

FoodPro

CSIR - CFTRI Newsletter January - March 2025



Food Processing | Nutrition | Innovation | Value Addition
Traditional Foods | Food Machinery | Shelf Life | Food Quality
Nutraceuticals | Centre of Excellence | Pre & Probiotics | PMFME
Skill Development | Technology Transfer | Incubation



ಸಿ.ಎಸ್.ಐ.ಆರ್-ಕೇಂದ್ರೀಯ ಆಹಾರ ತಂತ್ರಜ್ಞಾನ ಸಂಶೋಧನಾಲಯ, ಮೈಸೂರು
ಸಿ.ಎಸ್.ಐ.ಆರ್ - ಕೇಂದ್ರೀಯ ಖಾದ್ಯ ಪ್ರೌಢೋಗಿಕ ಅನುಸಂಧಾನ ಸಂಸ್ಥಾನ, ಮೈಸೂರು
CSIR – Central Food Technological Research Institute, Mysuru

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Research Highlights

EPA-rich *Nannochloropsis oceanica* biomass for regulating gut microbiota

Omega-3 fatty acids are believed to show anti-fibrotic effects by lowering inflammation and regulating the gut microflora. Marine microalgae are an alternative, sustainable source of omega-3 fatty acids to the conventionally used fish oil. Microalgae *N. oceanica* is a promising source of EPA, one of the essential omega-3 PUFAs. Current study investigate the inhibitory effects of EPA rich *N. oceanica* biomass against CCl₄ induced liver fibrosis in rats. In this study, the anti-fibrotic effects in *N. oceanica* biomass fed groups: T1 – Low dose (4.16 mg/kg EPA), T2 – Medium dose (8.33 mg/kg EPA) and T3 – High dose (16.66 mg/kg EPA), where compared with fish oil fed group (FO – 16.66 mg/kg EPA) as a positive control. The elevated levels of serum liver biomarker enzymes and cholesterol induced by CCl₄ showed a significant reduction in T3. Histopathological analysis showed the protective effects of biomass feeding on inflammation and hepatocyte degeneration. In addition, the abundance of the SCFA producing bacteria like *Blautia argi*, *Romboutsia ilealis*, *Romboutsia timonensis*, *Stomatobaculum longum* and *Limosilactobacillus reuteri* markedly increased in the PUFA fed groups. The cholesterol metabolising bacteria *Eubacterium coprostanoligenes* showed a noteworthy increase upon PUFA administration. Overall, results indicated that the ameliorative effects observed upon administration of *N. oceanica* biomass were comparable to FO in a dose dependent manner. The study concluded that *N. oceanica* biomass supplementation is associated with the alleviation of liver fibrosis in rats.

(Source: Uthaiyah, Nethravathy Malachira; Venkataramareddy, Sreedhar Reddampalli; Mudhol, Seema; Sheikh, Azam Yakub., EPA-rich

Nannochloropsis oceanica biomass regulates gut microbiota, alleviates inflammation and ameliorates liver fibrosis in rats

Food Res. Intl, 2025, 202, art. no. 115733)

Extension of shelf-life of mangoes using PLA-cardanol-amine functionalized graphene active films

Poly Lactic Acid (PLA) based active films were developed using solution casting method by incorporating cardanol oil (CA) and amine-functionalized graphene (AFG). The effect of the CA and AFG on the structural, mechanical, thermal, thermo-mechanical, and antioxidant properties of PLA films was investigated. Morphology studies of PLA films revealed that cardanol oil and amine-functionalized graphene fillers dispersed uniformly without phase separation. The tensile properties of films showed that CA-incorporated film significantly enhanced the flexibility of PLA film and AFG improved the tensile strength. The antioxidant activity of CA and AFG-incorporated PLA films was higher than that of neat PLA, and CA has a strong antioxidant activity. The shelf-life of mangoes was enhanced for 15 days by the CA and AFG-incorporated PLA active film. In conclusion, promising results were found, and the developed PLA-based active film can inhibit oxidation, preserving the quality of fruits and increasing their shelf life.

(Korra S., Madhurya S., Kumar T.S., Sainath A.V.S., Keshava Murthy P.S., Reddy, Jeevan Prasad., Extension of shelf-life of mangoes using PLA-cardanol-amine functionalized graphene active films. *International Journal of Biological Macromolecules*, 2025, 297, art. no. 139849.)

Products Developed

Hydrating Drink Mix



Hydration drinks are a popular choice for consumers seeking a quick boost in energy, alertness, and physical performance. Hydration drinks typically contain a mix of vitamins, amino acids, and natural fruit extracts designed to provide mental and physical stimulation. This formulation mix involves a careful balance of ingredients to maximize the efficacy of bio actives added while ensuring safety and palatability.

C-Hydra drink mix is a Ready to Reconstitute (RTR) beverage mix with Indigenous flavours Sarsaparilla (Nannari) or Kokum along with vitamins, minerals, and energy booster (Citrulline) which are within the levels of Required Daily Allowance (RDA) and Acceptable Daily Intake (ADI). Sarasaparilla (Nannari) and Kokum, are natural coolants and consumed as beverages, they are also digestive aids, rich in antioxidants. This hydrating drink mix contains Citrulline an amino acid which is a non-stimulant performance enhancer - it doesn't act on the central nervous system (no jittery effects), but boosts endurance. An added functional ingredient (vitamins and minerals) broadens the appeal and functionality, turning this niche beverage into a mainstream wellness drink.

Virgin Coconut Oil (VCO) Based Spreads

Virgin coconut oil (VCO) is growing in popularity as a functional food oil rich in medium-chain fatty acids (MCFA) and exhibits good digestibility. Functional oils possess health benefits and biological activities beyond



their nutritional value. VCO is known for its antioxidant activity / antistress properties, medium chain triglycerides (MCTs), and phenolic content. This spread with Virgin coconut oil (VCO) and a trans-free fat emphasizes the usage of new age-healthy oils as butters. These spreads can be consumed as an adjunct with bread, roti etc., The formulated spreads have good spreadability, stability, and sensory acceptability.

Spicy coconut chutney spread mimics chutney powder in taste but in a spreadable form. Coco protein spread is a variation with added fibre and protein powder. This can be sweet or spicy such as pineapple spread or a garlic spread. Using coconut residue in the Coco Protein Spread, an industrial waste, improves the spread's dietary fiber content, oil binding capacity, textural and functional properties. VCO-based spreads have a great potential and functional use with a broader approach as a prime source of medium-chain fatty acids for regular use. It could be a healthy alternative to other butters and spreadable fats. Two products were prepared with the same oil and fat base but by varying the dry ingredients.

Technologies Transferred

- ✦ Virgin Coconut Oil
- ✦ Fruit jams & jellies: preparation
- ✦ RTS fruit juice and beverages
- ✦ Instant products from Moringa Leaves
- ✦ Millet based Cookies
- ✦ Preparation of shelf stable roti from non wheat cereal and millet (Ragi, Rice, Maize, Jowar, Bajra)
- ✦ Green tamarind spice mix – paste & powder
- ✦ Process know-how for Probiotic Carrot nectar
- ✦ Spice oleoresin: Turmeric
- ✦ Multigrain cereal-legume bar & puffed rice bar
- ✦ Paan Flavoured water
- ✦ Spirulina-choco bar and Spirulina-cereal bar, Chikki /Nutra chikki (3 formulations), Nutra chikki with added Spirulina
- ✦ Instant traditional food : Rasam
- ✦ Spice mix: Puliogre
- ✦ Process for the production of soluble and insoluble arabinoxylan from wheat bran

- ✧ Fruits & Vegetables : canning of, Tutti fruity (Papaya/ Carrot)
- ✧ Pickles & chutneys: preparation
- ✧ Instant mushroom soup mix
- ✧ Ginger paste, Garlic paste
- ✧ Instant traditional food : Sambar
- ✧ Coffee Concentrate
- ✧ Malted weaning food

IPR in the Horizon

- ✧ A process for the preparation of Ready-to-Drink Pearl millet (*Pennisetum glaucum* (L.) R. Br.) beverage having low glycemic index with selected spice extracts and constituents thereof. Nethra Vasudev Perichitala, Bhagyalakshmi Satheeshkumar, Shivakumar Linganna, Anil Kumar Krishnegowda, Prabhasankar Pichai, Pradeep Singh Negi, Nagarajan Subban. 202511003858.
- ✧ One-Step Process for Preparation of Nano-Sized Encapsulated Spice Oil and Application thereof. Pooja Jagannath Rao, Poornima Priyadarshini, Arunkumar Panneerselvam, Aswathy Kovval Veedu, Leela Sairam, Sunil Ambedkar. 202511001015

Training Programmes Conducted

The training program covered topics related to CFTRI Technologies on Fruits and Vegetables, Dehydration of Vegetables, Osmotic dehydration of fruits, Fruit Pulp preparation, Preparation of Ginger paste

- ✧ Sophisticated analytical instruments in food applications GC- MS, LC-HRMSMS, FT-IR, NMR, E-Nose & E – Tongue was organized at CSIR-CFTRI from 06.01.2025 to 10.01.2025. Six participants attended the training program. The training program covered topics related to Advances in NMR Spectroscopy, Sample Preparation, NMR Analysis and Interpretation of NMR Data, Theory and Practice of E-Nose and E-Tongue, Theory and Practice of HRMS, Analysis of food Samples using LC-HRMS/MS, Applications of HRMS towards Biomolecules, Introduction to IR-MS (Isotope ratio mass spectrometry).
- ✧ Processing and Value Addition to Pulses was organized at CSIR-CFTRI during 08.01.2025 to 09.01.2025. Five participants were participated in the



training program, the training covers the important aspects of Processing and Value Addition to Pulses.

- ✧ Method validation of Fortificants ie., Iron (FE), Vitamin B9 and B-12 in Fortified Rice from 22.01.2025 – 24.01.2025. Four IHRF Officials and 21 participants participated from various government and private analytical quality testing laboratories.



- ✧ Turmeric Processing and Value Addition (Hon. Balasaheb Thackeray Agribusiness & Rural Transformation (SMART) Project, Wardha, Maharashtra) during 17.02.2025 to 19.02.2025. The important concepts of turmeric processing and its value addition was covered.
- ✧ Rice Parboiling, Milling, Processing and Value Addition Batch 1 during 24.02.2025-28.02.2025 and Batch 2 during Rice Parboiling, Milling, Processing and Value Addition was organized at CSIR-CFTRI. 57 participants attended the training program. The training program covered topics related to

Production and agronomy of rice; Morphology & histology of grains, FAQ and Physical Properties of Raw and Parboiled Rice, DOP by Methylene blue test, Crack detector, FAQ analysis of Paddy & Rice, Parboiling of rice – methods, quality and properties, Ageing of paddy/ rice, Drying of Paddy and Rice milling, Milling of raw rice and its milling properties, Physical properties of raw rice, Calculation of milling yield, Parboiling of rice and its milling properties, Physical properties of parboiled rice, Calculation of milling yield, Safe storage of



paddy/rice and control of infestation, Flaking of rice (using new pilot plant), Puffing of rice/Drying of rice, Electrical safety in Rice mills, Nutritional and Nutraceutical properties of rice, Cooking Properties of Rice, Rice By products (Husk, bran, Starch) and waste valorisation.

- ✦ Processing of Fruits and Vegetables (Hon. Balasaheb Thackeray Agribusiness & Rural Transformation (SMART) Project, DIU, Pune, Maharashtra) was held at CSIR – CFTRI during 17.03.2025 to 19.03.2025.
- ✦ Rice Parboiling, Milling, Processing and Value Addition was held at CSIR – CFTRI during 17.03.2025 to 21.03.2025.
- ✦ Osmotic Dehydration of Fruits & Vegetables (Hon. Balasaheb Thackeray Agribusiness & Rural Transformation (SMART) Project, DIU, Chatrapati Sambhajnagar - 431001, Maharashtra) was organized at CSIR-CFTRI during 25.03.2025 to 26.03.2025.

Short Term Training Programmes Schedule (Apr - June 2025)

Training program at CSIR-CFTRI, Mysuru

- ✦ Two day workshop on Food Safety & Standards Laws (24-04-2025 - 25-04-2025)
- ✦ Training Program Cell Culture and Molecular Biology Technique (13-05-2025 - 15-05-2025)
- ✦ Mammalian Cell Culture Technique (14-05-2025 - 16-05-2025)
- ✦ Fumigation, Prophylaxis and Pest Management Technique for Stored Food Commodities (16-05-2025 - 30-05-2025)
- ✦ Training Program on Laboratory animal technique ethics and Welfare (09-06-2025 - 13-06-2025)
- ✦ Training Program on Analytical Technique for spices (09-06-2025 - 13-06-2025)
- ✦ Integrated Solid Waste and Wastewater Management in the Food Industry (16-06-2025 - 20-06-2025)
- ✦ Essentials of Packaging Technology for Thermal Processing Applications in extension of Shelf Life and Food Safety (23-06-2025 - 25-06-2025)

Training program at CSIR-CFTRI Resource Centre, Hyderabad

- ✦ Fruits and Vegetable Products (28-04-2025 - 30-04-2025)
- ✦ Mango Product (14-05-2025 - 16-05-2025)
- ✦ Millet Products (11-06-2025 - 13-06-2025)

Training program at CSIR-CFTRI Resource Centre, Lucknow

- ✦ Fruits and Vegetables Processing (22-04-2025 - 24-04-2025)
- ✦ Fruits & Vegetables processing (21-05-2025 - 23-05-2025)
- ✦ Bakery and Confectionery products (03-06-2025 - 05-06-2025)

Entrepreneurs' Speak



NutriPlanet Foods Pvt Ltd., started in the year 2015 with Chia Seeds Cultivation in India by collaboration with CSIR-CFTRI (Central Food Technological & Research Institute), Mysuru. Today

NutriPlanet has range of healthy foods products touching tens of thousands of consumer's healthy life. The company has the brand called FULSOME and products are marketed across India and Dubai.

NutriPlanet, focuses on innovations with a very strong support of Science and Knowledge. We create a series of health food products to match the lifestyle demands of our society's from providing energy and fighting fatigue to providing minerals and molecules that are necessary for a healthy body & mind along with smiling heart & guts.

Our innovative R&D drives us to create environment-friendly, functional, affordable foods that make nutrition accessible to everyone.

❖ **Mission:** Produce affordable health and nutritional foods through innovative research under the aegis of competent Institutes and by collaborating with farmers.

❖ **Vision:** Create need based nutritional products for all sections of the society, primarily through ancient grains and super foods.

PRODUCT RANGE

- ✦ Plant-based Protein Powder
- ✦ Plant-based Health Bars
- ✦ Plant-based Seeds Cycling
- ✦ Plant-based Milk Plant-based Omega-3 Oil
- ✦ Other Plant-based Value Added Products
- ✦ Chia Nutrition Bar (Blueberry)
- ✦ Chia Nutrition Bar (Blackcurrant)
- ✦ Quinoa Nutrition Bar (Blueberry)
- ✦ Quinoa Nutrition Bar (Blackcurrant)

BIRAC BioNEST Incubation Centre

The BIRAC- BioNEST incubator facility at CSIR-CFTRI is designed to nurture entrepreneurial talent in food bioprocessing and biotechnology research.

Webinars Conducted

- 1) "Mastering The Art of a Successful Pitch" by Aakash Kulkarni (Finance consultant) which featured key strategies into pitching and pitch deck presentation.
- 2) "Understanding Consumer Trends in the Food Industry " by Pavitra Kumar (Steer World) which highlighted key trends shaping the Indian food industry, driven by urbanization, health consciousness, and technology
- 3) "Importance of financial Planning" by Aakash Kulkarni (Finance consultant) which featured key insights into financial planning strategies, ensuring adequate fund availability, financial stability, long-term sustainability, and effective investment strategies.
- 4) "Funding for a startup, The Investor Perspective" by Mr. Swarup Pandya, Seed Investment, was organised. The session focused on equipping participants with essential knowledge and strategies for securing funding from investors and establishing successful B2B relationships.

Event Organised

A national-level food hackathon event was organised, which received over 275 applications from across the country. The 50 shortlisted teams competed in the Pre-Finale round, where in Pre Jury panel of experts evaluated their innovations. Out of these, the top five teams were selected for the Grand Finale, where they presented their final pitch decks to a distinguished panel of experts. In addition, as part of National Science Day celebrations, the contestants also displayed their technological innovations and interacted with scientists, researchers, and food enthusiasts



Accomplishments by BioNEST incubatees

- Immunza Foods, as an industry partner, has supported the awarding of the Prime Minister's Fellowship for Doctoral Research
- Abhaya Foods has been the recipient of the Best Stall award for value addition products at the National Horticulture Fair conducted by ICAR-IIHR, Hesarghatta.
- Iniya BioProbes have won the ELEVATE grant of 50 Lakhs, while another incubate, Immunza foods, had made it till the pre-final leg of screening



Events

New Year Address (January 2, 2025)

New Year Address 2025 by Dr. Sridevi Annapurna Singh, Director, CSIR-CFTRI to all staff and students of the Institute on 2nd January 2024.



Understanding Indian Standards on Alcoholic Beverages" sponsored by The Bureau of Indian Standards (BIS) and organised by Microbiology & Fermentation Technology Department was held at CSIR-CFTRI on 27th February 2025.



Republic Day Celebrations (January 26, 2025)

As part of 76th Republic Day celebrations, Dr. Sridevi Annapurna Singh, Director, CSIR-CFTRI hoisted the National Flag and delivered Republic Day Address on 26th January, 2025. Rangoli and Photography competitions were held as part of the celebration. Director, CSIR-CFTRI distributed Cash Prizes and certificates to winners of the above competitions.



Half-Day Symposium (February 27, 2025)

Half-Day Symposium on "Standardizing Spirits:

National Science Day Celebrations & Platinum Jubilee Lecture Series (February 28, 2025)

Platinum Jubilee Lecture Series 2024-25 along with National Science Day-2025 celebrations with theme "Empowering Indian Youth for Global Leadership in Science and Innovation for Viksit Bharat" were held on 28th February 2025 at CSIR-CFTRI campus. Prof. T. Ramasami, Distinguished Professor of Eminence & Former Secretary (DBT) and Former Director (CLRI) was the Chief Guest and delivered the Platinum Jubilee Lecture 1 on "A well wisher Peep into the centenary of CFTRI". Dr. Sridevi Annapurna Singh, Director, CSIR-CFTRI presided over the event. During this event, as part of CSIR-CFTRI annual recognitions 2023-24, Appreciation Certificates were distributed to the CFTRI staff, researchers and students in various categories by the dignitaries.

Under Platinum Jubilee Lecture Series 2024-25, Second Lecture was held on 26th March 2025 at CSIR-CFTRI campus. Dr. Rakesh Mishra, Director, Tata Institute for Genetics and Society (TIGS) & Former

Director, CSIR-CCMB was the Chief Guest & Distinguished Speaker delivered the 2nd Platinum Jubilee Lecture on " **Genome Technologies for One Health: Novel Therapeutics to Nutritional Security**". Dr. Sridevi Annapurna Singh, Director, CSIR-CFTRI presided over the event.



National Level Food Hackathon (February 27-28, 2025)

The BioNEST Incubation Center at CSIR-CFTRI, in collaboration with Siddaganga Incubation Foundation, successfully organized a National Level Food Hackathon on February 27-28, 2025, at CSIR-CFTRI, Mysuru for college students. Bringing together students, aspiring entrepreneurs, researchers, and food and agriculture enthusiasts. The students interacted with Dr. Sridevi Annapurna Singh, Director, CSIR-CFTRI and Prof. T. Ramasami, Former Secretary, Department of Science and Technology who shared their insights on the prototypes displayed. The Director of CSIR-CFTRI, along with the esteemed jury members, distributed awards and certificates to winners.

Floriculture Mission Industry Meet (March 3, 2025)

Under CSIR- Floriculture Mission "One-Day Industry Meet for Floriculture Mission" with theme: "Advancing Floriculture: Innovations, Opportunities and Sustainability" was held at CSIR-CFTRI on 3rd March 2025. Shri Manjunath Angadi, Deputy Director, Dept. of Horticulture, Mysore (Dist.) was the Chief Guest and Dr. Sridevi Annapurna Singh, Director, CSIR-CFTRI presided over the function.



International Women's Day (March 5-7, 2025)

On Occasion of International Women's Day 2025 celebrations, following programmes and events were conducted in CSIR-CFTRI.

- Invited talk on "Diet and Nutrition" delivered by Dr. Shashikala, Dietician and Nutritionist, Cauvery Hospital, Mysore on 5th March 2025.



- Walkathon was arranged in the campus on 6th March 2025 wherein Dr. Sridevi Annapurna Singh, Director, CSIR-CFTRI along with all female staff and Research students walked around the campus as part of event.



- Zumba session was conducted on 7th March 2025 in the campus and all the women employees and Research students along with Director participated in the event.



Visitors

- Poland delegation consisting of Prof. Dr. hab. Karolina Pawlak, The Vice-Rector; Dr. Hab. Maciej

Kuligowski, The Vice-Dean; and Prof. Dr. hab. Joanna Kobus-Cisowska) Department of Gastronomy Science and Functional Foods, Faculty of Food Science and Nutrition, Poznan University of Life Sciences, Poznan, Poland visited CSIR-CFTRI and its facilities on 6th January 2025 and interacted with Director and Scientists to discuss about HRD activities, students Exchange Programmes and collaborative research on post harvest technologies and value added products from ginger.



✧ University College Dublin (UCD), Ireland Delegation consisting of Prof. Colm O'Donnell, Professor, School of Biosystems & Food Engineering, UCD along with Dr. Surabhi Joshi, Director of South Asia, UCD visited CSIR-CFTRI and its facilities on 14th February 2025 and interacted with Director and Scientists to discuss about HRD activities, students Exchange Programmes and collaborative research on Food process Engineering.

✧ Coca-Cola Research & Development at Atlanta, USA Delegation consisting of Dr. Prashanthi Jella, Vice-President, Flavour and Ingredient Research, R&D; Dr. Fernanda Martins, Senior Director, Functional Ingredients, R&D along with Dr. Rajendra Dobriyal, Senior Director - Scientific & Regulatory Affairs, Coca-Cola, India and South West Asia, Gurugao visited CSIR-CFTRI on 24th February 2025 and interacted with Scientists for further possible collaborative Research projects in the research areas related to traditional foods, Ayurveda, functional genomics and bioinformatics, pilot plant capabilities and also visited the facilities in the Institute.



- ✧ ASC Senior Officers who are participants of Training Programme Adv. Sup. Mgt. & Food Tech Course (ASMAFT-20) from ASC Centre & College, Bangalore visited the Institute and its facilities on 4th March 2025.
- ✧ Dr. Dinesh Arora, Alumnus of M.Sc. Food Technology (1974-76 Batch), Principal Engineer & Scientist, Bio Manufacturing, Renewables, Sustainability, League City, Texas, USA visited CSIR-CFTRI on 4th March 2025 and interacted with M.Sc Students and Researchers and shared the experiences and future trends in Food Technology.
- ✧ Dr. Srikanth, Dy. Director General, Central Council for Research in Ayurvedic Sciences (CCRAS), Ministry of Ayush, Govt. of India, New Delhi and his team along with Dr. Sulochana Bhat, In-charge, Central Ayurveda Research Institute, Bangalore and her Team visited CSIR-CFTRI on 18th March 2025 and interacted with Director and Scientists for collaboration project on Role of Millets in Diabetes and also visited the facilities in the Institute.



- ✧ The Tamil Chamber of Commerce (TCC) delegation of 12 members led by Mr. Chozha Naachiar Rajasekar, President of TCC, Chennai Visited CSIR-CFTRI and facilities on 24th March 2025 and interacted with Scientists in terms of Technologies, Entrepreneurship Development.
- ✧ ASC Senior Officers who are participants of Refreshers Course in Food Science & Technology from ASC Centre & College, Bangalore visited the Institute and its facilities on 27th March 2025.

CSIR-CFTRI Annual Recognitions 2023-24

Sl. No.	Name of the Recognition	Name of the Awardee
1.	Best Contribution for General Administration	Shri Ramesh S. Assistant Section Officer [G]
2.	Best Contribution for Finance	Shri Anil Kumar Finance and Accounts Officer
3.	Best Contribution for Stores & Purchase	Shri Lakshmi Nath Thakur Section Officer
4.	Best Research Paper Published by the Staff (Basic Science)	Geetha V., Chathur K.N., Smitha Ramkumar, Prakash M. Halami, Suresh Kumar G. <i>In vitro</i> fermentation of glycosaminoglycans from mackerel fish waste and its role in modulating the antioxidant status and gut microbiota of high fat diet-fed C57BL/6 mice, <i>Food & Function</i> , 2023, 14(15) , 7130-7145
5.	Best Research Paper Published by the Staff (Applied Science)	Bhavana B.K., Sandeep N. Mudliar, Sukumar Debnath. Life cycle assessment of fermentative xylitol production from wheat bran: A comparative evaluation of sulphuric acid and chemical-free wet air oxidation-based pretreatment, <i>J. Cleaner Production</i> , 2023, 423 , 138666
6.	Best Student Recognition for M.Sc. (Food Technology)	Ms. Sandra Rose Wilson
7.	Best Student Recognition for ISMT	Mr. Madhusudhan V
8.	Best Student Recognition for Research Fellows	Mr. Subhash V. Pawde SRF, Department of Flour Milling, Baking & Confectionery Technology
9.	Best Technology Transferred to Industry	Dr. Suresh D Sakhare, Dr. Aashitosh A Inamdar, Dr. Usha Dharmaraj, Shri Sudhir G Walde, Shri Rajeshwar S Matche, Shri Basavaraj Mundalamani, Shri Sathyendra Rao B.V. Technologies for development of millet and multi millet semolina and instant mixes
10.	Best Department for Contribution towards Technologies, ECF, Patents, Processes and any other Outstanding R&D Achievements	Department of Microbiology & Fermentation Technology
11.	Best Support Department	Department of Planning, Monitoring & Coordination
12.	Best Technical Support (Gr. II)	Shri Umesha B.A. Department of Grain Science & Technology Shri Hemaraju R Department of Engineering & Mechanical Maintenance
13.	Best Technical Support (D(NT))	Shri Subbaraya N Department of Food Protectants & Infestation Control
14.	Individual Scientific & Technical Contributions (Gr. IV from R&D Departments)	Dr. Suresh D. Sakhare Department of Flour Milling, Baking & Confectionery Technology
15.	Individual Scientific & Technical Contributions (Gr. III from R&D Departments)	Dr. Ashwath Kumar K Department of Flour Milling, Baking & Confectionery Technology

16.	Individual Scientific & Technical Contributions (Gr. IV Support Departments)	Shri Raghunandanan M.V. Department of Planning, Monitoring & Coordination
17.	Individual Scientific & Technical Contributions (Gr. III from Support Departments)	Shri Vatcharavelu K Department of Central Instruments Facility & Services Shri Narayanan K Department of Engineering & Mechanical Maintenance
18.	Individual Maximum ECF contribution as PIs / Co-PIs (2021-22, 2022-23 & 2023-24)	Dr. Vikas Singh Chauhan Department of Plant Cell Biotechnology

Upcoming Events

National Technology Day 2025 at CSIR-CFTRI on May 13th 2025.

Retirees

- ✧ Shri Mahendra Singh, CoA Retired on 31st January 2025.
- ✧ Shri N. Subbaraya, Group - C (NT) - Higher (MACP), FPIC Retired on 28th February 2025.
- ✧ Smt. Radha- Technician (2) General administration retired on 31st March 2025.

Ph.D.s Awarded



Krishna Prashanth M R (2025). [Guide: Dr. Mohan A Dhale, Principal Scientist, Department of Microbiology & Fermentation Technology] Cost effective production and characterization of bioactive pigment from marine bacteria, AcSIR.

Bhavya Kotnala (2025) [Guide: Dr. Arun Kumar V, Sr. Scientist, CSIR-NIIST and Co-supervisor Dr. Vijayaraj P, Principal Scientist, Department of Biochemistry] Nutritional status and disease management of Phenylketonuria using plant based phenylalanine free protein hydrolysate, AcSIR.



Tamilselvan T (2025). [Guide: Dr. Prabhasankar P, Chief Scientist, Department of Flour Milling, Baking and Confectionery Technology] Studies on development of gluten free bakery product using millets and its validation, AcSIR.

Steji Raphel (2025) [Guide: Dr. Prakash M Halami, Chief Scientist, Department of Microbiology & Fermentation Technology] Identification of the biosynthetic gene involved in the synthesis of the peptide antibiotic of *Bacillus licheniformis* MCC 2514 and its application as a probiotic, AcSIR.





Tanzeem Meher (2025). [Guide: Dr. Jayadeep A, Chief Scientist (Retd.), Department of Grain Science & Technology] Bioprocessing of red and black rice varieties for nutraceutical enrichment, and their quality characteristics, AcSIR.

Priya Mondal (2025) [Guide: Dr. Syed Musthapa M, Sr. Principal Scientist, Department of Biochemistry] Dietary Epigenetic Modulators as Adjuvant Therapy against Lung Cancer: Development of Healthy Gut Formulation for Lung-Gut Homeostasis, AcSIR.



Shree Raksha S (2025) [Guide: Dr. Sachin M Eligar, Principal Scientist, Department of Traditional Foods & Applied Nutrition] Preparation and characterization of quinoa bran protein concentrate, and evaluation of antiproliferative activity in hepatocellular carcinoma cells, AcSIR.

Sanjay K (2025) [Guide: Dr. Usharani D, Sr. Principal Scientist, Department of Food Safety & Analytical Quality Control Laboratory] Inhibitor Selectivity Towards Pancreatic Lipase and Fatty Acid Binding Proteins for Reducing Fat Digestion and Absorption, AcSIR.



Select Publications

- ✦ Mondal P., Ramasamy S., Amalraj R., Anthoniraj C.J., Gokila S., Meeran S.M. Physicochemical characteristics of dietary fiber polysaccharides extracted from *Murraya koenigii* leaves and their functional role on gut homeostasis, *Int. J. Biol. Macromol.*, 2025, 293, art. no. 139198. (IF: 7.7)
- ✦ Sree Nivetha B.B., Saravanan M., Thomas P.E., Vijayaraj P., Prabhasankar P. Development of chitosan based oleogel using emulsion template approach: Characterization and application as fat-replacer in cookies, *Int. J. Biol. Macromol.*, 2025, 292, art. no. 139130. (IF: 7.7)
- ✦ Duppeti H., Nakkarike Manjabhatta S., Kempaiah B.B. Flavor profile and role of macromolecules in the flavor generation of shrimp meat and valorization of shrimp by-products as a source of flavor compounds: a review, *Crit Rev Food Sci Nutr.*, 2025, 65 (1), pp. 123–142. (IF: 7.3)
- ✦ Biswas A., Borse B.B., Chaudhari S.R. Quantitative NMR analysis of sugars in natural sweeteners: Profiling in honey, jaggery, date syrup, and coconut sugar, *Food Res Int.*, 2025, 199, art. no. 115358. (IF: 7.0)

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