

CSIR-CDRI Celebrates “One Week, One Lab Programme”

CSIIR-Central Drug Research Institute (CSIR-CDRI), Lucknow, celebrated the CSIR “One Week, One Lab” programme during 13-24 February 2023.



Flag-off ceremony

The institute inaugurated the programme with a flag-off ceremony on 13 February 2023 for the team of scientists and researchers for outreach programmes at various schools. Besides, a Vigyan Jyoti Programme for motivating girls in STEM at Jawahar Navodaya Vidyalaya Piparsand, Lucknow, was also organised during which girls were sensitised towards women empowerment. A quiz competition was organised for them in which the girls participated enthusiastically.

For newly adopted Atal Tinkering Labs, a Student-Scientist-Connect programme was also conducted at SR Global School, Bhaisamau, Lucknow. During the interaction, students were motivated to pursue careers in science and a quiz competition was also conducted for them. A similar programme was organised at the Army Public School, Lucknow.

A webinar was also organised titled “One Week, One Lab & One Product: Reunion for rapid fracture healing & osteoporosis management”, which was also joined by collaborators and industry partners.

The next day on 14 February 2023, a Health Awareness Programme was organised in villages — Pahiya Ajampur, Kakori and Purseni in Lucknow. During the programme, scientists interacted, counselled and surveyed the villager's understanding towards health and fitness. Villagers were also sensitised about Lymphatic Filariasis, how they can protect themselves and how they can cure it. Also, free health check-up for villagers and spreading awareness towards Diabetes and other lifestyle-related diseases was conducted. Children were also sensitised towards their health.



Pictures of the Health Awareness Programme

On 15 February, an Open Day was conducted in which more than 600 students participated with full vigour. Students from 15 pharmaceutical colleges interacted with scientists and learnt about the Drug Discovery and development process. Students were also exposed to hands-on demonstrations and exhibitions.



CSIR-CDRI launched its new made-in-India product GreenR™ on 16 February 2023. It is a Nucleic Acid Staining, safe & cost-effective dye for biomedical research and diagnostics. The product was launched in collaboration with Industry partner Geneto Protein Pvt. Ltd (GTP), a start-up company registered in Uttar Pradesh. The product also has applications in molecular diagnostics such as PCR-based tests to detect disease.

Shri Alok Kumar, Director General, UPCST was the chief guest for the product launching event. Other dignitaries in the programme included Dr V.P. Kamboj, former Director, CSIR-CDRI; Dr G.N. Singh, former DCGI and Advisor to the Chief Minister of Uttar Pradesh; Prof. Alok Dhawan,

Director, CBMR; Dr Huma Mustafa, Joint Director, CST-UP; along with Dr Atul Goyal, Chief Scientist, CSIR-CDRI; and Dr Shraddha Goenka, MD, Gene to Protein Ltd who led the team that took this product from lab to market. Many other eminent scientists and researchers also witnessed this event.



CSIR-CDRI Director, Dr Radha Rangarajan said that the nucleic acid staining dye, GreenR™ is an example of a successful industry-academia collaboration. She further added that Indian researchers are dependent on costly, imported nucleic acid staining dyes; GreenR™ is a safe and effective alternative with similar staining outcomes to commercially available dyes.

Chief Scientist Dr Atul Goel who led the development of the product said that GreenR™ is an economical alternative to imported dyes that are used to stain DNA/RNA. He gave some details about GreenR™ and said that it is highly versatile and binds to all nucleic acids including genomic DNA, PCR products, plasmids and RNA. The chemical synthesis of GreenR™ was standardised by Dr Goel's team comprising Ms Sajiya M. Kundan, Ms Suchitra, Mr AP Dwivedi and the BDPL team has studied its biological applications in real-time PCR and DNA binding. Dr Shraddha Goenka, Director of Geneto Protein Pvt. Ltd also talked about the benefit and various applications of the product. She said that this product will also help to come closer to the goal of Aatmanirbhar Bharat.

Later, on that day a panel discussion on Industry Academia collaboration for the development of affordable healthcare products also took place in Biotechpark, Lucknow, where it was emphasised that all stakeholders — industries, academia, clinicians, regulatory-authority, government & end users – need to contribute together for translating products to the market.

The successful celebration of the “One Week One Lab” programme concluded on 24 February 2023 with Dr N. Kalaiselvi, Director General, CSIR and Secretary DSIR, Govt of India unveiling the original foundation stone of CSIR-CDRI which was laid by Pt Jawaharlal Nehru, the then Prime Minister of India on 17 February 1951 in the Chattar

Manzil Palace. Now this foundation stone has been shifted to the institute's new campus. Earlier, Director CSIR-CDRI, Radha Rangarajan welcomed the DG and presented an overview about the institute.



Dr Kalaiselvi interacted with the scientists and visited some important Laboratories & Facilities (NMR, X-Ray, Electron Microscopy, CBRS, Herbarium). Later she inaugurated a Lab for the Centre for Science Outreach and Research.

Dr N. Kalaiselvi also addressed the scientists, researchers and staff and motivated them to do their best irrespective of what capacity they are working in the organisation. She added, “The Nation has a lot of expectations from CSIR labs so we have to put our maximum efforts to make the nation proud of us with our contributions.”

Later, two MoUs were signed — one with the Manipal Academy of Higher Education, Manipal, and another with Them is Medicare Limited, Mumbai. Another indigenous technology of a new Quencher UniQ for research and diagnostics was also transferred to the Industry partner, Biotech Desk Private Limited, Hyderabad for further development.



After the felicitation of the Hon'ble DG by the CSIR-CDRI Staff Club, the programme was concluded with a vote of thanks by Dr Shubha Shukla.

“One Week, One Lab Programme” by CSIR-IHBT

CSIR-IHBT (CSIR-Institute of Himalayan Bioresource Technology), Palampur, Himachal Pradesh, also joined the celebration with its “One Week, One Lab” programme from 20-25 February 2023.

The programme was inaugurated on 20 February 2023. Mr Ashish Butail, Hon’ble Chief Parliamentary Secretary, Government of Himachal Pradesh was the Chief Guest of the inaugural function. Dr Girish Sahni, former DG, CSIR and Secretary DSIR and Dr MP Gupta, CMD of Deccan Health Care Division, Nutridec, Hyderabad, were the Guests of Honour. Mr Ashish Butail appreciated the contribution of CSIR-IHBT for societal upliftment and invited the industries to invest in the state. He also assured the state government’s support to generate livelihood for the people.

Dr Sanjay Kumar, Director, CSIR-IHBT, threw light on the purpose of the programme and apprised that the scientists of the CSIR-IHBT have significantly contributed towards the self-reliance of farmers and entrepreneurs by developing agricultural practices of crops like asafoetida, saffron, stevia, lilium, and cinnamon. To process the harvest, distillation units were set up in different states to grow and process aromatic crops, especially lavender and aromatic marigold.

Dr Girish Sahni emphasised the need to change the ecosystem so that products based on technologies developed in the lab can reach the market. He said that these technologies can be disseminated by setting up technology parks. The special guest, Dr MP Gupta, Managing Director, Deccan Healthcare Ltd, Hyderabad, said that success is achieved only by overcoming challenges and said that there was an urgent need for clarity, simplicity, and regulatory policy reforms to help entrepreneurs.

Another highlight of the programme was distribution of liquorice (Mulethi) in Himachal Pradesh. Mr Ashish Butail distributed the planting material of ‘Mulethi’ (*Glycyrrhizaglabra*) to farmers for commercial cultivation in the state for the first time. Seeds and planting materials for various crops were also distributed to farmers from different parts of the state.

A booklet was released on start-ups, and the Hon’ble Chief Parliamentary Secretary also inaugurated the Plant Tissue Culture Unit, exhibition of entrepreneurs and flower show at CSIR-IHBT. Two MoUs were also signed on the occasion for the dissemination of technologies developed at CSIR-IHBT. On this day about 125 students and teachers from JNV Paprola and Viveka Foundation also visited the institute under the Jigyasa programme and about 38 farmers attended a training programme.



The theme for the second day was “Making India Atmanirbhar through Empowerment of Farmers”. As a part of the campaign, a five-day training programme on “Cultivation and Post-Harvest Management of Aromatic plants” was organised from 19-23 February 2023 at CSIR-IHBT. In this training 52 farmers of District Mandi, Himachal Pradesh participated and were apprised about CSIR-Aroma Mission activities, cultivation and post-harvest technologies of aromatic crops. The farmers were also apprised about floriculture, planting, farm management and harvesting of medicinal and aromatic plants, dehydration of flowers, formulation of incense cones, beekeeping, stevia, heeng cultivation, shitake mushroom, and food processing technology.

A workshop on “Fostering Waste Management in Cold Regions” was organised on the third day of the programme. Mrs Poonam Bali, Mayor of Palampur Municipal Corporation, presided over the function as the chief guest. President of Baijnath-Paprola Nagar Panchay at Mrs Kanta Devi and Secretary Mr Pradeep Dixit, local Mahila Mandals and representatives and local sweepers participated in the function.

CSIR-IHBT's scientist Dr Rakshak Kumar in his presentation on domestic waste management said that more than 50 per cent of domestic waste is from our kitchen which is organic and can be put to good use. He urged all the participants to keep their kitchen waste separate and make organic manure from this waste. He informed that CSIR-IHBT has developed Smart Biobin and "Compost Booster" for disposal of the waste. It rapidly degrades organic waste. Smart Biobin and "Compost Booster" were also demonstrated during the programme. Along with this, a gaming competition was also organised on this occasion in which the participants learned the difference between wet and dry waste while playing.

A workshop on "Boosting Women Empowerment" was organised on the fourth day of the programme. The Chief Guest of the programme was Ms Gandharva Rathore, Settlement Officer, District Kangra, Himachal Pradesh. While highlighting the need for women's empowerment, she delineated how women can become self-reliant by joining the National Rural Livelihood Mission. She urged the women to adopt the technologies developed by CSIR-IHBT for empowering themselves. Over 120 women from various self-help groups of the state participated in the function.

Dr Pamita Bhandari, Principal Scientist of the institute gave information about the technologies developed by the institute and their benefits. Three technologies on natural colours and dyes, value addition from dried flowers and herbal incense stick-making were also demonstrated on this occasion.

Dr Aparna Maitra Pati, Chief Scientist, CSIR-CDRI, threw light on the purpose of the programme and informed that CSIR-IHBT has taken steps towards the self-reliance of women, farmers and entrepreneurs.

On this occasion, 27 differently-abled children from Rotary Sewa Ashram, Saliana, District Kangra, and Himachal Pradesh also visited the institute. These children visited Tulip Garden and Bamboo Museum and enthusiastically participated in various activities like painting and music. Under the Jigyasa programme, around 700 students and teachers in the programme visited the institute from Jawahar Navodaya Vidyalaya, Paprola; Viveka Foundation School, Bhawarna; Government Senior Secondary School, Gandhir, Bilaspur; Cambridge School, Palampur and Greenfield School, Nagrota and were informed about research work and technologies developed in various laboratories.



Artificial Intelligence and Machine Learning in Agriculture and Innovation for Better Health was the theme for the fifth day. A workshop on "Motivating School Students Toward Improved Health and Innovation" was organised on 24 February 2023. The programmes were designed to teach students the value of micronutrients in food, a balanced diet, and good health care hygiene.

Mr Ashok Sharma, District Programme Officer, Kangra, addressed the students on the importance of a balanced diet. He pointed out that malnutrition, especially iron and protein deficiency, is a major health problem in India and particularly in Himachal Pradesh. He further added, malnutrition is affecting 60% of children under 5 years of age and nearly 50% of women of reproductive age. He continued, CSIR-IHBT has developed several proteins, iron, zinc and calcium-enriched food products to meet the needs of the target communities. These products are very useful and soon they will be used in the entire state. Furthermore, he advised students that rather than eating junk food they should eat protein, vitamins and micronutrients rich food.

Dr Aparna Maitra Pati, Chief Scientist, CSIR-IHBT, presided over the event and highlighted the work done by CSIR-IHBT in combating malnutrition. Scientists of CSIR-IHBT also conducted a workshop and demonstration programme on the value of micronutrients and showcased various IHBT products to students, child development officers, block supervisors, and district/block POSHAN Abhiyaan coordinators.

CSIR-IHBT in association with the Directorate of Women and Child Development, Govt of Himachal Pradesh has conducted a pilot scale nutrition supplementation programme under the aegis of POSHAN Abhiyaan. Recently, the Directorate of Women and Child Development, ICDS, Govt of Himachal Pradesh have associated with CSIR-IHBT as part of Mukhya Mantri Balsuposhan Yojana (MMBSY), an intensive drive to combat malnutrition in the state.

On this occasion, under the Jigyasa Programme, Dr Amit Kumar, Senior Principal Scientist of the institute, addressed about 600 students and teachers from various schools on "Artificial Intelligence and Machine Learning in Agriculture". The role and usage of drones in agriculture were also demonstrated. Further, these students and teachers also got information about research work and developed technologies of the institute.

A programme on "Strengthening Local Linkages" was organised on the sixth day of the programme. The Mayor of Palampur Municipal Corporation, Mrs Poonam Bali, was the guest of the ceremony.

Dr Pralay Das, Principal Scientist, CSIR-IHBT, welcomed the participants and highlighted the purpose of the programme. The Institute's Scientist Engineer Mohit Sharma gave information on technologies developed at the Chemical Technology Division, Dr Mahesh Gupta on Challenges in Post-Harvest Management — Crispy Fruit and Fruit Technology, Dr Poonam on Value Addition of flowers through dehydration technology, and Dr Probir Kumar Paul on Agrotechnology for medical, aromatic and economically important plants.

CSIR-IITR's "One Week, One Lab" Showcase

CSIR-IITR (CSIR-Indian Institute of Toxicology Research), Lucknow, celebrated the national campaign "One Week, One Lab" from 27 February to 3 March 2023.



As a prelude to the event, a two-day conference on "Women in Academia, Research and Management of Food Safety and Toxicology (WARM-FoST)", was organised by CSIR-IITR in association with the CSIR-Central Food Technology Research Institute (CSIR-CFTRI), Mysuru, and Association of Food Scientists and Technologists of India (AFSTI), Lucknow Chapter, on 24 and 25 February 2023. In her inaugural address, Dr N. Kalaiselvi, DG, CSIR, said that this conference shall provide a platform for women scientists, technologists & entrepreneurs to showcase their achievements in multidisciplinary aspects of food safety, toxicology, public health, technology and entrepreneurship.

Dr Kalaiselvi dedicated a "Jigyasa Aroma Garden" at CSIR-IITR main campus and also unveiled the new logo of the institute that signifies the renewed vigour and energy of the institute. She launched the "One Week, One Lab" campaign and also released a Millet Recipe Book coinciding with the International Year of Millets declared by the United Nations.

The inaugural event was enriched by the presence of Padma Shri Mrs Usha Chaumar, President, Sulabh International; Olympian and Padma Shri Ms Sudha Singh; Dr Radha Rangarajan, Director, CSIR-CDRI, Lucknow; and Dr Sridevi Annappurna Singh, Director, CSIR-CFTRI, Mysuru.

The Chief Guest Prof. Pratibha Goyal, Hon'ble Vice Chancellor of the Dr Ram Manohar Lohiya Avadh University (RMLAU), Ayodhya, inaugurated the "One Week, One Lab" endeavour of CSIR-IITR on 27 February 2023. Prof. Pratibha Goyal appreciated CSIR's contributions to humanity and highlighted the severe health problems that society has been facing due to the blatant use of pesticides and overexposure to different types of toxic chemicals. Prof. Goyal was hopeful that an elite organisation like the CSIR-IITR would continue to do meaningful research.

Dr Bhaskar Narayan, Director, CSIR-IITR, echoed that with efficient, well-trained Manpower, Machines (resources), and Mechanisms, our country too would soon join the league of developed Nations. Dr Narayan spoke about the need for connecting science transpiring within the labs with the public at large and emphasised the importance of "robust, well-built systems".

During the function, a workshop on "Importance of NABL accreditation in the laboratory management system of testing laboratories" was also organised. Dr Avijit Das, Senior Director, NABL, and the Guest of Honour of the programme spoke about the importance of quality systems in laboratories. He hoped that the participants of this workshop would be able to learn new skill sets and use them to improve efficacy at their respective workplaces.

On this occasion, CSIR-IITR signed a Memorandum of Understanding with RML Avadh University, Ayodhya. The Chief Guest Prof. Pratibha Goyal inaugurated the "Research Scholars Poster Showcase Event" that was put up by the AcSIR PhD scholars of the institute. She interacted with the youngsters and hoped that each one of them would become a brand ambassador of the CSIR.

The National Science Day-2023 coincided with the second day of the CSIR-IITR "One Week, One Lab" campaign. Reverberating the theme of this year's National Science Day "Global Science for Global Wellbeing", Shri ASKVS Sharma, former Chief Scientist, CSIR-CFTRI & Guest of Honour at the function talked about India's emerging global role and rising visibility in the international arena. Addressing a large gathering of school students, he aptly talked about how curiosity in science should be channelled into a driving force towards making good things better.

Delivering the keynote address, Shri Tarun Sridhar, IAS, Former Secretary to Govt of India & Chief Guest of the function shared his thoughts on how science may be used to ensure effective policymaking. He opined that the S&T ecosystem in the country has made rapid strides in recent years and several new landmark reforms in science administration, with far-reaching implications, have been initiated. Delivering the presidential address, Dr Bhaskar Narayan opined that the true potential of any scientific outcome is only realised when it traverses the distance from the lab to the land.

During this programme, awards were given to the winners of the CSIR-IITR Jigyasa programme in which a total of 80 entries were received, out of which 20 were shortlisted for final pitching. The best 5 entries were awarded.

Day three of the week-long campaign at CSIR-IITR marked the start of a three-day CSIR-IITR and NABL joint

training programme on 'Analysis of Pesticide Residues in Fruits and Vegetables' which was inaugurated by Shri N. Venkateswaran, CEO, NABL. Speaking at the inaugural event Shri Venkateswaran expressed confidence that this was just the beginning of a series of such training programmes to be organised jointly towards the mission of skilling the youth and making them employable. He urged the participants of the training programme to use their time at the institute judiciously and make the maximum of the exposure that they will get.

The other highlight of the day was the finale of the CSIR-IITR Hackathon 2023. Out of a total of 32 entries received in different areas of 'Digital Intervention for Food Safety and Environmental Sustainability Solutions', seven finalists were shortlisted for the final round of evaluations. They presented their innovative proposals and business models on ideas including the 'anti-nicotine chocolate and digital de-addiction tracking'; 'IoT based technology to fight air pollution'; 'carbon trade in cars using blockchain'; 'early diagnosis of lifestyle diseases', 'nontoxic plastic alternatives in packaging', etc.

Inaugurating the event, Shri Hemang Jani, Secretary, Capacity Building Commission, Govt of India exhorted the participants and the scientific community to desist from working in silos, and instead work towards larger collaborative and multi-disciplinary projects. He stated that though the Nation has made tremendous progress in recent times, there is a lot of ground to be covered towards achieving our goal of Atmanirbhar Bharat.

Delivering the presidential address, Dr Bhaskar Narayan, reiterated the institute's commitment to being a true value addition proposition to all its collaborators and stakeholders. He said that CSIR-IITR believes in the principle of working together for everyone to be successful.

On day four, CSIR-IITR launched a trinity system for ease of serving industry and society. CSIR-IITR intends to boost, facilitate and expedite 'industrially relevant' R&D by understanding requirements, clearing the bottlenecks, accelerating research and charting out an implementable action plan that would meet the demands of the stakeholders. Towards this end, the Institute launched an ambitious platform named CAiRES (Consultative Arrangement for Innovation in Research by Engaging Stakeholders). CAiRES intends to bridge the gaps between 'research production' and 'research use' by better carving of the problem statements, efficient resource utilisation, manpower deployment and effective harnessing of 'market acceptable' outputs — with consensus of all stakeholders.

Another endeavour that CSIR-IITR embarked upon was the launch of the Government Academia & Industry Network (GAIN) platform which intends to demonstrate sharing of purpose, synergy, collaboration and cooperation amongst academia, industry and Government organisations. GAIN would be a forum to strengthen the collaboration and accountability between these pillars of scientific innovation — each having its own unique strengths and functional models.

On this occasion, CSIR-IITR brought several industries

& start-ups to showcase their technologies and innovative products. The exhibition was inaugurated by Shri Pawan Agarwal, IAS, CEO & Founder, Food Future Foundation. The highlight of the day's events was the award ceremony of the CSIR-IITR Hackathon 2023. Shri Agarwal congratulated the participants and appreciated the efforts of the institute to bring a collaborative system to enable the most demanding task of the country to engage diverse stockholders and sustain their businesses. He said, in the current data-centric world, industries should work on utilising the expertise of the research institutions, particularly regulatory decision-making.

In his address, the Guest of Honour Dr G. Narahary Sastry, Director, CSIR-NEIST lauded the efforts of CSIR-IITR towards tackling air, water, and soil pollution.

In the afternoon, a roundtable discussion involving representatives from the Government, Academia, and Industry, was organised. The discussions were spearheaded by Dr KC Khulbe, Chief Scientist, CSIR-IITR with about 24 industry representatives participating. An academic collaboration MoU was signed between CSIR-IITR and ICAR-CIFE, Mumbai. CSIR-IITR also signed MoUs with Marico Limited, Mumbai; Community Empowerment Lab, Lucknow; Centre for BioMedical Research, Lucknow; Farelabs, New Delhi; EFRAC, Kolkata; Blessings Advertising; and, Philtons Bioengineering Pvt. Ltd.

The institute is celebrating the Centenary Year of Dr CR Krishnamurti, an eminent environmental scientist and a pioneer in the field of occupational health and the second Director of CSIR-IITR (from 1978 to 1983) who was instrumental in establishing the Gheru Campus of the institute as a Centre for Ecotoxicology testing. Shri Brajesh Pathak, Hon'ble Deputy Chief Minister, Government of Uttar Pradesh was the Chief Guest for the Centenary celebrations during which he unveiled a bust of Dr Krishnamurti and a Memory Wall as a token of remembrance and appreciation for his over five decades of contribution to the institute. The Gheru Campus of the institute was renamed as CRK Campus in honour of Dr CR Krishnamurti. Speaking on the occasion, Shri Brajesh Pathak lauded the services of the institute in the niche area of environmental monitoring and in developing technologies to tackle air, water and soil pollution. Several former colleagues and students of Dr CR Krishnamurti shared their experiences of working with him. His long-sighted vision towards converting laboratory findings into actual field settings in environmental toxicology, bioremediation, and occupational health is visibly demonstrated by the laboratories at the Gheru Campus, they opined.

In the concluding programme, Shri Indrajeet Singh, IAS, Municipal Commissioner, Lucknow Municipal Corporation was the Chief Guest and Dr Ajit Kumar Shasany, Director, CSIR-NBRI, was the Guest of Honour. Awards were given to the prize winners of the research scholars poster presentation competition that was held as a part of the celebrations on 27 February 2023. Also, participants of the three-day CSIR-IITR and NABL joint training programme on Analysis of Pesticide Residues in Fruits and Vegetables were felicitated.