RAJALAKSHMI
ENGINEERING COLLEGE
An AUTONOMOUS Institution
Affiliated to ANNA UNIVERSITY, Chennai

Society of Food Technologists

DEPARTMENT OF FOOD TECHNOLOGY

Presents

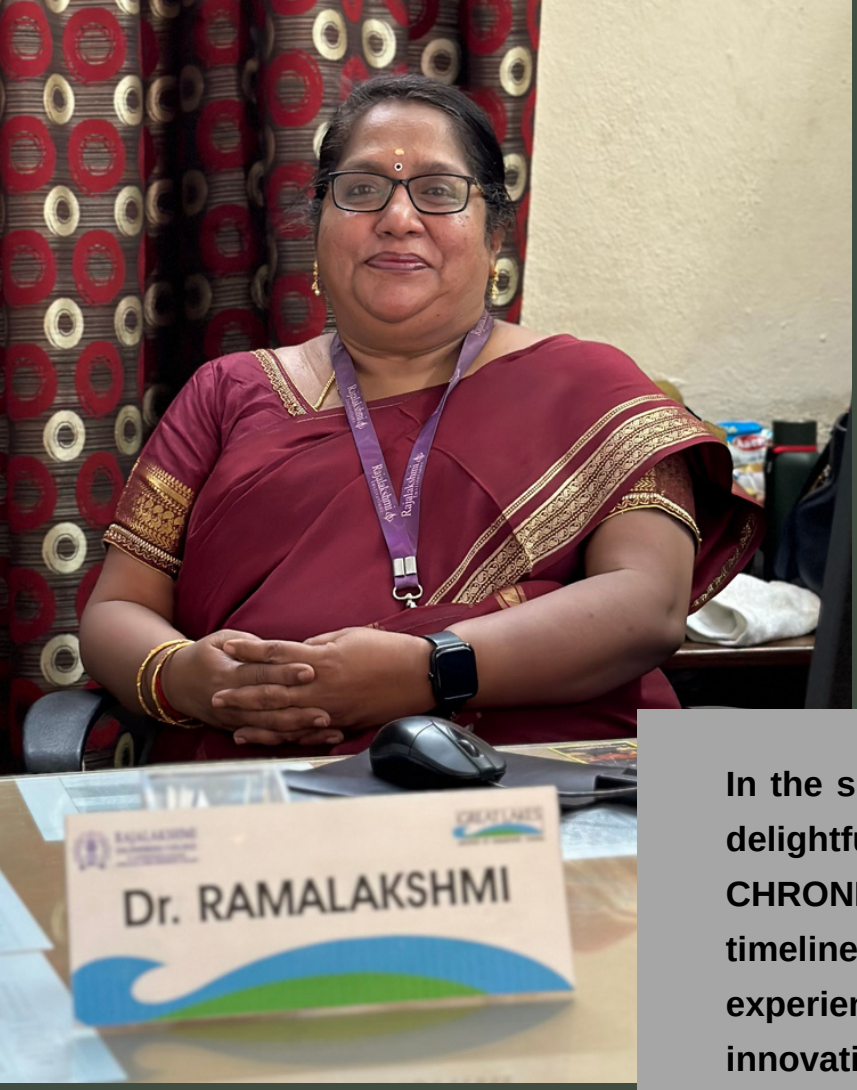
FOODICT CHRONICLES

FOODDICT CHRONICLES 2023

MODERN TECHNIQUES

Processing, Preservation & Automation

VOLUME II
ISSUE 1
(JUN'23 - NOV'23)



From the HOD's desk

In the spirit of continuous improvement, it is delightful to greet the readers of "FOODICT CHRONICLES" through this issue. Across the timeline, there are pages with entities of experiences evolving each season and innovative inhibitions in various sectors of engineering and technological advancements. Through the students' various experiences and innovative ideas, inculcating the spirit of individualism and intellectual approach has been a matter of utmost convenience. With advancements in the field of food technology, FOODICT CHRONICLES is here to enlighten your thoughts and throw spotlight on all the areas of food technology leaving behind eternal imprints of the technologists for a sustainable future. Special thanks to Society of Food Technologists for their tremendous effort in equipping this newsletter with ideas.

TABLE OF CONTENTS

VISION

- To be an Institution of excellence in Engineering, Technology and Management education & Research.
- To provide competent and ethical professionals with a concern for society.

MISSION

- To impart quality technical education imbibed with proficiency and humane values.
- To provide right ambience and opportunities for the students to develop into creative, talented and globally competent professionals.
- To promote research and development in Technology and Management for the benefit of the society.

VISION

- To develop food technologists with academic excellence focused on education, research and development with the technical knowledge on value addition, food nutrition, food quality and safety to cater the needs of industry as well as society.

MISSION

- To impart quality technical education in the different areas of Food Technology
- To provide a platform for overall development of the students, to be more creative, innovative and globally competent ethical professionals
- To promote research and develop technologies for the sustenance and wellbeing of the society.

PROGRAMME EDUCATIONAL OBJECTIVES

The Food Technology curriculum is designed to prepare graduates having knowledge with high ethical values and industrial preparedness.

- To understand and apply the concepts of basic sciences, Engineering and technology towards their application in the area of Food Technology.
- Identification and analysis to solve problems for the development of products, processes, techniques to meet the demands of the society.
- To apply the learnt theory and practical skills in Food Technology for industry, R&D and entrepreneurship.
- To learn professional and ethical attitude especially its impact on safety, health and environment.
- Build an environment that is conducive to higher academic pursuit and nurture creative and innovative thoughts.

PROGRAMME OUTCOMES (POs)

- **ENGINEERING KNOWLEDGE:**
  Apply knowledge of mathematics, basic science and engineering

- **PROBLEM ANALYSIS :**
  Identify, formulate and solve problems using Technology

- **DESIGN/ DEVELOPMENT OF SOLUTIONS:**
  Design a system or process for improvement of performance, satisfying the constraints

- **CONDUCT INVESTIGATIONS OF COMPLEX PROBLEMS:**
  Identify, formulate and solve problems using Technology

- **MODERN TOOL USAGE:**
  Apply various tools and techniques to improve the efficiency of the system

- **THE ENGINEER AND SOCIETY:**
  Conduct themselves to uphold the professional and social obligations

- **ENVIRONMENT AND SUSTAINABILITY:**
  Design the system with environment consciousness and sustainable development

- **ETHICS:**
  Interact with industry, business and society in a professional and ethical manner

- **INDIVIDUAL AND TEAM WORK:**
  Ability to work in a multidisciplinary team

- **COMMUNICATION :**
  Proficiency in oral and written communication

- **PROJECT MANAGEMENT AND FINANCE :**
  Implementation of cost effective and improved system

- **LIFE-LONG LEARNING :**
  Continue professional development and learning as a life-long activity.

MS. MANONMANI K
ASSISTANT PROFESSOR

Editor's Note

MS. ARUTHRA DEVI G
ASSISTANT PROFESSOR

Dear Readers,

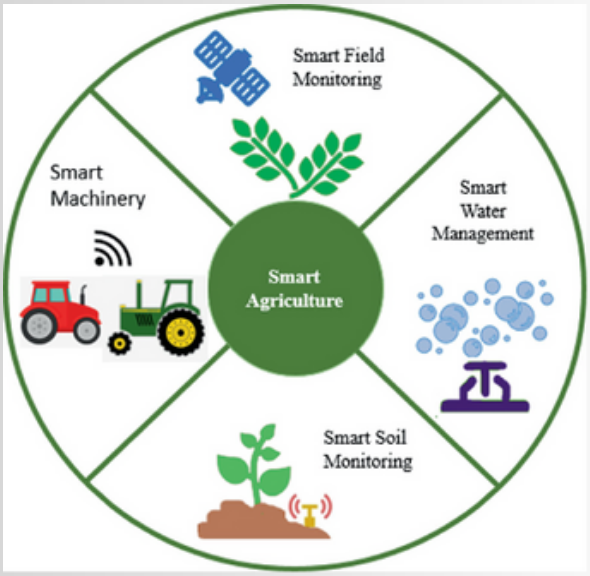
A feeling of Endless excitement engulfs us while addressing you all through "FOODICT CHRONICLES", on the fascinating world of food technology. This issue spotlights the theme "Modern Techniques". With the compassionate companionship of budding technologists, collective ideas, and innovations in the line-up, FOODICT CHRONICLES is here to converse with your cognitive brains and stimulate your impulses with insights into innovative ideas across the globe. This issue also spotlights the departmental activities and achievements. A special thanks to the Society of Food Technologists for their tremendous efforts in bringing life to the pages of this newsletter.

EMERGING TRENDS IN FOOD TECHNOLOGY

IMPLEMENTATION OF BLOCKCHAIN

AGRI-FOOD TRACEABILITY

The ideology behind "Necessity is the mother of invention" stands the test of time on a prophetic note and has been pathbreaking in various arenas with innovations and their existence. The implementation of blockchain technology in the agri-food supply is illustrated as follows.



BLOCKCHAIN IN AGRICULTURE

Instead of a massive overhaul, begin by identifying a specific pain point in your supply chain, like tracking high-value goods. Build a small test project (MVP or POC) to showcase the power of blockchain. Think of it as a transparent truth machine: everyone sees the same information, every step of the way, from raw materials to finished product. This builds trust and eliminates confusion. Start focused, scale strategically, and unlock a more efficient, secure supply chain. But remember, collaboration is key - involve key stakeholders throughout the process for a smooth journey!

SUSTAINABILITY OF THE BLOCKCHAIN

Initiating a blockchain project that involves numerous parties in the supply chain may incur a significant capital investment, especially for more powerful multinational corporations downstream in the supply chain.

Implementation of these networking innovations in the field of food technology helps in creating a sustainable society and an enlivened ecosystem.

BLOCKCHAIN AND THE TRACEABILITY GOAL

Depending on the specific goals, objectives, and circumstances, one of the three different approaches can be selected to support the traceability initiative.

The three forms are:

- Product Segregation: Certified materials and products are physically separated from non-certified materials and products at each step in the supply chain.
- Mass Balance: Certified and non-certified products may be mixed; however, the exact volumes of certified materials are tracked, ensuring that an equivalent volume of the product can be sold as certified.
- Book and Claim: A company can obtain sustainability certificates through a relevant standards body.

Every step towards sustainability will count immense in shaping a society of a new age looking forward in advancements that benefits mankind and eases the labor, ensures quality and leaving way ahead henceforth, creating a revolution in mankind.

DANIEL MANOJ KUMAR
4th YEAR
201301012

REFERENCE

https://www.fao.org/e-agriculture/news/blockchain-agriculture-10-possible-use-cases

HIGH PRESSURE PROCESSING

A MODERN APPROACH TO FOOD PRESERVATION

There are numerous food preservation techniques, including traditional methods like canning, pickling, drying, etc. In the quest for safer and more nutritious methods, High Pressure Processing (HPP) has emerged.

During HPP, foods are subjected to high pressures ranging between 100 – 800 MPa, comparable to the pressure found in deep oceans. This non-thermal method of food preservation does not diminish the quality of food. High-pressure processing works on a principle in which the high pressure disrupts the cell structure of microorganisms, preventing spoilage as they become inactive.

This technique preserves food's taste and nutritional content, preventing degradation of vitamins, minerals, and proteins in heat-sensitive foods like juices, meats, and seafood.

HPP is an effective method in reducing the risk of food contamination, thereby enhancing food safety. Harmful pathogens like E.coli, Salmonella, Listeria, and moulds are neutralized by this technique, ensuring the final product is safe enough for immediate consumption without further sterilization. This method can extend shelf life, eliminate chemical preservatives, exhibit better colour, texture, and flavour compared to other methods involving heat, minimize dependence on artificial additives, and can be applied across diverse fields in the food industry, ranging from dairy to meat industries.

While offering numerous health and taste benefits, this method requires a substantial investment in machinery, and proper packaging must be employed to withstand the pressures involved. While applicable to various fields, certain foods cannot be preserved using this technique due to variations in texture and colour.

PRADYUMNA SAGAR T
2nd YEAR
221301031

REFERENCE
https://www.food-safety.com/articles/1583-advances-in-food-safety-technology-including-high-pressure-processing-hpp-and-pasteurization

ROLE OF AUTOMATION IN FOOD INDUSTRY

Electronic and computer technologies allow food companies to fully automate production lines. They also control the flow of energy, materials and information, to the benefit of productivity and quality. Computerized production ensures access to important information, and improves performance, productivity and asset utilization, while reducing the risks and optimizing resource management.

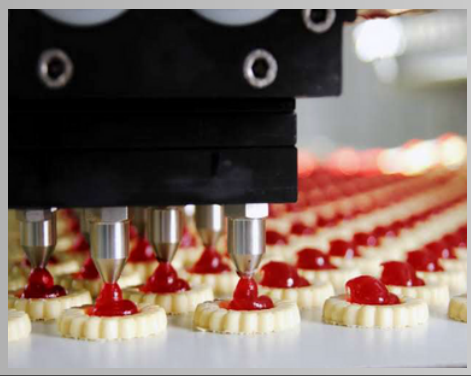
Integrating the Internet of Things (IoT) technology into food manufacturing processes, enabled real-time monitoring and data collection, leading to better decision-making and improved production processes.

DIGITISATION AT THE SERVICE OF FOOD COMPANIES

Automation allows for precise control over parameters such as temperature, humidity, cooking times, and ingredient proportions. Sensors and monitoring systems can be integrated into the production process to detect defects, inconsistencies, or deviations. Digital technologies can aid in monitoring and ensuring compliance with food safety regulations. Automated record-keeping and reporting simplify the process of audits and inspections.

TYPES OF AUTOMATED MACHINES USED IN FOOD INDUSTRY

- Vertical and horizontal form-fill-seal machines
- Tray sealers
- Cartoners
- Printing and labeling systems
- Thermal transfer printers

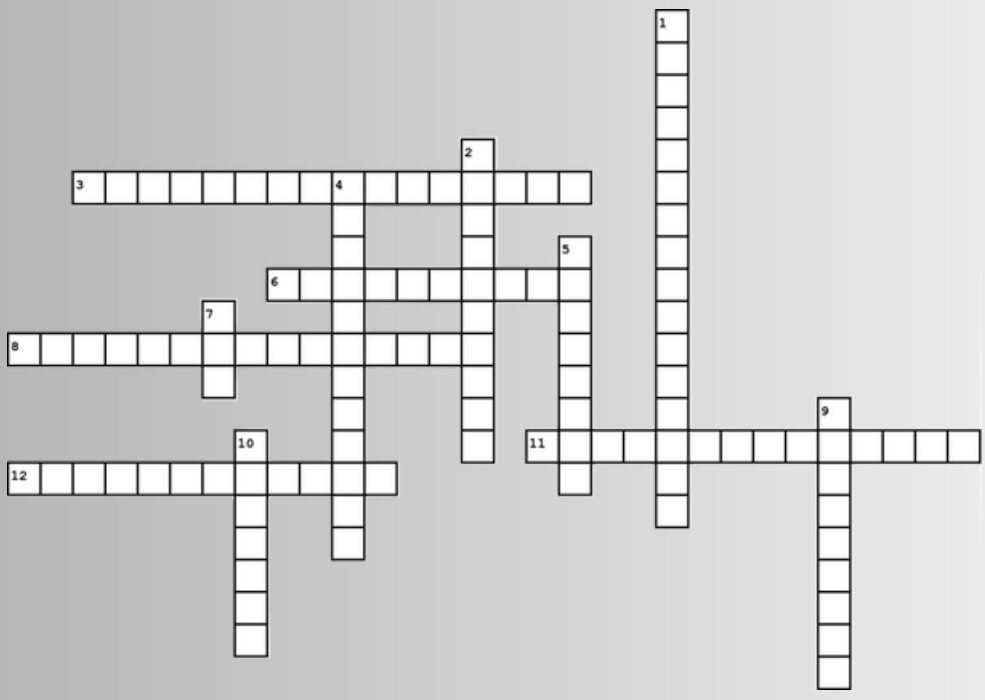


SAFREEN S
4th YEAR
201301045

REFERENCE
https://sp-automation.co.uk/costs-of-automating-in-the-food-industry/

CROSSWORD

HISTORICAL MILESTONES IN THE DEVELOPMENT OF FOOD TECHNOLOGY AND SCIENCE



ACROSS

3. Combining various bacteria-killing factors
6. Non thermal method produced by corona discharge
8. First commercially grown genetically engineered food
11. Germ-killing process named after the inventor
12. Beginning of electricity in food processing

DOWN

1. Quick-Frozen vegetables
2. First used in 1917 with echo-sounding technology
4. First portable refrigeration system
5. Used to preserve food, store jams and pickles
7. First HHP processed commercial food in 1990s
9. First microwave oven for home use
10. Major development by Nicholas Appert in 1810

MANEYSHA R V
3rd YEAR
211301028

DEPARTMENT ACTIVITES

STUDENT ACHIEVEMENTS

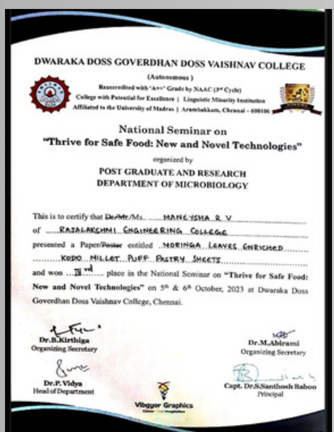
- **Jacinda Joann Jefferson** (201301024) from final year and **Gurupriya R** (211301011) from third year **secured 1st and 2nd prize respectively** in **Quiz Competition - National Nutrition Week Programme, 2023** organized by **World Health Services Association** under guidance of Dr.S.Niveadhitha, AP (SG), FT on **1st Sept 2023**.
- **Mohammed Aadil** (211301030) from third year **secured first prize** in **Essay writing Competition - National Nutrition Week Programme, 2023** organized by **World Health Services Association** under the guidance of Dr.S.Niveadhitha, AP (SG), FT on **4th Sept 2023.**
- **Maneysha R V** (211301028) and **Vakalapudi Sanjani** (211301049) from third year **secured first prize and second prize respectively** in **Treasure Hunt Competition - National Nutrition Week Programme, 2023** organized by **World Health Services Association** under the guidance of Dr.S.Niveadhitha, AP (SG), FT on **7th Sept 2023.**
- **Maneysha R V** (211301028) and **Vakalapudi Sanjani** (211301049) from third year won **3rd prize** for **paper presentation** at **DG Vaishnav College** on **5 - 6th Oct 2023.**
- **Shri Prathek Ganesh M, Keerthivasan B** from third year won prize in competition on **Millet in Everyday Snacks Competition** at **TN Dr. J. Jayalalitha Fisheries University, College of Fish Nutrition and Food Technology** on **18th Oct 2023.**
- **Rithiha J S** (201301044), **Safreen S** (201301045) and **Akshaya T V (201301005)** from final year **participated** in **poster presentation** on “Valorization of Pirandai in Millet based instant mix for preparation of instant millet food” in **National conference on Millet Processing, Value addition and Food Sustainability at SRM-IST** from **19 - 20th Oct 2023.**
- **Akshaya Lakshmi S N** (201301003) from final year won **Best E-Poster Presentation** on “*Pisonia Alba* Assisted Synthesis of Nano Silver for Dye Reduction in Waste Water” under the guidance of Dr. S. Niveadhitha, Assistant Professor (SG) at **6th International Virtual Conference on Food & Nutrition, Canada** from **25 - 26th Oct 2023.**
- **Ajeetha A** (201301005) from final year won **Best E-Poster Presentation** on “Development of Mineral Enriched Vegan Mayonnaise by Utilization of Lupin and Broad Bean” under the guidance of Dr. S. Niveadhitha, Assistant Professor (SG) at **6th International Virtual Conference on Food & Nutrition, Canada** from **25 - 26th Oct 2023.**
- **Jacinda Joann Jefferson** (201301024) from final year won **Best E poster presentation** on “Extraction of Bioactive Compounds from *Cassia fistula* and Incorporation in Diabetic-Friendly Dark Chocolate” under the guidance of Dr. S. Niveadhitha, Assistant Professor (SG) at **6th International Virtual Conference on Food & Nutrition, Canada** from **25 - 26th Oct 2023.**

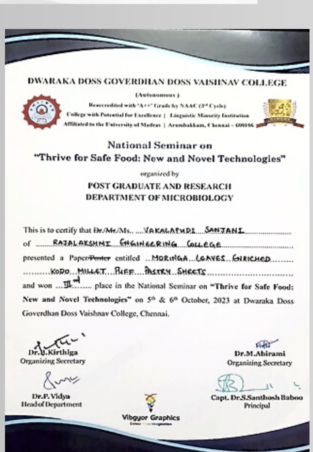
STUDENT ACHIEVEMENTS

- **Vijaya Abishaik Z V K, Sandhya J, Vanaa Bala, Shree Varshini** and **Yokesh J J** from third year won **2nd prize in Identification of Millets** and **3rd prize** in **Millet quiz** at Hands on Workshop: **Millets Based Bakery Products, Dept of Agricultural Engineering, Saveetha Engineering College, Chennai** from **27 - 28th Oct 2023.**
- **Nithya Sri S, Madhumitha C, Yokesh J J, Dhilip Kumar A, Shriram S, Lokesh V V, Keerthana S, Tanusri B, Sai Siddharth R, Tisha Tyagarajan, Krishna Kumar R, Daniel Manoj Kumar, Suriya Prasanth B** from third and final year secured prizes in **Zvatra 2k23** conducted on **8th Nov 2023.**
- **Jehowin Samson** (201301026) and **Vignesh Veerachinnaiah** (201301059) from final year got **placed** in **Zifo Recruitment Drive.**

Best E- Poster Presentation

S.NO	Name	Title of Paper	University/ Organization
1	Russell Sharma	Influence of socio demographic variables on awareness and preferences of microgreens	Banasthali Vidyapith, Jaipur
2	Bharti Shah	Dietary Calcium Intake Status by Socioeconomic Strata in Perimenopausal and Postmenopausal Women of Mumbai - A Population Based Study	S.N.D.T. Women's University Juhu Campus Mumbai
3	Karthika M	Nutritional Status of Pre School and School Going Children	Avinashilingam Institute for Home Science and Higher Education for Women ,Coimbatore
4	Dr. Priyanka Dhiman	Nutritional Evaluation of Fresh Green Chickpea Varieties	Private college
5	Suma H Budnimath	Evaluation of Functional Quality of Instant Drink Powder in a Rat Model	university of horticultural sciences
6	Akshaya Lakshmi S N	Pisonia Alba Assisted Synthesis of Nanosilver for Dye Reduction in Wastewater	Rajalakshmi Engineering College
7	Ajeetha A	Development of Mineral - Enriched Vegan Mayonnaise by Utilization	Rajalakshmi Engineering College
8	Jyoti Verma	Purple Perfection: Exploring the Delights of Anthocyanin-Rich Cake prepared from Vibrant Purple Wheat	Punjab Agricultural University
9	Jacinda Joann Jefferson	Extraction of Bioactive Compounds from Cassia Fistula and Incorporation in Diabetic-Friendly Dark Chocolate Incorporation in Diabetic-Friendly Dark Chocolate	Rajalakshmi Engineering College





ZVATRA 2K23 WINNERS LIST

EVENT	PLACE	TEAM ID	TEAM MEMBERS
Poster Presentation	First	FTP09	Nithya Sri S Madhumitha C Yokessh JJ
	Second	FTP06	Dhilip Kumar A Shriram S Lokesh V V
	Third	FTP17	Keerthana S Tanusri B Sai Siddarth R
Ideate	First	FTI11	Tisha Thyaagarajan Krishnakumar R Daniel Manoj Kumar
	Second	FTI06	Vimalraj S Sai Narayani SS
	Third	FTI10	Suriya Prasanth B
ADZAP	First	FTA10	Yallanki Sudheer

FACULTY DEVELOPMENT PROGRAM

- **Dr. V. Sudhakar**, Professor attended **three days FDP on "Idea Generation Method"** organized by **ICT Academy** at **Jayagovind Harigopal Agarwal Agarsen College, Chennai** from **6 - 8th July 2023.**

- **Ms. B. Sivani**, Assistant Professor, attended the **Faculty Upskilling Programme in Python Programming** conducted by the **Department of Computer Science and Engineering, REC** from **17 - 31st Aug 2023.**

- **Ms. Hemamalini,** Assistant Professor attended **two week FDP upskilling program on Mat Lab** from **7 - 21th Sept 2023.**

- **Ms. Krithika and Ms. Monica** attended **FDP on V-lab** organized by **Department of Electronics and Communication Engineering, REC in association with IIC** on **12th Sept 2023.**

- **Ms. Krithika**, Assistant Professor, attended **Pre workshop webinar** with Prof. Michael V. Testani, Senior Director of Industry Outreach, **Bhingamton University** on **20th Sept 2023.**

- **Dr. K. Ramalakshmi**, Professor & Head, FT and Mr. R. Anand, Research Associate (DST-FIST) organized **Hands on Training on Ultra High Performance Liquid Chromatography** from **22 - 25th Nov 2023.**

- **Dr. V. Sudhakar**, Professor, **Dr. P. Bharathi**, Assistant Professor, **Ms. Monica V**, Assistant Professor and **Ms. Krithica S**, Assistant Professor attended **Hands on Training in Ultra High Performance Liquid Chromatography** organized by **DST FIST** from **22 - 25 Nov 2023.**

SABBATICAL TRAINING

- **Dr. S. Niveadhitha**, Assistant Professor (SG) attended sabbatical training at **Sasaam Biological Lab Services, Chennai** during **5 - 9th June 2023.**

- **Ms. G. Aruthra Devi**, Assistant Professor attended sabbatical training at **Sasaam Biological Lab Services, Chennai** during **5 - 9th June 2023.**

- **Ms. A. Srimagal**, Assistant Professor attended sabbatical training at **Sasaam Biological Lab Services, Chennai** during **5 - 9th June 2023.**

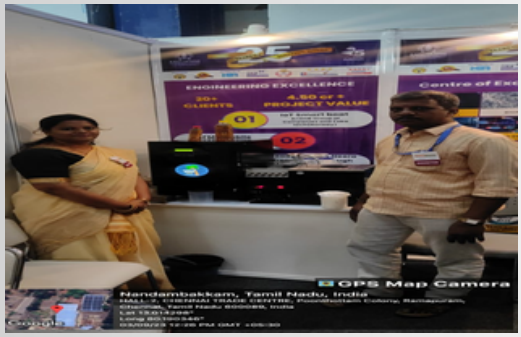
- **Dr. P. Bharathi**, Assistant Professor attended sabbatical training at **Sasaam Biological Lab Services, Chennai** during **19 - 23rd June 2023.**

- **Ms. B. Sivani**, Assistant Professor attended sabbatical training at **Sasaam Biological Lab Services, Chennai** during **19 - 23rd June 2023.**

- **Dr. V. Sudhakar** attended sabbatical training at **Ivory Gull Candy Pvt Ltd, Salem** from **26 - 28th June 2023.**

INDUSTRIAL VISIT

- **Ms. Manonmani,** Assistant Professor, FT along with **Mr. Mohan,** Assistant Professor, Chemistry and second year students (2022-2026) visited **Manna foods (Southern Health food Pvt ltd), Minjur** on **17th Oct 2023.**
- **Ms. Srimagal,** Assistant Professor with first year students (2023-2027) visited **Aavin Industries** on **23rd Nov 2023.**
- **Dr. K. Ramalakshmi,** Prof & Head, FT visited **MSME Development Institute Guindy, Chennai** for a Technical discussion with MSME Director on **7th July 2023.**
- **Dr. Ramalakshmi K,** Professor & Head, FT and **Dr. L. Priya,** Professor & Coordinator, IIIC visited **Dynamic Plastics and Assembly, Thirumudivakkam** for discussion regarding Consultancy assignment as per the advice of our principal on **14th Aug 2023.**
- **Ms. Srimagal**, Assistant Professor and **Mr. Balamurgan** visited **Chennai Trade Centre, Nandambakkam** and exhibited Neera Vending Machine in Defence Expo organized from **3 - 4th Sept 2023.**
- **Ms. B. Sivani,** Assistant Professor, FT and **Ms. P. Ramadevi,** Assistant Professor, Chemistry along with final year students, visited **M S Swaminathan Research Foundation, Tharamani, Chennai** on **26th Sept 2023.**



EVENTS

- The B**adging Ceremony for New SoFT (Society of Food Technologists) Members** for academic year 2023-2024 was organized with **Mr. Gururaj P N**, Assistant Professor, Hamelmalo Agriculture College, Keren, Northeast Africa, invited as a Guest for the event on **2nd Sept 2023.**
- SoFT conducted an awareness program named **Beyond Today- A Guide to GATE, GRE and IELTS** and **A Guide to Literature Review** on **14th Oct 2023**, hosted by final year students for second and third year students.
- **ZVATRA 2K23**, "A National Level Technical Symposium on Innovative Approaches in Value Addition of Millets for Sustainable Marketing" organized by Department of Food Technology was conducted on **8th Nov 2023.**

PARTICIPATION

- **Dr. K. Ramalakshmi**, Professor & Head, FT and **Dr. L. Priya**, Professor & Coordinator, IIIC participated in zoom meeting with Mr. Abraham, New York regarding consultancy work on Processing of Coconut Neera on **3rd Aug 2023**.

- **Dr.P. Bharathi**, Assistant Professor, presented a paper regarding “Production of Biodegradable Packaging Material from Food- A Step Towards Sustainable Environment” in **National Conference** held at **Karpaga Vinayaga College of Engineering and Technology** on **17 - 18th Aug 2023.**

- **Dr. S. Niveadhitha**, Assistant Professor (SG) was invited as **Judge for the Vigyan Mela (Vibhag Level-2023) Science Exhibition** at VIVEKANANDA VIDYALAYA SENIOR SECONDARY SCHOOL on **24th Aug 2023.**

- **Ms. Kirthika S.,** Assistant Professor along with final year students attended W**orkshop on Innovation and Design Thinking** for three days from **16 - 18th Oct 2023.**

- **Ms. G. Aruthra Devi,** Assistant Professor participated in **Hands-on Workshop** on “Millets Based Bakery Products” in National Level Symposium conducted at **Saveetha Engineering College, Chennai** on **27 - 28th Oct 2023.**

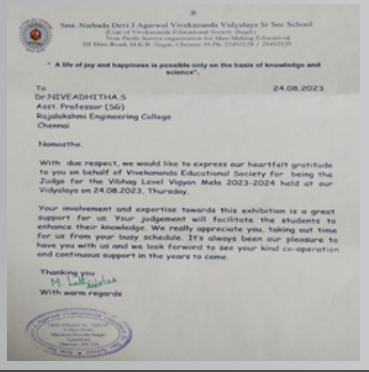
- **Dr.V.Sudhakar**, Professor, participated at Young Scientists 2023-Students Research Program organized at Kuwait Children’s Science Congress on **24th Nov 2023** in Junior Category at **New Indian School, Mangaf, Kuwait.**


SAVEETHA ENGINEERING COLLEGE

Department of Agricultural Engineering

CERTIFICATE OF PARTICIPATION

This is to certify that


Smt. Nirbala Devi J Agarwal Vivekananda Vidyalaya Sr Sec School

" A life of joy and happiness is possible only on the basis of knowledge and science".

24.08.2023

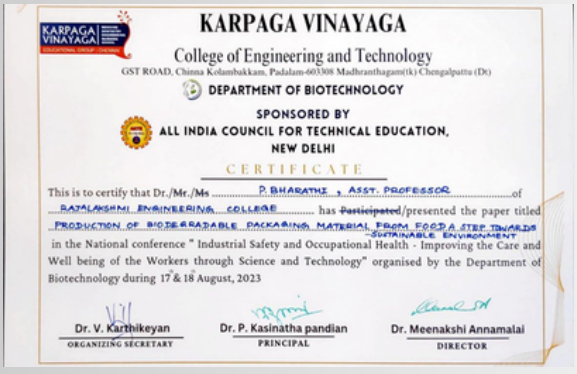
To
Dr.NIVEADHITHA.S
Asst. Professor (SG)
Rajalakshmi Engineering College
Chennai

Namastha.

With due respect, we would like to express our heartfelt gratitude to you on behalf of Vivekananda Educational Society for being the Judge for the Vibhag Level Vigyan Mela 2023-2024 held at our Vidyalaya on 24.08.2023, Thursday.

Your involvement and expertise towards this exhibition is a great support for us. Your judgement will facilitate the students to enhance their knowledge. We really appreciate you, taking out time for us from your busy schedule. It's always been our pleasure to have you with us and we look forward to see your kind co-operation and continuous support in the years to come.

Thanking you
With warm regards


KARPAGA VINAYAGA

College of Engineering and Technology

GST ROAD, Chinna Kolambakkam, Padalam-603308 Madhranthagam(tk) Chengalpattu (Dt)

DEPARTMENT OF BIOTECHNOLOGY

SPONSORED BY

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION, NEW DELHI

CERTIFICATE

This is to certify that Dr./Mr./Ms P. BHARATHI, ASST. PROFESSOR of RAJALAKSHMI ENGINEERING COLLEGE has ~~Participated~~/presented the paper titled PRODUCTION OF BIODEGRADABLE PACKAGING MATERIAL FROM FOOD A STEP TOWARDS SUSTAINABLE ENVIRONMENT in the National conference " Industrial Safety and Occupational Health - Improving the Care and Well being of the Workers through Science and Technology" organised by the Department of Biotechnology during 17 & 18 August, 2023

Dr. V. Karthikeyan — ORGANIZING SECRETARY
Dr. P. Kasinatha pandian — PRINCIPAL
Dr. Meenakshi Annamalai — DIRECTOR

FACULTY PUBLICATIONS

- **Ms. G. Aruthra Devi**, Assistant Professor **filed a patent** on “Smart Refrigerator System with Enhanced Energy Efficiency and Food Management Capabilities” on **27th June 2023.**

- **Ms. S. Hemamalini,** Assistant Professor’s project was approved in MSME Idea Hackathon 2.0 on **28th June 2023**.

- **Ms. Aruthra Devi G**, Assistant Professor **published a research article** “Enhancing the Production Rate of Desalination Still and Analyzing the Natural Optimization Parameters for Productivity Of Conventional Solar Still” in Eur. Chem Bull (ECB) on **7th July 2023**. DOI: 10.31838/ecb/2023.12.s3.614

- **Dr. K. Ramalakshmi K.,** Prof & Head, FT **published a research article** “Phytochemical studies and mass transfer phenomenon of raw soursup fruit at different drying temperatures and kinetics evaluation by ANN and mathematical modelling” in Biomass Conversion and Biorefinery on **18th July 2023**. DOI: 10.1007/s13399-023-04556-4

- **Dr. P. Bharathi**, Assistant Professor secured patent grant regarding “Pill promoter and Smart dispenser with Design No. 6299071” on **3rd Aug 2023** in UK Intellectual property office.

- **Dr. P. Bharathi**, Assistant Professor **published a book chapter** “Nano catalyst Mediated Biodiesel Production from Waste Lipid as Feedstock: A Review” in Intech Open on **8th Feb 2023**. DOI: 10.5772/intechopen.109481

- **Dr. P. Bharathi**, Assistant Professor and **Ms. B. Sivani**, Assistant Professor **published a paper** on “Valorization of food waste into biofertilizer and enhancement of anaerobic digestion process using Nano Catalyst” in Biomass Conversion and Biorefinery Journal.

- **Dr. P. Bharathi**, Assistant Professor **published the book** “Research Advances in Nano Technology” in Shanlax Publications on **24th Nov 2023**.

MEET THE CREW

HRITHICKROSHAN A.G
DESIGN HEAD

MONISHA KUMARASWAMY
DESIGN TEAM

ARUNA ASHOK
DESIGN TEAM

VAKALAPUDI SANJANI
DESIGN TEAM

DHIVYADHARSHINI R
EDITORIAL HEAD

JACINDA JOANN JEFFERSON
EDITORIAL TEAM

MADHUMITHA P
EDITORIAL TEAM

MEENAKSHI JAIN
EDITORIAL TEAM

YOKESH J J
EDITORIAL TEAM