

21 March 2024



Session n°12:

Business opportunities in processing for Caribbean entrepreneurs



Caribbean Agrifood Business Series ...



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UWI
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CAMPUS

Food Science and Technology Department of Chemical Engineering, UWI, St. Augustine, Trinidad

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Programme Coordinator

Food Science and Technology

Thursday March 21st 2024



POSTGRADUATE PROGRAMMES IN FOOD SCIENCE AND TECHNOLOGY



**Accredited
2021-2026**

MSc., MPhil and PhD in Food Science & Technology
MSc: Part-Time (3 years) and Full-Time (2 years) options
MPhil Full-Time: Min of 2 years; Max of 3 years
PhD Full-Time: Min of 3 years; Max 5 years



POSTGRADUATE PROGRAMMES IN FOOD SCIENCE AND TECHNOLOG

- Aims and Objectives

The unit aims to provide for local, regional and international students, high quality and professional education at the graduate level through its teaching, research and engagement with society.

Our Mission is to produce competent, highly motivated, civic-minded, entrepreneurial graduates and to conduct relevant and innovative research and development for the advancement of the Caribbean region and the wider world.

Our programme in Food Science and Technology comprises highly qualified staff and equipped with laboratory facilities providing students with not only theoretical knowledge but hands-on experience in food processing and analysis.



CURRICULUM/COURSES OFFERED

UWI

1. FOST 6000-Fundamentals of Food Process Engineering (4 credits)
2. FOST 6001-Sanitation in Food Processing (3 credits)
3. FOST 6002-Food Packaging (2 credits)
4. FOST 6003-Food Chemistry (3 credits)
5. FOST 6004-Food Processing Laboratories (3 credits)
6. FOST 6005-Food Microbiology (4 credits)
7. FOST 6006-Food Quality Assurance (4 credits)
8. FOST 6007-Processing of Meat and Poultry (3 credits)
9. FOST 6008-Preservation & Processing of Fruits & Vegetables (3 credits)
10. MENG6508-Research Methods (3 credits)
11. FOST6020-Research Project (9 credits)

Total Credits: 41

- **Primary food production**
- **Food composition**
- **Food chemistry**
- **Food engineering, hygienic design**
- **Food processing**
- **Food biochemistry**
- **Food microbiology**
 - **Food safety**
 - **Science of food commodities**
- **Food preservation**
- **Food biotechnology**



UWI

VOICE OF OUR REGIONAL STUDENTS

➤ Strengths

“This programme has allowed me access to valuable information that would otherwise be difficult to access”

“It has afforded me several opportunities to gain hands-on experience”

“The FST programme has sparked a desire in me to conduct research and learn more about areas that are under studied”

➤ Weaknesses

“Due to the fact so much valuable information is shared, the workload can feel heavy”

➤ Opportunities

“This programme has afforded me the chance to work with industry equipment”

“I have also been able to meet individuals with extensive experience in several fields and learn from them”

➤ “It is much inspiration. This is also a wake up call to the level of work for me to do and what can be done. This is amazing 🤩”.

SHORT COURSES AND WEBINARS OFFERED

- ***“Sensory Evaluation in Food Product Analysis, Parts a, b, c, and d (Guyana)”***.
- ***“Creating an Enabling Environment for the Improvement of Food Packaging in CARICOM”***.
- ***“Plastics in the Environment and Beyond: A CARICOM Perspective”***.
- ***“Souvenir Food Packaging for the Tourism and Diaspora Markets”***.
- ***“Good Packaging Practice for MSMEs that supply food in local and export markets”***.
- ***“Good Packaging Practice in Fresh Produce Supply Chains for the CARICOM Region”***.
- ***“Basic Principles of Food Packaging”***.
- ***“Food Security Measurements and Indicators”***.
- ***“Basics of Kombucha Brewing”***.
- ***“Basic Food Microbiology for Guyana Manufacturing and Services Association”***.
- ***“The Practical Art of Wine Making”***.

Intern from France

- ✓ The FSTU hosted an international intern Mr. Allan Jabea from April- June 2022.
- ✓ His research was on Minimally Processed Pineapples.
- ✓ He conducted experiments on pineapple fruits treated with different natural preservative systems and evaluated the physicochemical, sensory and microbial parameters of these fruits under different preservative treatments.

Our Laboratories: Food Science & Technology Unit

Analytical and practical skills are developed through laboratory sessions facilitated by trained staff. We have laboratories for:

- Developing new food products
- Designing new processing and packaging technologies
- Improving food quality and nutritional value
- Enhancing food safety
- Food preference and sensory studies

<https://sta.uwi.edu/eng/chemical/foodsci-tech>



M.Sc. Food Science and technology
internationally accredited by the IFST

Our Research: Food Science & Technology Unit

Our research projects are exciting and wide ranging with the option to collaborate with Industry:

- Postharvest Technologies
- Food Sustainability and Sustainable Packaging
- Food Product Development
- Food Preservation, Processing and Packaging
- Food Microbiology, Sanitation & Quality Assurance
- Nutrition, Health and Wellness
- Drying Technologies
- Good Agricultural Practices to facilitate Agro processing
- Good Manufacturing Practices and HACCP
- Food Regulations and Compliance
- Culinary Development and Innovation for the Food Service Industry
- Techno-economic Studies for the Food & Beverage Industry

Our Research: Food Science & Technology Unit

JOHN, C. & **MAHARAJ, R.** (2024). Effect of West Indian Bay Leaf (*Pimenta racemosa*) and Turmeric (*Curcuma longa*) Essential Oils in Preserving Raw Chicken Breasts. ***Food Technology & Biotechnology (FTB)*, 62(2):.**

<https://doi.org/10.17113/ftb.62.02.24.8155>

MAHARAJ, R; MATHURA, F. & ALLI, I. (2024). Pesticide, trace metal and microbiological analyses of open field and greenhouse-harvested crops from Trinidad before and after processing. ***Agricultural and Biological Research (AGBIR)*, 40(2):675-681.**

DUCHAUSSEE, T. & **MAHARAJ, R.** 2024. Hygienic Practices of Snow Cone Vendors and Snow Cone Quality Evaluation in Trinidad and Tobago. ***West Indian Journal of Engineering (WIJE)*, 46(2):1-11.**

JACKSON, K; **MAHARAJ, R** & DOOKERAN, M. (2023). Production and Characterisation of a Novel Dasheen (*Colocasia esculenta*) Alcoholic Fermented Beverage. ***The West Indian Journal of Engineering*, 45(2): 25-34.**

<http://sta.uwi.edu/eng/wije/>.

MAHARAJ, R. MATHURA, F. & DARSOO, S. (2022). Strategies for development of agro-processing for micro, small and medium enterprises (MSMEs) in Caribbean countries of Belize and Trinidad. ***International Journal of Food Research*, 9 (1): 1-18.** <https://doi.org/10.33500/ijfr.2022.09.001>

COOPER, T. & **MAHARAJ, R.** (2022). The Production and Characterisation of Jamun (*Syzygium Cumini*) Fermented Beverage. Abstract ID: NMT033. *International Conference on Novel Materials and Technologies for Energy and Environment Applications*. February 18-19th 2022, BITS Pilani-Hyderabad Campus, India.

Maharaj, R. (2021). Food Security Measurements and Indicators. In: Proceedings of the Panel Session, Day 2 Masterclass; 5th Growth and Resilience Dialogue (Virtual) OECS/WORLD BANK, April 14-15th, 2021. St. Lucia.

<https://user-fc5crhc.cld.bz/Food-Security-Measurements-and-Indicators/27/>; <https://www.eccb-centralbank.org/p/presentations-1>

Our Research: Food Science & Technology Unit

Student: Che John (PhD Food Science and Technology)

Topic: Utilization of Alternative Pectin Sources for the Development and Characterisation of Bioactive Edible Films and Coatings

Research Aims: To extract and characterize the pectin from locally underutilized fruits in Trinidad & Tobago and to use these extracted pectins to develop novel bioactive edible films to prolong the shelf life of fresh produce and consequently reduce postharvest losses.

Our Research: Food Science & Technology Unit

Student: Sophia DeAspa (PhD Food Science and Technology)

Topic: Use of Green Synthesized Nanoparticles utilizing fruit extracts of Cerise and Pommerac in improving shelf life and fruit quality of *Capsicum Spp.*

Research Aims: The nanoparticles obtained will be tested to ascertain their ability to increase shelf life through effectively reducing microbial contaminant levels while helping to retain physical and nutritional quality in fresh produce. This study will also aim to determine their potential use in reducing chemical dependency and improving fruit quality in *Capsicum spp.*



Thank-You & Contact us

- **Location:** Block 13, 2nd Floor, Chemical Engineering Office
- **Phone:** 868-662-2002 Ext. 82190
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Thank you



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