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CSIR Gets A New Director General

Dr N. Kalaiselvi is the first woman Director General of CSIR



The Appointments Committee of the Cabinet appointed Dr Nallathamby Kalaiselvi, who was Director of CSIR-Central Electrochemical Research Institute (CSIR-CECRI), Karaikudi, as Director General, Council of Scientific and Industrial Research (CSIR) & Secretary, Department of Scientific and Industrial Research (DSIR), on 7 August 2022.

Dr N. Kalaiselvi is the successor to Dr Shekhar C. Mande, who retired in April, after whom Dr Rajesh Gokhale, the Secretary of the Department of Biotechnology, was given additional charge as DG CSIR.

Dr Kalaiselvi's research work of more than 25 years is primarily focused on electrochemical power systems and in particular, the development

of electrode materials, custom-designed synthesis methods, optimisation of reaction parameters and electrochemical evaluation of in-house prepared electrode materials for their suitability in energy storage device assembly. Her research interests include lithium and beyond lithium batteries, supercapacitors and waste-to-wealth driven electrodes and electrolytes for energy storage and electrocatalytic applications.

Dr Kalaiselvi has more than 125 research papers and six patents to her credit. She is a recipient of many prestigious awards including the MRSI medal, CSIR Raman Research Fellowship, INSA-NRF Exchange award, Brain Pool Fellowship of Korea and the Most Inspiring Women Scientist award.

Newly Appointed DG, CSIR, N. Kalaiselvi calls on Union Minister Dr Jitendra Singh

“CSIR with 36 laboratories and over 4,500 scientists must focus on emerging innovations in areas like hydrogen in the energy transition, carbon capture and storage, accessible solar power, plastic recycling and cheap energy storage,” said Dr Jitendra Singh.



Newly appointed DG, CSIR, Dr N. Kalaiselvi 8 August 2022 called on the Union Minister of State (Independent Charge) Science & Technology; Minister of State (Independent Charge) Earth Sciences; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh and discussed the status of ongoing research projects in cutting edge and futuristic technologies.

Dr Kalaiselvi apprised Dr Jitendra Singh about her research experience spanning over two decades in areas like electrochemical power systems, energy storage devices, lithium technologies and electric mobility.

Dr Jitendra Singh congratulated Dr Kalaiselvi for being the first woman DG of CSIR in its rich history and legacy of over 80 years. He also underlined that Prime Minister Modi has a penchant for taking such historic decisions having a positive bearing on the overall growth and development of the country.

Dr Jitendra Singh said that CSIR having a network of 36 laboratories and over 4,500 scientists must focus on emerging innovations in areas like hydrogen in the energy transition, carbon capture and storage, accessible solar power, plastic recycling and cheap energy storage. He lauded CSIR-National Aerospace Laboratories (CSIR-NAL) for recently showcasing the solar-powered high altitude long endurance unmanned aerial vehicle, also known as the ‘High Altitude Performance (HAP) Vehicle’. The HAP is designed to fly at an altitude of 22 km and for a span of up to 90 days and could work as a pseudo satellite, with higher performance, and lower launch cost. The Minister also underlined the pioneering work being done in drone technology.

Dwelling on the Aroma Mission of CSIR, Dr Jitendra Singh said that the “Purple Revolution” in Jammu and Kashmir has changed the face of farming in the UT. He said, due to



high monetary returns, in a brief span of time, aroma/lavender cultivation has become a popular option in farming for agricultural startups in J&K.

Dr Jitendra Singh also discussed taking the state-of-the-art Heli-borne survey technology of CSIR for groundwater management on a wider scale with cooperation and coordination from the Jal Shakti Ministry. He said, the technology developed by CSIR-NGRI Hyderabad was applied last year in the

States of Rajasthan, Gujarat, Punjab and Haryana and this could play an important role in positively contributing to Prime Minister Narendra Modi's Vision and Mission of "Har Ghar Nal Se Jal". Similarly, the mechanised sewage cleaning system developed by CSIR for wider dissemination will help in achieving the target of the Swachh Bharat Mission, he added.

Courtesy:PIB

Aninda Mazumdar Receives National Award in Ocean Sciences

Dr Aninda Mazumdar, Senior Principal Scientist, CSIR-National Institute of Oceanography (CSIR-NIO), Dona Paula, Goa, has been honoured with the National Award in Ocean Sciences for the year 2022.

Dr Mazumdar has made a pioneering contribution to India's gas hydrate exploration programme. He has made fundamental contributions to



discovering methane cold seep systems in Krishna-Godavari and Cauvery-



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Mannar basins. These discoveries have put the Krishna-Godavari and Mannar basins on the global cold seep map. He has also contributed commendably to understanding Fe-S-C biogeochemistry of modern and ancient marine sediments/sedimentary rocks. In recognition

of his outstanding contributions to Ocean Sciences, the Ministry of Earth Sciences has honoured Dr A. Mazumdar with the National Award in Ocean Sciences for the year 2022.

Dr Mazumdar has over 50 publications in reputed journals.

Events

CSIR-IHBT Celebrates 76th Independence Day

Dr Sanjay Kumar, Director of the institute, hoisted the national flag and addressed the gathering.



CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT), Palampur, Himachal Pradesh, celebrated the 76th Independence Day with great enthusiasm and gaiety. Family members, including children, were present during the function. Dr Sanjay Kumar, Director of the institute, hoisted the national flag and addressed the gathering. The national flag was also hoisted at the institute's Centre for High Altitude Biology (CeHAB) at Ribling (Keylong, Lahaul); the ceremony was held in the presence of scientists and staff at CeHAB and was witnessed at CSIR-IHBT through MS Teams. On this auspicious occasion, a new issue of "Manthan" magazine of Staff Club was released.

To commemorate 75 years of Independence, "Azadi Ka Amrit Mahotsav", the Director and staff members planted 75 saplings of the flame tree (*Delonix regia* (Hook.) Raf.), plumeria (*Plumeria alba* L.) and camphor (*Cinnamomum camphora* L.) in the institute premises. Interestingly the colours of selected plant species, saffron for the flame tree, white for plumeria and green for camphor symbolises the tricolour of the national flag.

On this occasion, prizes were distributed for different sports activities held in the institute. The staff and the children participated in different fun and sports activities organised for this day.

Independence Day Celebrations at CSIR-NCL



Dr Ashish Lele, Director, CSIR-NCL, addressing the staff, students



Shri Jayant Sahasrabudhe while delivering the talk

CSIR-National Chemical Laboratory (CSIR-NCL), Pune, celebrated India's 76th Independence Day. On this occasion, Dr Ashish Lele, Director, CSIR-NCL, hoisted the Indian flag and said that Science and Scientists play a vital role for any nation to progress on the right path and protect it. He urged everyone to give their best in work and perform efficiently.

Chief Guest of the programme, Shri Jayant Sahasrabudhe, National Organising Secretary of Vigyan Bharati, rendered a talk on the topic "Role of Science and Scientists in India's freedom struggle."

Many dignitaries were present for this programme including Dr Shekhar C. Mande, President, Vigyan Bharati. Also a book written by him on the topic "Indian Science and Role of Indian Scientists in Freedom Struggle" was released by Dr Mande.

The programme was hosted by Dr Swati Chadha, Hindi officer, CSIR-NCL. Awards were given to winners of the Drawing and Science Model-making competition organised to mark the celebration of the 76th Independence Day.

Shri Sahasrabudhe said that the freedom movement was not only fought by political and social leaders, but scientific leaders were also actively involved in it. The freedom struggle meant a lot for every Indian. He added that science and Indian scientists played a key role in the freedom movement. Further, he emphasised that India has been the source of knowledge for the entire world since ancient times. He reminded the attendees about the role played by Acharya Prafulla Chandra Ray, Mahendralal Sarkar, Jagdish Chandra Bose, Swami Vivekananda, Bankim Chandra Chatterjee, Dr C.V. Raman, and Madan Mohan Malaviya. He talked about how they used science as a tool to fight for freedom.

Shri Sahasrabudhe talked about Jagdish Chandra Bose who opted to teach science without any salary continuously for three years in an educational institute governed by the British as they did not consider Indians eligible for science tutoring. It was a strong protest in a unique manner, many years before Mahatma Gandhi initiated the Champaran Satyagraha of 1917.

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He described how the British rule was established in India. Many institutions like the Botanical Survey of India, Anthropological Survey of India, and Economic Survey of India were founded to fulfil other interests. Acharya Prafulla Chandra Ray studied at Edinburgh University, where he participated in an essay competition and presented an essay on “India after and before the mutiny.”

After completing his studies Acharya Prafulla Ray preferred to return to India and opted to teach science to the natives throughout his life. He laid down the foundation of the chemical industry in

India. Shri Sahasrabudhe informed that some of the leading Indian scientists created the Indian Association for the Cultivation of Science (IACS) at that time for promoting science done only by the “natives”. Dr C.V. Raman’s Nobel Prize-winning work was done at IACS. He was the first non-white skin scientist to win the Nobel Prize. And while accepting the Nobel Prize, he expressed grief that he was not able to receive the prize under the flag of independent India. Indian Institute of Science was created by the active persuasion of Bhagini Nivedita, a British-born national, he said.

CSIR-CECRI Celebrates its 75th Foundation Day

Dr V. Saraswathy, Chief Scientist, CSIR-CECRI, in her welcome address, revived pages from the past on the origin of CSIR-CECRI and narrated its crucial contributions in various sectors, particularly in Industrial R&D.

CSIR-Central Electrochemical Research Institute (CSIR-CECRI), Karaikudi, celebrated its 75th Foundation Day (CECRI@75) on 25 July 2022. Dr V. Saraswathy, Chief Scientist, CSIR-CECRI, in her welcome address, revived pages from the past on the origin of CSIR-CECRI and narrated its

crucial contributions in various sectors, particularly in Industrial R&D.

Dr N. Kalaiselvi, the then Director, CSIR-CECRI, in her presidential address, proudly mentioned the coincidence of this day with the 100th birthday of Prof. John Bannister Good enough, Nobel Laureate who is known





for his development of lithium-ion batteries. She recalled the remarkable contributions to electrochemical science and technology made by all visionary leaders of CSIR-CECRI starting from Dr A. Jogarao in 1949 and the realistic impacts it created in the industrial and societal sectors.

She also re-emphasised the significance of CSIR's commitment to be the Nodal agency and the Model lab towards Global excellence. Our Hon'ble PM's Mission to achieve 'Net-Zero' emission by 2070 is an ample example in this regard and we all should pursue this as our primary goal, she said. Dr Kalaiselvi presented a glimpse of R&D activities being carried out at CSIR-CECRI in all major Themes identified by CSIR, especially on Energy, Chemicals, Strategic and Healthcare & Nutrition. She was also optimistic about developing and transferring more technologies identified under CECRI@75 banner within a year.

Padma Vibhushan Dr R. Chidambaram, DAE-Homi Bhabha Professor at BARC, Former Chairman, Atomic Energy Commission of

India and Former Principal Scientific Adviser to the Government of India was the Chief Guest of the event. He virtually inaugurated the CECRI@75 celebrations – a series of activities throughout the year commemorating 75 years of excellence. He highlighted the expertise and skill sets of CSIR-CECRI and some key achievements in critical and strategic areas in all aspects of electrochemical science and technology.

Shri U.K. Bhattacharya, Director (Projects), NTPC, New Delhi, and Prof. K.I. Vasu, Former Director, CSIR-CECRI & Founder President, Vijnana Bharati graced the occasion as the Guests of Honour. Shri Bhattacharya briefed the audience on the association of CSIR with NTPC in several large-scale projects and the invaluable inputs received by NTPC from CSIR in solving many issues of varying magnitude. He expressed extreme confidence in working together with CSIR-CECRI based on its impressive technology portfolio in many matching fields of interest.

Prof. Vasu (94 years old) mesmerised the audience by bringing

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forth many memorable moments from the magnificent past of CSIR-CECRI. He recalled the remarkable contributions of former Directors of CECRI especially Dr Udupa in industrial electrochemistry, Prof. KSG Doss in revolutionising electrochemical education and Dr K.S. Rajagopalan in corrosion science and engineering. He claimed that CSIR-CECRI with all conceivable infrastructures contains a conducive environment for carrying out world-class research. He praised the campus as a beehive of electrochemistry.

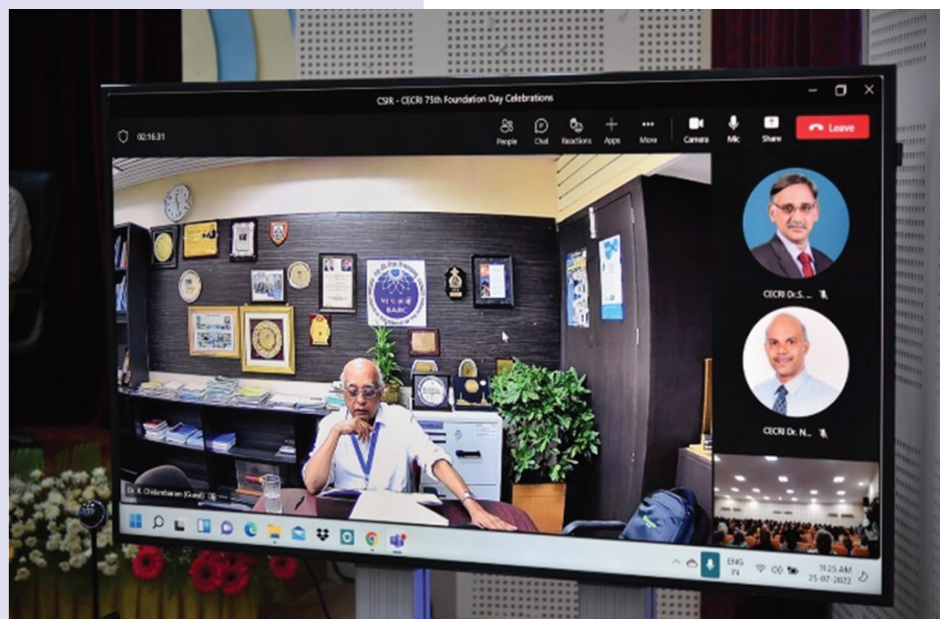
He wished CSIR-CECRI all success in all its future endeavours and advised all staff members to contribute their might & march with pride towards Centennial Celebrations.

Dr K.J. Sreeram, Director, CSIR-Central Leather Research Institute (CSIR-CLRI), Chennai and Dr N. Anandavalli, Director, CSIR-Structural Engineering Research Centre (CSIR-SERC), Chennai, offered felicitations and called for more combined efforts in common R&D and institutional activities. Shri R.P. Singh, Head, Innovation Management Directorate, CSIR HQ, New Delhi, envisioned the exclusive role to be played by CSIR-CECRI in almost all leads towards 'Net Zero' by 2070.

Several industrial partners, especially those who acquired technological processes from CSIR-CECRI recently, offered felicitations and expressed their gratitude for timely scientific interventions. All of them unanimously solicited continued collaboration in the future as well for a mutually rewarding experience.

On this occasion, the winner of the Logo Designing Competition to mark the 75th Foundation Day Celebrations of CSIR-CECRI was announced (Ms K.M. Lakshmi, Research Scholar, CSIR-CECRI) and the selected CECRI@75 Logo was unveiled by Prof. K.I. Vasu. He also released a book on Electroplating in Tamil (Vaazhvin Aatharam Electroplating) authored by Dr P. Veeramani, Former Chief Scientist, CSIR-CECRI. The event concluded with a vote of thanks by Shri K.M. Sridhar, Controller of Administration, CSIR-CECRI.

Subsequently, a demonstration of a battery-supercapacitor hybrid e-rickshaw was carried out. As part of the event, the carbon capture demo plant was also inaugurated.



CSIR-IHBT Celebrates 40th Foundation Day



CSIR-Himalayan Institute of Bioresource Technology (CSIR-IHBT), Palampur, celebrated its 40th Foundation Day on 2 July 2022. Dr Sanjay Kumar, Director of the Institute, welcomed the Chief Guest Padma Shri, Padma Bhushan and Shanti Swarup Bhatnagar Awardee Dr T. Ramasami, Former Secretary, Department of Science and Technology, Government of India and Distinguished Professor of Eminence, Technology Enabling Centre, Anna University, Chennai, and introduced him to the audience.

Dr T. Ramasami delivered the foundation day speech on “Towards Sustainable Bioeconomy Path of Himalayan Biosphere: IHBT as the Path Finder”. While greeting the staff of the Institute on the 40th foundation day, he said that CSIR-IHBT is located in a fragile ecosystem and is mandated to emerge as a global leader in technologies for boosting bioeconomy through sustainable utilisation of Himalayan bioresources. Apart from highlighting the contribution made by CSIR-IHBT in the service of society over the last 40 years, Dr Ramasami also suggested focusing on developing technological solutions for a sustainable bioeconomy.

He was of the opinion that CSIR-IHBT has to play a crucial role inserving

the nation as a pathfinder towards a sustainable economy using resources available in the Himalayan biosphere. He emphasised on the three pillars for sustainable development i.e. Bearable, Equitable and Viable. He also stressed upon innovation in the field of science, and the value addition of bio-based products for economical upliftment and called upon the institute to accept the challenges of the fragile Indian Himalayan ecosystem. Dr Ramasami also visited the research facilities, processing units and fields of the institute and surveyed various farmers and industry-centric technologies developed for the overall social benefit at CSIR-IHBT.

Earlier, Dr Sanjay Kumar presented the annual report of the Institute for the year 2021-22. He said that under Aroma Mission Phase-II, the institute covered an area of 1398 hectares under aromatic crops and expanded its cultivation in twelve states and two union territories. During the year, Himachal Pradesh has maintained its position as the top producer of marigold oil in the country with a production of 7.3 tonnes of oil with institutional efforts.

Under the Floriculture Mission, the area was expanded to 350 hectares, benefiting 1004 farmers. The Tulip garden established in the institute

Dr T. Ramasami delivered the foundation day speech on “Towards Sustainable Bioeconomy Path of Himalayan Biosphere: IHBT as the Path Finder”.

On this occasion, Dr T. Ramasami released the Annual Report 2021-22 of the institute and '*History of IHBT*'.

has been a major attraction this year. The area under stevia cultivation also extended to 448 hectares in India with concerted efforts of IHBT. For the cultivation of asafoetida in the country, 33000 saplings were supplied and 4 hectares brought under cultivation at 214 places. Apart from Himachal Pradesh and Uttarakhand, 519 farmers and 53 agriculture officers of Jammu & Kashmir and Ladakh were trained. With the agriculture department, 6859 kg of saffron tubers were supplied to the farmers in the state so that saffron production could be promoted.

The area under low-chilling varieties of apples has been extended to about 117.5 acres in the North Eastern States. These efforts were also mentioned in the 'Mann Ki Baat' programme on 25 July 2021 by Honourable Prime Minister, Shri Narendra Modi. In a new initiative, IHBT introduced the organised cultivation of cinnamon in Himachal. Moreover, CSIR-TKDL Point of Presence has been established in the institute with a focus to document and digitize Sowa Rigpa (Tibetan system of medicine). Besides, he informed that the farm gene bank at the Centre of High

Altitude Biology was also enriched with 40 threatened Himalayan plant species.

On this occasion, Dr T. Ramasami released the Annual Report 2021-22 of the institute and '*History of IHBT*'. Along with the cultivation manual on Tulsi, compendiums on significant research accomplishments in the fields of agriculture, biotechnology, natural plant products, dietetics & nutrition and environmental technology were also released. Besides three industrial units, MoUs with Haryana Central University, the Department of Science and Technology, Government of Sikkim were also signed during the event.

Apart from former Vice-Chancellor of the Agricultural University, Dr S. K. Sharma, Director of Chinmaya Tapovan Trust Dr Kshama Maitre, scientists from IVRI, IGFRI, Palampur Science Centre, and Agricultural University also attended the programme. Several students and teachers from Kendriya Vidyalaya Palampur and Neugal Public Senior Secondary School, Bindraban (Palampur) participated under the Jigyasa programme and visited laboratories. Local academic staff, ex-employees, local entrepreneurs and producers and media representatives also graced the foundation day event.

CSIR-NIO celebrates World Youth Skills Day

Atal Innovation Mission (AIM), NITI Aayog is the Government of India's flagship initiative to promote a culture of innovation and entrepreneurship in the country.

It was with a vision to 'Cultivate one Million children in India as Neoteric Innovators', Atal Innovation Mission has established ~9500 Atal Tinkering Laboratories (ATLs) in schools across India. The objective of this scheme is to foster curiosity, creativity, and

imagination in young minds; and inculcate skills such as design mindset, computational thinking, adaptive learning, physical computing, etc.

CSIR laboratories are known for their involvement in modern science discoveries as well as contributions to technology development. Atal Innovation Mission and CSIR are making joint efforts to popularise science, technology and innovation to inculcate scientific temper amongst school students through



various initiatives like “Jigyasa: Student-Scientist Connect programme” and physical lab visits.

United Nations General Assembly declared July 15 as World Youth Skills Day, to celebrate the strategic importance of equipping young people with skills for employment, decent work and entrepreneurship. AIM and CSIR in collaboration celebrate “World Youth Skills Day” across CSIR Labs in the country by inviting the students of ATLs to the CSIR Labs.

CSIR-National Institute of Oceanography (CSIR-NIO), Dona Paula, Goa had organised a half-a-day interactive session for the ATL schools under the CSIR Jigyasa programme, from 9:00 am to 1:00 pm. It was a great learning experience for the students to visit the lab and interact with CSIR Scientists and learn about the possibilities that emerge from science and innovation.

At the inaugural session Dr Maria-Judith Gonsalves, Senior Principal Scientist, CSIR-NIO, welcomed the students and teachers and elaborated

on the importance of skilling and upskilling. She said the event would be beneficial to the youth as along with technological advancement there is a new world of work with increasing importance on skills and training. She emphasised that Indian youth should constantly upgrade their skill. She also elaborated on the purpose of celebrating world youth skill day.

The students got an opportunity to visit various laboratories and received hands-on training, learning about zooplankton and phytoplankton, and about different minerals present in rocks. The students visited the Marine Instrumentation Division where they were enlightened about the latest design in technology and working of the CBOT, AUV, AVP and SREP. The students later visited the Central Analytical Facility where they were explained the working of various machines such as Gas Chromatography, Mass spectrometer, and Gas Chromatography Isotopic Ratio Mass spectrometer.

Forty-one students along with nine teachers participated in the half-day

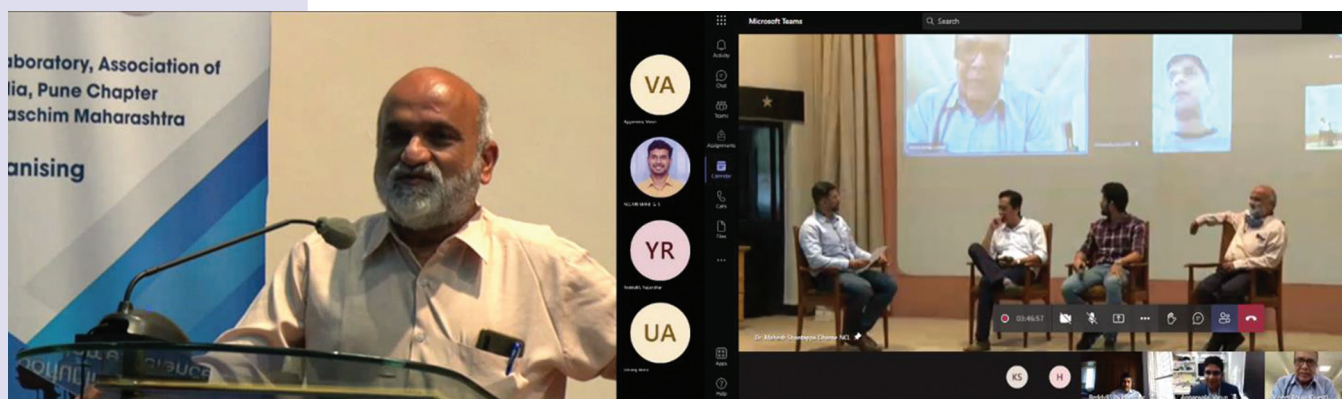


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event and had an excellent opportunity to interact with scientists & research scholars and understand the research activities of CSIR-NIO.

The programme was conducted and coordinated by Shri Sundarash, Nodal Officer, ATL, Jigyasa program CSIR-NIO, Goa.

Symposium on “Microbial World” at CSIR-NCL



Dr Yogesh Shouche at the inaugural address Panel discussion underway in a hybrid mode

Dr Yogesh Shouche emphasised the global variation in microbiome, and diseases.

CSIR-NCL Pune, Association of Microbiologists of India (AMI), Pune Chapter, and Vidnyan Bharati (VIBHA), Paschim Maharashtra Prant, jointly organised a half-day symposium to observe ‘World Microbiome Day’ under the theme “The Microbial World” on 29 July 2022.

Dr Yogesh Shouche, Professor, School of Arts and Sciences, Azim Premji University, Bengaluru, and Honorary Scientist, National Centre for Cell Science (NCCS), Pune, gave the inaugural address and plenary session on the ‘Microbiome and emerging career opportunities.’ He mentioned that soil, plants, and humans contain bacteria, fungi, viruses, and other microorganisms. They have specific effects on living individuals and their health, environment, and energy; every living individual has its own microbiome.

He further emphasised the global variation in microbiome, and diseases. He also talked about the Human Genome Project with extraordinary human health applications, gut microbes and their

actions on the human body, and athletic microbiome. He threw light upon the microbiome-based therapies for Fecal Microbiota Transplantation, Microbial Consortia, genetically engineered microbes, and Bioactive Molecules. He also explained the triangle of Genetics, Environment, and microbiome and presented pan-India mapping of the human microbiome.

The programme further proceeded with a panel discussion on ‘Microbiome: Science and Entrepreneurship opportunities’ where Dr Ranjan Sinha (Digbi Health, California), Dr Yugandhar Reddy (Unilever India), Dr Vineet Ahuja (AIIMS, New Delhi), Shri Piyush Bhanu (Xome Life Sciences, Bangalore), Dr Dhiraj Dhotre (NCCS, Pune), Dr Kumaran Sankaran (Leucine Rich Bio, Bengaluru) interacted on different aspects of microbiome research, entrepreneurship, opportunities, and challenges.

The panel discussion majorly emphasised the research on microbiome, personalised medicines and their effects

in India, healthy diet, microbiome based products, microbiome education progress in India, and prospects of microbiome in India. Many students, faculties, and dignitaries from various colleges participated in the programme. The discussion was moderated by Dr Shrikant Pawar (General Manager, Mylab Discovery Solutions, Pune).

Earlier, Dr S. Gopinath, Deputy Director, CSIR-NCL, Pune, gave the welcome remarks and felicitated the dignitaries on the dais including

Dr Yogesh Shouche, Honorary Scientist, National Centre for Cell Science, Pune.

Dr Manasi Malgaonkar (Secretary, VIBHA, Paschim Maharashtra Prant) briefed about activities carried out by VIBHA Paschim Maharashtra Prant. Dr Snehal Kulkarni (EC Member, AMI, Pune Chapter) informed about the AMI activities and its contributions to the development of Microbiology. Dr Mahesh Dharne, Principal Scientist, CSIR-NCL, gave the concluding remarks.



Technology Transfer on CO₂ Capture by CSIR-CECRI

CSIR-CECRI Karaikudi has ventured in search of a viable solution to capture the polluting Carbon-di-oxide (CO₂) from thermal power plant flue gas and has emerged successfully with an innovative technology that matches with the Department of Energy (DoE), USA targets as well. The novelty of CSIR-CECRI's invention lies in the synthesis process to produce an adsorbent capable of adsorbing more than 3 millimoles per gram of CO₂ at flue gas conditions.

The process know-how has been transferred to M/s Summits Hygronics Private Limited based at Coimbatore (a leading manufacturer of air drying units, and medical oxygen generators for industrial and medical applications). This technology could be used in multiple areas like thermal power plants, submarines, biogas enrichment, automotive sector and direct air capturing in highly polluted cities thereby minimising CO₂ concentration leading to reduction in global warming. The so captured CO₂

This technology could be used in multiple areas like thermal power plants, submarines, biogas enrichment, automotive sector and direct air capturing in highly polluted cities thereby minimising CO₂ concentration leading to reduction in global warming.





could also be converted into value-added industrially important chemicals like methanol, formic acid, adipic acid, etc. enabling a circular economy.

As this technology is in alignment with one of the United Nation's "Sustainable Development Goals on Climate Action" (SDG 13) and the

Government of India's mission on "Carbon Capture, Utilisation and Storage (CCUS)", it paves way for joint efforts of a research institute with a renowned industry to address a major global mandate towards fulfilling India's commitment in realising "net-zero" emission by 2070.

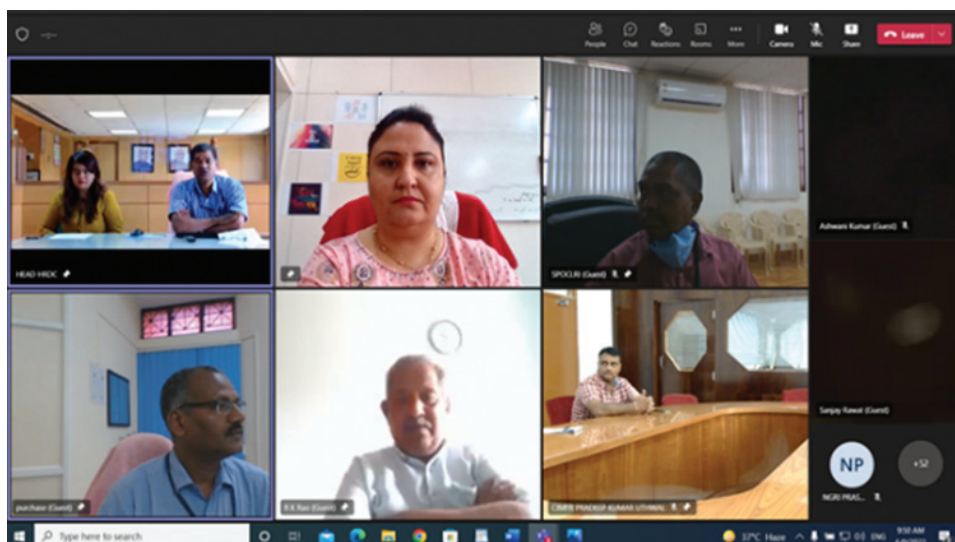
CSIR-HRDC Organises Various Programmes

Programme on Procurement of Goods and Services

Two days Online Programme on Procurement of Goods and Services was conducted during 9 & 10 July 2022. The programme

covered all aspects of the Procurement Procedure of Goods & Services in CSIR. Approximately 150 participants from various CSIR labs had joined. Resource persons were experts from respective domains.

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Awareness Programme on Gender Sensitisation and Sexual Harassment of Women at Workplace:

Prevention, Redressal and procedures: One-day Awareness Programme on Gender Sensitisation and Sexual Harassment of Women at Workplace was organised on 14 July 2022 in CSIR-CGCRI, Kolkata campus. The programme was mainly for the employees of CSIR-CGCRI. The objective of the programme was to emphasise on the need for Gender Sensitisation, legal framework of the Act, such as handling complaints, functions of committees, duties of employers, punishment and jurisdiction, and cases studies. The programme deliberated on how to

create a conducive and harmonious work environment through experience sharing and panel discussions. Dr Suman K. Mishra, Director, CSIR-CGCRI inaugurated the programme. Dr Sunita H. Khurana, Director of the Center for Training, Research and Advocacy was the resource person.

One-day awareness programme on Gender Sensitisation and Sexual Harassment of Women at Workplace was also organised on 28 July 2022 in CSIR-HQ, New Delhi. The programme was mainly for the employees of CSIR-HQ. Sh. Mahendra Kumar Gupta, Joint Secretary, CSIR inaugurated the programme. Sh. Moloy Sanyal, from ISTM was the resource person.



42nd Induction Programmes for Newly Recruited Scientists:

42nd Induction Programme for newly recruited scientist was organised by CSIR-HRDC, at CSIR-IICB, Kolkata during 11-17 July 2022. The Programme was coordinated by Dr Shobhna Choudhary, Sr Scientist, and Co-coordinated by Mrs Preeti Chaudhary, CSIR-HRDC. Twenty-one newly recruited scientists from different CSIR labs participated in this programme. The programme covered CSIR vision, mission & culture of CSIR, national & global S&T and industrial scenario, Societal Application in S&T, IPR, procurement, administrative matters, the financial system of CSIR, preventive vigilance, Gender Sensitisation, etc. The programme also included hands-

on exercises, case studies, role plays, interactive sessions, laboratory visits, etc.

Dr R.K. Sinha, Head of CSIR-HRDC welcomed the participants and the dignitaries. The inaugural address was delivered by Dr Arun Bandyopadhyay, Director, CSIR-IICB. Dr Suman Kumari Mishra, Director, CSIR-CGCRI and Dr Avanish Kr Srivastava, Director, CSIR-AMPRI were the Guests of Honour.

Experienced resource persons from CSIR labs shared their knowledge and experiences with them. They gave the overall view of the functioning of CSIR. Participants visited the CSIR-CGCRI lab and got the chance to visit various facilities and interacted with scientists from various divisions. Dr Indranil



The programme covered CSIR vision, mission & culture of CSIR, national & global S&T and industrial scenario, Societal Application in S&T, IPR, procurement, administrative matters, the financial system of CSIR, preventive vigilance, Gender Sensitisation, etc.

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Chattoraj, Director, CSIR-NML, also interacted with participants and gave the valedictory address.

The 43rd Induction Programme for newly recruited scientists was also organised by CSIR-HRDC, at CSIR-NBRI, Kolkata during 18-23 July 2022. The Programme was coordinated by Dr Nadir Sheikh, Principal Scientist.

Twenty Eight newly recruited scientists from different CSIR labs participated in this programme. The inaugural address was given by Prof. S.K. Barik, Director, CSIR-NBRI. Participants visited the CSIR-CGCRI lab and got the chance to visit various facilities and interacted with scientists from various divisions.



Chemical Research Society of India (CRSI) Honours Scientists from CSIR Labs



Dr Swapnali Hazarika

Dr Swapnali Hazarika, Principal Scientist, and Group Leader of the Chemical Engineering Group of CSIR-North East Institute of Science and Technology (CSIR-NEIST), Jorhat, Assam, has been selected for the

prestigious Chemical Research Society of India (CRSI) bronze medal 2023 for her significant contribution in the field of Chemical Sciences.

Three senior scientists from CSIR-Indian Institute of Chemical Technology (CSIR-IICT), Hyderabad, have bagged three-major recognitions from the Chemical Research Society of India (CRSI). Senior Principal Scientists, Dr Prathama S. Mainkar and Dr Debendra K. Mohapatra, who are involved in technology development, have been selected for CRSI bronze medals 2023 while IICT Director, Dr D. Sreenivas Reddy has been selected for the prestigious Darshan Ranganathan Memorial Lecture of CRSI.



Dr Debendra K. Mohapatra



Dr Prathama S. Mainkar



Dr D. Sreenivas Reddy

Dr Sakya Sen from CSIR-National Chemical Laboratory (CSIR-NCL), Pune, was among the 30 national-level awardees for 2023.

These awards were announced during the 29th CRSI National Symposium in Chemistry (CRSI-NSC29) held in the Indian Institute of Science Education and Research, Mohali, from 7 to 9 July 2022 under the auspices of the Chemical Research Society of India (CRSI).



Dr Sakya Sen

CSIR-IITR Team Receives Eat-Right-India-Research-Award-2022



This award of excellence was given to the CSIR-IITR team for the research work on "Digital Food Safety System and Risk Assessment Databases" under the theme "Eat Safe".

Dr Mansukh Mandaviya, the Honorable Union Minister for Health & Family Welfare presented the Eat Right Research Award-2022 to the team of CSIR-Indian Institute of Toxicology Research (CSIR-IITR), Lucknow, including Dr Ramakrishnan Parthasarathi, Principal Scientist, Toxicoinformatics Research Group, Deepak Kumar Sachan, Meetal Sinha, and Shweta Singh Chauhan on World Food Safety Day, 7 June 2022. The award ceremony was held at the Food Safety and Standards Authority of India (FSSAI) headquarters, FDA Bhawan, New Delhi. This award of excellence was given to the CSIR-IITR team for the research work on "Digital Food Safety System and Risk Assessment Databases" under the theme "Eat Safe".

On 2 October 2021, the Food Safety and Standards Authority of India (FSSAI) launched the Eat Right Research Awards and Grants to foster a wider collaboration with academic and research institutions to encourage and recognise high-quality research in the areas of food safety and nutrition to update or upgrade food formulations and technologies, raise consumer awareness and expand the availability of safe and healthy food options.

According to officials, a total of 287 applications were received, and the most promising research work was chosen for this prestigious honour after going through



numerous levels of assessment. The high-level award celebration was attended by numerous government officials, including Shri Arun Singhal (IAS), food safety commissioners of various states, the CEO of FSSAI, as well as food and nutrition specialists, development agencies, stakeholders and scientists.

The dedicated "Digital Food Safety System and Risk Assessment Databases" work performed under CSIR-Mission Mode Programme on Food and Consumer Safety Solutions comprises data on food safety guidelines, resources for food safety knowledge dissemination, organising outreach programmes for stakeholder meetings & training, workshops on food safety and technology solutions, regular social media for providing timely updates and societal reach, street vendor programmes, food safety posters on clean/good food practices, and more specifically the two major food safety databases namely as FOCUS-DB: An Online Comprehensive Database on Food Additive Safety and ToxDP2

Database: Toxicity prediction of dietary polyphenols.

These databases are fully searchable and support extensive text, chemical structure, and relational query searches. We have provided the potential toxicity of food chemicals based on structural alerts. These predictions can effectively assist in food safety approaches. This comprehensive toxicity compiled in the database will support various developmental inventiveness of food nutritionists, researchers, dieticians, and manufacturers.

The database is a primary step to develop the relationships between the physicochemical properties of polyphenols and their toxicity. Acquired knowledge supports the safe-by-design approaches relevant to the formulation of functional food products such as supplements and nutraceuticals with reduced adverse effects. It provides direct access to physical and chemical properties, as well as, toxicokinetic effects of food chemicals and polyphenols

on humans. This database is providing updated information on the toxicity for the retrieval of specific compounds, which is useful for food industrialists for safe usage and management such as a) consumer-focused instructions/warnings on the products; b) development of a new validated strategy to prevent or remove contaminants from the food products; c) benchmarking of predictions from different SAR models/experiments, and d) reduction of public health risks related to consumption.

Overall, the work resulted in a novel virtual confluence to benefit stakeholders involved in the entire food chain such as producers, consumers, researchers, regulators, and policymakers. This research work also empowers food industries and consumers in disseminating food safety outreach. The Digital Food Safety Portal is increasing food safety awareness, engagement of food safety stakeholders, and facilitating a future food safety framework for risk assessment.



CCMB Scientist Elected as an EMBO Member

Dr Rajan Sankaranarayanan, an Outstanding Scientist at CSIR-Centre for Cellular and Molecular Biology (CSIR-CCMB), Hyderabad, has been announced as one of the elected Associate Members of the European Molecular Biology Organization (EMBO). This year, 67 researchers from 22 countries, based on their research excellence and achievements, have been elected for membership; 58 new EMBO Members are based in 15 of the member states of the EMBO, the intergovernmental organisation that funds the major EMBO Programmes and activities; 9 new EMBO Associate Members, including Dr Sankaranarayanan,



reside in seven non-EMBO countries: Argentina, Australia, Canada, China, India, Singapore, and the US.

EMBO is a leading organisation that shapes scientific research in biology across Europe. Currently, more than

Dr Rajan
Sankaranarayanan, an
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at CSIR-Centre
for Cellular and
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(CSIR-CCMB),
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announced as one of
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Members of the
European Molecular
Biology Organization
(EMBO).

Awards & Honours

Dr Sankaranarayanan responded to the membership saying, "I am honoured to be elected for the EMBO membership which is one of the top recognitions for scientific excellence.

1900 EMBO members across the world serve on the EMBO Council, Committees and Advisory Editorial Boards of EMBO Press journals. They are involved in evaluating applications for EMBO funding and mentoring early career researchers. Through these, they guide the execution of EMBO programmes and activities.

"The new EMBO Members and Associate Members are exceptional scientists, who carry out leading research across a variety of fields, ranging from cell biology and cancer to vaccine development and machine learning," says EMBO Director Fiona Watt. "I am delighted to welcome them to

EMBO, and I know that they will enrich the life of the organisation immensely."

Dr Sankaranarayanan responded to the membership saying, "I am honoured to be elected for the EMBO membership which is one of the top recognitions for scientific excellence. I am particularly delighted as it recognises work done from India, and will also further foster India's relationship with Europe in the broader area of molecular and cell biology."

EMBO will formally welcome the new members at the annual Members' Meeting in Heidelberg between 26 and 28 October 2022.

CSIR-NCL Bags Certificate for Spreading Awareness on Intellectual Property Rights



CSIR-NCL, Pune, has bagged a certificate of appreciation from the Union Commerce and Industry Ministry for its efforts in spreading awareness of Intellectual Property Rights (IPR), on 20 July 2022.

The Office of the Controller General of Patents, Designs and Trade Marks (CGPDTM), generally known as the Indian Patent Office, awarded the certificate in recognition of NCL's active participation in the National Intellectual Property Awareness Mission (NIPAM). An awareness programme was organised jointly by the CSIR-NCL and Intellectual Property Office, Kolkata, as part of the 75th anniversary of India's Independence.

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