

CSIR in Media



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CSIR

28th May 2017

जीवन में बदलाव लाने के लिए प्रयास कर रही सरकार: डॉ. हर्षवर्धन

नई दिल्ली। विज्ञान एवं प्रौद्योगिकी मंत्री डॉ. हर्षवर्धन ने केंद्र सरकार के तीन साल पूरे होने पर कहा कि वैज्ञानिक अनुसंधानों से गरीब और ग्रामीण आबादी के जीवन में बदलाव लाने के लिए सरकार प्रयास कर रही है। वैज्ञानिकों ने कई टीके एवं दवाएं विकसित करने में सफलता हासिल की है। इस मौके पर सीएसआईआर के महानिदेशक डॉ. गिरीश साहनी ने सीएसआईआर द्वारा विकसित खून के थक्के जमने से रोकने वाली दवा क्लोटबस्टर, मधुमेह रोधी दवा बीजीआर-34, स्टेराइड रहित गर्भनिरोधक गोली सहेली और छोटे किसानों के लिए विकसित ट्रैक्टर आदि का जिक्र किया। डॉ. साहनी ने कहा कि इन तकनीकों खोजने से भले ही सीएसआईआर को बेहद कम राजस्व मिला है। लेकिन इनसे लोगों को होने वाले फायदे का आकलन किया गया। सीएसआईआर की छह तकनीकों से ही लोगों को 32 हजार करोड़ रुपये से भी अधिक का फायदा हुआ है।

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Hari Bhumi, Page 3

CSIR-CSIO

28th May 2017

अनाज में नमी बताने की तकनीक विकसित

चंडीगढ़। अनाज में नमी की जांच के नई तकनीक सीएसआईओ की अंगीकृत इकाई सीएसआईओ ने विकसित की है। इसे भारत में पहली बार मे. आरएल वाल्सन एंड कंपनी जालंधर ने लांच किया है। अनाज के रखरखाव के दौरान नमी की समस्या के कारण किसानों और सरकारों को भारी नुकसान का सामना करना पड़ता है। सीएसआईओ चंडीगढ़ द्वारा तैयार ग्रेन मॉयस्चर एनालाइजर (इग्मा) तेजी के साथ अनाज में मॉयस्चर लेवल को बिना किसी रासायनिक पदार्थ के प्रयोग के चेक करता है। इस तकनीक को आरएल वाल्सन एंड कंपनी को दिया गया है। इस तकनीक से किसान नमी लेवल की जांच के बाद सही समय पर अनाज की बुआई कर सकते हैं। संस्थान के अनुसार इस एनालाइजर की की कीमत आयात कर मंगाने वाले एनालाइजर की कीमत की आधी है।

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Amar Ujala, Times of India

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India signs five pacts with Mauritius, offers \$500 million credit

CSIR

28th May 2017

A \$500-million line of credit (LoC) from India to Mauritius is among four agreements signed by the two countries following delegation-level talks headed by Prime Minister Narendra Modi and his Mauritian counterpart Pravind Jugnauth here on Saturday.

The LOC agreement was signed between SBM Mauritius Infrastructure Development Co. Ltd and Export-Import Bank of India.

Another agreement was signed on cooperation on maritime security between the two countries.

A memorandum of understanding (MoU) was signed between the two sides for setting up of a civil services college in Mauritius.

Another MoU was signed between the Council of Scientific and Industrial Research (CSIR) of India and Mauritius Oceanography Institute for research and education in marine sciences and technology.

Mauritius also submitted its instrument of ratification of the India-initiated International Solar Alliance (ISA).

The ISA, launched at the UN Conference of Parties (CoP) climate summit in Paris on 30 November, 2015, by Prime Minister Modi and then French President Francois Hollande, is conceived as a coalition of solar resource-rich countries to address their special energy needs and provide a platform to collaborate on dealing with the identified gaps through a common, agreed approach.

It is open to all 121 prospective member countries falling between the Tropics of Cancer and Capricorn.

Earlier on Saturday, Jugnauth was accorded a ceremonial welcome at the Rashtrapati Bhavan here following which External Affairs Minister Sushma Swaraj called on him.

Jugnauth arrived here on Friday on a three-day state visit to India. This is Jugnauth's first visit abroad since assuming office this January.

Published in:

[First Post](#)

AIIMS and CSIR IGIB Ink Deal for Partnership in Clinical and Translational Genomics, Expanding on Reach of the GUaRDIAN Programme

CSIR-IGIB

28th May 2017

The All India Institute of Medical Sciences (AIIMS) Delhi and CSIR Institute of Genomics and Integrative Biology (CSIR-IGIB) inked a deal for collaborative research in the area of Rare Diseases and application of genomics to aid clinical decisions.

AIIMS Delhi is a premier Institute for medical education and research in India, having extraordinary infrastructure, specialized medical/paramedical staff, management and state of the art facilities for patient care, training programmes and research activities. CSIR-IGIB is one of the premier Institutes in India pioneering cutting edge advancements in Genomic Science and a constituent laboratory

of the Council for Scientific and Industrial Research (CSIR). Research at CSIR-IGIB spans a variety of areas including Genomics & Molecular Medicine, Chemical & Systems Biology, Genome Informatics & Structural Biology, Respiratory Disease Biology and Energy & Environmental Biotechnology.

As part of the agreement, AIIMS Delhi and CSIR IGIB would collaborate in the area of genetic diseases as well as application of genomics in clinical settings. This would include formulation and participation in joint collaborative programs spanning genomics for aiding the diagnosis, understanding the prognosis and aiding precise therapy of genetic diseases.

The deal would also enable faculty members of both institutes to actively participate in formulating and implementing collaborative programs aimed at accelerating the application of genomics to aid clinical decisions.

The deal would also allow AIIMS Delhi to access the state of the art genomics and bioinformatics infrastructure as well as the clinical genomics analytical resources at CSIR IGIB to enable fast, accurate and cost effective diagnosis of genetic diseases for patients coming to AIIMS Delhi.

CSIR IGIB has been a pioneer in translational genomics in India. The Genomics for Understanding Rare Diseases India Alliance Network (GUaRDIAN) is a focussed translational research programme in the area of Rare Diseases initiated in the year 2015. The programme has evolved to become one of the largest of its kind in the area of Rare genetic diseases with a clinical collaborative network of over 100 clinicians from over 35 clinical centres across India working on Rare Diseases.

A complementary programme entitled Genomics and other Omics tools for Enabling Medical Decisions (GOMED) initiated last year at CSIR IGIB enables affordable and equitable access to genetic diagnosis. The programme covers genetic tests for over 80 genes and has already catered to over 2000 patients in from over 25 Centres from across India.

Skilled manpower is undoubtedly essential to advance and accelerate clinical adoption of genomics. This deal also envisages imparting genomics knowledge for practicing clinicians through training and education as well as faculty exchange. This would surely provide impetus to national initiatives like the Skill India programme. The deal also envisages setting up collaborative research programmes aimed at accelerating research in the area of clinical genomics in India.

Published in:

PR.com

This molecule could help you win the obesity battle

CSIR-CDRI

28th May 2017

A natural substance extracted from turmeric could well add to mankind's armoury against obesity.

A team of researchers at the Central Drug Research Institute (CDRI) in Lucknow has found that curcumin, an active ingredient in turmeric, can be chemically tweaked to make a molecule that could potentially prevent body-weight gain and also lower cholesterol.

To do this, researchers at CDRI, a constituent laboratory of the Council of Scientific and Industrial Research, overcame a seriously inherent drawback that curcumin suffers from.

Even though studies in the lab have shown that curcumin has beneficial

effects in fighting a wide spectrum of diseases, including cancers, neurodegenerative disorders, liver and kidney diseases and inflammation, clinical settings weren't as productive.

The hurdles

This is because the human body absorbs very little of curcumin — it becomes unstable and dissolves less in water. As a result, it is either metabolised in the liver or excreted. "Bioavailability is a serious problem," said PN Rangarajan, professor of biochemistry at the Indian Institute of Science, Bengaluru, who has been studying the molecule for many years.

“There have been attempts to improve bio-availability by developing new formulations such as nano curcumin. But the concern is that when you increase the bio-availability, you may also increase its toxicity,” he said.

The scientists at CDRI now seem to have broken the impasse.

By chemically modifying curcumin, they prepared a new derivative, one whose absorption is several folds higher in a living system than curcumin.

“This curcumin derivative seems to be a very promising molecule,” said T Narender, CDRI chemist, who headed the team that prepared the new curcumin derivative.

The breakthrough

Subsequently, biologists at CDRI, led by Anil Nilkanth Gaikwad, carried out experiments in hamsters to compare the efficacy of the new molecule — what scientists call CDPP — against that of curcumin.

To this end, the scientists grouped the rodents into different groups, and two such groups that are fed a high-fat diet were administered 100 mg per kg of body weight with CDPP and curcumin respectively.

To their surprise, the scientists found the bio-availability was four- to five-fold higher in adipocytes — fat cells around the midriff — in the animals treated with CDPP. “It not only drives out fat from these cells, but also prevents them from differentiating and thus ensures further fat storage doesn’t happen,” says Gaikwad.

More importantly, this curcumin derivative initiates the process of cholesterol removal from the blood, he said. The findings were published online in the journal Metabolism early this week.

Early days

But Gaikwad said it was too early to be excited.

“As we all know, curcumin offers multiple benefits. This means that the molecule goes and binds with many receptors in different organs in the body. Unless we could confine its activity to a single target, it can’t be a potential drug candidate,” he said.

For this, they may have to surmount several more barriers.

Published in:

[Hindu Business Line](#)

Gongura mix high in nutrition

CSIR-CFTRI

28th May 2017



The gongura spice-mix is rich in protein and bioactive components, and possesses good antioxidant activity, as per a study carried out by the Council of Scientific and Industrial Research and the Central Food Technological Research Institute, and published recently in the Indian Journal of Traditional Knowledge. Though literature on gongura is abundant, the use of instant mixes based on gongura for the snack industry is hardly reported. With traditional gongura spice-mix being used by the people in both states of Andhra Pradesh and Telangana, it is necessary to understand the nutritional qualities

of this mix.

The spice-mix is prepared with fresh gongura and pudina leaves. They are dehydrated and powdered. Scientist P. G. Prabhakara Rao explained, “The major ingredients of spice-mix are pepper (15 per cent), salt and sugar that are added for palatability, and dehydrated gongura and pudina powder. After preparation, it was found that the spice-mix is rich in dietary fibre of 22.20 per cent, protein of 12.11 per cent and crude fibre of 10.82 per cent. This combination is found in 100gm packs of the mix.”

The study was taken up to standardize an instant spice-mix based on gongura with the application of mint as a flavouring agent for the development of a sprinkling powder for deep-fried snacks. In the market, several brands of instant mixes are available but they are maintained by using synthetic acidulants such as acetic acid or citric acid. Instant gongura spice-mix, which is a traditional preparation in the households of both the Telugu states, has been found in the study to be nutritious, and convenient for preparation and use. This is also economical. During the study, the spice-mix was kept in cold, hot and very hot conditions to check on the changes that were taking place in it. It showed that the nutritional value is retained at room temperature. The spice-mix can be used as chutney or an accompaniment for deep-fried snacks.

The various panelists who reviewed the product found that it can be stored for six months at room temperature. They said this traditional dish can be converted into commercially viable value-added instant spice powder for breakfast, snacks and meal preparations.

Published in:

[Deccan Chronicle](#)

आईआईटीआर में बच्चे बन रहे हैं साइंटिस्ट

CSIR-IITR

28th May 2017



सीआईएसआईआर-आईआईटीआर ने सफलतापूर्वक अपनी तरह की पहली कार्यशाला "बी ए साइंटिस्ट" का आयोजन किया। इसमें स्कूल के विद्यार्थियों को सीएसआईआर की पहल "जिज्ञासा" कार्यक्रम के अंतर्गत वैज्ञानिक अनुसंधान का अनुभव करने के लिए प्रयोगशालाओं में एक दिन काम करने के लिए आमंत्रित किया गया था। इस कार्यक्रम के बाद, छात्रों को एपिक (पीपुल्स इनोवेशन एंड क्रिएटिविटी का सशक्तीकरण) प्रोग्राम में उनके नए विचारों के बारे में एक संक्षिप्त जानकारी देने के लिए कहा गया।

लखनऊ के आंचलिक विज्ञान नगरी के निदेशक डॉ. राज मेहरोत्रा की अगुवाई तथा सीएसआईआर-आईआईटीआर के निदेशक प्रोफेसर आलोक धावन की अध्यक्षता में गठित एक विशेषज्ञ समिति ने सभी प्रस्तुत प्रस्तावों का मूल्यांकन किया और 2 से 4 हफ्तों के शोध कार्यक्रम के लिए निम्नलिखित 19 विद्यार्थियों का चयन किया।

चयनित छात्र हैं:

अरनव हजरा, आद्या शर्मा, आर्यन धावन, अक्षत मिश्रा, अप्रमेय आइयांगार, देविशी कपूर, कवीश श्रीवास्तव, कोहिना पांडे, मयूख रस्तोगी, प्रखर सक्सेना, रिया जोतवानी, शिनो ओमन, शिवांश जायसवाल, श्रेया शुक्ला, सैयद अली जिब्रान रिजवी, दूबा रिजवी, उत्कर्ष ओझा, यश निगम और योगेंद्र कुमार शर्मा

चयनित छात्र लखनऊ और कानपुर, उ.प्र. के निम्न 12 स्कूलों का प्रतिनिधित्व करते हैं। .

आर्मी पब्लिक स्कूल, सेंट्रल एकेडमी, दिल्ली पब्लिक स्कूल, केन्द्रीय विद्यालय, केन्द्रीय विद्यालय आईआईटी कानपुर, ला मार्टिनियर कॉलेज, ला मार्टिनियर गर्ल्स कॉलेज, महर्षि विद्या मंदिर पब्लिक स्कूल, स्प्रिंग डेल कॉलेज, सेंट क्लेयर कॉन्वेंट स्कूल, सेंट जॉर्ज कॉलेज, यूनिटी कॉलेज।

ये नवोदित वैज्ञानिक जीवन की गुणवत्ता में सुधार के लिए पर्यावरण, भोजन और पानी से संबन्धित सामाजिक समस्याओं को सुलझाने के लिए उपकरणों को डिजाइन करने से लेकर स्मार्ट एप्लिकेशन तक नवीन समाधानों की खोज करेंगे।

Published in:

[Patrika](#)

Director, DMRL delivers Platinum Jubilee Lecture at NML

CSIR-NML

28th May 2017



Samir V. Kamat, outstanding scientist & director, Defence Materials Research Laboratory (DMRL) delivered the first Platinum Jubilee Lecture on the topic, 'Aero Engines: Materials and Manufacturing Processes' at the auditorium of CSIR-National Metallurgical Laboratory.

Dr. Kamat gave an overview of aero engines materials, status, future advanced materials and challenges ahead and deliberated the following in a nut shell.

The area of Research & Development of 'Defence Research & Development Organization' (DRDO) is strictly confined to Platforms, propulsions, weapons, ammunitions, supporting systems. The fundamental responsibilities of DMRL is to cater the materials research in the development of those systems on behalf of DRDO.

The government of India has mandated the delivery Technology rather than confinement into research articles, papers & patents. So, there is a need to interact with premiere Laboratories/Institutions and call for future collaboration with R&D Laboratory like NML.

He discussed about indigenously developed KAVERI engine technology although the production of engine did not transpire

but several new materials were developed and produced with the help of sister Laboratory, Mishra Dhatu Nigam (MIDHANI), Hyderabad.

The development and production of New Material takes usually 15-20 years span due to rigorous certification processes involved for the development of aero engines materials.

DMRL has developed various in the areas of Vacuum investment casting technology for aerofoils & Non-aerofoil, Thermal Barrier Coatings, Aero engine disc, Nickel based alloy, Self-sufficiency in Titanium based alloys, Titanium sponge for aero engines.

Many alloys and materials were developed at Laboratory Scale in India but could not be produced due to lack of testing and infrastructure facilities as well as small volume of production.

Advanced materials used in aero engines are Polymer matrix composite, Titanium-aluminides, Rare earth addition to thermal barrier coatings, Ceramic Matrix Composites, Chromium based alloys.

Advance manufacturing process in aero engines are Bladed Disc (BLISK), Bladed Ring (BLING), Laser peening, Inertia welding, Integrated Computational Materials Engineering (ICME), 3D printing (Additive Manufacturing). New Challenges ahead are limited Infrastructure, Limited knowledge, small volume of production and large capital investment.

Published in:
[Avenue Mail](#)

जिज्ञासा ही है विज्ञान की जननी

CSIR-CBRI

28th May 2017



संवाद सहयोगी, रुड़की : सीबीआरआइ की ओर से स्कूली छात्रों के लिए प्रशिक्षण कार्यक्रम आयोजित किया गया। इसमें छात्रों को विज्ञान की उपलब्धियों से अवगत कराते हुए नये शोधों के बारे में जानकारी दी गई। प्रशिक्षण शिविर में कक्षा 9 से 12 तक के छात्र शामिल हुए। चयनित छात्रों को जिज्ञासा एक खोज योजना के अंतर्गत सीबीआरआइ में दो से चार सप्ताह के शोध के लिए प्रयोगशाला उपलब्ध कराई

जाएगी। इसमें वैज्ञानिकों की देखरेख में छात्र शोध कर सकेंगे।

शुक्रवार को आयोजित कार्यक्रम में संस्थान के निदेशक डॉ.एन गोपाल कृष्णन ने छात्रों को विज्ञान और प्रौद्योगिकी में अंतर समझाया। उन्होंने बताया कि विज्ञान एक संकल्पना है और जिज्ञासा विज्ञान की जननी है। इसी परिकल्पना का भौतिक प्रकटीकरण प्रौद्योगिकी के रूप में समाज का उद्धार करता है। उन्होंने छात्रों को परस्पर संवादात्मक रूप से कार्यक्रम में प्रतिभाग करने की सलाह दी। संस्थान के मुख्य वैज्ञानिक डॉ. सुवीर सह ने अग्नि अनुसंधान विषय पर कहा कि आग से होने वाले हादसों को रोका नहीं जा सकता है, परंतु उचित नियोजन एवं बचाव कार्यों द्वारा उसे सीमित कर हानि से बचा जा सकता है। प्रधान वैज्ञानिक डॉ. आरडी द्विवेदी ने सुरंग अभियांत्रिकी पर बोलते हुए सुरंग की खुदाई में प्रयोग होने वाले उपकरणों के बारे में छात्रों को जानकारी दी।

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Published in:

[Jagran](#), [Amar ujala](#), [Hindustan](#), [Rashtriya Sahara](#)