

One Day as a Scientist Week (21 to 25 July 2025) across CSIR Labs under its Jigyasa Programme

Hon'ble Dr Jitendra Singh hails the aspirational surge in youngsters, rise in student aspirations, calls for focus on 3 "A"... Awareness, Aptitude and Avenue in Education



Hailing the aspirational surge in youngsters, Hon'ble Union Minister Dr Jitendra Singh has said that the aspirations of India's youth must be met with 3 "A" – Awareness, Aptitude and Avenue.

The Minister underscored the need to channel the scientific enthusiasm among school students into sustained growth opportunities.

Speaking at the celebrations of the CSIR Jigyasa programme's "One Day

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as a Scientist” (ODAS) week at the CSIR-National Physical Laboratory, New Delhi, on 24 July 2025, the Minister called for deeper engagement with students, schools, parents, and industry to shape the scientific future of India.

Building on that vision, Dr Jitendra Singh suggested a series of refinements to the ongoing Jigyasa initiatives. First, he proposed involving parents directly in the ODAS experience — urging CSIR labs to invite at least one parent per participant so families can better appreciate the value of scientific exploration. He stressed that such engagement would prevent students from being discouraged at home due to a lack of understanding.

Second, Dr Jitendra Singh recommended a reciprocal model titled “One Day as a Teacher”, where CSIR scientists visit the schools of participating students, especially those from smaller towns and rural areas. He said that it would not only validate the achievements of the students but also inspire the entire school community.

Third, the Minister advised strengthening private sector involvement by encouraging industry partners — like those who supported the EPIC Hackathon — to adopt promising students or projects, providing mentorship and possibly financial support. He said this would help bridge the gap between school-level innovation and real-world application.

Finally, the Minister encouraged the programme

coordinators to continuously track student outcomes to understand emerging interests better and align future initiatives with evolving aspirations. These measures, he said, would help sustain the scientific momentum generated through ODAS and related programmes.

The ODAS initiative, inspired by Prime Minister Narendra Modi’s call for students to experience life as a scientist, saw participation from over 14,000 students across 37 CSIR labs. Students shadowed researchers, conducted guided experiments, and interacted with experts in real laboratory environments.

Dr Jitendra Singh recounted several moving interactions with young participants, including an eighth-grade girl from Dholpur who voiced concern over her younger sister’s exclusion from the programme — an example, the Minister said, of the aspirational surge sweeping across India’s youth.

A major highlight of the event was the felicitation of the winners of the EPIC Hackathon 2024, an innovation competition conducted under the Jigyasa programme.

Launched in 2017, the CSIR Jigyasa programme has evolved into one of India’s most expansive scientific outreach efforts. With over 13.5 lakh students and 80,000 teachers reached through more than 3,500 activities, it includes lab visits, virtual labs, ISL-enabled content, and innovation contests.

Dr Jitendra Singh underlined how the New Education Policy 2020 supports programmes like Jigyasa



by enabling subject flexibility and fostering inquiry-based learning. “Earlier, choices were forced. Now students can evolve with their interests – and Jigyasa gives them the platform to do so,” he said.

As India looks toward its centenary in 2047, Dr Jitendra Singh reiterated that the nation’s greatest strength lies in its youth. “Stay curious, stay bold, and never stop asking questions,” he urged, “because in every question lies the seed of discovery.”

Joining Union Minister Dr Jitendra Singh on the dais were Dr N Kalaiselvi, DG, CSIR & Secretary, DSIR; Dr Geetha Vani Rayasam, Head, CSIR-HRDG; Prof. Venu Gopal Achanta, Director, CSIR-NPL; and Dr D Shailaja Donempudi, Scientist and Head, Business Development Group at CSIR, along with other senior officials and students from various colleges.

Adapted from PIB

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Exploring Science Beyond the Lab

At the inauguration of the “One Day as a Scientist” programme, Dr Geetha Vani Rayasam, Head, CSIR-HRDG, said, “Jigyasa is the flagship programme of CSIR, and till now, we have reached more than 10 lakh students across the country in just 7 years. We have carried out various activities, including Hackathons and Jigyasa Vigyan Mahotsava, and all 37 CSIR labs are enthusiastically taking this programme forward, instilling a scientific spirit in students.”



Chief Guest of the event, Dr Vinay K Nandicoori, Director, CSIR-CCMB, inaugurated the programme and said, “Our students now have the opportunity to meet scientists and learn directly from them. Students visit different CSIR labs and gain hands-on experience in research. This programme may inspire future scientists of India.”

This unique programme aims to inspire and educate participants through engaging interactions with leading scientists. Setting the tone with the same, the CSIR-National Institute of Science Communication and Policy Research, kicked off its weeklong programme with insightful interactive sessions and hands-on. During his welcome address, Shri CB Singh, Chief Scientist and Head of Popular Science Division, and Jigyasa, Training & HR Division, said, “The CSIR-JIGYASA programme connects scientists with students through two-way interaction, such as students visiting labs and scientists visiting schools. For the better economic health of the country, scientific development is crucial. This programme provides students

with an opportunity to learn how to develop new technologies.”

This five-day programme included various expert talks by CSIR-NIScPR Scientists, including a talk on “Science Writing Skills and Medium-Specific Formats” by Dr Manish Mohan Gore, wherein he discussed different medium, emphasising that each format demands a unique style, tone, and structure to engage and communicate effectively. Ms Sonali Nagar discussed the nuances of “Popular Science Writing with emphasis on misinformation overload”, highlighting that this is an important tool to make science accessible to all. She further emphasised on the current challenge of misinformation overload, mentioning how science writers must prioritise accuracy, credibility, and clarity.

Keeping in view that air pollution and climate change are two major environmental issues, Dr L Sandhiya discussed their significant impacts on human health, ecosystems, and the planet’s future, demanding urgent global attention and coordinated action. While Dr Charu Lata and Dr Parmanand Burman



discussed Scientifically Validated Societal Traditional Knowledge under #SVASTIK. Citing various examples, they mentioned about various scientifically validated traditional knowledge. Students enjoyed the SVASTIK exhibition and had an opportunity to visit the Raw Materials Herbarium & Museum at NIScPR, which showcases India's economic resources.

Over the last five days of the ODAS event, more than 182 students from different schools, including Hardayal Public School, Amity International School Gurgaon, The Shri Ram School Aravali, Bal Bharati Public School, Noida Educational Academy, Dr BR Ambedkar School of Specialised Excellence, and Kendriya Vidyalaya schools, participated.

A Journey to Building Science and Construction Technology



The CSIR-Central Building Research Institute (CSIR-CBRI), Roorkee, enthusiastically launched the nationwide “One Day as a Scientist” programme, which was presided over by Prof. R Pradeep Kumar, Director, CSIR-CBRI, in the Ravindra Nath Tagore auditorium. In his keynote address, Prof. R Pradeep Kumar stressed the significance of engaging students in science from a young age. He highlighted the role of such outreach efforts in building the scientific capacity of the country.

On the opening day, nearly 100 students from various schools participated in the programme at CSIR-CBRI. The activities were meticulously coordinated by Shri Nadeem Ahmad, Chief Scientist and Nodal Officer (Jigyasa), with active support from a dedicated team of scientists and staff members.

The concluding session on 25 July 2025 saw participation from around 170 students and faculty members representing four prominent schools from Roorkee, including PM SHRI Kendriya

Vidyalaya No. 1, PM SHRI Kendriya Vidyalaya No. 2, Mount Litera Zee School, Roorkee and ABN Senior Secondary School, IIT Roorkee.

Students were warmly welcomed into the institute's research ecosystem, where they explored a variety of advanced laboratories and gained insight into real-time research processes. They visited key R&D facilities, including the Structural Engineering Lab, Fire Research Lab, Chemical Testing Lab, and the CBRI Exhibition Gallery, which featured models and prototypes related to smart construction, disaster mitigation, and heritage preservation. These visits gave students a tangible understanding of how science and technology address practical challenges in the built environment.

A key highlight of the event was the hands-on experimental sessions. Under the close supervision of CBRI scientists and research scholars, students performed simple scientific experiments that helped them understand fundamental lab techniques, experiment design, and the real-world relevance of theoretical concepts. This experiential learning approach allowed students better to appreciate the scientific method and its application in problem-solving.

In addition, students engaged in interactive sessions with CBRI scientists who shared insights into ongoing research in areas like housing technologies, energy-efficient materials, and construction innovation. The thoughtful questions and enthusiasm shown by students demonstrated their deep interest in science and their eagerness to learn more about research and innovation.

The programme also included a technical lecture by Dr Hemlata, Senior Scientist, on "Energy Efficient Building Materials". She emphasised the importance of sustainable construction and energy conservation. Science quiz competition, coordinated by Dr Tabish Alam and Dr Naveen Nishant, brought a fun, competitive spirit to the event and showcased the students' scientific knowledge and quick thinking.

The valedictory ceremony on 25 July was once again graced by Prof. R Pradeep Kumar, who appreciated the active participation of students and the commendable efforts of the organising team. He encouraged students to continue nurturing their curiosity and to view science as a powerful tool for nation-building.

An Exploration into Metallurgy and Materials Science

The "One Day as a Scientist" programme at CSIR-National Metallurgical Laboratory (CSIR-NML), Jamshedpur, witnessed

the enthusiastic participation of over 500 students from 12 schools across the East Singhbhum district of Jharkhand.



The inaugural session featured a welcome address by Dr Sandip Ghosh Choudhury, Director, CSIR-NML, who underscored the importance of early exposure to research environments in fostering a scientific temperament. Dr Sarmishtha Palit Sagar, Head of the Information Management & Dissemination Centre (IMDC), outlined the objectives and long-term impact of the ODAS initiative, particularly in motivating students to pursue careers in science and technology. Dr Animesh Jana, JIGYASA Coordinator, led the daily orientation sessions and activity briefings, ensuring efficient implementation and meaningful engagement throughout the five-day programme.

Participants were taken on guided tours of key CSIR-NML research facilities, including the Chemistry, E-Waste Recycling, Mechanical Testing, Melting and Casting, and Non-Destructive Testing laboratories. These tours offered the students real-time exposure to ongoing scientific research and industrially relevant technologies. Additionally, the programme featured a series of

live scientific demonstrations designed to reinforce fundamental scientific principles visually. These included RGB colour mixing, wireless electricity transmission, magnetic pole detection, etc. These demonstrations effectively enhanced student engagement by offering tangible insights into theoretical concepts and their practical applications.

Distinguished scientists of CSIR-NML delivered motivational and knowledge-sharing lectures. Dr (Mrs) Pratima Meshram, Dr Jay Chakraborty, and Dr Sreedha P, shared insights into their research journeys and the societal relevance of scientific innovation. These sessions were instrumental in encouraging students to develop a deeper appreciation for science and its role in solving contemporary challenges.

The ODAS programme at CSIR-NML concluded on a highly positive note, with overwhelming feedback from students and educators. It significantly contributed to promoting scientific literacy, critical thinking, and innovation among the younger generation.

From Earth's Resources to Research Frontiers



The CSIR-Institute of Minerals and Materials Technology (CSIR-IMMT), Bhubaneswar, actively participated in the One Day as a Scientist (ODAS-2025) programme, engaging around 700 students from Classes VIII to XII across Odisha, Andhra Pradesh, and Telangana. The event provided students with a rare opportunity to interact with scientists, explore cutting-edge research, and experience the life of a scientist through hands-on experiments.

The inaugural and valedictory sessions were addressed by Dr Ramanuj Narayan, Director, CSIR-IMMT, who encouraged students to pursue careers in science. He emphasised the importance of curiosity, hard work, and self-competition as keys to success, reminding students of the inspiring words, “Koshish Karne

Walo Ki Kabhi Haar Nahi Hoti” — Those who try never lose.

Across five days, engaging lectures on topics like Intellectual Properties, Atoms, Artificial Intelligence and Machine Learning (AI/ML), Cyber Security, Environment, Air-pollution and Climate Change, etc. were delivered by scientists, and it motivated students to know about diverse facets of science. Students also engaged in laboratory experiments on subjects such as ores and minerals, plasma, coal and biomass, metal alloys, etc.

A science quiz added to the excitement, with winners receiving JIGYASA caps as prizes. The students rated the programme “excellent” and expressed their desire to conduct similar programmes more frequently and for longer durations.

Science behind Glass, Ceramics, and Cutting-Edge Optical Technologies

During the “One Day as a Scientist” programme at CSIR-Central Glass & Ceramic Research Institute (CSIR-CGCRI),

Kolkata, more than 550 students from classes 8 to 10, along with 50 teachers representing Kendriya Vidyalayas, Jawahar Navodaya



Vidyalayas, and other regional schools across West Bengal, participated. Students explored high-impact research domains such as Biomaterials and Medical Devices, Advanced Ceramics, Energy Materials, and speciality glasses like Chalcogenide and RSW glass. The programme brought science to life through guided lab tours, live demonstrations, and Do-It-Yourself (DIY) experiments — particularly at the 4M Division under the guidance of Dr PK Sinha — allowing students to conduct engaging hands-on experiments and understand core scientific principles in a fun, practical way.

A major highlight came on July 22 with a special address by Dr Shivkumar Kalyanaraman, CEO of the Anusandhan National Research Foundation (ANRF),

titled “Catalysing India’s Rise as a Research & Innovation Powerhouse.” His session underscored the critical role of youth engagement in science-led national development.

The programme at CSIR-CGCRI concluded on July 25 with an inspiring address by Director Prof. Bikramjit Basu, who urged students to pursue science not only as a career, but as a commitment to nation-building. The closing ceremony included an enthusiastic science quiz and lively student-scientist interactions.

The event was made a gala success by the tireless efforts of the CSIR-CGCRI JIGYASA team, whose commitment to outreach, education, and student engagement turned this vision into an inspiring and memorable experience for all participants.

An Inspiring View of Life Sciences Research

CSIR-Centre for Cellular and Molecular Biology (CSIR-CCMB), Hyderabad, hosted 500 students in groups of 100 each day during

“One Day as a Scientist”. The students came from Hyderabad and other neighbouring cities and towns such as Telangana, Andhra

Pradesh, and Maharashtra. CCMB hosted high school students on the first four days and first-year undergraduate students and 50 teachers from Telangana Social Welfare Degree Colleges on the final day.

The programme each day allowed the visiting students to interact with a CCMB scientist, see two research facilities at the institute, perform simple hands-on experiments, and solve fun life science puzzles. The research facilities allowed students to

work in groups of about 30. These included the microscopy, genome sequencing, greenhouse, cryoelectron microscopy, *Drosophila* (fruitfly), zebrafish and animal house facilities. The hands-on experiments and activities included studying onion peel cells using a simple lens and making a paper origami of DNA. The puzzles aimed to help them contextualise the work at CCMB and the different research facilities that enable such work.



Witnessing the Journey of Drug Delivery

CSIR-Central Drug Research Institute (CDRI), Lucknow, successfully conducted the “One Day as a Scientist”, where students from Classes VIII to X were exposed to the world of scientific research through carefully curated activities. Throughout the five days, the programme maintained a rich and engaging schedule with hands-on exposure to scientific experimentation, visits to state-of-the-art research laboratories, and interactions directly with scientists and research fellows. These interactions gave students a closer look at the scientific process

and helped them understand how research contributes to society and national development.

A major highlight of the programme was a motivational lecture titled “Why We Study Science”, which provided students with a broader perspective on the role of science in everyday life. It emphasised the importance of scientific thinking in problem-solving and innovation, motivating participants to see science not just as a subject in school but as a tool to improve the world.

To make learning fun, interactive quizzes and science-

based games were organised daily, helping reinforce the scientific concepts while encouraging active participation. These activities promoted teamwork, critical thinking, and curiosity — core objectives of the Jigyasa initiative.

The event received registrations from students across seven states, showcasing its wide national reach. However, active participation was primarily from Uttar Pradesh, Bihar, and Gujarat. The participants came from a diverse range of educational institutions, including Jawahar Navodaya Vidyalayas (JNVs), Kendriya Vidyalayas (KVs), Army Public Schools, IIT-affiliated KVs, and state board intercolleges, ensuring that students from

different academic and regional backgrounds had equal opportunities to benefit.

Over the five days, the programme witnessed over 400 pre-registrations and more than 50 on-the-spot registrations, reflecting the high interest and enthusiasm among students and schools alike. In conclusion, the “One Day as a Scientist” programme at CSIR-CDRI, Lucknow, successfully met its objective of bridging the gap between science and young learners. The initiative contributed meaningfully to shaping the next generation of scientists and innovators by providing real-world exposure, mentorship, and inspiration.



Oceanographic Research and Marine Biodiversity

Aligned with the Hon'ble Prime Minister's vision of nurturing a scientific temper among the youth, the ODAS programme at CSIR-National Institute of Oceanography (CSIR-NIO), Goa, offered a transformative experience to 150 students from Karnataka, Maharashtra, and Goa.

The students were engaged in laboratory visits, interactive discussions, and hands-on scientific experiments. The programme enabled students to explore various disciplines of oceanography, gaining valuable insight into real-world scientific research and the role of science

in addressing ocean-related challenges.

The event saw enthusiastic participation from students from diverse educational backgrounds, including state government schools, Jawahar Navodaya Vidyalayas, PM SHRI Kendriya Vidyalayas, and private schools — ensuring inclusive outreach across urban and rural areas.

The initiative ignited a strong interest in ocean science and technology among young minds

by fostering curiosity, critical thinking, and scientific inquiry. The closing session featured an engaging feedback interaction, where students shared their experiences and expressed a renewed motivation to pursue careers in science and engineering, especially in Oceanography.

Through this impactful programme, CSIR-NIO plays a key role in shaping the next generation of Indian scientists and marine explorers.



An Exposure to Real-life Applications of Biology, Chemistry, and Environmental Science

Following the inaugural “One Day as a Scientist” session at CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT), Palampur, the students were introduced to the Institute’s diverse R&D activities. During these five days, 454 students from 26 different KVs, JNVs, government and public schools across five districts of Himachal Pradesh participated in the programme at CSIR-IHBT. Each day, the institute welcomed a new batch of enthusiastic students

and guided lab visits, hands-on experimentations, and interactive sessions with scientists were conducted for them. Every scientist of the institute participated with full energy in this programme, wherein each day, one or two students were mentored by each scientist through hands-on experiments, interactions and demonstrations.

Virtually became the part of the celebrations of ODAS at CSIR-NPL, during which Dr Jitendra Singh, Hon’ble Minister of State



for S&T and Earth Sciences, and Vice President, CSIR; and Dr N Kalaiselvi, DG, CSIR, on 25 July 2025, inspired the students to nurture their curiosity, develop a scientific mindset, and actively pursue science for the nation's growth and progress.

On the concluding day, Dr Sudesh Kumar Yadav, Director, CSIR-IHBT, addressed the students, motivating them to perceive science as an academic subject and a path to innovation and problem-solving for future challenges. He also highlighted the R&D activities being carried out across CSIR laboratories, focusing on CSIR-IHBT's contributions.

This weeklong initiative under the CSIR-Jigyasa programme was a remarkable effort that helped to successfully bridge classroom learning with real-world scientific research, offering students an enriching and memorable experience of science in action. Dr Gireesh Nadda, Coordinator of ODAS and CSIR-JIGYASA programme, proposed the vote of thanks.

The programme received an overwhelmingly positive response despite heavy rains in Himachal Pradesh and rainy season holidays in most of the schools. We are happy to share that CSIR-IHBT ranked 4th in all 37 CSIR labs as per the ODAS online portal data.

From Exploring Nanotechnology to Witnessing the Transformation of Waste into Energy

Designed to ignite young minds, the "One Day as a Scientist" programme at CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Thiruvananthapuram, welcomed 440 enthusiastic school students from across the region, offering them a rare glimpse into the real world of science

through live experiments, lab visits, engaging talks, and one-on-one interactions with working scientists.

The inaugural session featured a welcome address by Dr TPD Rajan and a presidential address by Dr Nishy P, Head of the Business Development Department. An inspiring talk on "Energy Literacy"

by Dr KN Narayanan Unni, Head, Centre for Sustainable Energy Technologies, set the tone for the sessions that followed. Dr Joshy Joseph, JIGYASA Coordinator, briefed the participants before they dove into guided tours of CSIR-NIIST's state-of-the-art labs and pilot plant facilities.

Over the next three days, students were immersed in the wonders of science, from exploring nanotechnology and sustainable chemistry to witnessing the transformation of waste into energy. Popular science talks by experts such as Dr Rakhi RB, Dr Joshy Joseph, Dr KV Radhakrishnan, and Dr B Krishnakumar made complex concepts accessible and thrilling. The budding scientists were also treated to engaging Q&A sessions, hands-on demos, and direct exposure to the challenges researchers tackle daily.

A special highlight was an interactive session with CSIR-NIIST Director, Dr C

Anantharamakrishnan, who urged students to see science as a career and a tool for societal change. His words left a lasting impression on the students, many of whom expressed a renewed interest in pursuing careers in STEM.

The final day delivered a fitting crescendo, including an interactive session on drug discovery by Dr Jubi John, and a live online broadcast of the national-level "Celebration of Science" event hosted by CSIR-NPL, New Delhi. The programme concluded with smiles, group photos, and a shared sense of wonder. For many students, it wasn't just "One Day as a Scientist", it was the beginning of a lifelong journey into the world of science and innovation.

By combining education with inspiration, CSIR-NIIST reaffirmed its commitment to nurturing the next generation of scientists, fuelling dreams, sparking ideas, and most importantly, making science come alive.



Role of Chemistry in Solving Industrial and Environmental Challenges

During the “One Day as a Scientist” programme at CSIR-National Chemical Laboratory (CSIR-NCL), Pune, about 450 different school students from Maharashtra, including Pune and Mumbai, took part. A new group of students from different schools participated each day. The programme was designed to ignite scientific curiosity and nurture students’ motivation towards research and innovation through real laboratory exposure, direct interactions with scientists, and participative scientific demonstrations.

On the first day, Dr Ashish Lele, the Director, welcomed the students by highlighting the value of translating scientific research into new technologies and solutions, and advocating collaboration with industry to ensure societal impact. He motivated the students to consider careers in science for building a Viksit Bharat. The students visited the pyrolysis facility to witness the conversion of waste plastics into valuable chemicals, watched an AI-enabled plastic sorting demonstration, and learned about plastic recycling and upcycling from Dr Samir Chikkali.

Active participation was encouraged with hands-on sessions such as chromatography experiments, where students donned lab coats and conducted the procedures themselves. Teams also built their own



electromagnetic cranes under the guidance of Dr Aakash Sharma. The day’s highlight was the glowing “Elephant Toothpaste” experiment, captivating the audience with its dramatic foaming reaction.

The second day opened with Dr Wafia Masih’s motivational talk “Unleash Your Inner Scientist,” encouraging students to embrace scientific values and view societal challenges as opportunities for scientific inquiry. Dr Manohar Badiger introduced super-absorbent polymers with live demos and spoke about NCL’s Jalshakti SAP innovation. The second batch of Students visited the pyrolysis facility, learned the basics of DNA and genetics from Dr Narendra Kadoo, and extracted their own DNA through a hands-on activity. Dr Saket Kumar introduced rheology, making concepts tangible through interactive oobleck demonstrations. The day wrapped up with excitement around the “Elephant Toothpaste”

experiment, with students showing deeper engagement and scientific understanding in their feedback.

On the third day, Dr Masih began with the “Innovate. Experiment. Discover” keynote. Her address motivated students to be curious and fearless in problem-solving. Dr Narendra Kadoo described plant biotechnology, from ancient fermentations to the development and significance of transgenic crops, while underscoring research rigour for food and environmental safety. Students experienced visits to the plant tissue culture and genome sequencing facilities, gaining new insights into controlled growth environments and modern sequencing technologies. Dr M Karthikeyan combined education and entertainment by using AI and VR to remotely control experimental setups, demonstrating future possibilities and safety.

Dr Rakesh Joshi engaged the students post-lunch on “Insects: Friend or Foe”, where he discussed moth behaviour and its significant role in crop development. Students got to see life stages of a moth,

under an optical microscope, while Dr Shubhangi Umbarkar tackled environmental issues caused by Plaster of Paris idols and presented eco-friendly alternatives. The day ended with student-led demonstrations on lead and starch detection, which fostered visible excitement and a call for more hands-on activities.

The fourth day promoted interdisciplinary approaches. Dr Wafia Masih inaugurated with “Breaking Science Boundaries,” urging students to think beyond traditional disciplines. Dr Manish Mishra captivated the group with explanations and live demonstrations about the omnipresence and properties of crystals. Dr Magesh Nandagopal’s session on translating ideas into practical solutions guided students in brainstorming local problems and proposing viable market-oriented solutions. Lively sessions on green technology and environmental awareness followed, including another session building electromagnetic cranes and a motivating online address by Dr Jitendra Singh, Minister of Science and Technology.

The last day started with Dr Masih highlighting the importance of scientific outreach, opportunities and innovation with Jigyasa. Students visited the National Collection of Industrial Microorganisms to observe microbiological practices and saw first-hand how ellipsometry is applied in material science at Dr Pankaj Poddar’s lab. Dr Harshawardhan Pol addressed plastic waste recycling



challenges and innovations at NCL, spotlighting the recycling of PPE kits especially during the pandemic. Dr Karthikeyan returned with engaging VR-led demonstrations, and a session on green chemistry provided practical solutions for Plaster of Paris idol waste. Students further participated in DNA extraction activities and gave strong, enthusiastic feedback regarding the value of real scientific engagement.

The collective feedback was overwhelmingly positive. Students reported increased excitement, greater scientific understanding, and clarity about research careers. Many highlighted the value of direct contact with scientists, hands-on activities, and real laboratory access, which inspired them to consider scientific paths. The programme made science approachable and aspirational, helping shape a foundation for future scientists and innovators.



An Exploration of Leather Technology, Footwear Design, and Sustainable Technologies

During the “One Day as a Scientist” programme at CSIR-Central Leather Research Institute (CSIR-CLRI), Chennai, about 75-80 students participated per day. Overall, about 380 students visited the laboratory. Remarkably, participants came not only from nearby areas but also from distant places such as Thoothukudi and Tenkasi, over 600 km away, as well as from Maharashtra, Telangana, and Andhra Pradesh. The programme also saw the enthusiastic participation of around 50 school teachers.

During the inaugural, in his inspiring address, Dr KJ Sreeram, Director, CSIR-CLRI, emphasised the value of curiosity in science and the importance of asking questions — how, why, and what — at the heart of a research mindset. He also delivered a popular lecture on Day 2 titled “In the Quest of Knowledge,” underscoring that the spirit of science lies in scrutiny, experimentation, fact-finding, and reasoning-based analysis. The week featured several engaging lectures, and Dr Nishad Fathima, CSIR-CLRI, in her lecture on Day 3,

focused on the importance of environmental consciousness and sustainability, as well as waste-to-wealth conversion.

Dr Rajalakshmi, Director & Co-founder, Aathma Pranavaayu Pvt. Ltd, a startup focusing on indoor air purification, in her lecture on Chemistry-Everything & Everyday Life, discussed the role of chemicals in everyday life and their impacts on the environment and life on earth. She also shared insights from her entrepreneurial journey, highlighting her transition from academia to industry. Dr Amit A Vernekar from CSIR-CLRI, in his lecture on Day 5, stressed the role of metal ions in biology. The students' curiosity was evident through their thoughtful and often unconventional questions, reflecting a genuine enthusiasm for science.

After the lecture, the students were introduced to the essence of three-dimensional footwear scanning and plantar pressure measurement, which analyses force distribution in the sole during movement, a critical parameter for understanding the foot biomechanics and function. Many students volunteered to be part

of this measurement, and they are excited to understand their walking patterns and learned their impacts in the long run. A highlight for many was the magnetic levitation demonstration, where objects were suspended without physical support, held aloft purely by magnetic fields, sparking curiosity and wonder. They also explored various types of leather, exotic leathers, and leather products, learning about materials science and industrial applications.

In the afternoon session, the students were grouped and guided through different research labs where they interacted with the scientists and research scholars, and visited the sophisticated research facilities. They were also involved in do-it-yourself experiments, including the computational studies of (bio) molecules, preparation of polymers, etc. During these experiments, students experienced firsthand the handling of various scientific apparatus and gained insights into how experiments are planned and conducted, something they had previously only encountered in theory.



An exploration of the exciting world of aerospace research and innovation

At CSIR-National Aerospace Laboratories (CSIR-NAL), Bengaluru, the “One Day as a Scientist” programme was an inspiring initiative that brought together around 100 bright and enthusiastic students from across the country every day. This gave them a unique opportunity to explore the role of scientists and experience the exciting world of aerospace research and innovation.

Each day of the programme hosted a new batch of registered students, providing them a full-day immersive experience within NAL’s research and development ecosystem. The aim was to ignite scientific curiosity, foster innovation, and provide real-world exposure to students who aspire to pursue careers in Science, Technology, Engineering, and Mathematics (STEM). The event aligned with CSIR’s mission of nurturing young scientific talent and promoting scientific literacy among school students.

The programme began with a warm welcome by Mrs Sangeetha AL, Co-Nodal officer, Jigyasa from CSIR-NAL, who introduced the students to the organisation’s mission, achievements, and vital role in India’s aerospace advancement. Dr VPS Naidu, Nodal Officer, Jigyasa, delivered an insightful presentation on “Principles of Flight,” offering a



clear and engaging explanation of the scientific concepts that enable aircraft to fly. The session covered key principles such as lift, thrust, drag, and weight. This helped the students understand how these forces interact. His presentation sparked curiosity and encouraged students to explore the fascinating world of aerodynamics and aviation technology.

Students were then taken on a guided tour of the laboratories and facilities, including aircraft hangars, DRISHTI transmissometer, Flight simulator and advanced composite manufacturing facility. They witnessed live demonstrations of experiments and interacted with scientists working on cutting-edge

technologies such as Unmanned Aerial Vehicles (UAVs), aerospace materials, and flight testing.

An integral highlight of the event was the paper aircraft modelling competition based on the principles taught, where students got the chance to make and fly paper aircraft.

Interactive sessions with scientists were especially impactful. Students engaged in discussions and asked insightful questions about career paths in science, current research challenges, and emerging aerospace technologies. The scientists shared their journeys, encouraging and emphasising the importance of perseverance, curiosity, and a scientific mindset.

The programme concluded with the award distribution for the aero modelling competition winners. Prizes were given based on the distance flown and endurance. Feedback collected from students indicated a high level of satisfaction and enthusiasm, with many describing the experience as “eye-opening,” “inspiring,” and “life-changing.”

By fostering direct interaction between students and professionals, CSIR-NAL has effectively planted the seeds of scientific ambition in the minds of India’s youth, paving the way for a more scientifically empowered future.



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