

CSIR IN MEDIA



CSIR

**NEWS BULLETIN
11 TO 15 APRIL 2021**



CSIR-IIP marks diamond jubilee

CSIR-IIP

15th April, 2021

The Council of Scientific and Industrial Research (CSIR) director general Sekhar Mande flagged off a bus of the CSIR- Indian Institute of Petroleum run on diesel obtained from the waste plastic conversion plant installed at CSIR-IIP and also drove a Tata Tiago car run on green diesel named DILSAAF (Drop in Liquid Sustainable Aviation and Automotive Fuel) from CSIR IIP's bio-jet plant. This was done during a function held in hybrid physical online mode on Wednesday as part of the institute's diamond jubilee celebration.

Speaking on the occasion, Mande highlighted the role of CSIR in bridging the gap between industry and academia, and shared his vision of presenting India on the global map through the achievements of CSIR. He highlighted major achievements of CSIR during Covid period while adding that the council has contributed considerably to Covid studies. He emphasised the need for industry partnership in successful deployment of technologies.

Speaking as the chief guest, the director general of ONGC Energy Centre, Sanjiv S Katty mentioned the activities of ONGC EC and focused on few of the research projects with CSIR-IIP like thermo-chemical hydrogen generation helium extraction from natural gas wells. He presented a road map of the geothermal field development project in Ladakh.

Earlier, the IIP director Anjan Ray congratulated the institute family on the foundation day. He emphasised the potential of waste domestic carbon resources for addressing the energy and environmental challenges in the country.

Published in:

[Dailypioneer](https://www.dailypioneer.com)

Covid-19: CSIR institutions come out with quick solutions to deal with oxygen shortage

CSIR-IIP, CMERI

15th April, 2021

NEW DELHI: Amid shortage of medical grade Oxygen for rising number of Covid-19 patients in the country, two institutions of the public sector R&D body - Council of Scientific & Industrial Research (CSIR) – have come out with indigenously developed solutions, including one from Dehradun-based Indian Institute of Petroleum for quickly set up on-site oxygen enrichment



units in hospitals itself, to save precious time during the pandemic.

The other one, developed by Durgapur-based Central Mechanical Engineering Research Institute (CMERI), can work quite effectively up to the altitude of 14,000 ft, helping in treating Covid-19 patients in north-eastern states and other high-altitude terrain and battlefields in the Himalayan region.

“Oxygen enrichment units developed at CSIR’s Indian Institute of Petroleum (CSIR-IIP) are the most suitable at hospitals. It can generate up to 500 litre per minute (LPM) Oxygen,” said Shekhar Mande, director general, CSIR.

He observed that given the large requirements in hospitals, in-house generation of medical grade Oxygen offers independence from “external parties and eliminates the risk and difficulty of handling bulky cylinders”.

The Oxygen concentrator, developed on indigenous components, enables hospitals to reduce their cost of oxygen supply by up to 50% while ensuring 24x7 operation with minimum

manpower requirements. At 500 LPM capacity, it can cater to the needs of 5 to 25 critical Covid-19 patients, depending on the severity of the respiratory distress.

“Compared to both cylinders and liquid Oxygen (LOX), this is considerably lower in delivered cost per litre of oxygen,” said Anjan Ray, director, CSIR-IIP while noting how medical grade Oxygen can be delivered at about Rs 13 per litre – much lower than the government’s capped price.

It can be set up for on-site generation of medical grade Oxygen in 50-100 sq. feet area within the hospitals. One semi-skilled person is adequate to run the plant and it can even be run remotely. The 500 LPM unit can be set up at an estimated cost of over Rs 41 lakhs. The CSIR-IIP has transferred the manufacturing technology and service capability to M/s Gaskon Engineers Pvt Ltd., Delhi.

On the other hand, the Oxygen enrichment unit, developed by the CSIR-CMERI, is capable of delivering up to 30 LPM Oxygen enriched air. This facility will help in ‘high flow Oxygen therapy’, which is proven to be a better method in treatment and management of Covid-19 patients.

Talking about such a unit, Harish Hirani, director, CSIR-CMERI, said it may be very useful for homes, hospitals, defence forces particularly in high altitude terrain and remote rural localities. “It can be more effective and crucial for treating the Covid-19 patients. This unit may help reduce the demand for Oxygen cylinders and ventilators... It is also useful for maintaining proper Oxygen level for an optimum healthy environment,” said Hirani.

The CSIR-CMERI's Oxygen enrichment unit works on the principle of Pressure Swing Adsorption (PSA) and utilizes Zeolite Columns to selectively remove nitrogen from air under certain pressure, thereby increasing the Oxygen concentration. The commercially available Oxygen enrichment units generally work till 8,000 ft from sea level, but the CMERI's unit can

work upto the altitude of 14, 000 ft thereby making it very handy for the usage in high altitude terrain battlefields in contingencies.

"The material cost of this unit is approximately Rs 35,000. The technology has been transferred to M/s. Zen Medical Technologies Pvt. Ltd., Ranga Reddy, Telangana," said the CSIR-CMERI in a statement.

Published in:

[Timesofindia](https://timesofindia.com)

ସିଏସ୍‌ଆଇଆର୍-ଆଇଏମ୍‌ଏମ୍‌ଟିର ପ୍ରତିଷ୍ଠା ଦିବସ

ଭୁବନେଶ୍ୱର (ଆ.ପ୍ର) : ଭୁବନେଶ୍ୱର ସିଏସ୍‌ଆଇଆର୍ ଆଇଏମ୍‌ଏମ୍‌ଟି ଅତିଚୋରୀୟମ୍‌ଠାରେ ବୃଧାବାର ଏହାର ୫୮ତମ ପ୍ରତିଷ୍ଠା ଦିବସ ଭର୍ତ୍ତୁଆଳ ମାଧ୍ୟମରେ ପାଳିତ ହୋଇଯାଇଛି । ସିଏସ୍‌ଆଇଆର୍ ମହାନିର୍ଦ୍ଦେଶକ ତଥା ଡିଏସ୍‌ଆଇଆରର ସଚିବ ଡଃ ଶେଖର ଚନ୍ଦ୍ର ମାଣ୍ଡେ ମୁଖ୍ୟ ଅତିଥି ଭାବେ ଭିଡିଓ ସହାୟତାରେ ଯୋଗ ଦେଇଥିଲେ । ସିଏସ୍‌ଆଇଆର ନିର୍ଦ୍ଦେଶକ ପ୍ରଫେସର ଏସ୍. ବାସୁ, ପ୍ରତିଷ୍ଠା ଦିବସର ଅଧ୍ୟକ୍ଷ ଡଃ ଏ.କେ. ସାହୁ, ବହୁ ବୈଜ୍ଞାନିକ, ଅଧିକାରୀ ଓ ଆଇଏମ୍‌ଏମ୍‌ଟିର କର୍ମଚାରୀମାନେ ଭିଡିଓ କନଫେରେନ୍ସ ମାଧ୍ୟମରେ ଯୋଗ ଦେଇଥିଲେ । ପ୍ରତିଷ୍ଠା ଦିବସ ଅବସରରେ ପ୍ରଫେସର ଏସ୍. ବାସୁ ୨୦୨୦-୨୦୨୧ର ବାର୍ଷିକ ରିପୋର୍ଟ ଏବଂ 'ଅଭିଭ୍ୟକ୍ତି' ନାମକ ହିନ୍ଦି ପତ୍ରିକା ଉନ୍ମୋଚନ କରି କହିଥିଲେ । ଆଇଏମ୍‌ଏମ୍‌ଟି ୧୬୫ଟି ପ୍ରକଳ୍ପ ସହ ୮୩ଟି ନୂତନ ପ୍ରକଳ୍ପରେ କାମ କରିବାରେ ସକ୍ଷମ ହୋଇପାରିଛି । ଯାହା ଉତ୍ତମ ସରକାରୀ ଓ ବେସରକାରୀ



ସଂସ୍ଥା ଦ୍ୱାରା ୩୧ କୋଟିର ଆର୍ଥିକ ଅନୁଦାନ ପ୍ରାପ୍ତ । ଏହି ମହାମାରୀ ପରିସ୍ଥିତିରେ ଆଇଏମ୍‌ଏମ୍‌ଟି, କୋଭିଡ୍-୧୯ ଜନିତ ବହୁ ସହାୟକ ଉପକରଣ ମଧ୍ୟ ବିକଶିତ କରିଥିଲା । ଲୁହାପଥର ହାଇଡ୍ରୋଲିକ୍ ପରିବହନ ପାଇଁ ବିଭାଗ ସଫଳତାର ସହ ଏକ ସ୍ପୋରି ପାଇଲଟ୍ ପ୍ଲାନୁ ଟେଷ୍ଟ ସୁବିଧାର ବିକାଶ କରିଛି । ସେ ସଙ୍ଗେତ ଏବଂ ନିଷ୍ଠାର ସହ କାର୍ଯ୍ୟ କରିଥିବାରୁ ସମସ୍ତ ବୈଜ୍ଞାନିକ, ବୈଷୟିକ ଓ ପ୍ରଶାସନିକ କର୍ମଚାରୀ ଓ ଛାତ୍ରଙ୍କୁ ଏହି ଦିବସ ଅବସରରେ ଧନ୍ୟବାଦ ଜଣାଇଛନ୍ତି । କାର୍ଯ୍ୟକ୍ରମରେ ଉପସ୍ଥିତ

ସିଏସ୍‌ଆଇଆର୍-ଆଇଏମ୍‌ଏମ୍‌ଟିର ମହାନିର୍ଦ୍ଦେଶକ ଡଃ ମାଣ୍ଡେ ଓଡିଆ ନବବର୍ଷର ଶୁଭେଚ୍ଛା ଜଣାଇବା ସହ 'ୟୁନିକ୍ ଷ୍ଟୋପ୍' ନାମରେ ଏକ ସ୍ମାରକ ପ୍ରସ୍ତୁତ କରି ଆଇଏମ୍‌ଏମ୍‌ଟି ସଫଳତା ଏବଂ ଭବିଷ୍ୟତ ଯୋଜନା ସମ୍ବନ୍ଧରେ ଆଲୋଚନା କରିଥିଲେ । ସିଏସ୍‌ଆଇଆର୍ କୋଭିଡ୍ ପୂର୍ବରୁ ଏବଂ ପରବର୍ତ୍ତୀ ସମୟରେ ଏହାର ଅବଦାନ ଜାରି ରଖିଛି ବୋଲି କହିଥିଲେ । ସିଏସ୍‌ଆଇଆର୍ ହସ୍ତସୁରକ୍ଷା ଅନ୍ତର୍ଗତ ପାଦ ଚାଳିତ ଡ୍ରାପ୍ ବେସିନ, ସେନ୍ସର ଜନିତ ସାନିଟାଇଜର, ତରଳସଫେନସରି, ଡିସିଇନ୍‌ଫେକ୍ଟେଣ୍ଟ୍

ସ୍ତ୍ରୋ ଜିଭାନ୍ତି, ମୃତକଙ୍କ ପାଇଁ କୋର୍ଟିନ୍, ଇତ୍ୟାଦି ପ୍ରସ୍ତୁତ କରିଥିଲା । ଭବିଷ୍ୟତରେ ହାଇ ଅଲ୍ଟି ଟୁଡ୍, ଲାଇଂ ଏନ୍‌କ୍ଲିଓରାନ୍ (ଏଚ୍‌ଏଏଲ୍‌ଇ) ପ୍ଲାଟଫର୍ମ ସିଷ୍ଟମ ଉପରେ କାର୍ଯ୍ୟ କରିବାର ଯୋଜନା ରହିଛି ବୋଲି ସେ କହିଥିଲେ । ଏହି ଅବସରରେ ଦୁଇଟି ବୈଷୟିକ ସ୍ଥାନାନ୍ତର ନିମନ୍ତେ ଚୁକ୍ତିନାମା ସ୍ୱାକ୍ଷର ହୋଇଥିଲା । ଇଣ୍ଡିଆନ୍ ପ୍ଲାନୁ ଫିଡ୍, ଏମ୍‌ଏସ୍‌ଏମ୍‌ଇ ବିଭାଗ ଅଧିନରେ ଆସୁଥିବା କଟକର ଏକ ସଂସ୍ଥା ପଟାସ ମୁକ୍ତ ବାୟୋଟେକ୍ନୋଲୋଜି ଡେଭଲପମେଣ୍ଟ ଉପରେ ସିଏସ୍‌ଆଇଆର୍-ଆଇଏମ୍‌ଏମ୍‌ଟିର ବିକ୍ଷିତ ଟେକ୍ନୋଲୋଜୀ ଗ୍ରହଣ କରିବାକୁ ରାଜି ହୋଇଛନ୍ତି । ଏହି ଅବସରରେ ଇଣ୍ଡିଆନ୍ ପ୍ଲାନୁ ଫିଡ୍‌ର ପ୍ରେସାଲଟର ରେଶୁବଳା ଘୋଷ ପ୍ରଯୁକ୍ତ ବିଦ୍ୟା ସ୍ଥାନାନ୍ତର ସହ ଲାଇସେନ୍ସ ପାଇଁ ଚୁକ୍ତିନାମା କରାଯାଇଛି । ଅନ୍ୟ ଏକ ଚକ୍ଷୁଆଇ ଅନପେଲେଟ୍, ଟେକ୍ନୋଲୋଜୀ ସ୍ଥାନାନ୍ତରର ଚୁକ୍ତିନାମା ଏସ୍‌ଭିଏନ୍‌ଟି, ହାଇଦ୍ରାବାଦର ନିର୍ଦ୍ଦେଶକ ସିବ ଆର୍. ଦେଶାଇଙ୍କୁ ପ୍ରଦାନ କରାଯାଇଥିଲା ।

● CSIR-IMMT celebrated its 58th Foundation Day. on 13th Arpil 2021. Dr. Shekhar C Mande, DG CSIR & Sec. DSIR was the cheif guest and joined online to grace the occassion. Dr. S. Basu, Director of CSIR-IMMT presented the Annual Report 2020-21. ●●●●

CSIR-CMERI

14th April, 2021

CSIR-CMERI exhibits attract many

GUARDIAN NEWS BUREAU
SHILLONG, APR 10: CSIR-CMERI exhibited its technologies in the two-day 'Conclave and Techno-Fair on Transforming Meghalaya State through Science and Technology Interventions', which concluded today. It was organised by the North East Centre for Technology Application and Reach (NECTAR), an autonomous body DST, Govt. of India at the State Convention Centre, Shillong. The technologies exhibited by CSIR-CMERI at the Conclave are the ginger-turmeric processing technologies, municipal solid waste management, solar tree and artifacts, complete water purification technologies (Arsenic-Iron-Fluoride) & solutions, effluent treatment plant, hybrid mini-grid among others. MS Rao, Chief Secretary of Meghalaya, visited the CSIR-CMERI exhib-

it & expressed a lot of interest in the CSIR-CMERI technologies especially the ginger-turmeric processing unit, solar-based hybrid mini-grid and municipal waste management.

Rao showed his interest to explore avenues for roping in CSIR-CMERI technologies for empowering Meghalaya and making it sustainable.

Sanjib Dhar, Joint Secretary, Ribhoi Farmers Union, Meghalaya shared their enthusiasm and amazement at the CSIR-CMERI Ginger-Turmeric Processing Technologies.

They expressed their intent to visit CSIR-CMERI, Durgapur to understand more about the Sustainable Ecological Concepts and Farming Technological Advancements of CSIR-CMERI and help disseminate the same amongst the farming

community of Meghalaya.

Director, National Institute of Technology, Meghalaya and his team discussed with officials of CSIR-CMERI for exploring opportunities for an MoU signing regarding Implementation of CSIR-CMERI Technologies in Meghalaya, Incubation of Start-Ups, Skill Development and Research Collaboration.

Dr. Atanu Saha, Director, North-East Council, had an elaborate discussion regarding CSIR-CMERI developed Technologies and its possibilities to be deployed in Meghalaya in cooperation with the respective state governments in North-East.

Dr. Saha requested CSIR-CMERI to send detailed technical proposals to the Director, North-East Council for exploring avenues for implementation of the same in the North-East.

Published in:

The Meghalaya Guardian, U Nongsain Hima, [Devdiscourse](#)

ଆଇଏମଏମଟି ପକ୍ଷରୁ ୧୩୦ତମ ଆମ୍ବେଦକର ଜୟନ୍ତୀ

ଭୁବନେଶ୍ୱର (ସବୁ୍ୟ): ସିଏସ୍ଆଇଆର୍-ଇନ୍ଷ୍ଟିଚ୍ୟୁଟ୍ ଅଫ୍ ମିନେରାଲ୍ସ ଆଣ୍ଡ ମ୍ୟାଟେରିଆଲ୍ସ ଟେକ୍ନୋଲୋଜି ପକ୍ଷରୁ ୧୩୦ତମ ଡ୍ର ବି.ଆର୍. ଆମ୍ବେଦକର ଜୟନ୍ତୀ କ୍ୟାମ୍ପସର ଅତିଗୋରିୟମ୍ଠାରେ କାର୍ଯ୍ୟକ୍ରମ ଅନୁଷ୍ଠିତ ହୋଇଯାଇଛି। ଏହି ଅବସରରେ ମୁଖ୍ୟ ଅତିଥି ଭାବେ ଭର୍ଚୁଆଲ ମାଧ୍ୟମରେ ବର୍ଣ୍ଣ ସ୍ତାଣ୍ଡାର୍ଡ କୋଲିମିଟେଡ୍, କୋଲକାତାର ପୂର୍ବତନ ସିଏମ୍ଟି ଦୟାନିଧି ମାରାଣ୍ଡି ଉପସ୍ଥିତ ଥିଲେ । ଆମ୍ବେଦକର କମିଟିର ଅଧ୍ୟକ୍ଷ ଡ୍ର ଆର୍, ଶକ୍ତିଭେଲ୍ ଉପସ୍ଥିତ ସମସ୍ତଙ୍କୁ ସ୍ୱାଗତ ଜଣାଇବା ସହ ଏହି କାର୍ଯ୍ୟକ୍ରମର ଗୁରୁତ୍ୱକୁ ଆଲୋଚନା କରି ଥିଲେ । ସିଏସ୍ଆଇଆର୍-ଆଇଏମଏମଟି ନିର୍ଦ୍ଦେଶକ ଏସ୍. ବାସୁ ୧୩୦ତମ ଆମ୍ବେଦକର ଜୟନ୍ତୀ ଦିବସର ଉଦ୍ଦେଶ୍ୟ ସମ୍ବନ୍ଧରେ ନିଜର ଅଭିଭାଷଣ ରଖିଥିଲେ। କାର୍ଯ୍ୟକ୍ରମର ମୁଖ୍ୟ ଅତିଥି ଶ୍ରୀ ମାରାଣ୍ଡି କହିଥିଲେ, ଏହିଭଳି ଏକ କାର୍ଯ୍ୟକ୍ରମ ପ୍ରଥମଥର ଏପରି ବଡ଼ ଅନୁଷ୍ଠାନରେ ହୋଇଥିବାରୁ ମୁଁ

ସମସ୍ତ ଆୟୋଜକ ମଣ୍ଡଳୀକୁ ଧନ୍ୟବାଦ ଦେଉଛି। ଡ୍ର ବି.ଆର୍ ଆମ୍ବେଦକରଙ୍କ ତ୍ୟାଗ ଏବଂ ବଳିଦାନକୁ ଆମେ ସମ୍ମାନ ଜଣାଇବା ଉଚିତ୍ । ଏପରି ଏକ କାର୍ଯ୍ୟକ୍ରମରେ ମୁଖ୍ୟ ଅତିଥି ଭାବେ ଉପସ୍ଥିତ ଥିବାରୁ ସେ ବହୁତ ଖୁବ୍ ଅନୁଭବ କରୁଛନ୍ତି

ପିଲାମାନଙ୍କ ପାଇଁ ରାଜମ୍ପ, ଚିତ୍ରାଙ୍କନ, ପ୍ରବନ୍ଧ, ବକୃତା ଭଳି ପ୍ରତିଯୋଗିତାମାନ ଆୟୋଜିତ ହୋଇଥିଲା। ବିଜେତା ପ୍ରତିଯୋଗୀ ଏହି ଅବସରରେ ପୁରସ୍କାର ବିତରଣ କରାଯାଇଥିଲା। କାର୍ଯ୍ୟକ୍ରମ ସଫଳତାର ସହ ସମ୍ପନ୍ନ ହୋଇଥିବାରୁ



ବୋଲି କହିଥିଲେ । ଏହି ଆମ୍ବେଦକର ଜୟନ୍ତୀ ଉପଲକ୍ଷେ ଆଇଏମଏମଟି କର୍ମକର୍ତ୍ତା ଏବଂ ସେମାନଙ୍କ ପିଲାମାନଙ୍କ ମଧ୍ୟରେ ପ୍ରତିଯୋଗିତାମାନ ଆୟୋଜନ କରାଯାଇଥିଲା । ଯେପରିକି କୁଇଜ୍, ଇଲୋକେସନ୍ ଏବଂ ସବସ୍ୟମାନଙ୍କ

ଶେଷରେ ଆମ୍ବେଦକର କମିଟି କନଭେନର୍ ସନ୍ତୋଷ କୁମାର ବେହେରା ସମସ୍ତ ଉପସ୍ଥିତ ଅତିଥିଗଣଙ୍କୁ ଧନ୍ୟବାଦ ଜଣାଇଥିଲେ। ସରକାରଙ୍କ ସମସ୍ତ କୋଭିଡ୍ କଟକଣା ମଧ୍ୟରେ ଏହି କାର୍ଯ୍ୟକ୍ରମ ଅନୁଷ୍ଠିତ ହୋଇଥିଲା ।

CSIR-IMMT celebrated 130th Dr. B.R. Ambedkar Jayanti on 14th April 2021. Shri Dayanidhi Marandi, Ex-CMD of Burn Standard Co Ltd., Kolkata was the chief guest.

CSIR-NEERI & Italian Embassy organises webinar on “Water Resources and Human Civilization”

CSIR-NEERI

13th April, 2021

India and Italy have many commonalities. They are ancient civilizations. Water has played a very significant role in the growth of both the civilizations. It is appropriate that the Italy Embassy in New Delhi and the CSIR-National Environmental Engineering Research Institute (CSIR-NEERI) have come together to jointly host the webinar on “Water Resources and Human Civilization” on April 13 (The Italian Research Day), today. A distinguished panel of experts will speak on the theme. The topics cover the Tiber River in Italy, Saraswati River and the Ganges. The list of eminent speakers with their topics includes:

Dr Massimiliano Moscatelli, Institute of Environmental Geology and Geoengineering, Rome will address “The Tiber River and the city of Rome: a millennial history.”

Prof SK Tandon, Indian Institute of Science Education and Research, Bhopal, will address “The ‘Lost’ Saraswat River of northwest India: Demystifying its depths”

Dr Ilaria Mazzini, Institute of Environmental Geology and Geoengineering, Rome, will address “Long-Term Interactions between Rome and Its ancient ports, Tiber Delta, Italy”

Dr Ruchi Badola, Wildlife Institute of India, Dehradun, will address “Biodiversity conservation and Ganga rejuvenation.” Prof Marco Peresani, University of Ferrara, will address “Rivers, settlements and human evolution.”

Massimo Spadoni, Embassy of Italy and Paras Ranjan Pujari, CSIR-NEERI will be moderating the virtual discussions.

The webinar commences at 14:00 IST/ 10:30 am CET and is of a two-hour duration event.

H.E. Vincenzo de Luca, Ambassador of Italy to India will be delivering the opening address.

For Live Streaming on FACEBOOK visit: <https://it-it.facebook.com/ItalyInIndia/>

Published in:

Eletsonline

NISCAIR, Vijnana Bharti launch Luni-Solar calendar

CSIR-NISCAIR

13th April, 2021

New Delhi, Apr 13 (PTI) The National Institute of Science Communication and Information Resources (NISCAIR) and Vijnana Bharti on Tuesday launched thematic Luni-Solar Calendar that imparts information on the medicinal and nutritional values of food.

On the occasion of Chaitra Shukla Pratipada (New Year), the Council of Scientific and Industrial Research's NISCAIR and Vijnana Bharati (Vibha) jointly organised a special session on release of a Thematic Luni-Solar Calendar.

Vibha is an RSS-linked scientific organisation.

The Luni-Solar calendar prominently displays the "Tithi" and "Paksha".

It also displays the corresponding date as per the Indian National Calendar of Government of India and the Gregorian system, highlighting the scientific basis of Indian calendar system and scientific content on the seasonal fruits and vegetables.

“This thematic wall calendar is based on the theme "Food as Medicine". The aim of this effort is to make the calendar more user friendly based on science,” the NISCAIR said in a statement.

Since 2019, the world is facing the acute challenge of COVID pandemic and it is very much related with our food habits and resultant immunity, it said.

“During present health crisis, the theme has a direct relevance to the common man, wherein, it becomes important to understand the correlation between the diets, health and time that is what to eat and when to eat,” it added.

Ranjana Aggarwal, Director, CSIR-NISCAIR emphasised that Luni-Solar Calendar is based on science and its release by a science popularisation institute like CSIR-NISCAIR makes this calendar more significant and fruitful.

She highlighted two salient outcomes of this Luni-Solar calendar which are time calculation and Indian food.

Director General of CSIR, Shekhar C Mande said the science behind Luni-Solar Calendar has been proved.

He explained the scientific basis of Indian calendar system. He also said the calendar features significant information on fruits and vegetables from India.

The calendar has depicted the important seasonal fruits and vegetables, its nutritional and medicinal value, and its Indian names wherever possible.

Jayant Sahasrabudhe, National Organising Secretary, Vijnana Bharati said Indian traditional knowledge tells "how to live in harmony with nature".

He said that there is a need for a scientific temper for handling environmental challenges. Right kinds of diet and food ensure human health. This is the reason, which inspired us to develop a calendar on the theme of "Food as Medicine".

Somak Raychaudhury, Director, Inter-University Centre for Astronomy and Astrophysics (IUCAA) explained the scientific basis of motion of Earth around the Sun, relation of Earth with moon and other stars, motion of Sun through the year, importance of the Equinox, measures of time and main calendar systems (Solar, Lunar and Luni-Solar calendars). He also discussed the Roman (Julian) calendar and Bengali calendar.

Published in:

Outlookindia

Most places in city have noise level more than permissible limit: Study

CSIR-NEERI

12th April, 2021

Ward No 33 across ring road had the highest noise level 105.8 dB (A)

CSIR-NEERI collected noise samples from 700 sites in the city

Nagpur city which is sailing through the infrastructure development phase, is also facing the silent threat of noise pollution these days. The Environment Status Report (ESR) of

CSIR-National Environmental Engineering Research Institute (CSIR-NEERI) has revealed that more than 50 per cent places in the city have the noise level more than 80 dB which is harmful for human health. CSIR-NEERI conducted a study in which an innovative approach of noise monitoring using bicycle mounted sound level meter utilised. Increase in population associated with economic growth and extended road stretch directly escalated the number of vehicles. In the city, currently, the estimated number of vehicles is around 12.9 lakhs.

CSIR-NEERI collected noise samples from 700 sites in the city. Among them, 374 sampling sites had a noise level greater than 80 dB, while 325 sampling sites had a noise level between 60-80 dB. This shows that majority of the sampling sites are affected by high noise levels. More than 100 dB of noise levels are detected in Wards 16, 15, 19, 22, 27, 23, 24, 25, 3, 34, 36, 18, 33, 32, 8, 28 through National Highway No 7, National Highway No 6, Minor Road, Ring Road, Chandrapur-Nagpur Highway, West High Court Road, State Highway No 255, Rameswari Road, Manewada Road, Hudekeswar Road, Bakramandi Main Road, Timki Bazar Road and Ramna Maruti Road. Similarly, the lower noise levels are observed in Wards 1, 2, 4, 12, 13, 14, 26, 28, 29, 34, 37, and 38 due to their locations being outskirts of the city and also possess good



vegetation cover which helps in mitigating noise levels. The study also revealed that the highest noise level 105.8 dB (A) is observed in ward 33 across ring road.

Ward 35 is second noisiest ward with noise level 105.6 dB (A) across the minor road. As per the study, Equivalent Noise Level (Leq) in Nagpur was found is above 70 dB (A) at the majority of the locations. This exceeds the WHO guideline value of Leq 70 dB (A) for industrial, commercial, shopping and traffic area, indoors and outdoors and can lead to hearing impairment. Minimum Noise Level (Lmin) values ranged from 40.6 to 72.2 dB (A) and Maximum Noise Level (Lmax) values ranged from 72.4 to 129.2 dB (A). Lmin at the majority of the locations in Nagpur city was found to be in 55-70 dB (A) which itself is exceeding the guideline values for annoyance set at 55 dB (A) by WHO Guidelines for Community Noise, 1999. A total of 700 sampling locations were selected including various road category like National Highways (NH), State Highways (SH), ring roads, major roads, minor roads, railway crossings and different land use categories for different transport types.

Moreover, residential, commercial and industrial were also considered for noise monitoring. Normally, the Maharashtra Pollution Control Board (MPCB) monitor the noise level of the city during Diwali and Ganesh Festival seasons. But, the ongoing construction works, presence of huge number of vehicles on city roads should also be monitored apart from festival seasons. The study conducted by CSIR-NEERI explained that the noise pollution in city is also in higher side and the authorities must come forward to mitigate it.

Published in:

[Thehitavada](http://Thehitavada.com)

“India is sitting on a gold mine of nutrition waiting to launch in global food market”

CSIR-CFTRI

12th April, 2021

CSIR-CFTRI (Central Food Technology Research Institute), Mysuru, is helmed by Dr Sridevi Annapurna Singh, as Director. In a face to face interaction with Nandita Vijay, Singh discusses varied topics - key developments, trends and challenges in research. Excerpts:



What have been the key developments at the institute since you took over as director early this year?

The institute has now started a farmer training programme under the Prime Minister Formalisation of Micro Food

Processing Enterprises Scheme (PM FME Scheme) with an outlay of Rs 10,000 crore. Here Karnataka government has recognised CFTRI as the technical institute and we are training 500 farmers. The programme was to be complete on March 31 but was forced to be extended till April on account of rise in Covid-19 cases.

In the area of reconstitutable foods, CSIR-CFTRI has played a major role. Can you give us an update?

Considerable research on reconstitutable foods took place in the 70s. But the concept of Ready to Eat (RTE) mixes came in decades later when educated housewives took up careers and were strapped for time to cook. The trend to purchase RTE mixes caught on to serve the dual income homes. Today, it is unlikely that people would even attempt making a jamun at home instead they opt for the ready mixes to finish cooking in a jiffy. In this area of RTE mixes, considerable research is going on with tech transfer for commercialisation.

Reconstitutable foods are seen to provide solutions when lifestyle diseases and disorders are affecting people's health. There are specific foods for diabetes among other conditions and celiac diseases which are high on gluten-free, high on fibre and low on sugar.

CFTRI had come out with Bifidocurd tipped to be a Gen Z beverage. Tell us more about this.

Bifido bacterium is a probiotic and a good bacteria of the gut. It helps to improve health. Gut microbiome is now recognised as the second brain in the human body. It is known to control diseases later in life. If the gut microbiome is healthy then it is likely that one could avoid lifestyle related diseases. During the 12th Five Year Plan: 2012–17, we worked on the bifido bacterium. This is an anaerobic bacteria that cannot grow in the presence of oxygen. To develop a product using this bacteria with a good shelf life can be a real challenge. One of my colleagues is working on this and developed it with soya which is proven to show shelf life of over a week.

What are the challenges at Indian food research labs?

India faces dual challenge of under nutrition, on the one hand, and over nutrition, on the other. In rural areas cost drives the diet. In the urban areas, it is taste and acceptance. In both cases certain essential nutrients are missed. Human body definitely requires nutrients should come from food. Even if R&D labs are focussing on nutritional foods, the market is driven on a totally different philosophy. Hence need market our knowledge with the food companies. What we see is that consumers are wiser about food nutrition and are evaluating traditional diets of their grandparents. Our institute has already done extensive research on traditional foods. So it is easier for companies to look at technology transfers.

Would you agree that there is need for government R&D labs to partner with the industry for faster commercialisation?

Definitely, and lot of companies are doing just that. The current consumer-driven market and the pandemic have seen an interest for unique grains specific to each region in India that have

continued to be preserved as a daily diet. India is a treasure trove for foods. Many R&D institutes in these regions have carried out considerable work. Government R&D centres are coming forward to hand-hold the micro small and medium enterprises (MSMEs). With schemes like PM FME among others, India is sitting on a gold mine of nutrition waiting to be launched into the global food market.

Do you sight promising prospects in India's food R&D?

When India got independence, there was not enough food and the move was to save every grain. Then came the Green Revolution where certain grains were given prominence like rice or wheat. When women came out to work, many of our traditional dishes were out from the 'thali'. The same meal was repeated from breakfast to lunch and dinner. This routine for the last 30 years, took toll that resulted in lifestyle disorders. There is a demand for convenient foods without compromising on the taste, health and nutrition.

What are the trends on India's food R&D landscape?

An emerging trend is foods for specific population. Like for instance sports diets for endurance. There is also a huge growing population of geriatrics, provides scope for development of foods for the elderly. Besides, need for infant foods, particularly, to address phenylketonuria (PKU) which is an inborn error of metabolism and even convalescent foods for kidney and cancer patients. Now with the pandemic immunity booster foods are in vogue. There are also foods promoted by traditional practitioners. It is here scientific validation is the key and if this happens then there is no stopping for India and Indian foods.

In your view do you see young candidates qualifying from colleges offering food processing courses interested in taking up research?

That is a difficult question because there are not that many government laboratories that are really working on food. CFTRI has been here for the past 70 years. Although now we do see a lot more food labs than the past, because many companies are setting up R&D centres, so students who qualify are being picked up by the industry as they find it easier to grow in their

career with multiple options.

Do you see the recent extension of productivity linked incentive scheme to food processing sector help boost research because innovation is key for product development?

No doubt about that. Even under the PM FME Scheme, Karnataka government is encouraging formation of farmer clusters. Here CFTRI has participated to develop by lining five or six villages to a processing facility, accessible to individual farmers for carrying out primary processing. Value addition of farm produce increases their income substantially.

With Karnataka government support, CFTRI campus also has an incubation centre with 12 suites where any food startup with valuable concepts, does not want to invest in a facility can utilise the facility. Our scientists will help crystallise the concepts and permit using our pilot plant facilities, till startups can begin operations on their own. There is also an accelerator programme with online mentorships. In addition, a fully operational food industry which is looking to diversify without investing in equipment, could access CFTRI to conduct the food product trials.

As the director of CFTRI, what are the problems you sight that are encountered in research?

Funding is a big issue. There is need for access to global funding sources. While big companies expand in R&D activities, the MSMEs cannot afford research. This is despite the funding schemes provided by the department of biotechnology (DBT) and MoFPI. However now government grants insist on translational research. The need of the hour is commercialisation with accountability. Therefore research labs need to partner with industry to develop feasible concepts as the government is extremely serious about this.

Another issue is the need for research that focusses on nutritional deficiencies which affects one's health in the long-term. This is where we need to focus our study on plant proteins,

ascertain processes to extract proteins from the plants. Proteins have a functional property like providing texture and colour. A protein with an emulsifying character like egg white for cakes to get the desired texture can be replaced with an equivalent plant protein can have a huge market opportunity. Therefore we are not only looking into the nutritional but also the functional characteristics. Proteins when broken with enzymes, release peptides. Many peptides are known have health benefits are known bioactive peptides used to control blood pressure, induce relaxed sleep or even reduce stress. These can be developed as beverages.

During this continuing phase of the pandemic has the Institute received the required budgetary allocation from the government? Also with UN declaration of 2023 as the year of millets what is the action plan on the cards?

There has been considerable streamlining within CSIRs. However the government has been extremely encouraging to identify research areas and calling for proposals to funds.

Specific to millets, the institute under a Karnataka government grant is setting up a Centre of Excellence for Millets. Karnataka is the major producer of millets and CFTRI too has done extensive research to develop related processed foods.

Published in:

[Fnbnews](#)

20-30% recovered people lose natural immunity against COVID-19 in 6 months

CSIR-IGIB

11th April, 2021

India is currently dealing with the second wave of COVID-19. As cases surge, a question that is often asked by people who had contracted the virus and recovered from it is - how long does natural immunity against coronavirus last?

According to research by the Institute of Genomics and Integrative Biology (IGIB), natural immunity against COVID-19 lasts for 6 to 7 months. It also states that between 20-30% of those infected with the virus shed this immunity after a 6-month period.

"The key finding of 20-30% of subjects losing virus neutralizing activity, despite staying seropositive, at 6 month follow-up helps understand why the large second wave has not spared cities like Mumbai with high seropositivity," Dr Anurag Agarwal, the director of IGIB stated on Twitter.

The findings of this research are particularly important for India as they could potentially explain the timing of the second wave of the COVID-19 pandemic in the country. The results also emphasise the importance of vaccination against virus infection.

Research on the immunity period of COVID-19 vaccines is still ongoing, but most vaccines currently in use are expected to protect beneficiaries from severe coronavirus infection or death for at least a couple of years.

Researchers have stated that the findings can explain why cities like Mumbai and Delhi are experiencing a spike in COVID-19 cases. This is happening despite these cities having high seropositivity, according to Hindustan Times. Delhi had average seropositivity of just over 56 per cent in January. Many doctors attributed Delhi's seropositivity as the reason behind the

slowdown of the COVID-19 pandemic surge in November 2020. The IGIB study established that seropositivity was inversely proportional to the test positivity rate of COVID-19.

"In September, when we conducted a sero-survey across CSIR (Council for Scientific and Industrial Research) laboratories, just over 10% of the participants were found to have antibodies against the virus. Then, we followed up with a fraction of these participants for three and five to six months and conducted a quantitative test to check their antibody levels," said Dr Shantanu Sengupta, according to the daily. Sengupta is a senior scientist from IGIB and one of the writers of the study which was published in eLife journal on April 10. "At five to six months, nearly 20 per cent of the participants had lost the neutralisation activity despite having antibodies; the neutralisation activity for the rest was also on the decline."

Nearly 10 per cent of the participants of the study tested positive for antibodies in September 2020. The researchers tracked 175 of these participants for a period of five to six months and discovered that 31 of them had lost the neutralising activity and eight of them no longer had antibodies.



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