# CSIR in Media



## News Bulletin

21<sup>st</sup> to 31<sup>st</sup> March 2019









### **Centre of excellence on millets to come up on CFTRI campus**







from silkworm pupae, a waste product in the silk industry. The State government has allocated a grant of ₹10 crore towards the project, he said.

The CFTRI director said the second phase of the incubation centre for encouraging innovations and startups among entrepreneurs, in collaboration with the

Central Food Technological Research Department of IT and BT, is expected to be Institute (CFTRI) director K.S.M.S. launched after the general elections. "Many Raghavarao on Saturday said a centre of ventures at the incubation centre are excellence and an incubation centre on turning out to be successful and a project millets would come up on the CFTRI fetched the highest grant of ₹50 lakh. campus, at a cost of ₹15 crore and in MoUs will be signed for more projects after collaboration with the State government. the polls," he added. The centre will work on bringing out millet-based technology for promoting He said more than 60 industries have used millets. Speaking after inaugurating the the technology on virgin coconut oil 27th annual general body meeting of the developed at the institute and most say the CSIR Pensioners' Welfare Association and technology has been smoothly transferred Convention on Food and Wellness at the for commercial production. Mr. Raghavarao IFTTC auditorium at CFTRI, he said the also said that pilot plants in the area of food institute was also working on a turnkey processing on tomato, onion and potato project for developing a value-added product were coming up near Tumakuru and there





# are also talks to have a similar plant for turmeric. He added that some private hospitals in Mysuru had come forward to offer healthcare services on credit to retired CFTRI staff.

The inauguration was followed by sessions where experts in the field of food processing

### and technology spoke on various subjects.









## Training program on Welding and Gas Cutting concludes at NML







industrial requirement of qualified welders. The training programme was for 10th passed candidates as well as for ITI holders. Dr. IndranilChattoraj, Director, CSIR-NML, addressed the participants and congratulated the participants for successfully completing the training programme. Dr.Chattoraj, distributed the training certificates to 10 participants from Jamshedpur, March 28 : Curtains come various institutions all over the country. Dr. down on the one-month foundation welding Soumitra Tarafder, Advisor Management, training programme on 'Manual Metal Arc Parvesh Kumar Dhawan , Chief Scientist, Welding and Gas Cutting', which was Dr. MitaTarafder, Chief Scientist, Dr. organised by CSIR-National Metallurgical Rajneesh Kumar, Senior Scientist from Laboratory, Jamshedpur. This training CSIR-NML were present during the program was organized under the CSIR valedictory session. Dr. SoumitraTarafder, Integrated Skill Initiative Program which is Advisor Management, congratulated the a national program on skill development participants for successful completion of the initiated by Council of Scientific and training program. He mentioned that Industrial Research (CSIR) using the whatever knowledge the participants have expertise and infrastructure of individual gathered here will surely help them to lead laboratories situated across the country. The better life. He presented a memento to training programme aimed at skilling MrRamashray Ram who is the technical interested candidates and improving the resource lead for his effort in making the skills of the practicing candidates as per the programme successful.





### Parvesh Kumar Dhawan, Chief Scientist addressed the importance of welding and present requirement of qualified welders in the industries, mentioning the huge gap in industrial requirement and number of qualified welders.

Dr. MitaTarafder addressed about CSIR-Integrated Skill Initiative and spoke about CSIR-NML's involvement in various training programs including the welding training.

Dr. Rajneesh Kumar, Senior Scientist mentioned about the welding facilities at CSIR-NML and mentioned that this training is going to be the win-win situation for both candidates and industries. He mentioned that the second batch of the welding training will start from 1st April 2019.

Participants from different institutions shared their experience and gave their feedback. Ms

Y Usha, Scientist, proposed the vote of thanks and expressed her appreciation to all the members of the organizing team for their untiring effort in making the programme a success.





### **CSIR-NBRI**

### 28<sup>th</sup> March, 2019









### **CSIR-NBRI**

### 28<sup>th</sup> March, 2019



PNS LUCKNOW

NBRI (National Botanical Research Institute) organised a brainstorming session on technology development on Wednesday.

Prof Anil K Gupta, visiting faculty, IIM- Ahmedabad and IIT, Mumbai, were the key

Prof. Gupta, while discussing product and technology developments, emphasised the need of regular interaction between institutions, entrepreneurs, industries and other stakeholders for continuous † development of technologies and products for the needs of

speaker in the session. Prof Alok Dhawan, director, CSIR-IITR and Dr Alok Kalra, direc=\_\_\_\_ tor, CSIR-CIMAP, were also present on the occasion. The main objective of the session was to interact with scientists engaged in research that could research models to experiment while programme was comreach end-users at communi- with different approaches. The pioneer/28.02-19

ty level, small entrepreneurs and in some cases to corporates and try to design action .proposed a vote of thanks

present and future. He said that the platform might be helpful to come over the loopholes while designing any societal ' beneficial product and technology.

In the end, Dr PA Shirke pered by Dr Suchi Srivastava.







## International Women's Day celebrated at CSIR-CBRI Roorkee on 26th March







Manusmriti, which says God reside where Women are worshiped. Dr Jyotsna Agarwal is a practicing Gynaecologist and Obstetrician and gave an address on Cancer Awareness – Gynecological and Breast Cancer. She told about the various symptoms, self tests and other tests to be performed to detect cancer. She emphasized

International women's day was celebrated in the need of regular check up by females. CSIR-CBRI Roorkee on 26th March. The chief guest of the function was Dr. Charu Dr Shikha Jain, Counselor for students Chaturvedi, Dr. Shikha Jain was Guest of of IIT Roorkee talked about importance of Honour and Dr. Jyotsna Agarwal was curbing wastage and role of women in Invited speaker. Dr. N Gopalakrishnan, minimizing wastage. Director CSIR-CBRI presided over the function. All the female employees Dr Charu Chaturvedi, First lady of IIT and spouses of CBRI CBRI staff members Roorkee, emphasized on the importance of of CBRI attended the program. Mrs making society Safe for women. She spoke Jaishree, the first lady of CSIR-CBRI about the need to remove taboos regarding Roorkee could not be present on the issues pertaining to women's health and occasion and therefore sent a message. She hygiene and creating an environment of wanted women to be more concerned about openness. Dr N Gopalakrishnan, Director, their health and should not ignore the CSIR-CBRI urged the females to undergo regular health check ups as early detection health issues. She cited a sholka from





is very essential for curing any disease. He plans to conduct regular health check ups in CBRI for all the employees, irrespective of gender. Dr Purnima Parida, conducted the programme and talked about what women want...She told time has changed and now women are moving ahead and marching along with men , but still much more needs to be

### done for gender equality.

### The program ended by Vote of Thanks proposed by Hina Gupta.









### CSIR-IHBT

### 27<sup>th</sup> March, 2019



होते हैं, जो मिर्गी के दौरे को कम करने की क्षमता रखते हैं। काबिले जिक्र है कि देश में केसर की खपत और उत्पादन में कमी के Published in: Giriraj

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કોશલ્ય પહેલ જણાવલ કે

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Lok Sansar

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### **CSIR-NEERI**

### 26<sup>th</sup> March, 2019

### Haryana distillery under CPCB's scanner for polluting Yamuna

#### TNN | Mar 26, 2019, 08.54 AM IST

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NEW DELHI: The Central Pollution Control Board has issued show-cause notice to a distillery operating in Karnal, Haryana over untreated effluents being dumped in the river.

A joint inspection by the apex pollution control board along with CSIR NEERI had revealed the foul quality of the effluents being discharged in the Yamuna.

"The joint team also found an outlet discharge point, ultimately leading to the ditch drain along the boundary of industrial unit. During inspection, it was found that Ithe and along the discharge point was wet, indicating industrial waste was discharged... The analysis results of the samples

collected from the ditch drain indicates the water quality of drain has

drastically deteriorated of the unit. The biochemical oxygen demand increases from 195mg/l to 630mg/l and chemical oxygen demand from 556mg/l to 1970mg/l from the upstream location," CPCB chairman SPS Parihar said as part of the notice issued to RSL Distilleries Pvt Ltd.

The joint team has also concluded that the water quality of river Yamuna deteriorates after downstream of Yamunanagar and Panipat which shows that ditch drain and drain no. 2 are the substantial point source of

According to the notice, it is thereby evident that the unit is non-complying to zero liquid discharge (ZLD) condition and has discharged partially treated effluent to ditch drain that ultimately deteriorates water quality of river Yamuna.

The joint inspection was done to assess and identify the probable source of pollution of the river, in compliance with directions

Published in:

The Times of India

National Green Tribunal chairperson AK Goel had in July formed the monitoring committee comprising retired expert member BS Sajwan and former Delhi chief secretary Shailaja Chandra and directed them to the submit an action plan and detailed report on cleaning of the river by December 31.

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### CSIR-IICT

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### 26<sup>th</sup> March, 2019

# scientist gets award

### SPECIAL CORRESPONDENT

#### HYDERABAD

A senior principal scientist

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from CSIR-Indian Institute of Chemical Technology, S. Sridhar, was honoured with Central Institute of Plastics Engineering and Technology's National Award for new applications of polymers in various

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### Focus On "Blue Economy" Will Boost Growth: Venkaiah Naidu

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## "sustainable harnessing of ocean resources", he said.

"However, while pursuing "blue growth", every effort must be made by all stakeholders, including private and public sectors, to prevent further degradation of the ocean and its ecosystems," the vice

PANAJI: Vice President Venkaiah Naidu on president said. Sunday said a focused approach in areas such as minerals and energy from oceans can help Blue economy is the sustainable use of India become the third largest economy in ocean resources for economic growth, the next 10-15 years. Addressing scientists improved livelihood and jobs, and ocean at the CSIR-National Institute of ecosystem health. Oceanography (NIO), he said that at the same time, further degradation of marine Mr Naidu said there was a need to conserve ecosystems should be prevented. "I strongly oceans and the CSIR-NIO should play a feel that focused approach in some of the major role in meeting the challenges to areas such as minerals and energy from understand different ocean processes due to oceans can make India a global leader and climate change. "It is important to prioritise our efforts in ocean science and technology serve our national goals," Mr Naidu said. India should tap the enormous potential of to achieve the national goal of transforming India to be the third largest economy in the "blue economy" to achieve higher economic coming 10-15 years," he said. growth and initiate programs for

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# "Government of India has already planned development of ports and allied facilities through Sagarmala (project). Coastal economic zones are planned," he said.

Mr Naidu said that with India looking towards oceans for economic growth through "blue

# economy", important institutions like the NIO will have to step up research in areas such as ocean energy.

"India is meeting most of its oil and gas requirements through imports. Scientists should study the potential of renewable energy derived from the ocean-- from wind, wave and tidal sources," he added.

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### CLRI technology extracts high-grade gelatin from leather tannery waste

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CHENNAI: In a novel technology, scientists at the CSIR-Central Leather Research Institute (CLRI) in Chennai have made a useful breakthrough, extracting high-grade gelatin from raw animal hide and skin trimmings wastes at leather tanneries. In the leather manufacturing process, as one of the first operations in tanneries, hides and skins are trimmed, especially the uneven edges from the neck and tail area of the whole animal skin before it goes through multi-stages of leather manufacturing.

This operation generates huge amount of raw trimming wastes, which accounts for about seven percent of the total quantity of raw material processed. On an average in India,

about 800,000 tons of raw hides and skins are processed annually for leather manufacture. So, more than 50,000 tons of raw trimming wastes are generated from various leather tanning clusters in India.

According to B Madhan, principal scientist, CLRI, the predominant constituent of the raw trimmings are collagen, a structural protein present in the extracellular matrix. The collagen is chemically and thermally processed to make gelatin. "Collagen is found in the tendons, skin, bone, connective tissue of mammalian, avian and fish species. The destruction or partially hydrolysis of cross linkages between three polypeptides chains of

collagen is transformed to gelatin through extraction. Gelatin is a translucent brittle solid substance, slightly yellow, nearly tasteless and odorless.

The quality of the gelatin is determined by molecular weight distribution as well as various parameters such as bloom strength, clarity and organic content. Using one tonne trimming waste, we can produce about 200 kg of high-grade gelatin, which costs `500 per kg and in retail it can be sold up to `1,000 per kg," Madhan said.

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P Saravanan, Head (Project Planning & Business Development), CLRI, said high-grade gelatin is widely used in the pharmaceutical industry to make capsules for drugs as well as in the food industry to make jelly candies, ice cream, and as thickening agent in cakes and soups. It is also used in the cosmetic, photographic, metal refining and paper industries. "The characteristics of gelatin made from raw hide trimming wastes using CSIR-CLRI technology, is of high grade which could be used even for hard capsule manufacture," he said. In India, high grade gelatin is manufactured from animal bones, which does not meet the requirements of domestic consumption and India annually imports more than US \$50 million dollars worth of high grade gelatin, which are mainly for making capsules in the pharma industry. "CSIR-CLRI technology of making high grade gelatin from raw trimming, presents an opportunity for value creation from waste," Madhan added.

After from gelatin, the collagen from raw trimmings also contain keratin as one of the

major constituents. The technology developed by CSIR-CLRI is towards complete utilisation of proteinous constituents present in the trimmings. Saravanan said the technology was exclusively licensed at a cost of 10 million rupees to Chennai-based M/s Anipro Manufacturing Company for making gelatin and protein hydrolysate within India.

Useful for many products

High-grade gelatin is widely used in the pharmaceutical industry to make capsules for drugs as well as in the food industry to make jelly candies, ice cream, and as thickening agent in cakes and soups. It is also used in the cosmetic, photographic, metal refining and paper industries. CSIR-CLRI technology of making high grade gelatin from raw trimming, presents an opportunity for value creation from waste, says B Madhan, principal scientist, CLRI, Chennai

Published in: The New Indian Express

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### Scientists study biochemical blood parameters of Indian adolescents

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Normative range described in paper published in PLOS ONE For the first time, the blood biochemical parameters of Indian adolescents have been measured on a large scale and a normative range has been arrived at. Since biochemical parameters for Indian adolescents were not available, doctors had to rely on adult normative range. This is scientifically not correct as children are immunologically different and and their response to treatments can vary when compared to adults. Some of the blood biochemical parameters studied are lipid profile (total cholesterol, LDL, HDL and triglycerides), plasma glucose, insulin, HbA1c, urea, and creatinine. The study involved over 7,600 Indian adolescents (over 3,300 boys and about 4,300 girls) aged between 11–17 years from Delhi. Besides studying the blood biochemistry, the researchers from the Institute of Genomics and Integrative Biology (CSIR-IGIB) looked at the variation in the parameters with respect to gender and age during adolescence. The normative range for fasting plasma glucose for Indian adolescents was found to be slightly lower than Nigerians and Croatians. Similarly, for plasma insulin, the range is less than Canadian adolescents. The mean plasma glucose and insulin levels were found to be

lower than the values measured earlier by others in a smaller number (695) of Indian adolescents.

### Role of hormones

Girls were found to be more insulin resistant than boys. "Girls were found to have more insulin but less fasting glucose than boys. The higher insulin resistance in girls is due to the hormones released during puberty. To compensate for this, there is more insulin

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secreted in girls. And more the insulin, the less is the glucose level," says Dr. Dwaipayan Bharadwaj, from the School of Biotechnology at Jawaharlal Nehru University (JNU), who led the study.

The study found that boys have lower HbA1c, a marker for diabetes, than girls. "Boys produce more testosterone hormone and this cause more haemoglobin production leading to lower HbA1c value," he says. Boys were found to have more urea and creatinine. This is because boys have more muscle mass than girls and so release more protein metabolites — urea and creatinine.

"Though our study, sponsored by CSIR-DBT, looked at adolescents belonging to an urban population in Delhi, it can still be used as normative range of commonly studied blood biochemical parameters," says Dr. Bharadwaj. The results were published in the

journal *PLOS ONE*. "We used the samples collected to study childhood obesity genetics for measuring the biochemical parameters. So the samples were not collected in an epidemiologically correct way. So a little bias may be seen. But we have a huge number of samples so that bias gets nullified," says Dr. Bharadwaj.

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## **CSIR-IIP Has Found A Safety Solution For At Least 40 Lakh Indians Who Are Using Unsafe Burners**

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have been allowing technically unsafe, retrofitted LPG burners to use in the domestic cooking application of PNG. "Thermal efficiency of the domestic LPG stove reduces by 25-30% when retrofitted for and fired with PNG," Dr Anjan Ray, Director of Indian Institute of Petroleum told Indian Science Journal. "Moreover, using the same

burner to burn different fuels poses safety Dehradun-based Indian Institute of risks due to possibilities of incomplete fuel Petroleum, India's only laboratory carrying combustion, flame lift off or flame flashback." out advanced research in petroleum sector, There are about 40 lakh domestic PNG users under the Council of Scientific and in India, who are currently using such Industrial Research (CSIR) has come out retrofitted LPG stoves. IIP has developed a with the country's first gas burner, specially dedicated PNG domestic cooking burner with designed for compressed natural gas. Piped the financial support of Petroleum Natural Gas (PNG) is being used in 400 Conservation Research Association (PCRA), cities in the country as kitchen fuel and is which is 20% more efficient than retrofitted gaining rapid acceptance under the City Gas LPG burner. The burner has been designed Distribution initiative. However, the gas for power capacity options covering the entire distribution companies of PNG – Gas range of domestic cooking burners available Authority of India Limited and its joint in Indian market. The key design venture with state-run oil marketing modifications and dimensional changes allow companies, Indraprastha Gas Limited it to be readily fitted with conventional stove

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body. It's energy conservation potential and safe operation have been confirmed through a series of laboratory tests and field trials conducted at six different locations over a period of six months across Delhi-NCR region, said Dr. Ray.

Dr Amar Kumar Jain, Head, Research, Planning and Business Development, IIP said, the annual savings by shifting to the new burner could be to the tune of Rs. 800 crores on a conservative estimate at the present user-base and this could go up further as the distribution network expands. He said the PNG distribution companies have come forward to adopt this burner at the earliest, as the existing burners are technically unsafe and not conforming to mandatory standard certification in India.

IIP demonstrated the technology to gas burner manufacturers and offered its technology transfer – a first in the history of any research organisation. The research body has signed

agreements with 26 manufacturers on the launch date itself. IIP also undertakes to provide assistance in testing and evaluation of the product and on related technical issues as and when required by the manufacturers.

The technology is offered at a nominal fee and a royalty per sold piece of stove for a period of 20 years. The agreement also allows IIP to ensure the manufacturers adhere to the quality standard through periodical evaluation of their products.

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## Assam Agricultural University-NEIST to help farmers for better farming

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Dr. Kamal Malla Bujabaruah, the Vice-Chancellor of AAU, who attended as the guest of honour, asked the farmers to find ways for better farming. "Farm clusters or self-help groups of 10 to 20 members should be formed. This will help farmers

JORHAT: "Assam Agricultural University progressive farmers from the district – (AAU) and North East Institute of Science Anita Gogoi (for handloom and textile), and Technology (NEIST) will come Sanjay Pegu (Rabi and Kharif crop), together to serve the farmers and will Prasanta Hazarika (fishery) and Rontu empower the people with the knowledge we Phukan (poultry) were awarded for their have. Not just the farmers of Assam or outstanding performance in production Jorhat but the farmers of the Northeast and under the Krishi Vigyan Kendra, Jorhat. India we benefit from our knowledge of new Dr. Phuleswar Nath, in-charge of KVK, technologies," said Dr. G Narahari Shastry, Jorhat, and Dr. Prasanna Kumar Pathak, Director of CSIR-NEIST, while attending Director, Extension Education, Department as the chief guest of the Zila Krishak of Extension Education, elaborated the Samaroh organized by Krishi Vigyan relation between the farmers and scientists Kendra and Department of Extension for exchanging new technology Education, AAU, Jorhat at the Dr. Madhav development. Along with the Krishak Chandra Das Memorial auditorium hall in Samaroh, coinciding with the year-long the AAU campus on Wednesday. golden jubilee celebration of

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Assam Agricultural University, an awareness and training programme on the theme 'Role of Birds in Agriculture' was also held, said Dr. Phuleswar Nath, the organizer of KVK, Jorhat. An exhibition was organized which attracted the farmers and others present

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