CSIR in Media

Platinum Jubilee 1942-2016

75 Years of

CSIR Touching Lives

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Dr Girish Sahni to address PGI tomorrow

CSIR

15th July 2017

Dr Girish Sahni, Secretary, Department of Science and Industrial Research, Government of India, and Director General, Council of Scientific and Industrial Research, will deliver a lecture on "Explorations at the frontiers of affordable bio-medicine: Silver linings among dark clouds" during the Foundation Day celebrations on July 17 at Bhargava Auditorium, PGI. The PGI fraternity will attend the lecture.

Dr Sahni has contributed significantly in the area of protein cardiovascular drugs, especially 'clot busters', and their mode of action in the human body.

He developed a novel life-saver thrombolytic drug (clot-specific streptokinase), India's first bio-therapeutic molecule which is not a Biosimilar that has been patented worldwide, and licensed to a US Pharma company in 2006.

He recently, developed the fourth-generation 'anti-thrombotic' clot busters that have been out-licensed in multi-million dollar deals.

PGIMER completes 54 years of its existence and entered the 55th year on July 7. Conceived in 1961 with the concurrence of the Planning Commission, the institute started functioning in 1962.

The institute was formally inaugurated on July 7, 1963, by the then Prime Minister, Pandit Jawahar Lal Nehru. Within a short period of four years, the PGI was declared as an "Institute of National Importance" by an Act of Parliament on April 1, 1967 (Act 51 of 1966). The first batch of postgraduates was admitted in January, 1963.

PGIMER caters to a large number of patients. The hospital has almost 2,000 beds and an OPD attendance of around 8,000-11,000 patients per day. During the last year, around 25 lakh patients visited OPD and nearly 90,000 patients got admitted.

Published in:

Tribune

CFTRI gets thumbs up for ragi mudde making-machine

CSIR-CFTRI

13th July 2017

The continuous ragi mudde making machine, developed by the Central Food Technological Research Institute (CFTRI), has become an instant hit with a steady stream of inquisitive visitors thronging the institute to catch a glimpse of the innovation that makes the region's much-loved food.

Two days after its launch, the fully automated machine has generated a lot of curiosity among hostels, hospitals, hotels, and educational institutions, witnessing a high footfall. Perhaps, the institute has never seen such an awe-inspiring response to its technology within hours of its launch.

"The interest that the machine has created has surprised us. There has been a steady stream of curious visitors coming to us to know the innovation and how it can be adopted by them. The machine has been designed keeping in mind the local food interests," CFTRI Director Ram Rajashekaran told The Hindu.

He said CFTRI designed the machine with funding from the Department of Science and Technology as there was a request from the public on developing a technology that could constantly make ragi mudde (finger millet ball) without much human intervention.

Ragi mudde is a traditional food largely consumed in south Karnataka, and a few other parts of south India. Ragi is considered a "wonder food" because of its low Glycemic index and nutrients like calcium, iron, and dietary fibre. From small children to the elderly, ragi is considered one of the best foods. The traditional method involves cooking ragi powder in hot water and stirring it with a wooden stick. This traditional method is practised in household level, according to CFTRI.

With ragi mudde gaining popularity and being served in many big restaurants, hostels, and even in jails, CFTRI felt the need for standardising the ragi mudde making process and mechanisation to serve a large population of society. It was eventually conceptualised and materialised recently. Former Prime Minister H.D. Deve Gowda had recently inaugurated the machine, which requires ragi powder and water to make the mudde. Steam quality and other working parameters of the machine are maintained within the range by the control system of the machine. The unit can be cleaned easily. Mr. Rajashekaran said ragi mudde can be cooked fast and untouched by human elements. Ragi powder and water is added to the machine and ragi balls come out as a continuous discharge with consistent shape and weight. The machine can produce 250 muddes an hour and one person is enough to operate the machine.

Published in:
The Hindu

Also Published in:

UNI
Deccan Herald
Star of Mysore
City Today
Sarkari Mirror
One India

Gender differences in stress response

CSIR – IICT CSIR-CCMB

15th July 2017

Sumana Chakravarty; Arvind Kumar (centre) and Bhanu Chandra Karisetty. wanted to show how sexes differed in lab tests.

That male and female mice respond differently to stress has once again been highlighted by a study carried out by scientists from Hyderabad's Indian Institute of Chemical Technology (CSIR-IICT) and Centre for Cellular and Molecular Biology (CSIR-CCMB).

While female mice were more vulnerable to chronic mild stress compared with male mice, those females with ovaries removed exhibited similar vulnerability as the males. This study was recently published in Neuroscience.

Eight to ten-week-old mice were separated into eight sets of which four were control groups and four were given stress and studied.

Fourteen types of stressors were used for the study. Two different stressors were given each day for 21 days. Each of the stressed mice was kept in a separate cage thus socially isolated for the entire chronic mild stress period. After 21 days, various behavioural assays were conducted to assess the anxiety and depression levels of the mice.

"Most clinical trials are carried out on male mice and the effect on females is neglected. We wanted to show that both sexes respond differently to stress conditions and drugs," explains Dr. Sumana Chakravarty, Principal Scientist, CSIR-IICT, and corresponding author of the paper.

Females with ovaries removed resembled males in their behaviour — they exhibited less ability to feel pleasure. The results also showed that there was an increase in body weight in the control groups but not in the stress groups. The stress condition also impaired the locomotive ability of the mice.

"Antidepressant drugs show various side-effects in females and children. Some antidepressants that had been tried and tested in adults were found to cause suicidal tendency when used by children. So it is essential to also study the dosage before administration," says Dr. Arvind Kumar, Principal Scientist, CSIR-CCMB and co-author of the paper.

In order to evaluate the effect of ovarian hormones on stress, the female mice without ovaries were injected ovarian hormones for 21 days along with stress conditions. One group was injected with 17Beta-Estradiol and another was given progesterone every four days, beginning on day three till the end of experiment. Interestingly, estradiol administration was able to significantly reduce total immobility and also increase the sucrose solution consumption showing inclination to sense pleasure. It also significantly increased the anti-stress protein levels. Noteworthy effect was not seen in mice that received progesterone.

The findings strengthen the evidence that estradiol administration reduces stress-induced, depression-like behaviours. “Future studies are required to investigate the effect of stress during the various stages of the reproductive cycle to get a better understanding of ovarian hormones in stress. A study of the effect of different doses of estradiol is also essential for better conclusions,” said Dr. Bhanu Chandra Karisetty, from CSIR-IICT,the first author.

According to Pranav Joshi, CSIR-IICT, a co-author of the paper, specific estrogen targets need to be identified for better drug development to treat females.

Published in:

The Hindu

Science portal for students to be launched in Oct

CSIR-NEERI CSIR-IICT

14th July 2017

An outreach programme was organized at Neeri-CSIR auditorium to

An online portal that will bridge the gap between students and scientists will be launched on October 15, the birth anniversary of former President of India APJ Abdul Kalam. The science portal, initiated by Vijnana Bharati and CSIR, is also supported by National Council for Science and Technology Communication (NCSTC). The portal will work as a social media platform for students and teachers that will be connected to eminent people in the field of science.

An outreach programme was organized at Neeri-CSIR auditorium to give information about the portal. Many principals and teachers from schools in Nagpur and other nearby districts participated. "We want to develop students in the field of science and connect them to Indian scientific researchers so that they can guide them," said Jayant Sahasrabuddhe, national organizing secretary of Vijnana Bharati.

The students will have to register through their schools, which will be free. The schools have to initially register on www.scienceindia.in and create a school profile. After this, they will have to register students from the school account and provide a user ID and password from which they can operate.

Many eminent people in the field of science have been selected to mentor students. "The portal will help students get knowledge about science from the initial stage and help in addressing their curiosities towards science," said Sachin Mandavgane, executive member of the portal.

The portal will provide mentorship programme in which students can post their queries and also interact with mentors in distinguished fields to receive answers. A science community of students will also be available on the portal from where they can share information about news, blogs, thoughts and innovative ideas which will be addressed by a team of editors. S Chandrashekhar, director of CSIR-IICT, will be the editor-in-chief of the portal. Prominent people from the fields of biology, physics, chemical, mathematics and computer engineering will be national editors.

Teachers from schools can also register on the website as volunteers to help students in their queries, but they will first have to send their curricular vitae on portal@scienceindia.in or editor@scienceindia.in for registration and confirmation. The organization is planning to get 3,000 mentors and 10,000 students from across the nation before its launch.

Hemant Purohit, chief scientist of Neeri, Annapoorni Shastri director of Bharatiya Vidya Mandir, and others were present. The next outreach programmes will be held at Indore, Thiruvananthapuram, Kolkata, Hyderabad and Delhi.

Published in:

TOI

APIDFCL-CSIR to work together for benefit of state

CSIR-CMERI

14th July 2017

The Arunachal Pradesh Industrial Development & Financial Corporation Ltd (APIDFCL) and Council of Science & Industrial Research (CSIR) will work in collaboration by sharing technical know-how to benefit the people of the state.

A Memorandum of Understanding (MoU) in this regard is likely to be executed very soon, stated APIDFC Ltd GM, Takhe Tamo.

'An executable and workable mandate in this regard will be developed and customized for benefit and interest of the common people', he said.

A team of CSIR headed by Professor, Dr Harish Hirani visited the state and held a meeting with Minister of Power (Elect), Industries Tamiyo Taga and Minister of DoTCL, Wangki Lowang.

Dr Hirani spelt out numerous technologies of CSIR-CMERI (Central Mechanical Engineering Research Institute), which is expected to be helpful for the people of Arunachal Pradesh. He demonstrated working of small-sized tractor, benefits of solar tree, and usefulness of waste management system during the meeting.

Published in:

Arunachal Times

Too early to settle the Aryan migration debate?

CSIR-CCMB

13th July 2017

On June 17, The Hindu published an article by Tony Joseph ("How genetics is settling the Aryan migration debate") on current genetic research in India and stated that "scientists are converging" on the Aryan migration to the Subcontinent around 2000-1500 BC. This conclusion was mainly based on the results obtained from the paternally inherited markers (Y chromosome), published on March 23, 2017 in a scientific journal, BMC Evolutionary Biology, by a team of 16 co-authors including Martin P. Richards of the University of Huddersfield, which compiled and analysed Y chromosome data mainly from the targeted South Asian populations living in the U.K. and U.S.

However, anyone who understands the complexity of Indian population will appreciate that Indians living outside the Subcontinent do not reflect the full diversity of India, as the majority of them are from caste populations with limited subset of regions.

A recent paper by Dhriti Sengupta and colleagues ('Genome Biology and Evolution 2016'; 8:3460-3470), showed that the South Asian populations included in the "1000 Genomes Project" under-represent the genomic diversity of the Subcontinent. Tribes are one of the founding populations of India, any conclusion drawn without studying them will fail to capture the complete genetic information of the Subcontinent.

Marina Silva/Richards et al. argued that the maternal ancestry (mtDNA) of the Subcontinent is largely indigenous, whereas 17.5% of the paternal ancestry (Y chromosome) is associated with the haplogroup R1a, an indication of the arrival of Bronze Age Indo-European speakers. However, India is a nation of close to 4,700 ethnic populations, including socially stratified communities, many of which have maintained endogamy (marrying within the community) for thousands of years, and these have been hardly sampled in the Y chromosome analysis led by Silva et al., and so do not provide an accurate characterisation of the R1a frequencies in India (several tribal populations carry substantial frequency of haplogroup R1a).

Equally important to understand is that the Y chromosome phylogeny suffered genetic drift (lineage loss), and thus there is a greater chance to lose less frequent R1a branches, if one concentrates only on specific populations, keeping in mind the high level of endogamy of the Subcontinent. These are extremely important factors one should consider before making any strong conclusions related to Indian populations. The statement made by Silva et al. that 17.5% of Indians carry R1a haplogroup actually means that 17.5% of the samples analysed by them (those who live in U.K. and U.S.) carry R1a, not that 17.5% of Indians carry R1a!

Indian genetic affinity with Europeans is not new information. In a study published in Nature (2009; 461:489-494), scientists from CSIR-Centre for Cellular and Molecular Biology (CCMB), Hyderabad, and Harvard Medical School (HMS), U.S., using more than 5,00,000 autosomal genetic markers, showed that the Ancestral North Indians (ANI) share genetic affinities with Europeans, Caucasians and West Asians. However, there is a huge difference between this study and the study published by Silva et al., as the study by CSIR-CCMB and HMS included samples representing all the social and linguistic groups of India. It was evident from the same Nature paper that when the Gujarati Indians in Houston (GIH) were analysed for genetic affinities with different ethnic populations of India, it was found that the GIH have formed two clusters in Principal Component Analysis (PCA), one with Indian populations, another an independent cluster. Similarly, a recent study ('Neurology Genetics', 2017; 3:3, e149) by Robert D.S. Pitceathly and colleagues from University College of London and CSIR-CCMB has analysed 74 patients with neuromuscular diseases (of mitochondrial origin) living in the U.K. and found a mutation in RNASEH1 gene in three families of Indian origin. However, this mutation was absent in Indian patients with neuromuscular diseases (of mitochondrial origin). This mutation was earlier reported in Europeans, suggesting that these three families might have mixed with the local Europeans; highlighting the importance of the source of samples. Another study published in The American Journal of Human Genetics (2011; 89:731-744) by Mait Metspalu and colleagues, where CSIR-CCMB was also involved, analysed 142 samples from 30 ethnic groups and mentioned that "Modeling of the observed haplotype diversities suggests that both Indian ancestry components (ANI and ASI) are older than the purported Indo-Aryan invasion 3,500 YBP (years before present). As well as, consistent with the results of pairwise genetic distances among world regions, Indians share more ancestry signals with West than with East Eurasians".

We agree that the major Indian R1a1 branch, i.e. L657, is not more than 5,000 years old. However, the phylogenetic structure of this branch cannot be considered as a derivative of either Europeans or Central Asians. The split with the European is around 6,000 years and thereafter the Asian branch (Z93) gave rise to the South Asian L657, which is a brother branch of lineages present in West Asia, Europe and Central Asia. Such kind of expansion, universally associated with most of the Y chromosome lineages of the world, as shown in 2015 by Monika Karmin et al., was most likely due to dramatic decline in genetic diversity in male lineages four to eight thousand years ago (Genome Research, 2015; 4:459-66). Moreover, there is evidence which is consistent with the early presence of several R1a branches in India (our unpublished data).

The Aryan invasion/migration has been an intense topic of discussion for long periods. However, one has to understand the complexity of the Indian populations and to select samples carefully for analysis. Otherwise, the findings could be biased and confusing.

With the information currently available, it is difficult to deduce the direction of haplogroup R1a migration either into India or out of India, although the genetic data certainly show that there was migration between the regions. Currently, CSIR-CCMB and Harvard Medical School are investigating a larger number of samples, which will hopefully throw more light on this debate.

Published in:

The Hindu

CFTRI celebrates Awards day

CSIR-CFTRI

12th July 2017

A Awards function took place recently. Former Prime Minister HD Deve Gowda has inaugurated a Ragi ball making machine on July 10 at a Awards day celebrated in CFTRI. The function was carried out in IFTTC Auditorium located in the premises of the campus.

Speaking at the event Former Prime Minister has called upon the scientists to work upon drought resistant crops so that farmer should not depend on rain god for growing of his crops.

Later speaking at the event Central Food Technological Research Institute Director Ram Rajashekharan has said that students must contribute to the society by inventing new products by joining industry nor by setting up own enterprises.

Later Former Prime Minister has distributed awards for students who have passed in MSC.Food technology (2015-17), and ISMT students. The award-winning students are:
"K A Chakradhar" has bagged gold medal for MSC (2014-16).'

"Aditi Arya" has bagged Ranganna Setty Memorial Award 2017 for the best Investigation Thesis (guide MN Shashirekha). Following students Nivetha, Rashmi, Ankita have also won awards.

Chakradhar after winning the medal has said that "I am happy that I have received medals.I thank all my friends especially 'G.Varun Reddy' and all others who helped me to achieve this success".

Aditi has said that "it is a pride movement for me and has thanked 'Fabfoodies', 'Kung Food Pandas' and 'Incrediblez 30'".

Let's hope that all students perform better in future endeavors

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Published in:

The Hindu

Minister calls for socially responsible scientific studies

CSIR

12th July 2017

Scientists should have social responsibilities and ensure that their research and innovation benefit larger communities, said minister of earth sciences (MoES) Dr Harsh Vardhan.

They should ensure that their works have a responsibility to society that goes beyond their responsibilities to their professions, the minister said.

Talking to the media after the dedication of the stratosphere-troposphere radar facility at the advanced centre for atmospheric radar research (ACAAR) at the Cochin University on Tuesday, the minister said the ministry has launched a project for students of Classes IX-X to inculcate scientific temper among school children. "The project, named 'Jigyasa' is a student-scientist connect programme and will be jointly implemented by the Council of Scientific and Industrial Research (CSIR) and the Kendriya Vidyalaya Sangathan (KVS). Its focus will be on connecting school students and scientists in order to extend the student's classroom learning to that of a very well planned research laboratory based learning," the minister added.

He said the project was inspired by Prime Minister Narendra Modi's vision to develop a new India where scientific community and institutions develop social responsibilities.

Replying to a question on a proposal to upgrade CUSAT to the status of the Indian Institute of Engineering, Science and Technology (IISET), Vardhan said he has not received any formal request from the university. "The vice-chancellor had mentioned it. We will look into it when we get a formal request. However, there are certain parameters and conditions that have to be met. A decision will be taken based on the assessment by expert groups," he added. Earlier, he said the world's first and unique 205 MHz stratosphere-troposphere (ST) radar centre at Cusat will play a vital role in taking India into the elite club of countries with expertise in the field of climate research and studies. It has been included in the 'Make in India' project, the minister added.

ACAAR has built international collaborations. Now, under the Rs 400-crore National Monsoon Mission, real-time monitoring of rainfall right down to the block level will be possible. This will make the monitoring of changes in the atmosphere, including erratic rainfall and climate change, much more effective," he said.

The ST- Radar facility at Cusat is unique in terms of time resolution and height coverage (up to 20km) to scientifically observe various climatic issues. It can help in prediction of heavy rainfall events, occurrence and evolution of thunderstorms, besides conducting turbulence studies. It would be a known data centre in the field of climate research and studies.

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CSIR-CIMAP

12th July 2017

सीएसआईआर सीमैप में छात्रों के लिए कार्यक्रम का शुभारंभ

वरिष्ठ संवाददाता

लखनऊ (पीआईबी)। सीएसआईआर.केन्द्रीय औषधीय एवं सगंध पौधा संस्थान लखनऊ मे 11 व 12 जुलाई के मध्य चलने वाले जिज्ञासा कार्यक्रम का शुभारंभ आज को सीएसआईआर.सीमैप के निदेशक, प्रो. अनिल कुमार त्रिपाठी द्वारा किया गया । जिज्ञासा कार्यक्रम में डॉ. हर्षवर्धन कैबिनेट मंत्री, विज्ञान और प्रौद्योगिकी, पृथ्वी विज्ञान, पर्यावरण, वन और जलवायु परिवर्तन और प्रकाश जावड़ेकर, मानव संसाधन विकास मंत्री की उपस्थिति में सी एस आई आर और केन्द्रीय विद्यालय संगठन ;के वी एस के बीच समझौता ज्ञापन पर हस्ताक्षर करके शुरू किया गया । इस कार्यक्रम मे केन्द्रीय विद्यालय, गोमती नगर के कक्षा 9 व 10 के 52 छात्र, छात्राओं व 6 अध्यापकों ने भाग लिया । निदेशक ने अपने उदघाटन भाषण मे कहा कि बच्चों को उनकी क्षमता के अनुसार कैरियर बनाना चाहिए । बच्चों को अपने आप कैपिबिलिटी एक्सपोजर करना चाहिए तथा प्रश्नों के उत्तर जानने की जिज्ञासा होनी चाहिए। उन्होने आगे कहा कि योग के साथ संतुलित भोजन समस्याओं की शुरुआत को रोकने मे महत्वपूर्ण भूमिका निभाते हैं। स्वस्थ जीवन शैली के लिए हमें स्वस्थ भोजन व व्यायाम की आवश्यकता होती है । निदेशक, सीमैप ने पौधों के आनुवांशिक विविधताओं और व्यक्तिगत विकास के बारे में बताया जो भिन्नता के लिए जिम्मेदार हैं । प्रो. त्रिपाठी ने आगे बताया कि इस कार्यक्रम को आयोजित करने से स्कूल के छात्रों, छात्राओं को वैज्ञानिक प्रवृत्ति को प्रोत्साहन मिलेगा व विज्ञान के क्षेत्र मे रुचि बढ़ेगी। सीएसआईआर की विभिन्न प्रयोगशालाओं में काम कर रहे वैज्ञानिकों का अनुभव भी मिलेगा। यह कार्यक्रम छात्रों और शिक्षकों को वैज्ञानिक क्षेत्र में सीएसआईआर और राष्ट्र के कार्यों की एक झलक पेश करेगा और वहाँ से वैज्ञानिक सोच विकसित करने और वैज्ञानिक करियर में महत्वकांक्षी लक्ष्यों को प्राप्त करने के लिए हमारे देश के उज्ज्वल युवाओं को प्रेरित करेगा एवं महत्वकांक्षी लक्ष्यों को प्राप्त करने के लिए हमारे देश के उज्ज्वल युवाओं को प्रेरित करेगा। इस कार्यक्रम के अंतर्गत छात्रों ने सीमैप की विभिन्न प्रयोगशालाओं की औषधीय एवं सगंध पौधों की पहचान, खेती, आसवन, भंडारण व संरक्षण, औषधीय व सगंध पौधों की पहचान करने की विधि की जानकारी प्राप्त की । सगंध तेलों की गुणवत्ता व उनसे जुड़े उपकरण एवं विधियों के बारें में विस्तार से जानकारी प्राप्त की। इस कार्यक्रम में सीमैप के वैज्ञानिक एवं शोधार्थी उपस्थित रहे तथा इस कार्यक्रम का संचालन सीमैप की वरिष्ठ प्रधान वैज्ञानिक डा.नीलम सांगवान द्वारा किया गया।

Published in:

Rashtriya Swaroop, Page 4

CSIR-NCL

14th July 2017

FIRE IN INDUS MAGIC LAB

CSIR rubbishes NCL fact-finding team's findings on fire that gutted MAGIC lab

ANJALI MARAR
PUNE, JULY 13

THE NEW Delhi-headquartered Council of Scientific and Industrial Research (CSIR) has sent its final enquiry report on the fire that had destroyed the Indus MAGIC lab inside the National Chemical Laboratory (NCL) in Pune on the night of March 27.

The CSIR report, which is now in the possession of NCL management, was sent to its Pune lab earlier this week. "The CSIR committee has raised serious objections to several findings submitted by the NCL's fact-finding internal committee...," said sources. During its day-long visit to NCL on April 13, the expert team from CSIR had questioned the scientists working at MAGIC lab and officials in charge of safety and security. They had also collected evidence from the site, which has been cordoned off ever since the incident. The CSIR inquiry report comes after a delay of over two months. It has been learned from reliable NCL sources that CSIR has expressed its displeasure with the initial findings of the fact-finding internal committee appointed by NCL.

This committee, comprising senior NCL staffers and security officials, had conducted a primary inquiry just days after the fire.

In a report dated June 29, The Indian Express had highlighted questions about the "compromised" safety standards of The Indus MAGIC lab. Subsequently, scientists and students working at NCL were cautioned by senior scientists, who had warned them about the serious consequences of failing to adhere to mandatory safety norms. Incidentally, neither of the teams which investigated the fire has ascertained the exact loss caused by the fire.

Officials of the Chaturshrungi police station, who were also probing the matter, had informed *The Indian Express* in April that the estimated loss caused by the fire was Rs 7-8 crore. However, the NCL internal team has yet again drawn the CSIR's flak, after the Council cited discrepancies in the estimated loss amount. "This may be due to the differences in the estimation of losses... it definitely calls for clarification, as it is a public funded laboratory," said sources.

Mysteries of Indus MAGIC lab fire

The Indus MAGIC lab, inaugurated in February 2016, was built inside the Pilot Plant III building of NCL. The lab was meant to supply and sell fine chemicals to the industry. At the time of the incident, the building was still being renovated and it was not completely ready for operations. On March 27, a major fire broke out in the lab. It took seven fire tenders two hours to bring the fire under control. Since the central government funded lab was officially closed, no casualties were reported.

Published in:

Indian Express, Page 1