

CSIR IN MEDIA



CSIR

NEWS BULLETIN

11 TO 15 OCTOBER 2022



PM Chairs CSIR Society Meeting on 15th October. Prime Minister urges CSIR to develop vision for 2042 when it turns 100 years old

CSIR

15th October, 2022



Prime Minister Shri Narendra Modi, who is President of the Council of Scientific and Industrial Research (CSIR) chaired the meeting of CSIR Society at 7, Lok Kalyan Marg earlier today.

Union Minister of State (Independent Charge) Science & Technology, Dr Jitendra Singh, who is the Vice President of CSIR and Union Minister of Commerce and Industry, Shri Piyush Goyal were present in the meeting along with other CSIR Society members who include eminent scientists, industrialists and Secretaries of scientific and other ministries in the government.

Prime Minister appreciated the efforts of CSIR in the past 80 years and urged to develop vision for 2042 when CSIR turns 100 years old. He also highlighted the significance of documenting the journey of the past 80 years, which can help take a review of progress achieved and identify areas of lacunae which can be addressed. He emphasized that for technology to reach the common man, an integrated approach of scientific, commercial and social components must be pursued. He asked the leaders of the scientific community to adopt a one person one lab approach to help boost scientific research and development through such a focussed approach. He also suggested that a virtual summit of all labs can be held regularly in which they can learn new things from each other's experience.

Prime Minister called upon scientific community to come up with technological solutions to increase protein content in cereals and new varieties of millets to improve the yield and also the nutritional content. He asked scientists to develop a catalogue of high nutritional value of indigenous food products, which will help enhance their global acceptability. He called upon the industry and academic and research organizations to work seamlessly with greater integration and focus on addressing India's energy needs and also foster circular economy and develop economically viable solutions towards sustainable development.

Prime Minister called for India to develop technologies not only for India but for the world and pursue novel approaches for addressing energy needs focussing on Green energy. He highlighted the need to use scientific approach and technology such as AI in various fields ranging from traditional knowledge to mapping students to their interest, skill sets and competencies which will make them better suited to meet the demands of future India and the world as we move towards Vision 2047 with the aim of India being a global leader.

Earlier, in his opening remarks, Dr Jitendra Singh highlighted that this year CSIR has completed 80 years just around the time when India celebrated 75 years of independence and the two have traversed the journey together. He emphasised for integration, synergy and desiloization of industry, academia and research.

DG-CSIR, Dr N Kalaiselvi made a presentation on the recent achievements and contribution of CSIR and highlighted the recent efforts on India's first Hydrogen fuel cell bus, ushering in purple revolution in J&K and opening of TKDL library to spur innovation based on India's rich traditional knowledge. The preparedness for future pandemics through mRNA platform technology, nurturing young scientific leaders, and sustainable start-ups and reaching out to the school students through Jigyasa virtual lab were some of the other major initiatives that were highlighted by DG-CSIR. She also presented the road map of CSIR Vision 2030 which is aligned to national ambitions and vision@2047.

Prime Minister Narendra Modi to Chair CSIR Society Meeting tomorrow

CSIR

14th October, 2022

Prime Minister Narendra Modi will chair the meeting of the Council of Scientific and Industrial Research (CSIR) Society tomorrow morning. All the members of the CSIR Society have been invited for the meeting. The CSIR is a Society under the Department of Scientific and Industrial Research, Ministry of Science & Technology and the Prime Minister is the Society's President.



The Union Minister for Science & Technology, Dr Jitendra Singh, being the Vice President of CSIR, Nirmala Sitaraman, Union Minister of Finance and Piyush Goyal, Union Minister of Commerce and Industry will also be present. The CSIR Society comprises eminent scientists, industrialists, and senior officials of scientific ministries. The Society meets annually to review CSIR activities and deliberate on its future programmes.

Briefing the media, about the CSIR Society meeting and achievements of CSIR, Dr Jitendra Singh said, CSIR's research efforts are now mainly focussed on green energy technologies, STI interventions to generate employment and raise income levels in rural India. He said, strengthening self-reliance across industrial sectors, facilitating infrastructure developments, and developing critical S&T human resources are also the mandate of CSIR and the R&D conglomerate is adopting Artificial Intelligence and Machine Learning platforms for its scientific pursuits.

Dr Jitendra Singh said, the revitalisation of CSIR as per the CSIR Vision 2030 and aligned to National Vision@2047 is being focussed on making India a scientific powerhouse and self-

reliant by becoming a technology provider for the nation. Carrying forward the vision of the Prime Minister for greater integration of schemes and themes, Dr Jitendra Singh said, at present, CSIR has strengthened its engagement with the industry, leading to increased industry partnership and collaboration in CSIR funded projects. In addition to the PPP model, being practised in Energy Theme, few CSIR labs have facilitated sustainable start-ups to promote CSIR technologies pertinent to Agri-bio- nutritech, Specialty Chemicals, Aerospace and Healthcare themes.

The Minister further informed that waste-to-wealth driven technologies of 4M theme and extraction-cum-purification of wide variety of metals have attracted few start-ups and MSMEs too. Hydrazine Hydrate production plant at Gujarat is the recent proof of CSIR's technology from Chemicals Theme, reaching newer heights and leading to import substitution.

Dr Jitendra Singh also underlined that CSIR's aroma mission and purple revolution in Jammu and Kashmir have changed the history as India as exporter instead of India as importer. Steel slag road in Maharashtra, water mapping using CSIR's heliborne technology are few other examples of CSIR's closer association with Line Ministries, driven through Civil cum infrastructure and E3OW thematic projects of CSIR, the Minister added.

Dr N Kalaiselvi, Secretary, DSIR and DG, CSIR in her presentation said that CSIR's activities are carried out through 37 laboratories and 39 outreach centres spread across India. Established in 1942, CSIR completed its 80th year recently, and in its long history, CSIR has made many significant contributions to the Indian industry and society at large. During the COVID-19 pandemic, CSIR laboratories developed numerous technologies to manage the pandemic.

Dr. TV Somanathan, Finance Secretary & Secretary Expenditure, Dr. Ajay Kumar, Secretary, Department of Defence Production, Ministry of Defence, Shri K. Sanjay Murthy, Secretary, Department of Higher Education, Ministry of Human Resource Development, Dr. Rajiv Bahl,

Secretary, Department of Health Research, Ministry of Health and Family Welfare, Dr. Himanshu Pathak, Secretary, Department of Agricultural Research Education (DARE), Dr. Samir V. Kamat, Secretary, Department of Defence Research and Development (DDR D) and Chairman, Defence Research and Development Organisation (DRDO), Dr. Srivari Chandrasekhar, Secretary, Department of Science & Technology, Ministry of Science & Technology, Dr N. Kalaiselvi, Secretary, DSIR and DG, CSIR, Dr. M. Ravichandran, Secretary, Ministry of Earth Sciences, Dr. Rajesh S. Gokhale, Secretary, Department of Biotechnology, Shri K. N. Vyas, Secretary, Department of Atomic Energy and Chairman, Atomic Energy Commission, Shri S. Somanath, Secretary, Department of Space and Chairman, Space Commission & Indian Space Research Organisation, Shri Gurdeep Singh, Chairman and Managing Director, National Thermal Power Corporation Limited, Shri C.B. Ananthakrishnan, Hindustan Aeronautics Limited (HAL), Dr. Nalin Shinghal, Bharat Heavy Electricals Limited (BHEL) Shri Sandeep Kumar Gupta, Gas Authority of India Limited (GAIL), Prof. Ajay Kumar Sood, Principal Scientific Adviser to Govt of India, Prof. K. VijayRaghavan, Former Principal Scientific Adviser to the Govt. of India, Dr. Vijay Bhatkar, Eminent Scientist, Shri Baba A. Kalyani, Chairman and Managing Director, Kalyani Group, Bharat Forge Limited are some of the main participants to join the CSIR Society meeting tomorrow.

Union Minister Dr. Jitendra Singh calls on Telangana Governor Dr Tamilsai Soundararajan at Raj Bhavan in Hyderabad

CSIR-IICT, NBRI, CDRI, CIMAP, CCMB

12th October, 2022



Union Minister of State (Independent Charge) Ministry of Science and Technology, MoS PMO, Space and Atomic Energy, Dr Jitendra Singh called on Governor Telangana & Lt. Governor Puducherry, Dr Tamilsai Soundararajan at Raj Bhavan in Hyderabad and exchanged views about the status of various Central projects launched by Prime Minister Narendra Modi in the State of Telangana.

The Minister also discussed the modalities to implement Science, Technology and Innovation in schools, particularly aimed at girl students in the State.

Dr Jitendra Singh appreciated her address at the 'Women Scientists Conclave: Self Reliance,' at CSIR-IICT in Hyderabad, where Dr Soundararajan stressed on the need for encouraging more girls to take up research in science. The Minister promised all help from the Ministry of Science and Technology and the CSIR centre for empowering the girl child.

Dr Jitendra Singh informed Dr Soundararajan that only last month, Lucknow's three prominent scientific institutes opened their gates to curious boys and girls as part of the 81st

foundation day celebration of the CSIR. The three CSIR labs - National Botanical Research Institute (NBRI), Central Drug Research Institute (CDRI) and Central Institute of Medicinal and Aromatic Plants (CIMAP) introduced students to their innovations.

Dr Jitendra Singh said, CSIR-India Institute of Chemical Technology (IICT) and CSIR-Centre for Cellular and Molecular Biology (CCMB) at Hyderabad will also open their gates for school students to inculcate scientific temperament among them, which the Governor deeply appreciated.

Dr Jitendra Singh also discussed the role of Start-Ups in propelling the Indian economy and creating huge job opportunities in Southern States, particularly the leading centres of Hyderabad and Bengaluru. The Minister expressed his desire to replicate the same model in Northern States as well.

Dr Jitendra Singh lauded the initiative of Dr Tamilsai Soundararajan to hold 'praja darbar' at Raj Bhavan and address the issues of needy persons with the discretionary grant available with the Raj Bhavan.

Dr Jitendra Singh, a renowned Diabetologist and Dr Dr Tamilsai Soundararajan, a noted Gynaecologist also exchanged notes on recent advances in medical science and changing profile of the medical profession.

Bengaluru: 19-seater aircraft SARAS Mk II at critical design stage

CSIR-NAL

15th October, 2022



The Council for Scientific and Industrial Research-National Aerospace Laboratories (CSIR-NAL), which has undertaken the design, development and certification of the SARAS Mk II, said Friday that the 19-seater aircraft was at the critical design stage.

An open-air engine test bed, an aircraft environmental systems ground test and a high-fidelity, real-time flight simulator were recently commissioned to test the various subsystems of the aircraft, the laboratory added.

Dr Abhay A Pashilkar, CSIR-NAL director, said, “The aircraft will be powered by two Pratt & Whitney PT6A-67A turboprop engines with composite propellers in the tractor configuration. The Saras-Mk II is a high-wing, twin turboprop, multi-role aircraft with passenger or troop transport, VIP transport, training and cargo shipment as primary roles. The aircraft will be initially certified by the Centre for Military Airworthiness and Certification for the military role and later by the Directorate General of Civil Aviation for the civil role.”

The open-air engine test bed has been designed, developed and established at the laboratory's propulsion division on its Belur campus. "The test facility is equipped with all the critical line-replaceable units and subsystems such as the air-cooled oil cooling system, fuel supply system, engine control, starter generator, electrical systems required for engine ground run. During the ground run, the performance of all the subsystems is critically monitored," Pashilkar explained.

According to Pashilkar, the aircraft environmental systems ground test facility set up to test the complete environmental control system (ECS), the pneumatic deice system, the life support system and the cabin pressure control system for the SARAS-Mk II aircraft is unique. "This is one of its kind which has the capability to check the performance of the ECS at various engine-bleed conditions at the ground level. It has a full-scale mock-up of the cabin and cockpit with all interiors, air distribution systems exactly as in the aircraft. Earlier, this kind of testing had to be done on aircraft. It was not only time-consuming, but also very expensive. With this kind of facility, both the cost and the time frame will substantially come down," he said.

The high-fidelity real-time flight simulator is meant for piloted evaluations of aircraft dynamics and testing malfunctions. "The facility can simulate all possible avionics parameters and check the functionality, reachability, vision clearance etc of all the instrument panels. The visual database is available for Bangalore, Mumbai, Lengpui, Kullu, Leh, Chandigarh, Srinagar, Pakyong and Kargil airports," he added.

What exactly is a green cracker? An explainer

CSIR-NEERI

15th October, 2022

By Akshaya Nath: In many states, the day of Diwali and the subsequent days see a dip in the air quality index, and smog is witnessed in most cities.

The Supreme Court, considering the people's health and the low air quality index witnessed during Diwali, ordered the production of green crackers in 2018.

The task of making the green cracker was entrusted to the CSIR- National Environmental Engineering Research Institute (NEERI). Following this, NEERI came up with a formula that helped create green crackers.

WHAT IS GREEN CRACKER?

Chief scientist and Head of the EMD division, CSIR NEERI, Sadhana Rayalu, explained green crackers and said they are safer alternatives to conventional crackers.

"Technically speaking, green crackers are environmentally benign by design and release comparatively less carbon footprint," Sadhana Rayalu said.

"Green crackers are just like conventional crackers and have oxidisers generally used in conventional crackers. The only differences in the green cracker are the multifunctional additives, which significantly reduce emissions," Sadhana added.

The formula for green crackers suggested by the NEERI falls under a non-disclosure agreement, and only those manufacturers who have signed an agreement with the NEERI are permitted to manufacture the crackers.

Sivakasi has over 1000 manufacturers involved in making the NEERI-approved concoction.

The green crackers, believed to have a lesser impact on the environment, are made without the chemicals used for conventional crackers, such as aluminium, barium, potassium, nitrate or carbon.

LOW SHELF LIFE

With the new green cracker formula, traders have raised concerns about the shelf life of the crackers.

"The CSIR NEERI has given some additives for green crackers, but as traders, we know the crackers' life and reliability are less. We can not even assure the consumer as the effect of the chemicals would wade away within three or six months," said V Raja Chandrasekaran, Federation of Tamil Nadu Fireworks Traders' President.

On the matter of shelf life, NEERI's chief scientist Sadhana said, "The onus lies on the manufacturers as to how long they want the shelf life of the firecracker to be, in the sense that if they are using the correct SOP and correct additive in the right way, then the shelf life and stability of the cracker will be very high".

LICENSING

Another hurdle the manufacturers go through is the stringent certification process handled by Petroleum and Explosives Safety Organization (PESO).

There are close to 160 factories operational, and nearly 1000 factories lost their licence for using the prohibited chemicals.

NEERI chief Scientist Sadhana, defending the certification process, said that manufacturers should try to use 100 per cent pure material. She further added that to help the manufacturers, a special unit of NEERI is also to be set up in Sivakasi.

Published in:

[India Today](https://www.indiatoday.in)

NHIDCL signs MoU with IIT Patna

CSIR-CRRI

14th October, 2022



National Highways & Infrastructure Development Corporation Ltd (NHIDCL), a CPSE under the Ministry of Road Transport & Highways, Govt. of India has signed Memorandum of Understandings with CSIR-CRRI, IIT Roorkee, IIT Kanpur and NSDC during the current year 2022-23. Earlier, MoU with IIT Bombay & IIT Guwahati were signed for sharing knowledge of innovative ideas and technologies in the field of Highway Engineering to upgrade skill & capacity of the core Engineering professional of NHIDCL who are working tirelessly for construction of Highways, tunnels and other infrastructure in the very tough geographical areas of NE region, UT of Ladakh, UT of J&K and UT of Andaman & Nicobar Islands.

NHIDCL has also started discussions with other IITs, NITs for signing of MoUs. This will help NHIDCL in introducing innovative technologies and find pragmatic solution to the highways construction issues in challenging hilly and border areas. The latest MoU with IIT, Patna was signed on 11 October, 2022. The MoU was signed by Dr. (Prof) TN Singh, Dir. IIT Patna and Sh. Chanchal Kumar, Managing Director, NHIDCL.

Published in:

[Pib](https://pib.gov.in)

CSIR-Indian Institute of Petroleum announces its new atmospheric-pressure hydrogen-free low-carbon desulphurization process for crude oil and refinery streams

CSIR-IIP

13th October, 2022

Crude oil and many petroleum refining streams contain Sulphur-Containing Heterocyclic Aromatic Compounds (SCHAC), which are responsible for the corrosion of assets, poor fuel quality, health issues, and environmental problems. Refinery streams like petrol, diesel, jet fuel, kerosene and fuel oil therefore need to be treated for sulphur reduction before its final end-use. Conventionally, such treatment involves expensive, high-pressure hydrogen, high-temperature operations and significant capital investment, and also substantial associated net greenhouse emissions (carbon footprint) for effecting the necessary desulphurization.

To address this, a novel single-step hydrogen-free desulphurization process has been developed by CSIR-Indian Institute of Petroleum (CSIR-IIP). Crude oil from various sources, and sulphur-containing streams from several refineries in India, have been tested; up to 90 percent of the sulphur content, depending on the specific nature of the stream being treated, can be removed by the process. The transformed sulphur compounds produced from the SCHAC components by the CSIR-IIP process are easily separable from the de-sulfurized crudes or other refinery streams via simple filtration process, and offer promise in bulk applications like road construction and coatings.

The facile, inexpensive process offers a potentially transformative low-carbon desulfurization solution for bulk processing of petroleum streams at ambient pressures and mild temperatures. It has the potential to change the existing desulfurization configuration of crude oil and refinery streams in a cost-effective manner without the use of expensive hydrogen, especially for marine and industrial heating applications.

Key patents have been filed internationally and additional filings, including Trademark protection, are in progress. CSIR-IIP invites interested industries to partner on a non-exclusive basis for collaborative research, development, scale-up and commercial deployment

of the technology. Established in 1960, CSIR-Indian Institute of Petroleum is one of the 37 constituent laboratories of the Council of Scientific and Industrial Research, an autonomous Society headed by the Honourable Prime Minister of India. CSIR-IIP develops and offers technologies, products and services aimed at reducing India's dependence on fossil fuel imports, in mitigating the environmental impact of the global oil and gas sector, and in efficiency enhancement, capacity building and thought leadership for low-carbon energy transition across a wide range of energy producer and energy user industries.

Hyderabad-based IICT develops technology for Rs 405 crore Gujarat plant

CSIR-IICT

13th October, 2022

Hyderabad: The researchers from city-based Indian Institute of Chemical Technology (IICT) have made major contributions in the development of Rs 405 crore Hydrazine Hydrate (HH) plant of Gujarat Alkalies and Chemicals Ltd (GACL), Gujarat, which was inaugurated by Prime Minister, Narendra Modi on October 10.



The premier chemical laboratory of CSIR from Hyderabad has developed the technology for production of 10,000 tonnes per year HH (Hydrazine Hydrate), fine-tuned and validated the technology at a pilot plant installed at GACL in Dahej, Gujarat.

The joint efforts by IICT and GACL, as part of Aatmanirbhar Bharat would cut-down the import Hydrazine Hydrate, which is a super-specialty chemical, by 60 per cent in India, IICT researchers on Thursday said.

Scientists and engineers of IICT and GACL collaborated for over a decade to develop the process from laboratory scale to pilot scale, and then to a commercial scale. The scale up ratio from pilot scale to commercial scale was upto 100 times. Joint patents, an Indian Patent and US patent have been awarded to GACL and IICT for this invention.

A unique feature of the plant is the partnership of an Indian Industry and a national CSIR laboratory, which saved the industry from incurring expenditure on technology license, while IICT will get the royalty on sales to aid its R&D programmes.

The project was initiated under the then Director of IICT, Dr JS Yadav and was consequently followed by former Directors Dr M. Lakshmi Kantham, Dr Srivari Chandrashekar and the present Director, Dr D Srinivasa Reddy. “This partnership is a landmark achievement towards Atmanirbhar Bharat, and also a display of the R&D capability of Indian scientists” Dr Srinivasa Reddy said.

Phase 2 clinical trials of Covid-19 antidote VINCOV-19 completed successfully

CSIR-CCMB

12th October, 2022

The University of Hyderabad (UoH) Tuesday announced that the central varsity along with the Centre for Cellular and Molecular Biology (CCMB), which is a Council of Scientific and Industrial Research (CSIR) institute, has completed successfully the phase 2 clinical trials of its Covid-19 antidote VINCOV-19 across multiple centres in India.

Researchers from the two institutions collaborated with Hyderabad-based immunological firm VINS Bioproducts Limited to complete the phase-2 clinical trials of VINCOV-19, India's first antidote and a cure against SARS-CoV-2 virus. VINCOV-19 is now ready for market authorisation and simultaneous phase-3 clinical trials, a statement by the University of Hyderabad said.

While the CCMB helped develop the viral antigen, the UoH helped with product characterization. VINS Bioproducts Limited managed the equine immunization and clinical development in their manufacturing plant in Telangana.

The phase 2 clinical trials were conducted across multiple centres in India and included over 200 patients. The trials also included testing the antidote against the Omicron variant to ensure maximum coverage against the virus and its known mutations. It was completed in September 2022.

According to the statement, VINCOV-19 was administered to patients with moderate severity of Covid-19. One group of patients was given VINCOV-19, along with Standard of Care (SoC), and another group was given Standard of Care (SoC) only.

“VINCOV-19 showed an excellent safety profile in the Phase 2 trials. There was a good and early improvement in the clinical condition of the patients administered VINCOV-19,” it said.

“VINCOV-19 contains Equine polyclonal antibodies (EpAbs) against the Covid-19 virus. VINCOV-19 comprises highly purified antibody fragments that have a high neutralizing capacity against the SARS-CoV-2 virus. Since neutralizing antibodies could block the internalization of SARS-CoV-2 to lung cells, it was postulated that their passive administration should render maximal clinical benefits if they are applied at the early stages of the disease,” the statement added.

Professor B J Rao, Vice-Chancellor of UoH, said the collaboration of academia and industry with complementing technical and infrastructural strengths yielded fruitful results in less than a year. “These therapeutic antibodies are the first in India and among the few around the globe. It is essential to have multiple options, including therapeutic antibodies, especially for severe clinical cases of Covid. It is a major step for the future targeted collaborations between academia and industry,” said Dr Vinay K Nandicoori, Director of CSIR-CCMB.

Dr Krishnan H Harshan of the CSIR-CCMB and Dr Nooruddin Khan, Associate Professor at the Department of Animal Biology of UoH, who led the two teams, hailed the academia-industry collaboration which overcame all uncertainties with the development of VINCOV19 in fighting the pandemic.

How the RSC's CSIR partnership will help India's next generation of chemists

CSIR-HRDG

12th October, 2022



Thousands of excited schoolchildren descended on laboratories across India to learn about sustainability and energy as part of our latest global battery experiment, Take Charge.

Youngsters in attendance explored the science behind batteries and listened to a popular lecture from CSIR Director General Dr N Kalaiselvi on why batteries are such a crucial part of our energy future. Dr Kalaiselvi, who is the first woman to head Council of Scientific and Industrial Research (CSIR) laboratories in its 75-year history, was particularly well placed to lead the discussions as she is building next-generation energy products.

The mega outreach programme, aided by 350 volunteers and 150 teachers, was organised to celebrate a formal partnership between the Royal Society of Chemistry (RSC) and the CSIR. RSC Chief Operating Officer Paul Lewis and CSIR-Human Resource Development Group head Dr Geetha Vani Rayasam signed a Memorandum of Understanding (MoU), alongside Dr Kalaiselvi and RSC India Managing Director Ajit Sharma.

The agreement will see the two organisations collaborate to expand the existing teacher training programme and Chemistry Camps in India, and soon launch several online education initiatives. The launch event saw the schoolchildren make batteries out of coins at all 30 CSIR laboratories around India after the RSC and CSIR committed to partnering on the latter's Jigyasa programme, which is a nationwide programme aimed at reaching young people and researchers.

Yusuf Hamied Education Initiative

Although the RSC has worked with the chemistry community in India for more than 75 years, our education initiatives took deeper roots when the RSC-Yusuf Hamied Inspirational Chemistry Programme was launched in 2014. Philanthropist and chairman of pharmaceuticals company Cipla, Mr Hamied, shares a mutual goal with the Royal Society of Chemistry, to improve the quality of science teaching and inspire students to take up chemical sciences for a better world. Under this programme, we launched RSC Teacher Training workshops, which equip teachers with proven techniques to engage students with science, and residential chemistry camps for students from government-funded schools to inspire them to pursue a degree in chemistry.

Overwhelming positive response

The response to this educational initiative has been far-reaching and impactful. There has been very enthusiastic feedback from teachers and students.

Lopdiang Lun Snailang, a student at St Francis Xavier Secondary School, Mowsynram, in the state of Meghalaya, said: "Through this camp I got new experience like practical activities, to know more about chemistry. All practical and non-practical activities were so interesting. The meals were excellent, and I enjoyed my stay in the hostel. Through this camp I made friends with people who are from different places. I hope I will take up chemistry in my higher studies."

The RSC has now conducted 35 Yusuf Hamied Chemistry Camps in 17 states of India, in 11

regional languages. More than 2,265 students from 861 schools participated in the camps, which will resume this year after being suspended during the COVID-19 pandemic. The Teacher Training Programme has been widely accepted as reflected in the numbers. A total of 35,000 teachers across over 12,000 schools in India have been trained since the programme launched. Mr Hemant Lagvankar, a teacher who received the training, said: “The workshop had a positive impact on teachers and it is motivating us to execute active learning techniques in the classroom, as well as to spread these techniques for the betterment of students”.

Adapting to COVID challenges

As the COVID-19 pandemic has created unprecedented challenges in the field of education, the Yusuf Hamied Inspirational Science Programme also faced hurdles. However, the scheme has adapted and used a digital model, which was a big change for everyone involved. We retrained the trainers to adopt a new model of teaching online, without compromising on quality. The online workshops, which began in August 2021, have become a mainstay for delivery of the teacher training module. Interestingly, the training workshops have reached beyond Indian shores, as teachers from neighbouring countries and the Middle East are joining the training programme.

During the pandemic, we also joined Indian Institute of Science and Research (IISER), Pune, to help teachers with concepts of digital learning and teaching techniques. A webinar series for teachers – Teaching the Next-Gen – reached more than 3,000 teachers/educators across India, besides participants from at least 15 countries across different continents. The 12-part series attracted in excess of 55,000 views on YouTube. The series caught the interest of teachers with different backgrounds such as science, arts, social science, computers, commerce, technology and mathematics.

The CSIR-Jigyasa programme will soon be launching a range of online learning initiatives, with the potential to dramatically expand the impact of its outreach programme. The CSIR is going to share the RSC’s learning resources through the platform, helping us reach many more students and teachers around India.

iRISE: Building culture of innovation

We are currently collaborating with the Indian Government's Department of Science and Technology, IISER Pune, British Council, and Tata Technologies, one of the Tata Group companies, to build a culture of innovation.

Known as iRISE, this programme is bringing together industry and academic leaders to foster a thriving ecosystem for STEM education, research, and innovation in India. This programme, which supports India's flagship MANAK programme, has different strands – teacher training, early career researchers, particularly PhD students, a thought leadership forum, and CXO Forum.

The Teacher Development Strand (TDS) focuses on training teachers to better understand a culture of creativity and innovation based on STEM subjects. The programme hopes to develop 450 Innovation Champions (trainers) who will in turn train more than 13,500 teachers during the next three years.

Upskilling PhD students

Under the early career researchers strand, a holistic career programme has been planned, to empower PhD scholars to enhance their professional skills and work with the industry. This will be done through online/offline training of skills such as leadership, collaboration, management, communication, diversity and inclusion, resilience, entrepreneurship, and innovation skills, with a 12-week internship programme in collaboration with industries.

Paul added: “iRISE is a fantastic opportunity to turbo-charge scientific development in India, and I am excited to see the outcomes in the coming months and years.”

CSIR-NIO, signs MoU with BITS Pilani, KK Birla, Goa

CSIR-NIO

12th October, 2022

CSIR-National Institute of Oceanography (CSIR-NIO) and BITS Pilani, KK Birla, Goa signed a Memorandum of Understanding (MoU) to develop a long-term collaboration in the areas of education, training and research in the areas of biology, chemistry, marine instrumentation and high-performance computing. The MoU was signed by Prof. Sunil Kumar Singh, Director, CSIR-NIO and



Prof. Suman Kundu, Director, BITS, Pilani, – KK Birla Goa Campus, in the presence of Prof. D. M. Kulkarni, Dean: Administration, Prof. Meenal Kowshik, Associate Dean, Sponsored Research and Consultancy Division, BITS Pilani, KK Birla, Goa and Dr V.V. Sanil Kumar, and Venkat Krishnamurthy of CSIR-NIO.

CSIR-National Institute of Oceanography and BITS Pilani, KK Birla, Goa, have a long history of cooperation in various scientific domains of interest, and this MoU will now facilitate a roadmap for further meaningful interactions that are drawn on the mutual strengths of the two organizations in the specific fields of Oceanography.

CSIR-NIO, by virtue of its systematic and focused research in the field of ocean data collection, environmental impact assessment, and ocean modelling, has maintained the highest standards in this domain, and thus this collaboration will now facilitate the utilization and sharing of the expertise of both the organizations with the latest developments in the field of oceanography.

Published in:
Goemkarponn

Ministry of AYUSH and CSIR-NIScPR Organize a Special Session to Commemorate Ayurveda@2047

CSIR-NIScPR

11th October, 2022



Diet, water intake, sleep, work and mental balance are the key factors to lead a healthy life. Ayurveda is the science of body, senses, mind and soul. It is a matter of knowledge which is directly related to human health and wellness. These are the words of Dr. Amit, Research Officer (Ayurveda), Central Ayurveda Research Institute, New Delhi. He was delivering a keynote lecture in the special session on Ayurveda@2047 organised by CSIR-NIScPR. The theme of his lecture was “Basic principles of Ayurveda for being healthy with special focus on old age persons and mental health”. This program was organized by the Ministry of AYUSH in association with the Council of Scientific & Industrial Research-National Institute of Science Communication and Policy Research (CSIR-NIScPR), New Delhi on 11 October 2022.

On this occasion, in her welcome address, Prof. Ranjana Aggarwal, Director, CSIR-NIScPR said that Indian culture talks about the harmony of body, mind and soul in a holistic concept of human health and this is the key characteristic of Indian traditional knowledge system. She also talks about the recent contributions of Scientifically Validated Societal Traditional Knowledge (SVASTIK) program of CSIR-NIScPR and gave correlations and insights received from this program which add value to Ayurveda and traditional knowledge system of our country.

Dr. Suman Ray, Principal Scientist, CSIR-NIScPR proposed vote of thanks and Shri Aniruddha Tiwari compered the program. After this special session, a Free Medical Camp was also organized by the Ministry of AYUSH, Govt. of India in which the Ayurveda experts of the Ministry imparted medical consultation to CSIR-NIScPR staff.

CSIR-CEERI

11th October, 2022

हमारे वैज्ञानिकों की बड़ी उपलब्धि • स्मार्टफोन आधारित हैंडहेल्ड कोल्पोस्कोप डिवाइस बनाया, मोबाइल की तरह चार्ज होगा

सीरी ने सर्वाङ्कल कैंसर जांच की देशी तकनीक विकसित की

भास्कर न्यूज़ | पिलानी

हमारे वैज्ञानिकों ने सर्वाङ्कल कैंसर (बच्चेदानी के मुंह के कैंसर) की जांच के लिए स्वदेशी तकनीक विकसित कर स्वास्थ्य एवं चिकित्सा के क्षेत्र में एक और बड़ी उपलब्धि हासिल की है। पिलानी स्थित सीएसआईआर-सीरी के वैज्ञानिक डॉ. सत्यम श्रीवास्तव एवं उनकी टीम ने सर्वाङ्कल कैंसर जांच में आईओटी सक्षम स्मार्टफोन आधारित हैंडहेल्ड कोल्पोस्कोप विकसित किया है। सीरी के वैज्ञानिक डॉ. सत्यम श्रीवास्तव के नेतृत्व में संस्थान के शोधकर्ताओं की टीम ने मेक इन इंडिया मेडिकल मिशन परियोजना के तहत सर्विक्स



पिलानी, तकनीक का हस्तांतरण करते सीरी के वैज्ञानिक।

कैंसर की स्थिति का पता लगाने एवं इसके निदान में एक स्वदेशी आईओटी सक्षम हैंडहेल्ड कोल्पोस्कोप तकनीक विकसित की गई है। यह तकनीक त्वरित डेटा विजुअलाइजेशन और विश्लेषण के

लिए स्मार्टफोन आधारित ऐप से कनेक्टिविटी देती है। सर्वाङ्कल कैंसर का समय से पूर्व पता लगाने के लिए सॉफ्टवेयर आधारित यह तकनीक रोगी व डॉक्टर के बीच सीधे संपर्क के लिए क्लाउड

क्या है कॉल्पोस्कोपी और कॉल्पोस्कोप

कॉल्पोस्कोपी एक चिकित्सा प्रक्रिया है जिसका उपयोग गर्भाशय ग्रीवा (सर्विक्स) की स्थिति का पता लगाने और इसमें विकसित हो रहे कैंसर का निदान करने में किया जाता है। उपकरण कॉल्पोस्कोपी के जरिए सर्वाङ्कल कैंसर के उपचार में सहायता करता है। देश में हर साल बड़ी संख्या में कॉल्पोस्कोप उपकरणों का आयात किया जाता है। ये काफी महंगे एवं भारी होते हैं। सीरी ने इस तकनीक की प्रौद्योगिकी नोयडा की एक कंपनी को हस्तांतरित की है। कंपनी के निदेशक राजीव शर्मा के अनुसार कंपनी आगले 3 से 6 महीनों में स्वदेशी कॉल्पोस्कोप देश के बाजार में उपलब्ध करा देगी। एमओयू के दौरान सीरी निदेशक डॉ. पीसी पंचरिया, डॉ. सत्यम श्रीवास्तव व टीम मौजूद रही।

कनेक्टिविटी भी देती है। ऑन-डिवाइस रिचार्जबल बैटरी सपोर्ट होने से जहां बिजली नहीं होगी वहां यह कारगर सिद्ध होगी। हमारे वैज्ञानिकों ने कॉल्पोस्कोप की स्वदेशी तकनीक विकसित की

है। डिवाइस विदेशों से आयातित उपकरण से काफी किफायती होगा। इसमें कई नए फीचर्स भी जोड़े गए हैं। इस डिवाइस को रिचार्जबल बैटरी का सपोर्ट दिया गया है। -डॉ. पीसी पंचरिया, निदेशक

Published in:

Dainik Bhasker, Raj Patrika, Savera India Times



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