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Scientists establish zinc supplementation can prevent fatty liver disease

CSIR-IITR 30th April, 2019

Indian scientists have established that nanoparticles of zinc oxide (ZnO) can prevent fat accumulation in the liver and thereby prevent Non-Alcoholic Fatty Liver Disease (NAFLD) that has become a common medical condition given currently prevalent food habits and lifestyle.

A research team from Indian Institute of Technology (IIT)Mandi and Council of Scientific & Industrial Research (CSIR) -Indian Institute of Toxicology Research (CSIR-IITR), Lucknow, using cell and mice models has shown that zinc supplementations either in the form of nanoparticles or salts are effective in reducing fat accumulation in the liver and inducing peripheral insulin sensitivity.

“NAFLD is a condition in which the body creates too much fat that gets stored in the liver cells, called steatosis, which could lead to scarring or cirrhosis, and eventual liver failure," said Prosenjit Mondal, Assistant Professor, School of Basic Sciences, IIT Mandi, and Debabrata Ghosh from CSIR-IITR.

The researchers first treated human hepatocellular carcinoma cells with zinc oxide nanoparticles and tested lipid accumulation in the cells in comparison to untreated cells. They also injected the nanoparticles into mice fed with fatty diet and monitored cell signaling, gene expression and also assessed the cellular energy levels. The mice were also subjected to glucose tolerance tests to assess insulin function and compared with mice fed with normal diet and fat-fed mice not treated with nanoparticles. In the cell tests, the researchers found that the presence of zinc oxide nanoparticles prevented accumulation of fat in them.

In the mice models, they found that the zinc supplements prevented the cellular factors that enhance fat storage in the livers of fat-fed mice. In nutshell, zinc supplements ameliorate fatty liver disease through negative energy balance, and hepatic lipogenic regulation in diet-induced obese mice, the researchers said. In addition to converting blood glucose into storable forms such as glycogen, insulin also induces lipid generation from non-fat sources, a process called lipogenesis.

A complex array of cellular factors and enzymes regulate lipogenesis. When this signaling becomes faulty, due to bad lifestyle and/or genetic predisposition, insulin function is impaired and there is excess lipogenesis, resulting in increased fat accumulation in the liver. “The observations may help in formulating therapeutic strategies to improve insulin sensitivity and ameliorate liver steatosis associated with type 2 diabetes. ZnO nanoparticles can improve the physiological homeostasis during obesity and its associated metabolic abnormalities," said Surbhi Dogra, research scholar and co-investigator from IIT Mandi. The research has also been published in the journal, Nanomedicine: Nanotechnology, Biology and Medicine.

Liver, the largest internal human organ, secretes bile, stores glucose in the form of glycogen, and converts vitamins, minerals and amino acids into their biologically absorbable forms. While hepatitis viral infections and alcohol-induced liver malfunctions used to be the main cause of liver diseases in the past, the dramatic shift towards sedentary lifestyles and unhealthy food habits has caused them to be outpaced by NAFLD. According to the World Health Organization (WHO), India reported 259,749 deaths in 2017 because of liver-related diseases. Nearly 120 million Indians are estimated to be suffering from NAFLD, with a higher incidence rate amongst obese and diabetic people.

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Mint

CSIR-CBRI

30th April, 2019

नवीनतम तकनीकों के बारे में दी जानकारी

महान वैज्ञानिकों के जीवन से जुड़े रोचक किस्सों को विद्यार्थियों के साथ किया साझा

जागरण संवाददाता, रुड़की: जिज्ञासा विद्यार्थी-वैज्ञानिक संयोजन कार्यक्रम के तहत केंद्रीय भवन अनुसंधान संस्थान रुड़की के वैज्ञानिकों ने केंद्रीय विद्यालय नंबर एक में जागरूकता कार्यक्रम का आयोजन किया। संस्थान के वैज्ञानिकों ने कक्षाओं में जाकर विद्यार्थियों से वार्तालाप किया और एक शिक्षक की भांति उन्हें विज्ञान के तथ्यों और विज्ञान के विभिन्न विषयों में किए जा रहे नवीनतम कार्यों व तकनीकों के बारे में जानकारी दी।

संस्थान के वरिष्ठ प्रधान वैज्ञानिक एवं जिज्ञासा कार्यक्रम संयोजक डॉ. अतुल कुमार अग्रवाल ने सोमवार को भवन निर्माण सामग्री-कल, आज और कल सीएसआइआर और सीबीआरआइ की वैज्ञानिक यात्रा विषय पर व्याख्यान प्रस्तुत किया। उन्होंने कहा कि वनस्पति से अंतरिक्ष तक, भवन निर्माण से भू-विज्ञान तक, स्वास्थ्य, रसायन, ऊर्जा आदि जीवन के हर पहलू एवं हर क्षेत्र के उत्थान में सीएसआइआर ने अपना योगदान दिया है। इसी दिशा में जीवन के तीन मूलभूत आवश्यकताओं में से एक आवास के क्षेत्र में सीबीआरआइ नित नवीन तकनीकों का विकास करने में अग्रसर है। संस्थान नवीनतम एवं पर्यावरण अनुकूल भवन निर्माण सामग्रियों के साथ-साथ अपशिष्ट नियंत्रण, नैनो प्रौद्योगिकी, आपदा पूर्व और पश्चात जोखिम न्यूनीकरण, भवन निर्माण हेतु दिशा निर्देश एवं मानदंड, ऊर्जा कुशल इमारतें, भवन निरीक्षण और पुनर्वास, विरासत संरचनाओं का अध्ययन आदि भवन निर्माण के प्रत्येक क्षेत्र में अपना योगदान दे रहा है। डॉ. अग्रवाल ने विद्यार्थियों को महान वैज्ञानिकों जैसे- अल्बर्ट आइंस्टाइन, निकोला टेस्ला, सर सीवी रमन, मैडम क्यूरी आदि के जीवन से जुड़े रोचक किस्सों को विद्यार्थियों के साथ साझा कर उन्हें प्रेरित किया। इन सभी महान वैज्ञानिकों की सफलता का एक ही मूल मंत्र था कि वे विज्ञान को एक विषय या करियर की तरह नहीं देखते थे बल्कि उनके लिए विज्ञान ही जीवन था। इस मौके पर प्राचार्य विपिन त्यागी, आलोक गुप्ता, अंजु सिंह, एसके दीक्षित आदि उपस्थित रहे।

कार्यक्रम

- जिज्ञासा विद्यार्थी-वैज्ञानिक संयोजन कार्यक्रम के तहत केंद्रीय विद्यालय नंबर एक में जागरूकता कार्यक्रम
- सिंस्थान के वैज्ञानिकों ने कक्षाओं में जाकर विद्यार्थियों से वार्तालाप किया और नई नई जानकारी दी

केंद्रीय विद्यालय में छात्रों से वार्ता करते सीबीआरआइ के वरिष्ठ प्रधान वैज्ञानिक डॉ. अतुल अग्रवाल।

Published in:
Dainik Jagran

KV pupils' date with CSIO scientists

CSIR-CSIO 29th April, 2019

As part of Council for Scientific and Industrial Research's Jigyasa science promotion initiative, more than 50 students and eight teachers from Kendriya Vidalayas in different parts of the country arrived at Central Scientific Instruments Organisation (CSIO) here to interact with scientists and gain practical laboratory experience.

The objective is to inculcate scientific temperament in young minds and motivate them to choose science as a career option. They were exposed to technology development for agriculture, healthcare and defence sectors under "Make in India" and "Innovate in India" schemes.The lecture-cum-hands on sessions were taken up to make the students aware of several scientific topics of concern such as pollution monitoring system, chromatography for natural products analysis, optical phenomenon, colour measurement, sensor development , understanding cyber crime and cyber forensics, chemistry of atoms microscopic vision and motion.

Jigyasa was launched in July 2017, wherein CSIR has joined hands with Kendriya Vidalaya Sangathan to implement this programme to connect 1,151 Kendriya Vidyalayas with 38 CSIR laboratories, targeting one lakh students and nearly a thousand teachers annually. The focus of the programme is on connecting students and scientists so as to extend classroom learning with that of well-planned research laboratory based learning. Dr Vinod Karar, Acting Director of CSIO, was the chief guest, while Dr Navneet Aulakh, Principal Scientist, CSIO gave the students a an exposure on how to make a mini air pollution measurement system.

Published in:
The Tribune

Students of St Mary's English High School get exposures of R&D at NML

CSIR-NML

29th April, 2019

A group of 51 students from St Mary's English High School accompanied by two teachers Nibha Sinha and Gopal Kumar visited at CSIR-National Metallurgical Laboratory, Jamshedpur and interacted with scientists and research scholars this morning under the aegis of 'Gigyasaprogramme'. The objective of this programme is to provide exposures of research environment and simultaneously motivate school students towards science and further encourage them to pursue career in the science stream. The students were thrilled and happy to visit the laboratory and interact with the working group. The programme was scheduled for three hours, which includes Brief up about CSIR and NML, documentary film show and laboratory visits. Dr.P.N. Mishra, Principal Scientist delivered welcome address and brief up about the programme, introduced team members of Gigyasaprogramme to students and their accompanying faculties. Dr. S.K. Mandal, Chief Scientist and coordinator of the programme discussed about relevance of science and how science are working towards the development of mankind. The students expressed their feelings, asked numbers of questions and clarify their doubt with scientist. Dr. A.K. Sahu, Sr. Technical Officer gave the vote of thanks. Further, a laboratory visit programme was arranged by S.N. Hembram, Sr. Technical Officer and they have visited at Analytical Chemistry Centre, Materials testing and evaluation division and Electronic Waste Units and Museums. Students were impressed to observed various equipment and facilities available at the Analytical Chemistry Centre.

Miss Soni Jha explained nicely about the role of chemical analysis unit and how performing analysis of minerals, ores, water. Dr. A.K. Mohanty, Sr. Scientist has shown the product developed for coating and protection of metals.

Students further visited at creep testing units of MTE Division, Prabir Kumar Roy, explained about the fatigue, creep, fractures prevailing in different types of industrial components like boiler, reformer tubes, pressure vessel etc. Students get exposure of different machine like Servo Hydro Testing Machine, Servo Electrical Machine and furnace.

The laboratory setup of Electronic Waste Unit was also attracted students and teachers, they shown interest about the methodology and the steps involved in recycling of various electronic appliance for recovery of valuable metals like gold, copper, lithium, cobalt, nickel etc.

During the concluding session, teachers and students requested for their next visit to the laboratory for gain deeper knowledge. Teachers expressed their view and was satisfied to know about the consistent effort and research emphasis in various sectors for the ultimate development of India. They also extend thanks to the Ministry of Human Resource Development, Govt.of India, to launch "GigyasaProgramme" tie up with council of Scientific & Industrial Research and they were extremely delighted to visit the National Metallurgical Laboratory, Jamshedpur.

Published in:
Avenue Mail

MoU to facilitate regulatory process for biosimilars

CSIR-CCMB 28th April, 2019

Council of Scientific and Industrial Research's constituent laboratory, the Centre for Cellular and Molecular Biology (CSIR-CCMB), Hyderabad, and the Indian Pharmacopeia Commission (IPC), Ghaziabad, have joined hands to facilitate the regulatory process for biosimilars and herbal drugs, as per a statement here on Sunday.

The scope of the memorandum of understanding (MoU) signed between CSIR-CCMB and the IPC is the development of biopharmaceutical reference standards and impurities therein, development of monographs for important Monoclonal Antibodies and identification of herbal drugs based on DNA Barcode analysis, a CCMB statement said.

Use of biologics - biological products that function as drugs against diseases - also known as biosimilars, are expanding their presence rapidly in the healthcare sector, including in India. A 2017 report by the Confederation of Indian Industry (CII) predicts that the biosimilars market in India, that is currently worth about Rs 15,000 crore, is expected to cross the staggering Rs 2,50,000 crore-mark by 2030.

Emergence of biopharmaceutical drugs as a preferred choice for therapy over conventional pharma drugs, requires concerted efforts by various sectors within the country towards production, characterisation and validation of indigenously developed products, the CCMB said.

The agreement was signed by CSIR-CCMB Director Rakesh Mishra and IPC's Secretary-cum-Scientific Director G.N. Singh. This collaboration, which has come into force with immediate effect, is very important in the current scenario owing to the increase in use of therapeutic proteins and herbal drugs for various diseases, the statement said.

Documentation and characterisation of Indian herbal drugs and phytopharmaceuticals will lead to a significant usage and their export. This collaborative project will be executed at par with pharmacopeia standards of other countries, it said.

Scientific validation and characterization of herbal drugs will not only help authentication of such drugs but also will bring credibility for this industry, the CCMB added.

Published in:
Business Standard

Jamia Hamdard in collaboration with CSIR organises a session on Phytopharmaceuticals

CSIR-IIIM

26th April, 2019

The Department of Pharmacognosy & Phytochemistry, School of Pharmaceutical Education and Research, Jamia Hamdard, New Delhi in collaboration with CSIR-IIIM Jammu organised a one-day interactive session in its campus. The UGC-SAP sponsored event focussed on Phytopharmaceuticals: Development, Regulatory, IPR & Marketing Challenges' and discussed the developments milestones and technical aspects of Phytopharmaceuticals in India. The session was inaugurated by Pro Vice Chancellor of Jamia Hamdard University, Dr. Ahmad Kamal and Chaired by Prof. Vidhu Aeri (HOD) Pharmacognosy and Phytochemistry, Jamia Hamdard University. Prof. S.S Handa (Former Director – Indian Institute of Integrative Medicine), Dr. D.B Narayana (Former Director – Regulatory Affairs- Uni Lever), Mr. Amit Sharma, Director – (Sanat Products Limited and Hindustan Herbals Limited) , Dr. U.V Babu (Himalayan Drug company), Dr. Neeraj Tandon (Head – ICMR) and Dr. B.P Panda (Jamia Hamdard) were amongst several others attended the session. "Many eminent serving/retired experts, technocrats, pharmacist , the top brass of Phytopharma scientific fraternity across various departments like CDSCO, IPC, CSIR, DBT, AYUSH and industry representatives participated in the deliberations. The program focused on understanding the approach, bringing clarity and extending thrust on phyto Pharmaceuticals in India. Prof. SS Handa mentioned the details and efforts taken into bringing a new category of

Phyto pharmaceuticals in Indian drug and Pharma system. Globally 30% of drug still are being made by using plants and nature has solutions to unmet need of mankind. In addition to this he mentioned that the Government is pro natural product industry and has been keen to incentivise this sector. He proposed to have regular interactions between industry and academia so it brings other stakeholders and Summit Partners under a common pavilion in order to flourish phytopharma in india.

Dr. D.B.Narayna highlighted the significance of plant based drug and efforts taken by industry stalwarts to bring to industry at this stage and current developments are still not satisfactory and he would like to see the first licensed phtyopharmaceutical drug in India.

Mr. Amit Sharma Director Sanat Products Limited and Hindustan Herbals limited shared important updates in these areas on international business expansion plans , strategy and future prospects in Phytopharmaceuticals / Botanicals / food and diatery supplements and professed urgent on initiating sustainable practices on usage of medicinal and aromatic plants.

Published in:
Ecnomic Times

Centre invests ₹4.5 crore in cell-based mutton research project

CSIR-CCMB

25th April, 2019

Funding is among the highest by any government in the short history of cell-based meat

In what could be a boost for cell-based meat in India, the Centre has approved a ₹4.5 crore grant to two premier Hyderabad-based institutions for **research** into this technology that involves growing animal cells in a laboratory to produce slaughter-free meat.

The grant, from the Department of Biotechnology, is for an 18-month project, which will look into developing methods to cultivate stem cells from tissue samples of sheep, to produce mutton. The project will be carried out jointly by the Centre for Cellular and Molecular Biology (CCMB), which operates under the aegis of the Council of Scientific and Industrial Research (CSIR), and the National Research Centre on Meat (NRCM), which was set up by the Indian Council of Agricultural Research (ICAR).

'Major initiative'

Announcing the development on Thursday, CCMB director Rakesh Mishra said that the funding was among the highest by any government in the short history of cell-based meat. "This funding has been given to CCMB to develop technology to take laboratory cell culture process to cell-based meat production which can be scalable," he said. "This funding is one of the major initiatives by any government body across the world and much-needed encouragement for other agencies and industry to participate."

Proponents of cell-based meat claim that it is healthier for the planet — by reducing land and water usage — as well as for consumers. It could potentially do away with the need for modern factory-farming and issues such as animal cruelty, salmonella and e-coli infections and antibiotic-laced meat.

'Tasty, affordable'

"Our aim is to feed 10 billion people globally by 2050, by creating a platform for tasty, affordable protein," claimed Varun Deshpande, the India managing director for Good Food Institute, which has already partnered with the Maharashtra government and a Mumbai institution to set up a Centre of Excellence in Cellular Agriculture, which hopes to begin offering taste tests of cell-based meat samples by next year. "Beyond the research stage, this is a tremendous opportunity for investment by the Indian business community, including conventional meat producers," he added.

Published in:
The Hindu

Magic milk: fighting infections with a clue from the echidna

CSIR-CCMB

24th April, 2019

Scientists find novel way of tackling antibiotic-resistant bacterial strains

Scientists at the Council of Scientific & Industrial Research - Centre for Cellular and Molecular Biology (CSIR-CCMB) here have isolated an anti-microbial protein found in the milk of an egg-laying mammal. The protein promises to serve as an alternative to antibiotics used on livestock.

Echidnas, also known as spiny anteaters, are unique egg-laying mammals found only in Australia and New Guinea. Their young hatch from eggs at a very early stage of development and depend completely on mother's milk. But the mammary glands of the echidnas are devoid of nipples, forcing the young ones to lick milk from the mother's body surface and potentially making them vulnerable to micro-organisms. However, nature protects its own. The milk of the echidna has a protein that can puncture the cell membranes of multiple bacterial species, thus destroying the source of infection. Scientist Satish Kumar from the research team said that there are ways to produce the protein in large quantities using *E. coli*. It can then be used to fight infections. The scientist pointed out that there is a rise of superbugs due to the indiscriminate use of antibiotics by the animal husbandry industry to raise livestock. The superbugs can cause mastitis, an infection of the mammary gland, in dairy animals. Dr. Kumar's team has been able to show that the protein from echidna milk is effective against mastitis-causing bacteria.

The research was published in *Biochimica et Biophysica Acta - Biomembranes*, said CSIR-CCMB director Rakesh Mishra.

"These studies give us novel approaches to fighting infectious diseases taking clues from nature. They are the best way forward in this emerging scenario of increased infectious disease burden and resistance to current treatments," he said.

Published in:
The Hindu

Atal Incubation Centre – CCMB completes one year

CSIR-CCMB

23rd April, 2019

The programme, aptly called 'Pride and Prejudice', witnessed a large assembly of prominent life scientists and industry leaders.

Atal Incubation Centre – Centre for Cellular and Molecular Biology (CCMB) celebrated the completion its first year of incubating deep tech start-ups in life sciences at AIC-CCMB with great pomp on 13th April, 2019 at its campus. The programme, aptly called 'Pride and Prejudice', witnessed a large assembly of prominent life scientists, life science industry leaders and enablers to urge the Indian Lifes ciences Industry to become partners in the new revolution of home-grown innovations.

Dr. N. Madhusudhana Rao, CEO of AIC-CCMB showcased its achievements over the last one year. During this period, AIC-CCMB has incubated 8 start-ups working on a range of topics, including diagnostics, food, pharmaceuticals and drug discovery, with two successful graduations. AIC-CCMB has become a prominent player in the larger Telangana startup ecosystem, taking forward the state's thrust on Biotechnology. Dr. Rakesh Mishra, Director CSIR-CCMB emphasized the importance of technology translation of institutional innovation and the incubation center is one such important arm of CCMB. The event hosted a panel discussion on 'Overcoming Apprehensions of Life Science Industries in Institutional Innovations'. The panellists consisted of those with long experience with start-up incubators housed in educational and research institutes of India.

The discussion focused on the key reasons why industries do not engage with prestigious Indian Institutions like CSIR labs and startups incubated by them, the challenges in translation and how they can be done to mitigate these issues.

Director General, CSIR, Dr. Shekhar Mande, chief guest at the occasion remarked that it is the age of life sciences, and CSIR-CCMB is ideally poised to help the emerging life science start-ups with technical and intellectual expertise.

The event was attended by a number of industry doyens like Dr. Krishna Ella; Ishita Agrawal from AIM, NITI Aayog; Dr. A.V. Rama Rao; Dr. Satya Prakash Dash; Ram Kaundinya and many others.

Published in:
Bio Spectrum

CSIR-NML

23rd April, 2019

एनएमएल में हिंदी के विस्तार को लेकर बैठक संपन्न

हिंदी का विकास करने का संकल्प

लाइफ रिपोर्टर@ जमशेदपुर

नगर राजभाषा कार्यान्वयन समिति की 44वीं मैराथन बैठक सोमवार को सीएसआइआर-राष्ट्रीय धातुकर्म प्रयोगशाला के व्याख्यान-कक्ष में संपन्न हुई. जिसमें शहर के सभी सरकारी कार्यालयों के 55 आला अधिकारियों ने हिस्सा लिया.

बैठक में जमशेदपुर, चाईबासा एवं सरायकेला-खरसावां जिले में स्थित भारत सरकार के सभी केंद्रीय कार्यालयों, सार्वजनिक उपक्रमों एवं सभी बैंकों के शीर्ष अधिकारियों ने राजभाषा हिंदी के प्रभावी कार्यान्वयन के लिये एक साथ बैठ कर विचार मंथन किया.

उक्त बैठक में मंचासीन अधिकारियों में सीएसआईआर-राष्ट्रीय धातुकर्म प्रयोगशाला के निदेशक डॉ इंद्रनील चट्टोराज, हिंदुस्तान पेट्रोलियम का.लि. एलपीजी क्षे.का. के उप-महाप्रबंधक प्रणय कुमार, पुलिस उप महानिरीक्षक, ग्रुप केंद्र, केरिपु बल के डीआइजी हरजिंदर सिंह, कर्मचारी भविष्य निधि संगठन, जमशेदपुर के क्षेत्रीय भविष्य निधि आयुक्त-1 तुषार कांत मुखर्जी, परमाणु खनिज विभाग के वैज्ञानिक डॉ अनिर्वण साहा, कार्यालय प्रधान आयकर आयुक्त के संयुक्त आयकर आयुक्त (ओएसडी) रंजीत कुमार मधुकर, भारतीय मानक ब्यूरो के निदेशक सल्विन व नगर राजभाषा कार्यान्वयन समिति के सदस्य-सचिव डॉ पुरुषोत्तम कुमार उपस्थित थे.

मौके पर सभी ने अपने-अपने कार्यालय में राजभाषा हिंदी के प्रचार-प्रसार के लिये किये जाने वाले कार्यों का विस्तृत लेखा-जोखा पेश किया. सीएसआइआर-राष्ट्रीय धातुकर्म प्रयोगशाला के निदेशक सह अध्यक्ष डॉ इंद्रनील चट्टोराज ने कहा कि नगर राजभाषा कार्यान्वयन समिति सभी के सहयोग से अपने लक्ष्य को प्राप्त करने की दिशा में लगातार आगे बढ़ रही है. भारत सरकार की राजभाषा नीति को पालन करना ही हमारा मुख्य उद्देश्य है. कहा कि हमारा दायित्व है कि राजभाषा हिंदी के प्रचार-प्रसार के लिये हर संभव कोशिश करें. कहा कि हमें अपने दैनिक कार्यों में हिंदी का अधिक से अधिक प्रयोग कर अपनी राजभाषा को अधिक सशक्त एवं उपयोगी बनाने का प्रयास करना चाहिए. मौके पर सैकड़ों लोगों ने हिस्सा लिया. सभी ने हिंदी भाषा का विकास करने का संकल्प लिया.

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Ministry of AYUSH, CSIR sign MoU to promote traditional medicines

CSIR

The MoU was signed by Vaidya Rajesh Kotecha, Secretary, Ministry of AYUSH and Dr. Shekhar C. Mande, Director General, CSIR and Secretary, DSIR in the presence of senior officials from both the organizations.

A Memorandum of Understanding (MOU) has been signed between the Ministry of AYUSH and Council of Scientific and Industrial Research (CSIR), New Delhi for cooperation in research and education in areas of traditional systems of medicine and its integration with modern science. The MoU was signed by Vaidya Rajesh Kotecha, Secretary, Ministry of AYUSH and Dr. Shekhar C. Mande, Director General, CSIR

22nd April, 2019

and Secretary, DSIR in the presence of senior officials from both the organizations.

Speaking on the occasion, Secretary stated in due cognition of the growing interest of traditional medicines worldwide, there is a need of multipronged and innovative approaches for the acceptance of this science. He said that the combination of traditional healthcare and modern basic science has a huge possibility to do innovative and path-breaking researches which can be used for the explanation of various basic concepts. DG, CSIR appreciated the ongoing projects and programmes between the two organizations. He stated that enhancing the collaboration through joint R&D efforts ranging from fundamental science to validation and thereafter product development, will significantly help in the growth of the Indian contributions to this important sector, not only nationally but internationally as well. Futuristic efforts of this inter-ministerial cooperation shall include pursuit of Data mining & analytics and Artificial Intelligence to enable and

facilitate concepts such as "Traditional knowledge inspired drug discovery and development" and "Food as Medicine". Previously, CSIR jointly with Department of AYUSH (now Ministry) developed the Traditional Knowledge Digital Library (TKDL), a globally recognized proprietary database on Indian systems of medicine for preventing bio-piracy and misappropriation of our traditional knowledge. The constituent laboratories of CSIR and councils of the Ministry of AYUSH have also supported each other in the development of improved varieties and captive cultivation of the medicinal plants including rare, engendered and threatened (RET) species, Botanical Reference Standards and Pharmacopoeial standards, and Ayurgenomics, among many others.

In due cognition of the upward surge in the usage of herbal medicines and supplements globally, the endeavor of Ministry of AYUSH and CSIR today is to bring the organizations under an umbrella understanding for pursuing focused R&D efforts in the domain. Under the MoU, both organizations shall jointly endeavor to pursue: R&D covering fundamental research; AYUSH specific diagnostic tools; linking microbiome, gene expression and prakriti; multi-ingredient herbal formulations, including their standardization; exploring modern scientific methods for integration with traditional Indian Systems of Medicine (ISM); linking disease signatures; etc.; Furthering the collaboration in preserving and protecting traditional knowledge related to the Indian systems of healthcare, through the existing TKDL platform; and Development of international standardized terminologies (disease-morbidity codes) in Ayurveda, Siddha and Unani (ASU), Database on Medicinal plants, Foods, etc.

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सीएसआइआर महानिदेशक ने क्रीप टेस्टिंग सहित एनएमल का देखा काम

क्रीप टेस्टिंग लेबोरेटरी में धातुओं के नमूनों की होती है जांच, लैब में 193 क्रीप टेस्टिंग प्वाइंट्स

जागरण संवाददाता, जमशेदपुर : काउंसिल ऑफ साइंटिफिक एंड इंडस्ट्रियल रिसर्च (सीएसआइआर) के महानिदेशक व भारत सरकार के डिपार्टमेंट ऑफ साइंटिफिक एंड इंडस्ट्रियल रिसर्च (डीएसआइआर) के सचिव डॉ. शेखर सी मांडे ने अपने दो दिवसीय कार्यक्रम के दूसरे दिन रविवार को बर्मामाइंस स्थित सीएसआइआर- एनएमएल की प्रयोगशालाओं में घूमकर शोध कार्यों की जानकारी ली।

एशिया के दूसरे सबसे बड़े क्रीप टेस्टिंग लेबोरेटरी का किया अवलोकन : डॉ. शेखर सी मांडे ने सीएसआइआर - एनएमएल के विभिन्न रिसर्च लैब व पायलट प्लांट्स कोल रिसर्च लैब, मिनरल प्रोसेसिंग पायलट प्लांट, फाउंड्री, एशिया के दूसरे सबसे बड़े क्रीप टेस्टिंग लेबोरेटरी, एनएमएल म्यूजियम एंड आर्काइव, सरफेस इंजीनियरिंग लैब, हॉट डीप प्रोसेस, टंगस्टन एक्सट्रेक्शन फैसिलिटी आदि का बारीकी से अवलोकन किया।

क्या ही क्रीप टेस्टिंग लेबोरेटरी : क्रीप टेस्टिंग लेबोरेटरी में धातुओं के नमूनों की जांच की जाती है। दक्षिण-पूर्व एशिया के सबसे बड़े लैब में 193 क्रीप टेस्टिंग प्वाइंट्स हैं। इनमें 900 डिग्री से लेकर 1100 डिग्री सेंटीग्रेड तक तापमान में धातुओं की जांच की जाती है। इन टेस्टिंग के जरिए विमान दुर्घटनाओं, रेल दुर्घटनाओं या किसी फैक्ट्री के ब्वॉयलर आदि के फटने पर उसके धातुओं के नमूनों की जांच की जाती है जो दुर्घटनाओं के कारणों का पता लगाने में सहायक होता है।

एनएमएल में सीएनजी से चलनेवाली पीतल भट्ठी का अवलोकन करते डॉ. शेखर सी मांडे।

वैज्ञानिकों-कर्मचारियों को किया संबोधित, प्रोजेक्ट की ली जानकारी : अपने व्यस्त कार्यक्रम के दौरान सीएसआइआर महानिदेशक ने एनएमएल के वैज्ञानिकों व कर्मचारियों को भी संबोधित किया। उनके प्रोजेक्ट के बारे में विस्तार से जानकारी ली। उन्हें विज्ञान व समाज के लिए उपयोगी कार्य करने के लिए प्रेरित भी किया। संस्थान के म्युजियम में उन्होंने प्रयोगशाला के 69 वर्ष के गौरवशाली इतिहास के बारे में जानकारी ली। युवा वैज्ञानिकों व तकनीकी अधिकारियों से बातचीत करते हुए उनके सुझाव भी जाने।

38 सीएसआइआर प्रयोगशालाओं के सर्वोच्च पदाधिकारी हैं डॉ. मांडे

बायलोजिकल साइंस के लिए 2005 में प्रतिष्ठित शांति स्वरूप भटनागर पुरस्कार से सम्मानित डॉ. शेखर सी मांडे देशभर के 38 सीएसआइआर लेबोरेटरी के सर्वोच्च पदस्थ अधिकारी हैं। उनके 100 से अधिक लेख प्रकाशित हो चुके हैं। वे नेशनल सेंटर फोर सेल साइंस (एनसीसीएस) पुणे के निदेशक रहे डॉ. मांडे ने माइकोबैक्टीरियम ट्यूबरकुलोसिस विषय में व्यापक शोध किया है। देश में विज्ञान की तीनों महत्वपूर्ण अकादमियों इंडियन नेशनल साइंस एकेडमी (आइएनएसए), नेशनल एकेडमी ऑफ साइंसेज इंडिया (नासी) व इंडियन एकेडमी ऑफ साइंसेज (आइएएस) के फेलो हैं।

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