led this study in collaboration with Dr Divya Tej Sowpati's group at CSIR-Centre for Cellular and Molecular Biology (CSIR-CCMB). They tried to understand whether hosts, that is, the humans infected by the virus, react differently to the different SARS-CoV-2 variants.

They selected five different SARS-CoV-2 variants and studied how the human immune system responds to the variants. The studied variants included Alpha, Delta, and three other variants that emerged before the Alpha variant. Upon viral infection, the first line of attack by the host's immune system is by producing certain defence chemicals that break down the viruses. The researchers studied how their production responds to these five variants. "We infected the human cells in a cell culture system with these different variants of the virus and monitored the production of known immune defence molecules and the activation of signalling pathways

associated with them," said Dixit Tandel, the first author of the study.

"We navigated through the hundreds of immune pathways known to us using high throughput sequencing and analysis," said Dr Nitesh Kumar Singh, who worked on the project with Dr Sowpati. In this study published in *Microbiology Spectrum* journal, the researchers found that the immune system could not produce the defence molecules against the Delta variant as effectively as the other variants. While infection due to the other four variants alerted the immune system quickly, the Delta variant could silently replicate in the host cells.

"We have identified that molecular mechanisms regulating the host immune response have not been as potent against the Delta variant of SARS-CoV-2. This also includes the production of interferons, immune molecules often used for antiviral therapies. The study hints at why the Delta variant could spread more easily," said Dr Krishnan Harshan, the lead investigator in this work. He added that the study also helps us understand how viruses evolve with changing effects on human hosts.

### Conferences/Workshops/Seminars

## CSIR-NPL Organises Training Programme on "Length & Dimension Metrology and Applications of Interferometry"

Under the CSIR Integrated Skill Initiative, CSIR-National Physical Laboratory (CSIR-NPL),

New Delhi, organised a training programme on "Length & dimension metrology and applications of



Training Programme on  
Length & Dimension Metrology and Applications of Laser Interferometry  
September 8-9, 2022



interferometry" on 8 and 9 September 2022.

The main objectives of the programme were to impart a clear understanding of the basics of dimensional metrology, the role of dimensional metrology in industry, measurement uncertainty, instruments used to measure various dimensional parameters, types of laser interferometers and applications of laser interferometry in dimensional measurements.

Briefing about the training programme during her welcome address, Dr Rina Sharma, Head, Length, Dimension and Nanometrology, CSIR-NPL, said that such training programmes are important to strengthen the quality infrastructure of India.

The two days training programme comprised two sessions including lectures on various topics focusing on the theme of the training such as basic dimensional metrology, relevance of dimensional metrology in manufacturing, laser

interferometry, traceability of laser interferometers, calibration of line scales using laser interferometry and effect of environmental conditions on dimensional measurements, etc. During the training, participants were also exposed to practical sessions.

During the valedictory session, Dr S.R. Dhakate, Chief Scientist, CSIR-NPL, presented certificates to the participants. Participants appreciated the training and also showed interest in attending more such training programmes in future.

Presenting the vote of thanks, Dr Girija Moona, Senior Scientist, CSIR-NPL, and the technical coordinator of the training programme informed that more training programmes on various aspects of dimensional metrology are in the planning and shall be conducted in near future, for knowledge generation and skill development.

## Capacity Building and Continuing Medical Education training programme for AYUSH personnel initiated at CSIR-CDRI

*Evidence-based medicine and rationale use of traditional therapies is the need of hour:*

*Dr Sattigeri Viswajanani*



CSIR-CDRI (CSIR-Central Drug Research Institute), Lucknow, hosted the Capacity Building and Continuing Medical Education residential training programme from 12 to 17 September 2022 for AYUSH researchers and scientists. Dr Ritu Trivedi (Scientific co-ordinator) and Dr Anand Kulkarni (Executive co-ordinator) welcomed the 28 experts in traditional medicine from

all over India. Dr Radha Rangarajan, Director, CSIR-CDRI, lauded the programme for bringing experts in traditional medicine and modern research under one roof.

The chief guest of the programme, Dr Viswajanani Sattigeri, Head, CSIR-Traditional Knowledge Digital Library (TKDL), informed that India is home to valuable traditions and culture



Dr Radha Rangarajan, Director, CSIR-CDRI



that have been passed through several generations over thousands of years and has a rich heritage in the health and wellness domains. Currently, a large proportion of our traditional herbal and herbo-mineral formulations are being marketed as food or dietary supplements, and most of them are Over The Counter (OTC) products. In alignment with changing times and advancing technologies, we now largely rely on evidence-based medicine and rational use of traditional therapies. Modern science and modern medicine-based R&D of traditional medicines is envisaged to provide wider acceptance not only in India but abroad as well. In the context of newer R&D, matters of IPR protection arise. What are the IPR aspects related to traditional knowledge? The talk covered CSIR's activities related to traditional and integrative research in healthcare and IPR aspects of traditional knowledge.

This six-day training programme was designed to make traditional medicine practitioners aware of modern drug discovery research. The sessions



Dr Viswajanani Sattigeri addressing the gathering

were divided according to different aspects of drug discovery e.g. natural product chemistry, metal & pesticide toxicity, phytochemical analysis, pharmaceuticals & pharmacokinetics, regulatory toxicology studies, etc. The programme also involved visits to the herbarium, GLP labs at CSIR-CDRI as well as CSIR-NBRI and CSIR-CIMAP.

## Joint Secretary of CSIR visits CSIR-NIScPR

*CSIR-NIScPR, New Delhi, organised the culmination programme of Hindi Month*



CSIR-National Institute of Science Communication & Policy Research (CSIR-NIScPR), New Delhi, organised the culmination programme of the Hindi Month on 28 September 2022 where Joint Secretary of CSIR, Shri Mahendra Kumar Gupta was the Chief Guest.

During the ceremony, Prof. Ranjana Aggarwal formally welcomed the Joint Secretary and in her welcome address said that CSIR-NIScPR has contributed enormously to the science and society interface through the Hindi language. She further apprised that *Vigyan Pragati* (a monthly Hindi popular science magazine) has recently

won the prestigious National Award, 'Kirti Puraskar' of the Official Language Department, Ministry of Home Affairs, Govt of India which indicates that CSIR-NIScPR is doing good work in the Hindi language. Original Hindi research Journal namely *Bharatiya Vaigyanik evam Audyogik Anusandhan Patrika* is also being published by CSIR-NIScPR since 1993. The SVASTIK is a flagship programme of the institute through which scientifically validated traditional knowledge is shared in Hindi and other regional languages of the country, she informed. She assured that CSIR-NIScPR will keep on doing all the mandated activities of science

communication and policy studies & research in Hindi.

On the occasion, Joint Secretary of CSIR Shri Mahendra Kumar Gupta said that he was an avid reader of *Vigyan Pragati* in his childhood and used to discuss the scientific content published in the magazine with his class fellows. He said that the magazine

had played a key role in developing his interest in science. Shri Gupta added that CSIR-NIScPR is doing a great job in its core fields of science policy and science communication. Later, he distributed prizes to all the winners in various competitions organised during the Hindi Month by CSIR-NIScPR.



## CSIR-IHBT Empowering Farmers of the Lahaul Valley



CSIR-IHBT (CSIR-Institute of Himalayan Bioresource Technology), Palampur, organised a one-day programme for the empowerment of the farmers at its Centre for High Altitude Biology, Ribling, Lahaul and Spiti on 19 September 2022. The theme of the programme was “Heeng, Kesar and Floriculture Crops along with Compost Booster”. Dr Ram Lal Markanda, Hon'ble Technical Education Minister, Government of Himachal Pradesh, was

the Chief Guest in the programme. Shri Shamsher Singh, Member Tribal Advisory Committee, Himachal Pradesh, along with officials from various state departments also graced the occasion. Several tribal farmers, women, and unemployed youth of Tandi Panchayat participated in the programme. In addition, Pradhan and Mahila Mandals of Marble and Malang villages were also presented during the event.

Dr Ram Lal Markanda, Hon'ble Minister appreciated the efforts made by CSIR-IHBT for the welfare of tribal people and asked the farmers and unemployed youth to take benefits from the technologies developed by the institute.

Dr Ram Lal Markanda, Hon'ble Minister addressed the farmers and the local people during the programme. He appreciated the efforts made by CSIR-IHBT for the welfare of tribal people and asked the farmers and unemployed youth to take benefits from the technologies developed by the institute. In his address, he emphasised entrepreneurship development and start-ups in association with CSIR-IHBT to transform the rural economy. He also appreciated the initiatives taken by the institute for the formation of Floriculture Clusters in the district and the establishment of cold storage facility at Jagla and Shansha. Hon'ble Minister distributed plants of Heeng, corms of saffron, seeds of flower crops and compost boosters to several hundred inhabitants of the area.

On the occasion, Dr Sanjay Kumar, Director, CSIR-IHBT, welcomed the Hon'ble Minister and apprised him of the research and extension activities carried out by the institute. He emphasised the efforts made by the institute for the cultivation and expansion of area under Heeng, Kesar and commercial floriculture crops for boosting farmers' income in high-altitude regions. Dr Kumar also highlighted the importance of the night soil composting technique developed by the institute for improving crop productivity.

A group of scientists Dr Rakesh Kumar, Dr Ashok Yadav, Dr Amit Chawla and Dr Ashok Singh from the institute held detailed discussions with stakeholders on "Package of Practices" developed by them for cultivation of Heeng, Kesar and commercial floriculture crops.

## CSIR-NIScPR Releases the Special Issue of "*Vigyan Pragati*" — Hindi Popular Science Magazine

As a part of Azadi ka Amrit Mahotsav, the CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR), New Delhi, organised a function for the release of the special issue of *Vigyan Pragati*, the monthly Hindi popular science magazine published by CSIR-NIScPR, on 23 August 2022.

The year 2022 marks the 70 years legacy of *Vigyan Pragati*, spreading science among the public. The very first issue of the magazine was published in August 1952. The August 2022 special issue of *Vigyan Pragati* focuses on India's leading organisations engaged in science popularisation, covering government and voluntary organisations.

Prof. Ranjana Aggarwal, Director, CSIR-NIScPR, welcomed the Chief

Guest Dr Shekhar C. Mande, former Secretary, DSIR & former Director General of CSIR and the Guest of Honour Dr Sharmila Mande, Chief Scientist, TCS Research & Innovation. In her address, she described the rich legacy of *Vigyan Pragati* and CSIR-NIScPR's contributions towards science popularisation. She further added that India has been practising science since ancient times and has a rich scientific legacy and traditional knowledge. She also mentioned Acharya P.C. Ray who played an important role in science popularisation in the nineteenth century.

Chief Guest Dr Shekhar C. Mande emphasised the role of science and scientific temper in the progress of the nation. He was concerned about the



general perception of people towards science, despite having a rich scientific history. Dr Mande mentioned that there still is a gap between the scientific community and society. He said, a scientific project is not finished until it's communicated.

Further, he stressed on the historical achievements of CSIR institutions for the betterment of society. He also said that there have always been tough times for science whether it was the colonial period or the challenging time of the COVID pandemic or any natural disaster, but CSIR never stepped back from its responsibility. One may not know about the contributions of CSIR but unknowingly CSIR is part of everyone's daily life.

Recalling the contribution of *Vigyan Pragati* in the last 70 years, he said that the magazine and its

popular science content should reach aggressively to the common people. This will decide the fate of the nation in the upcoming 25 years when India completes 100 years of Independence.

Proposing the vote of thanks, Dr Manish Mohan Gore, Scientist, CSIR-NIScPR, and Editor, *Vigyan Pragati*, briefed about the special issue and informed that the special issue includes public-funded institutions as well as voluntary organisations working for science popularisation across the country. He also said that some of the organisations felt the importance of science popularisation even before independence and started working on taking science to the common people. He assured that *Vigyan Pragati* will work towards penetrating deep into the society so that science can reach a larger audience in the country.

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Registration and abstract submission starts: 16 September 2022

Abstract submission ends: 16 November 2022

Registration ends: 1 December 2022

Final date of late registration: 1 January 2023

Online Registration Link: <https://neist.res.in/iswcpc-2023/>

For more details: <https://neist.res.in/iswcpc/>

For Any Queries Please Contact: [iswcpc2023@gmail.com](mailto:iswcpc2023@gmail.com)

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