

# A Recap of FoodTechno-2023



The 7<sup>th</sup> Annual Research Session - FoodTechno 2023, organized by the Institute of Food Science and Technology Sri Lanka (IFSTSL), unfolded on the 5<sup>th</sup> of August 2023, at the Mihilaka Medura, BMICH, Colombo.

## In Tandem with ProFood / ProPack Exhibition

FoodTechno 2023 was held in parallel with the ProFood/ ProPack Exhibition, and the coexistence of these events showcased the bridge between academia and the industry, igniting innovative conversations and forging invaluable connections.

## "Future Foods: Innovations and Trends" - The Guiding Theme

With "Future Foods: Innovations and Trends" as the theme, FoodTechno 2023 was not just a conference; it was a glimpse into the future of sustenance. The event welcomed distinguished guests, attendees, and presenters from diverse backgrounds.

## Eminent Dignitaries at the Helm

We were privileged to have Mrs. Thilaka Jayasundara, Secretary of the Ministry of Industries, Sri Lanka, as our Chief Guest. Her presence underscored the importance of scientific research in the context of the nation's industries.

Dr. Harsha Subasinghe, President and Chief Executive Officer of the CodeGen Group of Companies, took the stage as the keynote speaker. His insights into the intersection of technology and food were truly enlightening.

## A Feast of Knowledge: Technical Sessions

The conference was comprised of two technical sessions, impeccably chaired by Senior Prof. KKDS Ranaweera from the University of Sri Jayewardenepura and Prof. Ananda Chandrasekara from the Wayamba University of Sri Lanka. These sessions unveiled 11 research papers, each offering a unique perspective in the field of Food Science and Technology. The zenith of FoodTechno 2023 was marked by the announcement of the Best Research Presenter Award, a well-deserved accolade bestowed upon Mr. D.V.S. Abeyasinghe for his research on the "Functional Properties of Oleoresins and Essential Oil Composition of Leaves of Allspice."

## A Platform for Collaboration and Progress

In closing, FoodTechno 2023 created a platform where researchers could present their findings to the food industry, igniting collaboration and progress. Attendees encompassed members from the food industry, academia, researchers and undergraduates.





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## Exploring the Future of Food Science

### Highlights from the Industrial Seminar



The food industry, a dynamic and ever-evolving field, relies on continuous innovation and collaboration to stay ahead. On August 4<sup>th</sup>, 2023, the Institute of Food Science and Technology Sri Lanka (IFSTSL), in collaboration with the Lanka Exhibition & Conference Services (LECS), hosted an enlightening industrial seminar during the Profood/Propack Exhibition 2023. The event took place at the Mihilaka Medura, BMICH, and featured an exciting lineup of industry experts together with university academics who shared their insights and knowledge with attendees.

Mr. Mario De Alwis, Managing Director Ma's Tropical Food Processing (Pvt) Ltd; delved into the challenging role of stakeholders in a resilient economy. Prof. Anoma Chandrasekera, Professor in Food Science and Nutrition, Wayamba University of Sri Lanka, highlighted the importance of meeting nutritional challenges in food industry. Senior Professor and chair K.K.D.S. Ranaweera University of Sri Jayawardenepura shared his valuable insights on exploring sustainable food technology practices. Mr. Kushan Amarasinghe the chief Executive Officer Finagle Lanka focused his presentation on Green production as a way forward. Mr. Dammika Gunasekera, Managing Director, Tropical Life (Pvt) Ltd, played a role as the moderator for the industrial seminar.

### Free Seminar for University Undergraduates

**"Discover the future of Food Science and Unleash Your Potential"**

The Institute of Food Science and Technology Sri Lanka (IFSTSL) organized an insightful half-day seminar on 4<sup>th</sup> August 2023 at Mihilaka Medura, BMICH with the theme "Discover the Future of Food Science and Unleash Your Potential." Undergraduates representing prestigious universities; University of Peradeniya, University of Sri Jayawardenepura, University of Ruhuna, Rajarata University of Sri Lanka, Sabaragamuwa University of Sri Lanka and Wayamba University of Sri Lanka participated to gain valuable insights into career opportunities and prospects in Food Science and Technology. Mr. Chamila Senerathne, General Manager HR at CBL Group shared his knowledge and experiences from University to Corporate. Mr. Chalindra Pathirana, Head of Regulatory & Scientific Affairs at Nestle Lanka PLC presented Beyond the Degree – Conquering the Early Career Hurdles and Mr. Janaka Weerasooriya Group Food Safety Manager at Jiffy Products explored the Industry's Technical Expectations of Fresh Food Science and Technology Graduates. This opportunity paved the way to expand their horizons, connect with like-minded peers, and set themselves on a path to success in the dynamic field of Food Science.



### Becoming a Member of IFSTSL

IFSTSL membership is open to all those who are engaged in the food industry. The following membership categories are available for individual applicants and corporate bodies: Fellow members, Associate members, Student members, Corporate members, Associate corporate members, Interim members.

Duly completed applications should be submitted to the IFSTSL office with hard copies of required documents to the Institute of Food Science and Technology Sri Lanka (IFSTSL), No.21D, Vijaya Kumaratunga Mw (Polhengoda Gardens), Colombo-05, Sri Lanka. Postal submissions should be done only through registered post

A cheque should be drawn in favour of "Institute of Food Science & Technology Sri Lanka", and cross A/P only or deposit money into the following bank account and send the bank paying slip through registered post with the membership application form.

**Bank:** National Development Bank (NDB), Havelock Town (Jawatta)

**Account Number:** 101-000151786

**For any clarification, please contact:**

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For additional information about IFSTSL, please visit [www.ifstsl.org](http://www.ifstsl.org)



Moringa is a fast-growing, drought-resistant tree, commonly known as ‘drumstick tree’, ‘horseradish tree’ or ‘miracle tree,’ belonging to the family Moringaceae and genus Moringa. It is called ‘murunga’ in Sinhala. Moringa oleifera is the most widely cultivated species that is native to India and grows in the tropical and subtropical regions of the world, including Pakistan, Bangladesh, Sri Lanka, Afghanistan, Africa, Southeast Asia, the Caribbean Islands and South America.

All parts of the moringa tree can be used in numerous applications, including nutritional and medicinal purposes. The uses of the tree include alley cropping (biomass production), animal forage (leaves and treated seed cake), biogas (from leaves), a domestic cleaning agent (crushed leaves), blue dye (wood), fencing (living trees), fertilizer (seed cake), foliar nutrient (juice expressed from the leaves), green manure (from leaves), gum (from tree trunks), honey- and sugar cane juice-clarifier (powdered seeds), honey (flower nectar), medicine (all plant parts), ornamental plantings, bio-pesticide (soil incorporation of leaves to prevent seedling damping off), pulp (wood), rope (bark), tannin for tanning hides (bark and gum) and water purification (powdered seeds). M. oleifera is often referred to as a panacea and is known to be used to cure more than 300 diseases. Moringa has long been used in herbal medicine by Asians and Africans. Studies have shown the anti-diabetic and anti-cancer properties of the moringa.

Concerning its nutritional perspective, almost all parts of moringa can be used as a source of nutrition. The leaves of the plant have been reported to as a rich source of many nutrients, including protein, dietary fibre, vitamin C, vitamin B (i.e., riboflavin, thiamin, niacin, pyridoxine), vitamin E and minerals (Table 2). Alanine and tyrosine are the most abundant amino acids in moringa leaves. Dried moringa leaves contain nearly 20-30% protein, which fulfills nearly 44% of the daily protein requirement per 100 g serving size and 32% of dietary fibre, which accounts for 114% of the daily value. Moringa seeds contain 38% fat and 36% proteins and are also rich in magnesium and vitamin E.

**Table 1: Nutritive properties of different parts of the moringa tree**

Part of tree	Nutritive properties
Leaves	Fiber, fat, proteins, minerals (i.e., Ca, Mg, P, K, Cu, Fe, and S), vitamins (i.e., vitamin A/beta-carotene), vitamin B (i.e., riboflavin, thiamin, niacin, ascorbic acid), amino acids (i.e., Arg, Lys, Phe, Thr, Leu, Val and Tyr)
Seeds	Fatty acids (i.e., oleic acid, linoleic acid, linolenic acid and behenic acid), phytochemicals, fiber, proteins, minerals, vitamins (i.e., vitamin A, vitamin B, vitamin C), amino acids
Root Bark	Alkaloids (i.e., morphine, moriginine) and minerals (i.e., Ca, Mg and Na)
Flower	Minerals (i.e., Ca, K), amino acids, nectar
Pods	Fiber, lipids, non-structural carbohydrates, protein, fatty acids (i.e., oleic acid, linoleic acid, palmitic acid and linolenic acid), minerals

**Table 2: Amino acids composition of dried Moringa oleifera leaves**

Amino Acid	Quantity (%)
Arginine	1.78
Glutamic acid	2.53
Threonine*	1.357
Alanine	3.033
Tyrosine*	2.650
Valine*	1.413
Phenylalanine*	1.64
Leucine*	1.96
Histidine*	0.716
Lysine*	1.637

\*General essential amino acids

Moringa leaves are rich in potassium, calcium, iron, magnesium and copper, and 100 g of dried moringa leaves provide 28%, 128%, 124%, 62% and 39% of their daily values, respectively. Calcium supports bone and teeth health, regulates blood pressure, and facilitates muscle and nerve function. Iron is important for the formation of hemoglobin and also for improving immunity. Magnesium helps to maintain muscle and nerve function, boost immunity, regulate blood glucose levels and help in the production of energy. Copper plays a major role in enzymatic functions and also in the development of connective tissue and nerve coverings. Potassium helps many body functions, including maintaining fluid balance, assisting nerve function, regulating the activity of heart muscles, nervous system and kidney, improving bone health and growth of muscle tissue.

**Table 3: Nutrition values of dried moringa leaf powder**

Nutrition Parameter	Value	Unit	% Daily Value
Carbohydrates	45.1	g/100g	16.4
Proteins	22.3	g/100g	44.60
Total fat	2.1	g/100g	2.7
Total dietary fibers	32.15	g/100g	114.82
Potassium (as K)	1336	mg/100g	28.42
Calcium (as Ca)	1659	mg/100g	127.61
Iron (as Fe)	22.35	mg/100g	124.16
Magnesium (as Mg)	261	mg/100g	62.14
Copper (as Cu)	3.5	mg/kg	38.88
Vitamin C	142	mg/100g	157.77
Vitamin B1 (Thiamine)	0.4	mg/100g	33.33
Vitamin B2 (riboflavin)	1.5	mg/100g	115.38
Vitamin B3 (Niacin)	30.6	mg/100g	191.25
Vitamin B6 (pyridoxine)	0.3	mg/100g	17.64
Vitamin E	164.5	mg/100g	1096.66

Dried moringa leaves contain 142mg/100g of vitamin C, which is accountable for 1.5 times of daily vitamin C requirement. Vitamin C is essential for the growth, development and repair of all body tissues. It is involved in many body functions, including the formation of collagen, absorption of iron, the proper functioning of the immune system, wound healing, and the maintenance of cartilage, bones, and teeth. Also, vitamin C is an antioxidant that can protect against damage caused by free radicals and toxic chemicals.

Dried moringa leaves contain 2-4% of total fat and when consider its fatty acid composition, it is rich with both saturated fatty acids and polyunsaturated fatty acids, of which omega-6 fatty acids (8%) and omega-3 fatty acids (45%).  $\alpha$ -Linolenic, heneicosanoic and palmitic acid are accounts for 70% of the total fatty acid profile.

**Table 4: Fatty acid composition of dried Moringa oleifera leaves**

Fatty acid	Value (% of fatty acids in fat)
Myristic acid	3.66
Palmitic acid	11.79
Oleic acid	3.96
Linoleic acid	7.44
$\alpha$ -Linolenic acid	44.57
Heneicosanoic acid	14.41

By:

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**Ananda Pathirage**

CEO/ Director - HJS Condiments Limited, Biyagama.

## IFSTSL Inter-University Food Science Quiz 2023

The IFSTSL Inter-University Food Science Quiz 2023 was held on the 6<sup>th</sup> of August at the Mihilaka Medura, BMICH during the Pro Food Pro Pack Ag-Biz Exhibition. The quiz was held as two written tests, Part 1 to select the University Winners and Part 2 to identify individual best performance in food safety. The University of Peradeniya won the award for the best university, and they received the IFSTSL trophy, certificates and a cash award. University of Sri Jayewardenepura team became the 1st Runners Up and received 1st Runners Up certificates. Sabaragamuwa University, Wayamba University, Rajarata University and the University of Ruhuna received the next positions, in the order given.

Ms. Chathuri Hettiarachchi of Wayamba University won first place in Individual performance on Food Safety. She won the winner's certificate and a gift pack. Second place in this competition was shared by five individuals. They were K.Y. Samanmali and E.M.U.D.M. Ekanayake from Sabaragamuwa University, D.W.W.M.R.D.A Dela and K.H.R. Katugampala of University of Sri Jayewardenepura and P.K. Nagasinghe of University of Peradeniya.

The quiz was organized by the IFSTSL with the leadership of Prof Niranjala Perera, President IFSTSL, supported by IFSTSL staff. Dr. Sujeewa Gunaratne acted as the Quiz Master. Ms. Anjalee Omalka compered the event. IFSTSL is most thankful to Emeritus Prof. Upali Samarajeewa for his immense contribution and kind guidance in making the quiz successful. IFSTSL wishes to thank the sponsors of gifts Nestle Lanka, Silvermills (Pvt) Ltd, CBL Foods, MAS Kitchen and Anods Cocoa (Pvt) Ltd. IFSTSL offers sincere thanks to the Sri Lanka Food Processors Association for providing the venue for the quiz and their untiring support to hold the quiz. Thanks are due to Lanka Exhibition and Convention Centre too.





## Achievements

Elsevier, the world's leading scientific publisher released the latest "Updated Science-Wide Author Databases of Standardized Citation Indicators" in October 2023 based on the comprehensive analysis conducted by a team of experts from Stanford University in the USA. The analysis has been carried out under two categories and presented as separate datasets for career-long and recent-year impact metrics, classifying scientists into 22 scientific fields and 174 sub-fields, as per the standard Science-Metrix classification. The career-long data have been updated to include information up to the end of year 2022, and the recent-year data covered citations received during the calendar year 2022. The selection has been based on the top 100,000 scientists by c-score (with and without self-citations) or a percentile rank of 2% or above in their respective sub-fields. Accordingly, fifty (50) Sri Lankan scientists have been identified in the world's top 2% research scientists list under the above two categories. The IFSTSL is happy to announce that the following three council members of the institute have been identified in the above list for the fourth consecutive year.



**Prof. Anoma Chandrasekara** from the Department of Applied Nutrition, Faculty of Livestock, Fisheries & Nutrition, Wayamba University of Sri Lanka. According to single year impact for the year 2022, she has been ranked 1st among the Sri Lanka scientists in the list under the subfield of Food Science and 2nd under the subfield of Nutrition and Dietetics.



**Prof. Eresha Mendis and Prof. Niranjan Rajapaksha** from the Department of Food Science & Technology, Faculty of Agriculture, University of Peradeniya have been identified in the world's top 2% research scientists list under the category of citation impact in the year 2022 for the subfield of Biomedical Sciences.



## MEMBERS OF THE BOARD OF GOVERNORS AND THE EXECUTIVE COMMITTEE - 2024

Following is the composition of the Board of Governors and the executive committee elected for the year 2024 at the 12<sup>th</sup> Annual General Meeting of the IFSTSL held on the 09<sup>th</sup> October 2023 at the Lions Activity Center, Kotte.

### Members of the Board of Governors

**Prof. K.K.D.S. Ranaweera**  
Chairman

University of Sri Jayewardenepura

**Prof. Niranjan Rajapaksha**  
BOG Member

University of Peradeniya

**Mr. Rohantha Fonseka**  
BOG Member

C. D. De Fonseka & Sons Pvt. Ltd

**Emeritus Prof. Gamini Fonseka**  
BOG Member

Wayamba University of Sri Lanka

**President – Sri Lanka Food Processors Association\***

### Members of the Executive Committee

**Prof. Anoma Chandrasekara**  
President

Wayamba University of Sri Lanka

**Dr. Sumudu Warnakulasuriya**  
President-Elect

Industrial Technology Institute

**Prof. Niranjalie Perera**  
Immediate Past President

Wayamba University of Sri Lanka

**Ms. Vichakshi Witharana**  
Joint Secretary

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**Dr. Thilini Kananke - Joint Secretary**  
Sabaragamuwa University of Sri Lanka

**Mr. Nishan Perera - Treasurer**  
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Assistant Treasurer  
Silvermill Group

**Dr. Nimsha Weerakkody - Editor**  
Open University of Sri Lanka

**Prof. Eresha Mendis**  
University of Peradeniya

**Mr. Thusith Wijesinghe**

Trans-Continental Packaging & Commodities Pvt. Ltd

**Mr. Dhammika Gunasekara**  
Tropical Life Pvt. Ltd

**Prof. Ananda Chandrasekera**  
Wayamba University of Sri Lanka

**Mr. Thusitha Prasad Ekanayake**  
Anods Cocoa Pvt. Ltd

**Dr. K. W. M. A. Jayasinghe**  
University of Sri Jayewardenepura

### Invited Members

**Prof. S. Vasantharuba**  
University of Jaffna

**Mr. Sudath Namal**  
Motha Confectionery Works (Pvt) Ltd.

**Mr. Tharindu Gallage**  
Peterson Projects & Solutions Sri Lanka

**Mr. Kavindu Kumarapeli**  
CMC Engineering Export GMBH

\* Mr. Delano Dias - Managing Director, Millers Limited. (From January to March, 2024)

Mr. Thusith Wijesinghe - Trans Continental Packaging & Commodities Pvt. Ltd. (From April to December, 2024)

## Achievements



**Mr. Thusith Wijesinghe** from Trans Continental Packaging Commodities (Pvt) Ltd. who is serving in the Executive Committee of the IFSTSL was selected as the President of the Sri Lanka Food Processors Association for the year 2024-2025.

## Publications

**Prof. Upali Samarajeewa** - Professor Emeritus, University of Peradeniya

Samarajeewa, U. and Gunaratne, S. (2023) Food safety knowledge on processing and catering among food science undergraduates: A survey. Asian Journal of Science and Technology. 14(12): 12800-12806

Samarajeewa, U. (2023). Emerging challenges in maintaining marine food-fish availability and food safety. Comprehensive Reviews in Food Science and Food Safety, 1-24. <https://doi.org/10.1111/1541-4337.13239>

**Dr. Sumudu Warnakulasuriya**

Warnakulasuriya, S.N., Tanaka, T., and Wanasundara, J.P.D. 2023. Canola meal valorization via acid hydrolysis to generate free amino acids. Journal of American Oil Chemists' Society, <http://doi.org/10.1002/aocs.12739>

# Workshop series for Food SMEs

IFSTSL has identified the need of providing consultancy to small and medium enterprises (SMEs) in the food industry to help them grow with the science and become valuable contributors to the country's economic development. With this understanding, IFSTSL initiated a consultancy program for SMEs in the food industry who are looking for support in processing technology, packaging, quality, safety and hygiene etc. A series of workshops under the theme of 'Becoming a successful entrepreneur' / 'සාර්ථක ව්‍යවසායකයෙක් වන්නේ කෙසේද?' was conducted in the year 2023 to provide general consultancy on key areas demanded by SMEs and IFSTSL plans to continue the program in the coming years.

### Opportunities for Food SMEs

The very first workshop of the series unveiled with the theme of 'Opportunities for Food SMEs' / 'සුළු හා මධ්‍යම ආහාර කර්මාන්තය සඳහා නව මෙහෙය' on May 31, 2023 at the Hector Kobbekaduwa Agrarian Research & Training Institute, Colombo - 07. It was conducted in Sinhala medium. The below topics were addressed during the workshop by leading figures in the food and related fields and the participants received the opportunity to discuss their concerns.

- How IFSTSL can support SMEs in the food industry
- Identification and tapping untouched areas in the food industry value chain
- How to enhance the competitiveness of a business



### Food Hygiene in Food Processing

The second workshop of the series focused on addressing the hygienic practices that need to be followed during food processing. The workshop was conducted online on Food Hygiene in Food Processing / 'ආහාර නිෂ්පාදනයේදී පිළිපැදිය යුතු සෞඛ්‍ය පුරුදු (සිවස්ථතාව) මගින් ලෙඩ රෝග වළක්වාගැනීම' on July 02, 2023 in Sinhala medium.

Prof. Upali Samarajeewa delivered the lecture to the participants on establishing and maintaining a food processing factory to ensure the hygiene of the production. Hygienic practices during the processing, storing, packaging and distributing, and maintaining personal hygiene were discussed.



### Food Packaging and Labelling

The third workshop was conducted to support the entrepreneurs engaging in the micro, small and medium-scale food industry in understanding the right packaging methods for their food products along with the labelling regulations practised in the country. It was held on July 15, 2023 at the Auditorium of the Ministry of Industries, Colombo 03 on the theme of 'Food Packaging and Labelling' / 'ආහාර ඇසුරුම්කරණය හා ලේබල් කිරීම' in Sinhala medium. Mr. Kithsiri Wijesundara, former Director of the National Packaging Centre in Sri Lanka addressed the topic of food packaging and Dr. Sujeewa Gunaratne, former President of IFSTSL conducted the lecture on food labelling.





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