

In the News

Lavender Gave Bhaderwah National Identity, National Role in India's Growth Story: Dr Jitendra Singh



Lavender has given the small J&K town of Bhaderwah a national identity and also a national role in India's growth story, said Union Minister Dr Jitendra Singh while inaugurating the 2-day "Lavender festival 2025" organised by CSIR-IIIM from 1-2 June 2025. The Hon'ble Union Minister of State (Independent Charge) for Science and Technology, Minister of State (Independent Charge) for Earth Sciences, Minister of State

in the Prime Minister's Office, Department of Atomic Energy, Department of Space, and Personnel, Public Grievances, and Pensions, Dr Jitendra Singh lauded the Agri-Startup model of Lavender farming as a transformative force that has rewritten the narrative of entrepreneurship in remote and hilly terrains. "This single mission has answered multiple challenges," Dr Jitendra Singh said, "It busted the myth that StartUps are



Dr Jitendra Singh said, “India has moved from the 5th largest to the 4th largest economy, and sectors like lavender cultivation will further fuel our rise. These unexplored areas, when empowered, will become pillars of value addition and employment generation.”

limited to IT or require foreign degrees. Our youth in Jammu & Kashmir, in collaboration with CSIR-IIIM, have shown that passion, perseverance, and learning can build sustainable ventures rooted in agriculture.”

He proudly shared that young entrepreneurs in Bhaderwah are earning an average of ₹65 lakhs annually through lavender cultivation and value-added products, motivating many others to leave conventional jobs and pursue farming as a lucrative business opportunity. Dr Jitendra Singh credited Prime Minister Narendra Modi for introducing Bhaderwah and the Purple Revolution to the national stage. “When the Prime Minister dedicated nearly ten minutes in his ‘Mann Ki Baat’ to talk about this Lavender mission in detail, it gave the best possible global introduction to Bhaderwah — one that we couldn’t have imagined,” Dr Jitendra Singh said. The Minister emphasised that it was PM Modi’s vision of StartUp India and StandUp India, announced from the ramparts of the Red Fort, that ignited the entrepreneurial spirit in regions that previously needed long explanations to justify their existence on the developmental map.

Dr Jitendra Singh revealed that there are currently 50 distillation units operational in Bhaderwah, with lavender-derived products being

supplied to markets in Maharashtra and other states. The model has not only attracted attention from neighbouring states like Himachal Pradesh and Uttarakhand, but also from the North-Eastern states, whose representatives were present at the festival to gain first-hand insights. “This is a new paradigm the world is witnessing — a rural, agriculture-based startup revolution that is both scalable and sustainable,” he remarked. Another myth that Dr Jitendra Singh addressed was the misconception that start-ups are only for the young. He shared that a special exhibition featuring 60+ age group entrepreneurs will be showcased in the next edition of the festival. Drawing a broader economic context, Dr Jitendra Singh said, “India has moved from the 5th largest to the 4th largest economy, and sectors like lavender cultivation will further fuel our rise. These unexplored areas, when empowered, will become pillars of value addition and employment generation.”

He also addressed scepticism around India’s economic resilience amid aggressive defence postures. “Despite challenging times and operations like Sindoor, India’s economy has not only remained buoyant but also grown. That is a fitting reply to sceptics,” he asserted.

Concluding his address, Dr Jitendra Singh praised Dr Zabeer and the CSIR-IIIM team for organising an unprecedented event in Bhaderwah that drew visitors from all over India. He invited everyone to visit the lavender fields over the next 10–15 days during peak bloom and hear

directly from the entrepreneurs themselves. “Bhaderwah, once a quiet hilly town, is now a beacon of India’s rural startup revolution. Lavender has not just added fragrance to these mountains — it has added identity, income, and inspiration,” said Dr Jitendra Singh.

Visit of Hon’ble Union Minister of Textiles, Shri Giriraj Singh to CSIR-IHBT



Shri Giriraj Singh, Hon’ble Union Minister of Textiles, Govt of India, visited CSIR-IHBT on 24 May 2025. He was welcomed by the Director, Dr Sudesh Kumar Yadav, and the staff of the institute. The Director apprised the Hon’ble Minister about the work being carried out at the institute that is improving the livelihoods of rural people and contributing to the vision

of Viksit Bharat. The Director particularly mentioned the CSIR Aroma, Floriculture, and Phytopharmaceutical missions and their implications in bringing human growth and well-being.

Director, NIFT Kangra, Dr Rahul Chandra, was also present during the programme. He spoke about creativity and design thinking in the changing times.

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The Hon'ble Minister, Shri Giriraj Singh, lauded the efforts of CSIR-IHBT and its contribution towards boosting the bioeconomy of the region.



The Hon'ble Minister lauded the efforts of CSIR-IHBT and its contribution towards boosting the bioeconomy of the region. He was happy to note that the outputs of science being conducted in the institute are reaching society. He emphasised the need for environment-friendly and user-friendly technologies that are easily accessible and operable. He wished the institute the very best in its endeavours.

Prior to this, Shri Giriraj Singh planted a tree sapling as a part of the "Ek Ped Maa Ke Naam" initiative and visited various facilities of the institute. He also inaugurated the Biochar and Compost Booster production unit in the institute.

On the occasion, the institute signed a technology transfer agreement with Komal Innovation and Wellness Initiatives, Nagrota Bagwan, Kangra (HP). Also, a memorandum of understanding for collaborative research on fibre and natural colours was signed with NIFT Kangra (HP). An agreement with Vijya Wellness and Biosciences LLP, Dera Mandi, New Delhi, on advanced technical textile solutions was also signed. As a part of the programme, the Hon'ble Minister launched beverages and food products prepared by startups, and distributed planting material of aromatic marigold and chrysanthemum to farmer clusters.

CSIR-IIIM Mentored Technology of Solar Mech Engine Wins USA HonorsGradU 2025 Scholarship with Top "Build a Better Future" Award

In a momentous achievement, Japteg Singh Bamrah, a Class 12 student from Dalhousie Public School, has secured the prestigious

HonorsGradU 2025 Scholarship, winning the "Build a Better Future" Award along with a \$10,000 grant and an additional \$5000 grant



Japteg Singh Bamrah and his Mentor, Dr Nasir Ul Rasheed, demonstrating the Solar Mech Engine project executed under the Jigyasa Hackathon initiative.

for his groundbreaking Solar Mech Engine project. Mentored by Dr Nasir Ul Rasheed, Senior Scientist at CSIR-Indian Institute of Integrative Medicine (CSIR-IIIM), Jammu, under the Jigyasa Hackathon initiative. Japteg's innovation stood out among thousands of global applicants, earning him one of the five coveted scholarships awarded worldwide this year.

The HonorsGradU Scholarship, organised by Honours Graduation — a non-profit initiative supporting students in sustainability and innovation — selects only five exceptional projects globally, each receiving \$10,000 for college tuition in the United States. The top technology among these winners is granted an additional \$10,000 for college tuition in the United States. The top technology among these winners is granted an additional \$ 5000 to refine and scale the innovation. Japteg Singh's Solar Mech Engine, a sustainable energy solution, not only won the scholarship but also claimed the highest honour, making it a landmark achievement for India in global student innovation. Since

2012, Japteg has been the only student from India to top the list among thousands of applications every year.

Japteg's Innovation: Unique Success Story of Startup Support

CSIR, under the aegis of the Union Ministry of Science and Technology, at the Pan India level, initiated supporting the Startup and young innovators at all levels across different sectors of Science & Technology, ranging from Agriculture, healthcare, Artificial Intelligence and deep tech. Such endeavours by CSIR at the national level and CSIR-IIIM, Jammu at the regional level are in the pursuit of a game changer campaign "Start-Up India, Stand-Up India", unveiled by the Hon'ble Prime Minister, Shri Narendra Modi during his Independence Day address on 15 August 2015, to promote entrepreneurship at grass root level which was further steered by Dr Jitendra Singh, Union Minister of State (Independent Charge) for Science & Technology; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy & Space and Vice President of CSIR.

Japteg Singh Bamrah's work, which received the incubation support from CSIR-IIIM, is really inspiring and rare in the energy generation.

*Dr Zabeer Ahmed,
Director, CSIR-IIIM
Jammu, stated,
“This achievement
reflects CSIR-IIIM’s
commitment to
fostering young talent
in sustainability and
innovation.”*



Japteg Singh Bamrah explaining the Solar Mech Engine project to Dr Jitendra Singh, Union Minister of S&T and Vice President CSIR, the Chief Guest, during the National Startup Festival organised by CSIR-IIIM, Jammu, during 22-23 February 2025.

Japteg’s work, which received the incubation support from CSIR-IIIM, is really inspiring and rare in the energy generation. It is a testament to the institute’s commitment to handholding the young to develop their innovative ideas into sustainable solutions & technologies.

Notably, this innovation was earlier declared the winner of the CSIR Jigyasa Hackathon 2024. Pertinently, CSIR-IIIM mentored technology called Solar Mech works on Solar Thermal Technology as a standalone system, works on CHP (Concentrated Heat & Power) and proves to be an efficient Solar Energy Technology which works on the principle of cyclic air expansion and contraction by Temperature difference, converting Heat Energy into Mechanical Energy. It features a low resistance generator that uses electromagnetic induction for Direct Mechanical to electrical energy conversion. The USP of demonstrated Technology is its functionality as a Reversible Heat Pump.

From CSIR-IIIM’s Lab to Global Recognition

Japteg Singh’s journey began at CSIR-IIIM Jammu, where he

participated in the Pan-CSIR Jigyasa Hackathon under the mentorship of Dr Nasir Ul Rasheed. His project, the Solar Mech Engine, harnesses solar energy for mechanical applications, earning first prize in the hackathon. Impressed by his potential, Dr Zabeer Ahmed, Director of CSIR-IIIM Jammu, took personal interest in the project, providing lab access, expert guidance, and continuous monitoring to refine the technology.

Under Dr Nasir’s mentorship and Dr Zabeer’s leadership, Japteg further developed his prototype at CSIR-IIIM’s state-of-the-art facilities, gaining access to cutting-edge research tools, industry connections, and technical expertise. The institute’s open innovation ecosystem played a pivotal role in transforming his idea into a globally competitive technology.

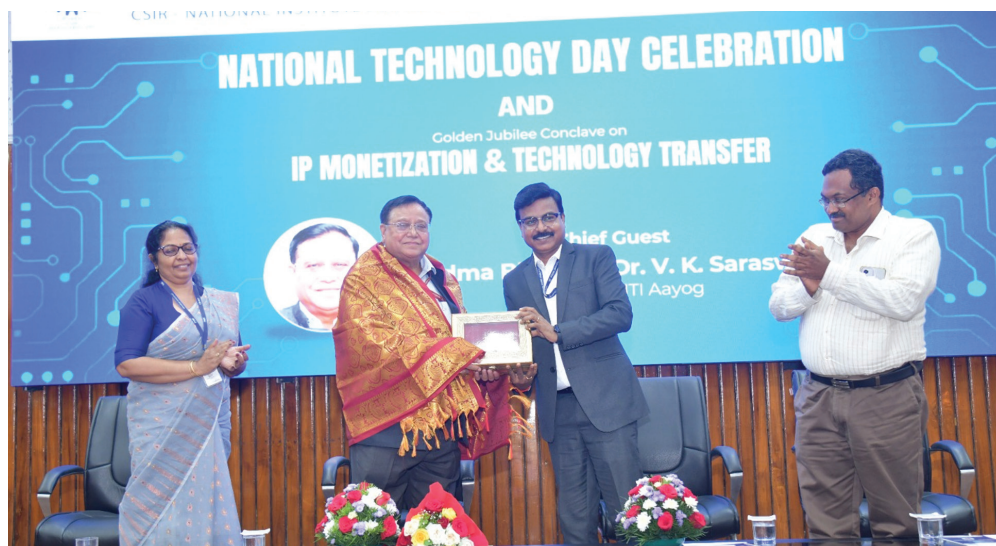
Beyond the HonorsGradU recognition, Japteg Singh’s achievement has attracted offers from over ten top universities in the USA, Australia, and Canada, with additional scholarships worth \$16,000 per year for his undergraduate studies. This

underscores the global appeal of his innovation and the quality of mentorship at CSIR-IIIM.

Japteg Singh expressed deep gratitude to CSIR-IIIM Jammu, particularly Dr Zabeer Ahmed and Dr Nasir Ul Rasheed, for their unwavering support. “CSIR-IIIM provided me with the perfect environment to innovate – access to labs, expert guidance, and encouragement to think big. Dr Zabeer’s vision of empowering students and Dr Nasir’s hands-on mentorship were instrumental in this success,” he said.

Dr Zabeer Ahmed, Director, CSIR-IIIM Jammu, congratulated Japteg and his mentor, stating, “This achievement reflects CSIR-IIIM’s commitment to fostering young talent in sustainability and innovation. We encourage students across India to leverage our facilities, mentorship, and hackathons like Jigyasa to turn their ideas into reality.” He reiterated that CSIR-IIIM remains open to students and startups working on futuristic technologies.”

CSIR-NIIST Organises a ‘Conclave on Intellectual Property (IP) Monetisation and Technology Transfer’



As part of its golden jubilee celebrations, the CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Thiruvananthapuram, organised a

‘Conclave on Intellectual Property (IP) Monetisation and Technology Transfer’ on 14 May 2025. Dr VK Saraswat, Member, NITI Aayog, inaugurated the conclave. Dr C Anandharamakrishnan,

The conclave was aimed at empowering research organisations and industries to strategically protect IP, assess its commercial potential, and translate IP assets and know-how into marketable products.

Mr PH Kurian, IAS (Retd), former Controller General of Patents, Govt of India, emphasised the importance of GI tags, IP enforcement, and CSIR's role in awareness creation.

Director, CSIR-NIIST, presided over. Dr P Nishy, Head, Business Development, NIIST, welcomed the gathering. Mr RS Praveen Raj, Senior Principal Scientist and convenor of the Conclave, proposed a vote of Thanks. About 220 delegates attended the Conclave.

The conclave was aimed at empowering research organisations and industries to strategically protect IP, assess its commercial potential, and translate IP assets and know-how into marketable products. The event explored emerging trends in IP monetisation, including the creation of IP-based Special Purpose Vehicles (SPV), fundraising through share sales, and equity investments of IP in start-ups. There were three panel discussions. All 15 panellists were well-known IP Experts.

Panel Discussion – Session 1: IP Protection and Valorisation

The first panel discussion of the conclave, titled “IP Protection and Valorisation,” was chaired by Mr PH Kurian, IAS (Retd), former Controller General of Patents, Govt of India. He emphasised the importance of GI tags, IP enforcement, and CSIR's role in awareness creation. Dr Shikha

Rastogi, Senior Principal Scientist from CSIR HQrs, highlighted CSIR-IPU's efforts in organising webinars and presented data on institutional IP performance. Dr Manoj P Samuel, Executive Director, CWRDM, Kozhikode, introduced a four-level IP Valuation Pyramid and demonstrated a tool for systematic technology valuation. Dr Gopakumar G Nair, Patent and trademark attorney, discussed IP valorisation through utility and Standard Essential Patents, while Dr T Pavan Kumar from CSIR-IMMT offered a comprehensive summary linking protection, valuation, and commercialisation. The session concluded with a call for standardised IP valuation practices across CSIR, followed by mementoes presented to all panellists and the Chairperson.

Panel Discussion – Session 2: Joint Ventures, Incubation, and Spin-Offs

The second panel discussion titled “Joint Ventures, Incubation, and Spin-Offs” explored strategies for transforming research into entrepreneurial ventures. Chaired by Mr Anoop Ambika, CEO of Kerala Start-up Mission, the session featured insights into translation in areas such as biomedical devices, marine technologies, and agricultural innovations. Dr Shweta Uttam, CEO of Atal Incubation, IISER-Pune, Prof. KP Sudheer, Head, Agri-Business Incubator, Kerala Agricultural University, Thrissur, Dr Preeti M, CEO of Technology Business Incubator, NIT-Calicut, and Dr Balram S, CEO of TIMed, SCTIST, Thiruvananthapuram,



were the other panellists. Discussions emphasised the significance of incubation support, mentorship, and institutional models that encourage scientific entrepreneurship. Mr Ambika highlighted the need for policy reforms to enable greater involvement of government employees in start-ups and to tailor technology transfer policies to various business scales. The session concluded with a call to foster an entrepreneurial mindset within research institutions through supportive policies and awareness initiatives.

Panel Discussion – Session 3: IP Monetisation and Technology Transfer

The third panel discussion, christened “IP Monetisation and Technology Transfer,” focused on the commercialisation of innovations and strategies for effective technology transfer. Chaired by Prof. Padmavati M, the session began with reflections

on equity-based IP models and the potential of joint ventures to enhance IP value. Dr Sanjeeva Kumar Majumdar, Senior Manager, NRDC, Dr PS Sivakumar, Principal Scientist, ICAR-CTCRI, Thiruvananthapuram, Mr Riyas PM, Executive Director, KDISC and Dr N Venkatachalapathy, Dean, NIFTEM, were the other panellists. Panellists shared experiences from diverse sectors, inter alia agri-tech, academia, and public research, emphasising the need for stronger alignment between research outputs and market demands.

Dr Sanjeeva Kumar Majumdar underscored the gap between academic research and societal application, calling for international frameworks and risk assessment in tech entrepreneurship. The session called for adaptable technology transfer policies, increased global collaboration, and institutional support for IP-driven innovation.

DG-CSIR Inaugurates Modern World-Class Experimental Salt Works

The Director General of CSIR & Secretary, DSIR, Dr N Kalaiselvi, inaugurated the state-of-the-art Experimental Salt Works facility at the CSIR-Central Salt & Marine Chemicals Research Institute (CSIR-CSMCRI) in Bhavnagar on 11 April 2025. The inauguration coincided with the celebration of CSMCRI's 72nd Foundation Day, marking a significant milestone in the



Dr N Kalaiselvi emphasised the importance of CSIR-CSMCRI's contributions, stating, "CSMCRI has been a beacon of scientific progress, and this new Modern Experimental Salt Works facility will further strengthen its mission to innovate and lead in the field of salt and marine chemistry."



institute's journey of scientific innovation and excellence.

According to Dr Bhoomi Andharia, principal scientist, this facility, which spans more than a hundred acres, is built to maximise salt production using cutting-edge technologies. It provides a stage for showcasing innovative methods for increasing salt production, effectively managing resources, and reducing the effects of climate change. The facility uses state-of-the-art equipment for mineral recovery, efficient rainwater management, precisely controlled brine flow, and solar energy utilisation.

During the inauguration of the facility, Dr (Mrs) N Kalaiselvi emphasised the importance of CSIR-CSMCRI's contributions, stating, "CSMCRI has been a beacon of scientific progress, and this new the Modern Experimental Salt Works facility will further strengthen its mission to innovate and lead in the field of salt and marine chemistry." She also underlined how this facility may revolutionise India's salt industry by promoting cutting-edge research and environment-friendly salt production methods. "It is a matter of great pride for the entire CSIR that in the Amrit Kaal of Azadi, CSMCRI has established this world-class scientific facility", she stated.

The Modern Experimental Salt Works' opening signifies

our dedication to innovative research and sustainable practices in the field of salt and marine chemicals research, said Dr Kannan Srinivasan, Director of CSIR-CSMCRI, on the occasion. "With this facility, we will be able to develop innovations that will benefit industry, the scientific community, and ultimately society as a whole," he said.

On this occasion, Dr N Kalaiselvi also inaugurated the 'Membrane Module Fabrication Facility' on the campus of CSIR-CSMCRI for developing advanced membranes and modules for water purification & pathogen removal.

Dr Kanti Bhooshan Pandey, Principal Scientist, informed that an 'Open Day' was organised on the campus as part of the foundation Day Celebrations, in which exhibitions showcasing the pioneering research of the institute were demonstrated, which were visited by many school students under the CSIR-Jigyasa umbrella. Dr Biswajit Ganguly, the chairperson of the foundation day celebrations committee, said that it was a great day for all of us that DG-CSIR was with us in the celebrations.

The Foundation Day lecture was delivered by Prof. S Sivaram, Professor Emeritus & INSA Emeritus Scientist, IISER Pune. The celebration was attended by prominent researchers, industry leaders, and dignitaries.

Technology used in flat plate solar water heaters enhances self-reliance and reduces import dependency

CSIR-NAL (CSIR-National Aerospace Laboratories), Bengaluru, has signed a Transfer of Technology agreement with M/s. Supreme Solar Pvt. Ltd, Bengaluru, for the application of NALSUN-NG™ coating on aluminum and copper fins, a key component in flat plate solar water heaters. This initiative aims to reduce the monthly import of 5–6 lakh evacuated tube collectors, aligning with the government's missions: Make in India, Atmanirbhar Bharat and the National Solar Mission.

NALSUN-NG™ is a novel graphene oxide-based solar absorber coating specifically designed for solar thermal applications. It is the first eco-friendly coating that uses water as a solvent, eliminating Volatile Organic Compounds (VOCs) and relying entirely on indigenous, cost-effective, inorganic raw materials that comply with RoHS and REACH regulations mandated by the European environmental standards. This scalable and sustainable technology minimises investment in instrumentation and effluent treatment, offering a viable alternative to traditional coatings.

NALSUN-NG™ addresses critical requirements for cost-effectiveness, environmental sustainability, and scalability — qualities often missing in



the existing technologies. Most commercially available coatings rely on expensive physical vapour deposition processes, which are capital-intensive. Alternatives, such as sprayable paints, contain VOCs and flammable materials, making them less environment friendly.

Thorough testing in compliance with ASTM and International Energy Agency (IEA) standards has validated NALSUN-NG™'s durability and performance. The coating is certified by NABL-accredited agencies, protected under Indian and international patents, and trademarked as NALSUN-NG™. With a service life exceeding 20 years, this fully indigenous technology establishes a robust and sustainable manufacturing ecosystem for solar water heaters in India.

NALSUN-NG™ is a novel graphene oxide-based solar absorber coating specifically designed for solar thermal applications.

*Dr Ashish Lele,
Director, CSIR-NCL,
shared personal
anecdotes about
Dr Kulkarni's
mesmerising
lectures and his
gentle demeanour
in resolving complex
problems.*

NALSUN-NG™ enables solar water heaters to achieve up to 70% sunlight-to-heat conversion efficiency, significantly reducing reliance on fossil fuels like coal and natural gas. By replacing traditional electric or gas-powered systems, these heaters save 1,000–2,000 kWh of electricity annually, cutting household CO₂ emissions by 1–2 tons per year. Their adaptability makes these solar heaters ideal for use in remote villages, providing a sustainable and cost-effective energy solution in areas with limited or no access to conventional energy sources. This innovation aligns with the United Nations' Sustainable Development Goals: SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action).

Following the transfer of NALSUN-NG™ technology to M/s. Supreme Solar Pvt. Ltd, on 14 February 2024, established a

dedicated production facility with technical support from CSIR-NAL for setting up a spray pyrolysis plant. The newly developed 4-metre-long spray pyrolysis facility, the first of its kind in India, enables roll-to-roll application of graphene oxide-based waterborne coating on metal substrates. Full-scale production began in December 2024, with an initial capacity of 10 flat plate collectors per day. M/s. Supreme Solar plans to set up additional production lines to meet the growing domestic and international demands.

Beyond solar water heaters, NALSUN-NG™ holds potential for diverse applications, including solar desalination, solar drying and industrial process heat. This breakthrough underscores CSIR's commitment to fostering sustainable technologies, driving industrial growth, and supporting India's transition to green energy.

Lectures & Workshops

Dr Ajit Sapre Delivers the Prestigious Dr BD Kulkarni Endowment Lecture

CSIR-National Chemical Laboratory (CSIR-NCL), Pune, organised the esteemed Dr BD Kulkarni Endowment Lecture, celebrating the remarkable contributions of Dr BD Kulkarni, a scientist who played a crucial role in advancing chemical engineering. Dr Ajit Sapre, Former Group President, R&D, Reliance Industries Ltd, delivered a talk on "Building World-Class

Industrial R&D in India – Personal Reflection."

The lecture commemorated Dr BD Kulkarni, a distinguished scientist who ascended from a PhD student to a distinguished scientist at CSIR-NCL. His expertise in mathematical analysis of stochastic reactions, nonlinear dynamics, biochemical process design, scale-up, and data-driven modelling left a lasting impact on

industrial research. He was widely admired for his sharp intellect, problem-solving approach, and mentorship, earning deep respect among his colleagues.

Dr Ashish Lele, Director, CSIR-NCL, welcomed the audience and introduced Dr Ajit Sapre as the guest speaker. He remembered Dr BD Kulkani as a chemical engineer par excellence, known for his contributions to mathematical and data-driven modelling, which were truly ahead of their time. He also shared personal anecdotes about Dr Kulkani's mesmerising lectures and his gentle demeanour in resolving complex problems.

Dr Ajit Sapre, in his keynote address, shared insights from his 18-year journey at Reliance, reflecting on challenges and successes in building a world-class R&D ecosystem in India. He highlighted how a strong multidisciplinary team, including physicists, biologists, and mathematicians, was essential for problem-solving and commercial success. One of his major achievements was spearheading the commercialisation of cutting-edge technologies, such as gasoline benzene separation and thermic fluid cleaning, which resulted in significant financial benefits.

Dr Sapre elaborated on the importance of indigenous innovation and how his team tackled challenges in homogeneous catalysis by developing alternatives that outperformed existing patents. He also discussed a breakthrough in multi-layer zeolite technology, which provided an efficient



substitute for clay treaters in aromatics plants. A key highlight of his lecture was the introduction of a revolutionary ultra-high molecular weight polyethylene, which possesses exceptional strength, surpassing Kevlar and steel, making it ideal for applications such as bulletproof materials and high-performance industrial solutions. Demonstrating its robustness, he showcased plastic sheets made from this polymer that could stop bullets, signifying its immense potential in various sectors. Throughout his lecture, he emphasised the need for confidence in local capabilities and the drive to take research from laboratories to full-scale industrial commercialisation, positioning India as a global leader in industrial R&D.

Dr Sapre placed a strong emphasis on climate change and the urgent need for sustainable industrial practices. He elaborated on several initiatives that can directly address climate-related challenges. These included process intensification techniques that led to reduced carbon emissions, and the development of energy-efficient catalytic processes aimed at minimising industrial waste and energy consumption. He advocated for an R&D culture focused on low-carbon technologies and circular economy models.

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Grand celebration at CSIR-NPL on May 26, 2025



Chief Guest Dr Arvind Ranade lighting the inaugural lamp and addressing the audience



Director CSIR-NPL Prof. Venu Gopal Achanta and Guest of Honour, Dr Victoria Coleman (online), President, Consultative Committee for Mass at BIPM; Member CIPM and Nanometrologist, NMI, Australia, delivering their address

Dr Victoria Coleman, President of the BIPM-Consultative Committee for Length, talked about the evolution of measurements,

CSIR-National Physical Laboratory (CSIR-NPL), New Delhi, organised a hybrid unified event to commemorate World Metrology Day (May 20), National Technology Day (May 11), World Environment Day (June 05), and World Intellectual Property Day (April 26) on 26 May 2025, at the CSIR-NPL auditorium, bringing together distinguished leaders, scientists, and innovators.

The year 2025 marks the 150th Anniversary of the Metre Convention, signed on 20 May 1875, by representatives of 17 nations at Paris, France, which laid the foundation for global collaboration in the science of

measurement. The theme for the year is “Measurements for all times, for all people”, which emphasises the essential role metrology plays in driving progress and innovation, ensuring fair trade, advancing scientific discovery, and addressing global challenges.

CSIR-NPL, being the National Metrology Institute of India, observed this historic day on 26 May 2025. The event started with welcome remarks from the Director, Prof. Venugopal Achanta, who highlighted the importance of each day being commemorated. This was followed by the official video from BIPM France to

mark the 150 years of the metre convention, and an online invited talk by Dr Victoria Coleman, President of the BIPM-Consultative Committee for Length, a member of CIPM, France, and also a nano-metrologist from NMI of Australia, who was the Guest of Honour. Dr Coleman briefly talked about the evolution of measurements, especially in relation to the metre, the unit of length, and the advances and state-of-the-art technologies being used today.

Dr(Ms) Ajit Dua, CEO and Director of the Punjab State Biotech Corporation, Guest of Honour, delivered a talk on the various aspects of contributions being made by the Biotech corporation and emphasised on the need to minimise plastic usage and increase recycling to mitigate the ever increasing ill-effects of plastic wastes/microplastics, etc.

Dr PC Panchariya, Director, CSIR-CEERI Pilani, Guest of Honour, addressed the gathering and highlighted the role of metrology for technology development, emphasising the need to initiate semiconductor metrology, which is the need of the nation for advancement in the semiconductor industry. He highlighted the role of science in addressing pressing environmental issues like plastic waste, calling for collaborative research, responsible innovation, and green technology to build a sustainable future.

The Chief Guest for the occasion, Dr Arvind Ranade, Director, National Innovation Foundation, emphasised the need for inclusive innovation, grassroots outreach, and the importance of protecting intellectual creativity. Dr Ranade highlighted how technology

Dr Arvind Ranade, Director, NIF, emphasised the need for inclusive innovation, grassroots outreach, and the importance of protecting intellectual creativity.



Dr (Ms) Ajit Dua, CEO and Director of the Punjab State Biotech Corporation and Dr PC Panchariya, Director, CSIR-CEERI, Pilani, addressing the gathering on the occasion



Release of World Metrology Day Poster

Dr Thallada Bhaskar, Director, CSIR-AMPRI, mentioned that to play a role in achieving the aim of Viksit Bharat 2047, it is imperative for us to enable the manufacturing sector in the country with our efforts to leverage available natural resources.

and Intellectual Property are vital for national growth, urging researchers to innovate with impact and protect their creations for societal benefit. He cited the example of the Turmeric patent and the importance of boosting the efforts of ground-level innovators who, more often than not, are not aware of the importance of patenting their innovations.

The event was also marked by the release of the World Metrology Day poster, exchange of MoUs and launching of “SAMPARC” — a “System for AutoMation of Project Agreements for Research Collaboration”, marking a leap in efficiency and ease for CSIR scientists to speed up the collaborative process. MoU was signed between CSIR-NPL and CSIR-CIMFR, Dhanbad, for

“Development and/or production of Bhartiya Nirdeshak Dravyas (Indian Reference Materials)”. Two more MoUs were signed with CSIR-CEERI, Pilani, and Ms Distronix, Kolkata, in the areas of calibration/testing facilities and smart noise tracker, respectively. Appreciation certificates were distributed to CSIR-NPL inventors for successful technology transfers and IPR granted during 2024–25, reinforcing CSIR’s commitment to translating research into real-world solutions.

The event concluded with a heartfelt Vote of Thanks by Dr Sanjay R Dhakate, Chief Scientist, CSIR-NPL. The event was attended by a number of students apart from invitees, industry participants, scientists and technical personnel.

CSIR-AMPRI Celebrates Rashtriya Boudhik Sampada Mahotsav-2025



CSIR-AMPRI, Bhopal, celebrated Rashtriya Boudhik Sampada Mahotsav 2025 (RBSM) on 28 May 2025 by organising the

event themed ‘Viksit Bharat 2047 and the Role of Intellectual Property’. The event was enlightened with the gracious

presence of luminaries from the field of IP practice, who shared their experience and vision on the subject matter.

During the welcome address, Dr Thallada Bhaskar, Director of CSIR-AMPRI, mentioned that to play a role in achieving the aim of Viksit Bharat 2047, it is imperative for us to enable the manufacturing sector in the country with our efforts to leverage available natural resources. This will not only nourish the value chain but also catalyse our efforts towards an export-driven economy and enrich national wealth to empower the common man. He further impressed that Intellectual property is not merely a legal tool but a strategic asset for India's journey to Viksit Bharat and is an economy driver. AMPRI has a very important role to play as a knowledge enabler and extends best wishes for the success of the event.

In her address, Dr Vibha Malhotra Sawhney, Head, IPU & TMD, CSIR, appreciated CSIR-AMPRI's efforts for Parali

Technology and looked forward to more such innovations emanating from the institute. She laid importance on the need to do more work in the field of advanced materials and processes, and work for disruptive innovations. She called upon the fraternity to ensure a strong IP portfolio and work towards leveraging it for technology valorisation.

Mrs Shweta Rajkumar, Deputy Controller, IP India, New Delhi, delivered a talk on 'Demystifying Idea to Asset: The examination of IP right across domains' and talked about how to leverage an idea into various forms of IP for maximum gain. She also presented a detailed insight into the process of registering various IP rights.

Dr T Pavan Kumar, CSIR-IMMT, Bhubaneswar, Dr Indrani Ghosh, CSIR-IPU & Shri Abhijeet Dhulap, CSIR-URDIP, illuminated the audience with their vast experience on the subject matter.

The event was coordinated by Dr Sarika Verma, and Dr HN Bhargaw delivered the vote of thanks.

Dr Thallada Bhaskar, Director of CSIR-AMPRI, mentioned that to play a role in achieving the aim of Viksit Bharat 2047, it is imperative for us to enable the manufacturing sector in the country with our efforts to leverage available natural resources.

CSIR-AMPRI Organises Summer Vacation Programme under CSIR-JIGYASA Initiative

CSIR-Advanced Materials and Processes Research Institute (CSIR-AMPRI), Bhopal, successfully organised a five-day Summer Vacation Programme for school students under the CSIR-JIGYASA outreach initiative from 19 May to 23 May 2025.

A total of 48 students from Kendriya Vidyalayas across the Bhopal region enthusiastically participated in the programme. Designed to ignite scientific curiosity and foster interaction with the scientific community, the programme featured a diverse



The programme was designed to ignite scientific curiosity and foster interaction with the scientific community.

range of activities including popular science lectures, student-scientist interactions, debate and quiz competitions, laboratory visits, presentations, and a mini project guided by experienced scientists of CSIR-AMPRI.

The valedictory function, held on 23 May 2025, during which Dr Thallada Bhaskar, Director, CSIR-AMPRI, addressed the young participants and emphasised the importance of nurturing a scientific temper among students. He also distributed certificates and mementoes to the winners of competitions and praised the students for their active involvement in the programme and quiz competition.

His address served to motivate the students to consider promising careers in Science and Technology.

Dr Satanand Mishra, Principal Scientist and Coordinator of the JIGYASA programme, also interacted with the students and provided valuable insights into scientific research and encouraged them to work with science beyond the classroom.

The Summer Vacation Programme under JIGYASA not only offered a platform for academic enrichment but also fostered a spirit of inquiry and innovation among school students, aligning with CSIR's mission to connect science with society.

CSIR-NIScPR's Jigyasa Student-Scientist Connect Programme Inspires Young Minds

The Jigyasa Student-Scientist Connect Programme, organised by CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR), New Delhi, was successfully held on 25 April 2025 at Rajkeeya Sarvodaya Bal Vidyalaya, Shakurpur, Delhi. The event aimed to foster scientific curiosity and environmental awareness among school children through a series of engaging activities and talks.



The programme commenced with a welcome address by Mr CB Singh, Chief Scientist and Head of Jigyasa, Training and HR Division and Head Popular Science Division. In his address, Mr Singh elaborated on the objectives of the Jigyasa programme, emphasising its role in bridging the gap between scientists and students. He also highlighted the importance of marine conservation and introduced the transformative CSIR technologies that are addressing critical societal challenges, inspiring students to explore the world of science.

A key highlight of the event was an insightful and interactive talk titled “Know Your Water Footprint: A Lesson for School Children” delivered by Dr Shiv Narayan Nishad, Senior Scientist, CSIR-NIScPR. Focusing on water sustainability and conservation, the session aimed to raise awareness among young minds about the concept of water footprint, shedding light on both direct and indirect water use in daily life. Dr Nishad explained how food and water wastage impact water resources and encouraged



students to adopt responsible practices. His engaging presentation inspired students to understand the value of water and motivated them to become ambassadors for sustainable water use in their communities.

The event also featured a thought-provoking debate, a quiz, and a movie on marine conservation, which captivated the students and reinforced the importance of protecting marine ecosystems. The programme concluded with a session on CSIR technologies by Dr Suman Ray, Principal Scientist, CSIR-NIScPR.

The Jigyasa Student-Scientist Connect Programme continues to serve as a platform for nurturing scientific temper and environmental consciousness among the youth, empowering them to contribute to a sustainable future.

Mr CB Singh, Head of Jigyasa, Training and HR Division, elaborated on the objectives of the Jigyasa programme, emphasising its role in bridging the gap between scientists and students.

Awards & Honour

CSIR-CEERI's Scientist Awarded with Vacuum Electronics Young Scientist (VEYS) Award 2025

Dr Niraj Kumar, Senior Principal Scientist at CSIR-Central Electronics Engineering Research

Institute (CSIR-CEERI), Pilani, has been awarded the Vacuum Electronics Young Scientist



Dr Niraj Kumar receiving the Vacuum Electronics Young Scientist (VEYS) Award for the year 2025

(VEYS) Award for the year 2025 by the IEEE Electron Devices Society. He has been recognised for outstanding achievements in the design and development of novel cold-cathode driven sheet electron beam sources and plasma-assisted microwave & sub-THz electron devices.

The award was presented to Dr Niraj Kumar at the 26th International Vacuum

Electronics Conference (IVEC) during April 14-17, 2025, in Rotterdam, Netherlands. The VEYS Award is aimed at recognising outstanding contributions from early-career researchers and young professionals in the field of Vacuum Electronics. The award recognises technical achievements, leadership in service, education, innovation, and entrepreneurship.

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