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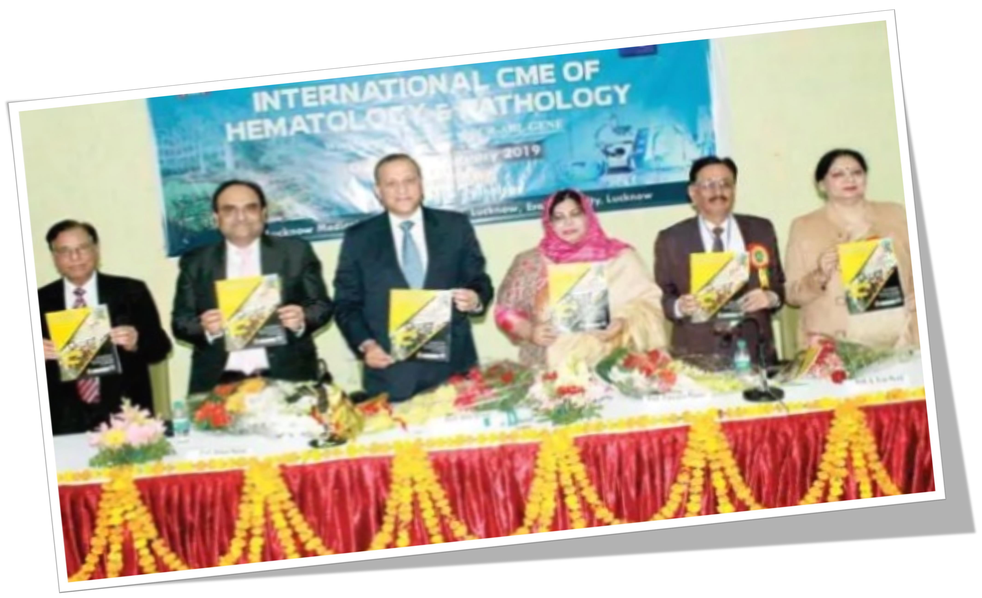

Produced by Unit for Science Dissemination, CSIR, Anusandhan Bhawan, 2 Rafi Marg, New Delhi

Kabir Memorial School students get exposures of Research Environment at NML

CSIR-NML

10th February, 2019

Jamshedpur: A group of 40 students from Kabir Memorial Urdu High School, Mango accompanied by six teachers, Rashida Khatun, Musarrat Shahin, Md. Mashir Alam, Md. Zainul Abedin, Safder Imam, Irfan Ahmed visited at CSIR-National Metallurgical Laboratory, Jamshedpur and interacted with scientists and research scholars this morning under the aegis of "Jigyasa programme", recently launched by Ministry of Human Resource Development, Government of India, in association with Council of Scientific & Industrial Research. The objective of the programme is to provide exposures of research environment and simultaneously inculcate interest towards science among the school students and further encouraged them to pursue carrier in science stream. The students were thrilled to visit the laboratory and interact with the working group. The programme was scheduled for three hours, Dr. P.N. Mishra, Principal Scientist, started the programme with welcome address and introduced students with the members of Jigyasa team and further talked about R&D activities of CSIR-NML and its different functional division, further briefed about their activities, contribution of NML for gainful utilization of natural resources through R&D and extend help to the mineral based industries in India and overseas countries. The vote of thanks was given by Dr. Anjani Kr. Sahu, Sr. Technical Officer. After brief up, a laboratory visits programme was organized, to interact with scientists and research scholars. S.N. Hembram, Senior Technical Officer assisted students during lab visit. The students expressed their fillings, asked numbers of question and clarify their doubt with

scientists. Students visited creep testing unit of MTE Division and knew about fatigue, creep, fractures prevailing in different types of industrial components. Further, they visited to chemistry division and know about conventional as well as non-conventional methods applied in chemical analysis for ores, minerals and different materials. Students asked question and solved by deputing research scholars. Students shown keen interest in the Electronic Waste Unit and make acquainted themselves about the method for extraction of metals from electronic waste. Students were surprised to observe the 69 years' history of NML at museum and they asked different question based on sample and poster pertaining to minerals based product and facilities.

Teachers and students requested for their next visit to the laboratory for gain deeper knowledge. Teacher expressed their views and was satisfied to know about the consistent effort and research emphasis given in various sectors for the development of India.

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Avenue Mail

IGIB: TB bacteria use a new way to subvert host defence

CSIR-IGIB

9th February, 2019

The abundance of 86 proteins were altered

It is well known that TB bacteria can actively manipulate the degradative pathway of macrophages (cells responsible for detecting, engulfing and destroying pathogens) such that instead of getting destroyed, the TB bacteria can actually multiply inside the macrophages. Now, researches at the Institute of Genomics and Integrative **Biology** (CSIR-IGIB), Delhi have for the first time found that TB bacteria actively manipulate an organelle other than those involved in the degradative pathways.

They found that protein composition of lipid droplets is actively manipulated by TB bacteria.

New mechanism

Lipid droplets are storehouses of lipids inside the host cells but can be decorated with specific proteins. Previous studies have shown how the composition of proteins in lipid droplets gets altered during different physiological conditions. So understanding how the protein composition of macrophage lipid droplets changes in response to TB infection may help in shedding light about a new mechanism through which the TB bacteria subvert the host defences.

It is already known that TB bacteria utilise lipids from the host cells and compete with the host cell for nutrients stored inside the cells. So the team led Dr. Sheetal Gandotra from IGIB set to study how the lipid droplet organelle gets actively modified by live TB bacteria leading to changes in the protein composition.

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The **results were published** in the journal *ACS Infectious Diseases.*
The lipid droplets in macrophages infected with live TB bacteria altered the composition of 86 proteins. While there was increased abundance of 57 proteins, the abundance reduced in the case of 29 other proteins.

Predict pathways

"All that we know now is that there is a change in the abundance of certain proteins. But at this point we don't know the causal relationship between the changes in abundance and lipid metabolism," says Dr. Gandotra.
By knowing which proteins' abundance are altered, it is possible to predict which pathways are being affected. "The lipid metabolism can impact different pathways through changes in the recruitment of proteins that are involved in these pathways or these proteins can have an impact on lipid metabolism directly," says Dilip Menon from IGIB and first author of the paper.

Based on the increased abundance of certain proteins, the team has found that protein synthesis pathway and vesicular trafficking pathway have an unprecedented link with lipid metabolism in the context of infection.

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The Hindu

Now, a safe powder to ripen your mangoes

CSIR-IICT

7th February, 2019

En-ripe an ethylene gas encapsulated powder can be effective replacement for Calcium Carbide

A season's loss of mango crop for a farmer has spawned an innovative solution, which is claimed to help ripening of mangoes without the use of poisonous substances.

En-ripe, the ethylene gas encapsulated powder, developed by Heighten Innovative Solutions, a start-up firm, can be an effective replacement for Calcium Carbide in ripening the king of fruits, say the developers. Use of carbide as ripening agent was made a punishable offence under the Food Safety and Standards Act, 2006, as the chemical is carcinogenic. Following the High Court's direction for strict implementation of the ban, the State government has stepped up enforcement since 2015. M. Madhava Reddy, bank employee who returned from New Zealand to till his land in Nalgonda district, incurred heavy losses when the traders at the Gaddiannaram Agricultural Market Yard at Kothapet refused his produce three years ago. "They said they cannot accept unripe mangoes, as carbide was disallowed. They asked us to bring ripe mangoes or none," Mr. Madhava Reddy recalled. Nonetheless, his deliberations with friends Yugandhar Reddy and Shravan Reddy had germinated an idea for an effective alternative to carbide, and three years of research yielded En-Ripe, an eco-friendly product for release of ethylene gas without harmful effects on public health.

The powder, developed by Mr.Yugandhar Reddy, uses vegetable starch, coir pith and activated carbon. It is made to absorb ethylene under high pressure and sealed in absorbent pouches, which are in turn secured in commercial packaging. Two holes in the

outer pack just before use will let the mixture interact with atmospheric moisture and release ethylene gas. “After complete release, the powder becomes so harmless that it can even be eaten,” says Mr. Madhava Reddy. Ripening of mangoes has been a challenge for traders, as the market does not have enough ethylene chambers. As of now, ethylene-producing chemical sachets imported from China are being used as an alternative for carbide. However, there are reservations about this product too, as it contains plant growth regulator. “Initially, our product cost ₹100 per sachet, but we have spent a year on bringing the price down to ₹20. One sachet will suffice a 20-kg carton of fruit,” says Mr. Shravan Reddy, another partner.

The trio got the product certified by CSIR-IICT as acetylene-free, hence not carcinogenic. An FSSAI certified lab has listed the chemical content in the powder and the fruit as below the limit of quantification. A report by the Indian Institute of Horticultural Research, Bangalore, found the quality of the fruit on a par with those ripened in ethylene chambers. An application has been made for patent on the product, Mr. Shravan Reddy informed.

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The Hindu

CSIR-IITR

6th February, 2019

पैथालॉजी में कर सकते हैं कैंसर की पहचान

ऑन्कोकॉन-4

लखनऊ (सं)। बीमारियों के इलाज में पैथालॉजी की भूमिका बेहद अहम है क्योंकि रोग का डायग्नोस पैथालॉजी में ही होती है। उसी प्रकार कैंसर रोग में भी पैथालॉजी का रोल महत्वपूर्ण हो जाता है। यदि रोग के शुरुआती लक्षण के समय ही पैथालॉजी जांच में रोग का पता लगा लिया जाए तो कैंसर का इलाज जल्द शुरू हो सकता है। यह बात सीएसआईआर के निदेशक प्रो. आलोक धवन ने कही।

प्रो. धवन एराज लखनऊ मेडिकल कॉलेज एंड हॉस्पिटल एरा विश्वविद्यालय के पैथोलॉजी विभाग के तत्वावधान में ऑन्कोकॉन-4 में बोल रहे थे। दो दिवसीय 5 व 6 को होने वाले अंतर्राष्ट्रीय सम्मेलन का उद्घाटन करते हुए इंडियन इंस्टीट्यूट ऑफ टॉक्सिकोलॉजी रिसर्च के निदेशक प्रो. आलोक धवन ने बताया कि कैंसर की शुरुआती जांच पैथालॉजी में की जा सकती है। कोई भी रोग होने पर मरीज अपनी जांच कराने पैथालॉजी ही पहुंचता है ऐसे में यदि कैंसर के कुछ लक्षण प्रकट हों और पैथालॉजी जांच में लक्षण के आधार पर कैंसर का अर्ली डिटेक्शन हो जाए तो समय पर इलाज शुरू हो जाएगा। इन मरीजों की जान बचा पाना चिकित्सकों के लिए भी आसान होगा। उन्होंने कैंसर में योगदान देने वाले विभिन्न पर्यावरणीय कारकों की भूमिका पर प्रकाश डाला। मरीजों को यदि पोषक व पौष्टिक आहार मिलता रहे तो वह क्वालिटी लाइफ जी सकता है। उन्होंने मरीजों के लाभ के लिए विभिन्न प्रकार के पोषण आहार विकसित करने के लिए एरा विश्वविद्यालय की सराहना की। उन्होंने कैंसर की रोकथाम में उचित आहार और पोषण की भूमिका पर भी जोर दिया।

प्रो. धवन ने उचित आहार और पोषण की भूमिका पर दिया जोर

इस अवसर पर बोस्टन यूएसए के मैसाचुसेट्स मेडिकल स्कूल से आए प्रो. अशरफ खान ने कैंसर रोग के निदान पर प्रकाश डाला। उन्होंने बताया कि भविष्य आणविक रोग विज्ञान में निहित है। मानव जीनोम परियोजना आणविक स्तर पर रोग को परिभाषित करने के लिए जीनोमिक मेडिसिन की पेशकश का आधार है। जीनोटाइपिंग तकनीकों में प्रगति के साथ, जैव सूचना विज्ञान, सिस्टम जीव विज्ञान और कम्प्यूटेशनल जीव विज्ञान सभी एक साथ आए हैं जिससे महत्वपूर्ण जैविक खोजों को बढ़ावा मिला है। लंदन के हेड ऑफ सेल्युलर पैथोलॉजी एंड एनएचएस ट्रस्ट हॉस्पिटल के प्रो. एस.एम. हसन रिजवी ने शुरुआती कैंसर में आणविक विकृति विज्ञान की भूमिका की जानकारी दी। केजीएमयू के प्रो. ए.के. त्रिपाठी ने ल्यूकेमिया की आणविक रुपरेखा के बारे में चिकित्सकों को बताया।

कार्यक्रम में एरा विश्वविद्यालय के कुलपति प्रो. अब्बास अली मेंहदी व डायरेक्टर एकेडमिक प्रो. फरजाना मेंहदी के साथ प्रिंसिपल प्रो. एम.एम.ए. फरीदी, प्रो. एम.एम. गोयल, प्रो. आशुतोष कुमार एवं आयोजन सचिव प्रो. निरुपमा लाल समेत कई गणमान्य अतिथि मौजूद थे। कार्यक्रम में राम मनोहर लोहिया आयुर्विज्ञान संस्थान की प्रो. नुजहत हुसैन ने भी कैंसर रोग के बारे में कई महत्वपूर्ण जानकारियां दीं। सम्मेलन के दौरान पोस्टर प्रस्तुतियां भी हुईं।

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Dainik Bhaskar

CSIR-CSMCRI

6th February, 2019

રશિયન અને જર્મન વૈજ્ઞાનિકો સંબોધન કરશે

કલાનગરી ભાવનગર હવે બનશે ટેકનોલોજીના મેળાવડાનું સાક્ષી

સેન્ટ્રલ સોલ્ટ દ્વારા પાણી અને ઉર્જા માટે મેમ્બ્રેન્સના શીર્ષક સાથે ઈન્ડો-જર્મન વૈજ્ઞાનિક વર્કશોપ યોજાશે

ભાવનગર | 5 ફેબ્રુઆરી

તા.18 ફેબ્રુઆરીથી 20 ફેબ્રુઆરી દરમિયાન કલા અને સંસ્કૃતિનું શહેર ભાવનગર શૈક્ષણિક, ટેકનોલોજી અને ઔદ્યોગિક મેળાવડાનું સાક્ષી બનશે. ભાવનગરની વિશ્વવિખ્યાત સંશોધક સંસ્થા સેન્ટ્રલ સોલ્ટ એન્ડ મરિન કેમિકલ્સ રિસર્ચ ઈન્સ્ટિટ્યુટ ખાતે તા.18થી 20 ફેબ્રુઆરી સુધી ત્રણ દિવસ માટે પાણી અને ઉર્જા માટે મેમ્બ્રેન્સ ઈન્ડો-જર્મન સંયુક્ત વૈજ્ઞાનિક વર્કશોપનું આયોજન કરવામાં આવ્યું છે. આ વર્કશોપને 10 જર્મન, 2 રશિયન અને 20 ભારતીય પ્રોફેસર, વૈજ્ઞાનિક અથવા તો ટેકનોક્રેટસ સંબોધન કરવાના છે.

રિલાયન્સ, ઓ.એન.જી.સી, ટાટા કોન્સ્ટેન્સી સર્વિસિસ, બી.એ.એસ.એફ. મેમ્બ્રેન્સ, વગેરેના ઔદ્યોગિક તકનીકો, સમગ્ર વિશ્વમાંથી વિવિધ યુનિવર્સિટીઓ, આઈ.આઈ.ટી, એન.આઈ.ટી, અને રાષ્ટ્રીય સંશોધન સંસ્થાઓમાંથી આશરે 150 યુવાનો તેમના ફેકલ્ટી / સંશોધકોના વિદ્વાનો સાથે વર્કશોપમાં હાજરી આપવાના છે. વર્કશોપના ભારતીય સંકલનકાર ડો. વિનોદકુમાર શાહીએ જણાવ્યું હતું કે આ વર્કશોપ વિજ્ઞાનના તકનીકો અને સંશોધકોને સ્થિર મેમ્બ્રેન અને ટકાઉ વિજ્ઞાન વીજળીની તકનીકો, તેમની સંભવિત ઉપયોગિતા અને હાલની સ્થિતિ, વિજ્ઞાન સામગ્રી માટે વિકાસના પડકારો વિગેરે અંગે ચર્ચા કરવા માટે તક પૂરી પાડશે; અને વધુમાં, ભારતીય અને જર્મન વિજ્ઞાન સંશોધનકારો વચ્ચે સક્રિય સહસંબંધ અને સહયોગ, વિજ્ઞાનના માપદંડ લક્ષ્યો, ઉભરતી વૈજ્ઞાનિક તકનીકો સાથે ઔદ્યોગિક અંત-વપરાશકર્તાઓ(એન્ડ-યુસર્સ)માં વધુ સ્પષ્ટતા પ્રદાન કરશે. આ ઉપરાંત સંશોધકો અને ઉપયોગિતાના પાસાં વચ્ચેની સાઠ-ગાંઠ ને વધુ મજબૂત બનાવશે.

આમ કલા અને સંસ્કુતિની નગર ગણાતા ભાવનગરમાં 18 થી 20 ફેબ્રુઆરી દરમિયાન સેન્ટ્રલ સોલ્ટ ખાતે સાયન્સ શિક્ષણ અને ટેકનોલોજીને લગતો વર્કશોપ યોજાશે જેમાં ભારતીય ઉપરાંત જર્મનીના અને રશીયાના વૈજ્ઞાનીકો સંબોધન કરશે.

મેમ્બ્રેન્સની શું કામ આવશ્યકતા વધી છે

પાણીના શુદ્ધિકરણ માટે, રિવર્સ ઓસ્મોસિસ (આર.ઓ.), નેનો-ગાળણક્રિયા (એન.એફ.), અલ્ટ્રા-ફિલ્ટ્રેશન (યુ.એફ.), હોલો ફાઈબર અને ઈલેક્ટ્રોડાયાલિસિસ જેવી કલા આધારિત ટેકનીક સમગ્ર વિશ્વમાં જમાવટ કરી રહી છે. ઊર્જા ક્ષેત્રે, ઈંધણ કોશિકાઓ, રેડોક્સ-ફ્લો બેટરીઓ, સ્ટોરેજ બેટરીઓ, વિદ્યુત વિચ્છેદન-વિશ્લેષણ દ્વારા પાણીમાંથી હાઈડ્રોજન અને રિવર્સ ઈલેક્ટ્રોડાયાલિસિસ જેવી વૈજ્ઞાનિક ટેકનોલોજી, વિકાસશીલ તબક્કામાં છે અને આવતીકાલની આશા છે. આ તકનીકોને બહેતર પસંદગીઓ, ઓછા ઈલેક્ટ્રિકલ પ્રતિકાર, ઉચ્ચ રાસાયણિક, મિકેનિકલ અને થર્મલ સ્થિરતા તેમજ સારી ટકાઉપણા માટે પટલ (મેમ્બ્રન)ની આવશ્યકતા છે.

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CSIR-IMMT

6th February, 2019

IMMT to set up incubation centre for entrepreneurs

TIMES NEWS NETWORK

Bhubaneswar: There's good news for budding entrepreneurs at the Institute of Minerals and Materials Technology (IMMT) in Bhubaneswar as an incubation centre is set to come up on its campus here to help startups set their units with the expertise of the research institute.

STARTUP PUSH

The institute has submitted a proposal in this regard to the Council of Science and Industrial Research (CSIR) and it is under active consideration.

"We have submitted the proposal to the council and hope that it will get approved around April this year. We are planning to mentor about 25 startup firms in the first batch," said IMMT director Suddhasatwa Basu.

At present, IMMT is sharing its technology with six startups. "We are planning to double our research and development activities in the coming year. We are always keen on sharing our technology with budding entrepreneurs who would take things to the next level and establish themselves," said the director.

The IMMT director told TOI that the institute was currently working to develop by-products of aluminium, steel and other metals available in the state. "Two major aluminium parks are coming up in the state, along with several new startups. We are planning to share our technology with the people ready to produce things beyond traditional metals," asserted Basu.

Director general, CSIR, Shekhar C Mande, who had recently visited the IMMT campus, said the Bhubaneswar laboratory was doing extremely well in terms of research and development activities in the field of minerals. "We are here to provide all possible support to the institute. They have found out some extremely rare metals that can be used for greater benefit of the country," said Mande.

Besides the upcoming incubation centre at IMMT, the Indian Institute of Technology (IIT), Bhubaneswar, has been operating an IT-incubation centre from its permanent campus at Argul for the past one year. It helps entrepreneurs set up their units in IT and ITES industries.

"The objective of our incubation centre is to encourage students to take up entrepreneurship and we hope more such centres come up on the initiative of institutes of national importance. This facility is available to the outgoing students and the faculty," an IIT-BBS administrator said.

Published in:
The Times of India

40 micro quakes shook Dahanu in 24 hours; tectonic, not artificial: Experts

CSIR-NGRI

5th February, 2019

With more than 10,000 panicked residents of 40 villages in Dhundalwadi grampanchayat having fled their homes and camped outdoors since the tremors began on November 11, 2018, the state government had asked the NGRI to present its findings on Monday. FORTY MICRO earthquakes shook Dahanu taluka in 24 hours between February 1 and 2, seismologists studying a series of tremors in the area since the last three months have found. The tremors were recorded in an area of 18 square kilometres and picked up by seismographs installed in five locations in Maharashtra's Palghar district, in which Dahanu is located, since November 2018.

"We studied 40 micro earthquakes between February 1 and 2 and found that they are tectonic in nature. They are not artificially created as there are no major reservoirs in the area. Most of these earthquakes were so minor that it is unlikely that people felt them, but they were picked up by our machines," said Dr Srinagesh D, who heads the Seismological Observatory at the National Geophysical Research Institute, Hyderabad. With more than 10,000 panicked residents of 40 villages in Dhundalwadi grampanchayat having fled their homes and camped outdoors since the tremors began on November 11, 2018, the state government had asked the NGRI to present its findings on Monday. According to the experts, who briefed officials of the State Disaster Management Authority, the tremors, known as "swarm earthquakes" because of their frequency and concentration in a small area, were caused by the movement of tectonic plates which is normal in the Indian peninsula. Both the

NGRI and the National Centre for Seismology, Delhi, have set up five stations in the district equipped with seismographs to measure velocity, and accelerometers to study the quakes and intensity with which the ground shakes. “We have isolated the source to an area 10 square kilometres in length and 5 square kilometres in breadth. Over the next one month, we will be trying to find the exact source,” he said.

Published in:
The Hindu

CSIR-IMMT

5th February, 2019

'CSIR's vision is to make the country self-reliant'

Renowned biologist ***Shekhar C Mande*** *has become the director-general of the Council of Scientific and Industrial Research. On a visit to the city, he talks to* ***TOI's Sandeep Mishra*** *about what he wants to do for the country*

■As the new director-general of CSIR, which areas would you explore in the field of research and development activities of the organisation?

It's my privilege to be appointed as the director-general of CSIR. It has been formulating strong science and technology policies since Independence. It has also been given the mandate to implement the same for the betterment of society. For decades, we have contributed to the country's growth through various research policies and hope to continue doing the same.

■Please tell us about some research works that have been taken up in the laboratories of CSIR

We are conducting research and collecting data in different fields such as mining, geophysics and electrical engineering at our laboratories. One of our important works, at present, is the production of biofuel, which was used in the aircraft flown during the Republic Day parade in New Delhi. The biofuel was prepared at our Indian Institute of Petroleum in Dehradun. Next, a lab in Bengaluru is working on making a civilian aircraft. The demonstration will be done at the Air Show in Bengaluru on February 21.

■Concerns loom large over the reach of scientific education in the country. Where do you think the problem lies?

I believe there has been a reversal of trend in the last few years. Up until a decade ago, a large number of young children used to choose either engineering or medicine. However, they have now started coming back to science as subjects like mathematics, physics and even biology interest them.

As a biologist, I would say the subject is very broad and has a strong presence in fields like agriculture, nutrition, health and wellness. The CSIR encourages young minds to conduct research in biology and I see a better future for the subject in the country.

■You are an expert in DNA profiling. Can you explain the subject in brief?

DNA profiling can reveal what makes a human being unique. When we are born, the body functions with a single cell. By the time we become adults, the cell count crosses a trillion. The character signature of our DNA carries the capability of identifying a human being. It is a technique used in criminal investigations where DNA evidence collected from a particular crime site gives us the opportunity to identify the guilty. This is what DNA profiling is all about.

■Since international trade fairs provide a platform to budding talent, do you feel governments should host more such events at regular intervals?

I think it is a good initiative and gives the public an idea of ongoing developments. If somebody wants to start an industry or commercialise it, he/she can seek help from the experts present and know how to go about it in detail.

In a way, this reflects the objectives of CSIR. We are willing to give our technology, developed in our laboratories, to entrepreneurs. Fairs will go a long way in bringing people on a common platform and showcasing emerging technologies.

■As a public-funded organization, how will CSIR continue contributing to the development of the nation?

Our vision is to make the country self-reliant so that it enjoys the same status like Europe and the US in the international domain.

Published in:

The Times of India

Ayurvedic drug for cancer launched

CSIR-IICB

5th February, 2019

Hyderabad: After 30 years of research at the Indian Institute of Chemical Biology, the first-ever plant-based Ayurvedic drug for the treatment of early stage cancer was launched on Monday.

The research was carried out by CSIR-IICB Kolkata director and senior scientist Chitra Mandal along with her team who looked at plant species for anti-cancer ingredients and developed the medicine called Kudos CM9. The combination was prepared after testing it on the cancer cells in the liver, pancreas, breast, colon and other organs. It was found that one combination of medicines worked for all cancers.

Prof. Mandal said the drug was proven to be the most effective and safest. "It targets only the cancer cells and provides immune therapy by working as an immunomodulator," she said.

The drug in the trials showed it could block cancer-promoting enzymes and hormones, the IICB said. It also has anti-mutagenic, chemo protective and radio-protective properties. The drug was found to work at its best when the cancer was diagnosed early in animal testing.

Kudos CM9 is available in the form of tablets and CSIR has transferred the technology to Kudos Laboratories.

Published in:
Deccan Chronicle

CSIR-NML

4th February, 2019

डिफेंस, एयरो स्पेस और बायो मेडिकल के क्षेत्र में इस्तेमाल होने वाली नई धातु पर एनएमएल में 4 से 6 फरवरी तक सेमिनार

सिटी रिपोर्टर • जमशेदपुर

राष्ट्रीय धातुकर्म प्रयोगशाला (एनएमएल) जमशेदपुर, जर्मन सरकार के साथ मिलकर चार से छह फरवरी तक तीन दिवसीय अंतरराष्ट्रीय सेमिनार का आयोजन करने जा रहा है। एनएमएल के निदेशक डॉ. इंद्रनील चट्टोराज ने बताया कि इस सेमिनार का विषय होगा- धातु निर्माण की नई तकनीक और ट्रेंड्स।

भारत सरकार के साइंस एंड टेक्नोलॉजी विभाग द्वारा गुड़गांव में स्थापित इंडो जर्मन साइंस एंड टेक्नोलॉजी सेंटर और फेडरल मिनिस्ट्री ऑफ एजुकेशन एंड रिसर्च (बीएमबीएफ) जर्मनी के संयुक्त तत्वावधान में होने वाले इस आयोजन में धातु निर्माण की नई तकनीक और नए ट्रेंड पर चर्चा होगी। सेमिनार का उदघाटन चार फरवरी की सुबह 10 बजे आईआईटी कानपुर के पूर्व निदेशक और वर्तमान में आईआईटी खड़गपुर के प्रोफेसर इंद्रनील मन्ना करेंगे। विशिष्ट अतिथि के तौर पर टाटा स्टील के वीपी (टेक्नोलॉजी एंड न्यू मेटेरियल्स बिजनेस) डॉ. देवाशीष भट्टाचार्या शामिल होंगे। एनएमएल के निदेशक ने बताया कि इस अंतरराष्ट्रीय सेमिनार में भारत और जर्मनी के वैज्ञानिक भाग ले रहे हैं। द्विपक्षीय कार्यशाला के आयोजन का मकसद भारत और जर्मनी के वैज्ञानिकों, उद्योगों और एकेडमीशियंस को एक मंच पर लाना है, ताकि वे अपने नॉलेज और विशेषज्ञता को एक-दूसरे के साथ आदान-प्रदान कर सकें। बायो मेडिकल, एयरोस्पेस, डिफेंस, इनर्जी और ऑटोमोबाइल सेक्टर में मेटेरियल के बदले चरित्र को देखते हुए धातु निर्माण की नई तकनीक पर जोर दिया जा रहा है।

भारत सरकार और जर्मनी के सहयोग से तीन दिन के इस अंतरराष्ट्रीय सेमिनार का होगा आयोजन

इन संस्थानों के प्रतिनिधि करेंगे शिरकत

फ्रॉनहाफर इंस्टीट्यूट ऑफ मेकेनिक्स ऑफ मेटेरियल्स जर्मनी, ब्रेमर इन्स्टीट्यूट जर्मनी, आईआईटी खड़गपुर, आईआईटी चेन्नई, आईआईटी भुवनेश्वर, एनआईटी सूरतकल, एनआईटी दुर्गापुर, आईआईटी कानपुर, एआरसीआई हैदराबाद, राजा रमन्ना सेंटर एडवांस्ड टेक्नोलॉजी इंदौर, एनआईएफएफटी रांची, ब्लू पावर कास्टिंग सिस्टम जर्मनी, जीई ग्लोबल रिसर्च बेंगलुरु, हेरानुएयस डौचेलैंड जर्मनी, इंटेक डीएमएलएस बेंगलुरु, विप्रो थ्रीडी, सेंट्रल टूल रूम एंड ट्रेनिंग सेंटर भुवनेश्वर, टाटा स्टील।

Published in:
Dainik Bhaskar

CSIR-NML

3th February, 2019

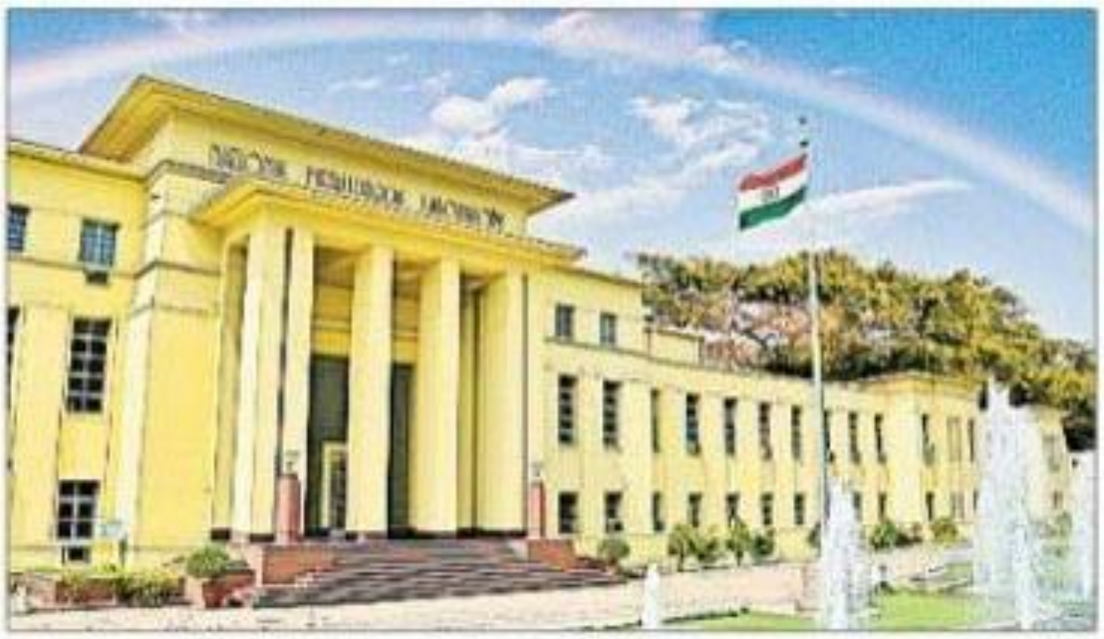
एनएमएल. इंडो-जर्मन द्विपक्षीय कार्यशाला का होगा आयोजन

भारत-जर्मनी के विशेषज्ञ करेंगे धातु निर्माण की तकनीक पर चर्चा

➲ चार से छह फरवरी तक चलेगी संयुक्त कार्यशाला

वरीय संवाददाता ▷ जमशेदपुर

धातु निर्माण की तकनीक पर विश्व के शीर्ष तकनीकी विशेषज्ञों के शोध और उनकी नवीनतम विशेषज्ञता से नयी तकनीक निकाली जायेगी. इसके लिये राष्ट्रीय धातुकर्म प्रयोगशाला में चार से छह फरवरी तक तीन दिवसीय संयुक्त कार्यशाला आयोजित की गयी है. इसमें जर्मनी और भारत के विभिन्न उद्योगों के विशेषज्ञ, शोधार्थी, एकेडमिक संस्थान एक कॉमन प्लेटफार्म पर धातु व एलॉय निर्माण की वर्तमान स्थिति व हालिया शोध पर चर्चा करेंगे. कार्यक्रम में फ्रॉनहोपर



इंस्टीट्यूट फोर मैकेनिक्स ऑफ मैटीरियल्स जर्मनी, सीएसआइआर-एनएमएल जमशेदपुर, ब्रेमर इंस्टीट्यूट फोर एंगेवांते स्ट्राल्टेकनिक ब्रीमन जर्मनी, आइआइटी खडगपुर, आइआइटी चेन्नई, आइआइटी भुवनेश्वर, एनआइटी सूरतकल, एनआइटी दुर्गापुर, एआरसीआइ हैदराबाद, लेबनिज इंस्टीट्यूट फोर वर्कस्टफटेकनिक ब्रीमन जर्मनी, राजा रमन्ना सेंटर फोर एडवांस्ड टेक्नोलोजी इंदौर, आइआइटी कानपुर, एनआइएफएफ्टी रांची, ब्लू पावर कास्टिंग सिस्टम्स जीएमबीएच एंड इंडथर्म इरवार्मंगसलंगम जर्मनी, ईटेक-डीएमएलएस, बेंगलुरू, एकोनिटी 3डी जर्मनी, विप्रो बेंगलुरू, एडिटिव वक्रस ब्रीमन जर्मनी, सेंट्रल टूल रूम एंड ट्रेनिंग सेंटर भुवनेश्वर, फ्रेडरिक एलेक्जेंडर यूनिवर्सिटी जर्मनी, टाटा स्टील जमशेदपुर के अलावा विभिन्न सीएसआइआर प्रयोगशाला के विशेषज्ञ शामिल होंगे. कार्यक्रम का उद्घाटन आइआइटी खडगपुर के प्रो. इंद्रनील मन्ना सुबह दस बजे करेंगे. विशिष्ट अतिथि के रूप में टाटा स्टील के टेक्नोलोजी एंड मैटीरियल्स बिजनेस के वाइस प्रेसीडेंट देबाशीष भट्टाचार्य मौजूद रहेंगे.

Published in:
Prabhat Khabar

CCMB uses paper-based device to determine lipid profile

CSIR-CCMB

2nd February, 2019

The device can simultaneously detect total cholesterol, HDL, LDL and triglycerides

A portable, cheap, point-of-care diagnostics for rapid determination of total cholesterol, HDL, LDL and triglycerides in a single run might become a possible with researchers at Centre for Cellular and Molecular Biology (CSIR-CCMB), Hyderabad successfully fabricating a paper-based microfluidic device. The device has high specificity while the sensitivity is comparable with conventional methods. The device has to be validated with more blood samples. The flower-shaped device with five arms is printed on a filter paper to simultaneously detect total cholesterol, HDL, LDL and triglycerides; the fifth arm acts as a control. Cholesterol and triglycerides can be detected in less than eight minutes using the microfluidic device. Only 10 microlitre of serum sample is needed to determine the four parameters. "Sample requirement is less — 10 microlitre of serum. This can be obtained from 25 microlitre of blood," says Dr. Shahila Parween from CCMB and first of a paper published in the journal Sensors and Actuators B: Chemical. The filter paper is functionalised with aminosilane (3-aminoproplytriethoxysilane or APTES) and gold nanoparticles. The aminosilane acts as a binder to immobilise both gold nanoparticles and enzymes on the paper surface. While the enzymes react with the serum and help in detecting cholesterol and triglycerides, the gold nanoparticles enhance the intensity of the detection dye to produce a visible change in colour based on the amount of cholesterol and triglycerides present in the sample. "For quantifying the amount of total cholesterol,.

HDL, LDL, and triglycerides we should have a readout device. We are trying to collaborate with researchers from another institute who have already developed a readout device," says Dr. Amit Asthana from CCMB who led the team. Meanwhile, quantification can be done by scanning the paper device and using an image analyser to measure the intensity of colour change in the paper in the reaction zone.

"Till such time we have a readout device, we can use the three colour dots with different intensities present above the reaction zone (where cholesterol and triglycerides are detected) to know if cholesterol and triglycerides levels in the serum are low, medium or high," says Dr. Parween. "Matching the dye intensity with the colour dots by the naked eye can help in semiquanitification."

The serum sample added to the sample zone flows into all the five arms and passes through a narrow channel and a precipitation zone before reaching the reaction zone. The precipitation zone has reagents that are coated on the paper. The reagents react with the sample and allow only HDL or LDL to enter the detection zone in the appropriate arms. The precipitation zone has no reagent in the arms meant for detecting total cholesterol, triglycerides and control.

Published in:
The Hindu

CSIR-NCL meet on innovation and entrepreneurship begins in Pune

CSIR-NCL

2nd February, 2019

CSIR-National Chemical Laboratory (CSIR-NCL), Pune is hosting an interdisciplinary conference (Humboldt Kolleg) on the theme entitled "Innovation & Entrepreneurship: Role of Science and Technology", which began on Thursday and will conclude on February 2, 2019. The event is being held in coordination with Humboldt Academy, Pune sponsored by Alexander von Humboldt Foundation, Germany. The venue of the conference is Prakruti Resorts, Kashid Village, District- Raigad. Scientists from India and Germany will be delivering lectures on the various themes talking about how science and technology contributions to innovation and entrepreneurship. It is proposed to have five half-day sessions spread over two-and-a-half days. Inauguration session is to be held on January 31, 2019 between 2 pm and 3.30 pm. Ramgopal Rao, Director, IIT, Delhi will be giving the inaugural lecture on "Connecting academic research and development with product innovation". The talks are on the various sessions such as clean energy, fuel, batteries and materials, science and innovation, affordable healthcare and diagnostics, sustainable and eco safer agriculture. CSIR-NCL, Pune is a research, development and consulting organization with a focus on chemistry and chemical engineering, while Humboldt Academy, Pune is an association of former and present fellows of the Alexander von Humboldt Foundation (AvH), residing in and around Pune. It aims to spread the information of this foundation and its various programs, assist students aspiring to be AvH Fellows, enable exchange of research and academic contributions of its members; and stay connected with other Humboldt Academies.

Published in:
The Times of India

AKTU, NBRI ink pact for joint research

CSIR-NBRI 1st February, 2019

LUCKNOW : Dr APJ Abdul Kalam Technical University, Lucknow (AKTU) and the National Botanical Research Institute, Lucknow (CSIR-NBRI) signed a memorandum of understanding (MoU) on Thursday, on the AKTU campus to boost collaborative research work.

The objective of the MoU is to promote joint collaborative research, joint work in PG and PhD programmes, internship of students, faculty development programme, co-supervision of PhD programme, capacity-building programmes in various areas and other collaborative programmes in mutual agreement. The MOU was signed under the chairmanship of vice chancellor Professor Vinay Kumar Pathak. CSIR-NBRI director SK Barik and AKTU registrar Nand Lal Singh signed the MoU.

Professor Vinay K Pathak said that there is a need for intervention of engineering and computing in all branches of science and this MoU may help bring in technological interventions in botanical studies, which will foster inter-disciplinary research of mutual interest.

Published in:
Press Reader

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