



National Symposium on
Agriculture & Life Sciences

NSALS '25

**“EMPOWERING SUSTAINABILITY
THROUGH INNOVATIONS”**

PROGRAMME BOOK

23rd Jan 2025



Faculty of Animal Science and Export Agriculture

Uva Wellassa University of Sri Lanka

Electronic Media Partner





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NSALS '25

Uva Wellassa University of Sri Lanka (UWU) continues to lead as a trailblazer in Sri Lanka's higher education sector, exemplifying the spirit of an entrepreneurial and technopreneurial University. Upholding a visionary approach to education, UWU nurtures graduates who are not only knowledgeable but also equipped with indispensable skills and ethical values. These individuals are empowered to excel in technocratic roles, embark on entrepreneurial ventures, and contribute meaningfully to the nation's progress and development.

Recognized as the "Center of Excellence for Value Addition" to Sri Lanka's national resource base, UWU remains unwavering in its pursuit of advancing research and innovation. The Faculty of Animal Science and Export Agriculture (FASEA), as part of this vibrant academic ecosystem, proudly hosts the second annual National Symposium on Agriculture and Life Sciences (NSALS '25), the Undergraduate Research Symposium of FASEA-UWU. Building on the remarkable achievements of its first edition, NSALS '25 seeks to create an engaging platform for dialogue and collaboration among students, academics, researchers, industry professionals, and scientific experts.

With the theme "Empowering Sustainability through Innovations", NSALS '25 strives to ignite meaningful conversations, foster synergistic partnerships, and stimulate groundbreaking ideas that extend beyond the scope of the event. The symposium highlights UWU's enduring dedication to expanding knowledge boundaries, championing innovation, and steering progress toward a sustainable and prosperous future.

NSALS '25 encompasses eight thematic tracks, each highlighting critical areas of agriculture and life sciences:

1. Agricultural Economics, Agribusiness Management, Extension, and Entrepreneurship
2. Agricultural Engineering and Process Technology
3. Agricultural Microbiology and Biotechnology
4. Animal Production and Technology
5. Aquatic Sciences
6. Crop Production Technology
7. Environmental Science and Climate Change
8. Food Science and Technology

This year, following a meticulous peer-review process, over 175 outstanding undergraduate research papers have been selected for oral presentation under these themes. These abstracts physically presented during NSALS '25, are reflecting the symposium's dual commitment to academic rigor and innovation.

NSALS '25 stands as a proud testament to UWU's dedication to advancing research excellence and nurturing a culture of innovation in the fields of agriculture and life sciences. Together, we forge a path toward a brighter future, fueled by innovation and discovery.



KEYNOTE SPEAKER



Professor Saman Seneweera : A Pioneer in Plant Science and Climate Change Biology

Chair Professor of Agricultural Engineering and Environmental Technology, Faculty of Agriculture, University of Ruhuna, Matara, Sri Lanka

Chairman

National Science Foundation, 47/5,
Maitland Place, Colombo 07

✉: samans@agri.ruh.ac.lk; seneweera@nsf.gov.lk

Professor Saman Seneweera, the newly appointed Chairman of the National Science Foundation (NSF) Sri Lanka, is the Chair Professor of Agricultural Engineering and Environmental Technology at the Faculty of Agriculture, University of Ruhuna, Sri Lanka. A distinguished figure in plant science, he is renowned for his extensive research on climate change biology and its implications for global agriculture and sustainability. With a career spanning over three decades, Professor Seneweera has made significant contributions to understanding plant responses to climate change - specifically rising CO₂ concentrations, water limitations, and temperature increases - positioning him as a pioneer in this critical scientific field.

Professor Seneweera began his academic journey at the University of Ruhuna, where he obtained a Bachelor of Science in Agriculture in 1990. Shortly after, he joined the National Institute of Fundamental Studies (NIFS) as a Junior Research Associate, working with renowned scientists such as F.N. Ponnampereuma and Cyril Ponnampereuma. His research interests were shaped by the groundbreaking work of Professor Ponnampereuma in C3/C4 photosynthesis physiology. Driven by his passion for plant science, he pursued a PhD in Plant Physiology at the University of Western Sydney, Australia, in 1996, focusing on the effects of rising CO₂ concentrations on photosynthetic carbon metabolism. This early research laid the foundation for his future endeavors addressing the impact of climate change on global food and nutrient security and the sustainability of agricultural systems.

Throughout his career, Professor Seneweera has held prestigious academic and leadership roles at esteemed institutions, including The University of Melbourne, The University of Southern Queensland, Tohoku University in Japan, The University of Illinois in the USA, and NIFS in Sri Lanka, where he served as Director, CEO, and CFO. His leadership at NIFS introduced innovative strategies that significantly enhanced the institute's global ranking and



research output. Under his guidance, the institute achieved the second position in AD rankings and 14th in Webometric rankings globally.

As a dedicated mentor, Professor Seneweera has supervised over 40 Ph.D. students and numerous Master's students, highlighting his commitment to nurturing the next generation of scientists. As the head of NIFS, he oversaw more than 100 graduate students, including PhD and MPhil candidates. His teaching spans undergraduate and postgraduate levels, where he bridges theoretical knowledge with practical application by incorporating research insights into the curriculum. His global teaching and supervision experience are valuable assets to University of Ruhuna, Sri Lanka.

Professor Seneweera's academic excellence is demonstrated by over 250 peer-reviewed publications, including articles in prestigious journals like Nature and Science, and an impressive h-index of 49. Recognized internationally, he has been ranked among the top 2% of scientists globally by Stanford University for five consecutive years and is ranked as Sri Lanka's top agricultural scientist in the AD rankings. As the principal or lead author in more than 50% of his publications and with over 8,000 Google Scholar citations, his leadership and influence in the field are undeniable.

As a leader in international research projects, Professor Seneweera has secured over \$20 million in funding, driving large-scale initiatives to mitigate the adverse effects of climate change on agriculture and enhance crop resilience and productivity. His research has significantly advanced scientific understanding and influenced agricultural systems and policies, directly contributing to improved food security and sustainability.

Beyond academia, Professor Seneweera has played a pivotal role in administrative and strategic planning at NIFS and currently at NSF, Sri Lanka. He led transformative change programs, fostered national and international partnerships, and introduced initiatives like the 3-Minute PhD Thesis competition in Sri Lanka, further strengthening the institute's research capacity and global standing.

Through his public engagement, Professor Seneweera has contributed to raising societal awareness about sustainable agricultural practices and the challenges posed by climate change. His work has influenced policies and practices, emphasizing the importance of sustainability in securing a better future.

In conclusion, Professor Saman Seneweera is a leading figure in plant science whose groundbreaking research and leadership continue to inspire global efforts toward sustainable agriculture and food security. His contributions have profoundly impacted the fields of agriculture and sustainability, paving the way for a more resilient and food-secure future.



PROGRAMME AT A GLANCE

Date: 23rd January 2025

Venue: Technology Main Lecture Theater, Faculty of Technological Studies, Uva Wellassa University

INAUGURAL CEREMONY

- 08:00-09:00 Desk Registration
- 09:00-09:15 Lighting the Oil Lamp, National and University Anthems
- 09:15-09:25 Welcome Speech by Dr. Duminda Senevirathna, Symposium Coordinator, NSALS '25
- 09:25-09:35 Address by Prof. Saman Herath, Dean, Faculty of Animal Science and Export Agriculture
- 09:35-09:45 Address by Senior Prof. Kolitha B. Wijesekara, Chief Guest of NSALS '25; Vice Chancellor, Uva Wellassa University of Sri Lanka
- 09:45-09:55 Launching the Proceedings of NSALS '25
- 09:55-10:00 Introducing the Keynote Speaker by Prof. Sandun Abeyrathne, Professor, Department of Animal Science, Faculty of Animal Science and Export Agriculture
- 10:00-10:25 Keynote Speech by Prof. Saman Seneweera, Chair Professor, Department of Agricultural Engineering and Environmental Technology, Faculty of Agriculture, University of Ruhuna; Chairman, National Science Foundation (NSF), Sri Lanka



10:25-10:30 Vote of Thanks by Ms. Prathibha Kahandage, Symposium Secretary,
NSALS '25

10:30-11:00 Refreshments

TECHNICAL SESSIONS

11:00 – 13:00 Technical Sessions I & Poster Session

13:00 – 13:40 Lunch Break

13:40 – 15:00 Technical Sessions II

15:00 – 15:30 Tea Break

3MT COMPETITION AND CLOSING CEREMONY

15:30 –16:15 Introduction to 3MT Competition '25 by Dr. Niluni M. Wijesundara,
Coordinator, 3MT Competition '25

16:15 – 16:30 Invited Speech by Dr. Achala Alakolanga, Senior Lecturer (Gr. II),
Department of Export Agriculture, Faculty of Animal Science and Export
Agriculture

16:30 – 16:50 Awarding Ceremony

16:50 – 17:00 Concluding Remarks by Dr. Kasun Meegahakumbura, Senior Lecturer
(Gr.I), Department of Export Agriculture, Faculty of Animal Science and
Export Agriculture

SYMPOSIUM DINNER

18:30 – 22:30 Symposium Dinner



SYMPOSIUM TRACKS

01. Agricultural Economics, Agribusiness Management, Extension and Entrepreneurship
02. Agricultural Engineering and Process Technology
03. Agricultural Microbiology and Biotechnology
04. Animal Production and Technology
05. Aquatic Sciences
06. Crop Production Technology
07. Environmental Science and Climate Change
08. Food Science and Technology



3MT COMPETITION '25

The Three Minute Thesis (3MT) competition, which is an innovative platform for research communication, was first held at the University of Queensland (UQ) in 2008, featuring 160 Higher Degree by Research (HDR) students. Its resounding success led to rapid expansion, reaching universities across Australia and New Zealand in 2009 and 2010. The growing popularity of the event culminated in the inaugural Trans-Tasman 3MT competition at UQ in 2010.

Since 2011, the 3MT competition has become a global phenomenon, now hosted by over 900 universities in more than 80 countries. In 2016, the competition expanded further, including the universities from South-East and North-East Asia.

The 3MT competition that was initially intended for Doctor of Philosophy (PhD) candidates to deliver a concise and engaging three-minute speech about their thesis and its importance has developed and expanded over time. It is no longer exclusive to PhD theses but welcomes participation from researchers and higher studies students across various disciplines.

The Faculty of Animal Science and Export Agriculture (FASEA) at Uva Wellassa University introduced its first 3MT competition in 2021. This inaugural event provided final-year undergraduate students an opportunity to showcase their research in this exciting format. Inspired by its success, the competition was held again in 2022 and 2024, growing in prestige and participation each year.

We are excited to announce that the final round of the 4th 3MT competition will take place on January 23, 2025, during the closing session of NSALS '25. From an initial pool of 63 applicants, five outstanding contestants have been selected through two rigorous screening rounds. These finalists will captivate the audience with their concise and compelling presentations, showcasing the essence and impact of their research in just three minutes.

Join us to celebrate their achievements and experience the brilliance of effective research communication!

Dr. Niluni M. Wijesundara
Coordinator/FASEA 3MT Competition '25



Finalists of 3MT Competition

1. Ms. U.M.G.M.M. Bandara
2. Ms. T. Ramachandran
3. Ms. S.H.S.K. Gunarathna
4. Ms. W.T.N. Rodrigo
5. Ms. A.A.D.O. Himarangi
6. Ms. W.M.S.U. Weerakoon



Technical Sessions



**AGRICULTURAL ECONOMICS, AGRIBUSINESS MANAGEMENT, EXTENSION AND
ENTREPRENEURSHIP**

23rd January 2025

Oral Session

Time: 11:00 –15:00

Venue: Mini Auditorium, Faculty of Technological Studies

Panel Members: **Dr. Dilini Hemachandra** (University of Peradeniya) - Chairperson
Dr. R.A.P.I.S. Dharmadasa (Uva Wellassa University)
Dr. M.K.S.L.D. Amarathunga (Uva Wellassa University)

| Paper ID Time | Title of Abstract Names of Authors |
|---------------------------|--|
| 020 11:00-11:10 | Analyzing the tea buyers' perception of the current constraints and future potential for electronic auction system in the Sri Lankan tea industry <i>A.M.S. Anjum, M.K.S.L.D. Amarathunga, K.A.D.P. Kumarasingha, P. de Silva</i> |
| 030 11:10-11:20 | Consumer awareness and willingness to buy egg and egg-based products in the urban areas of the Western province of Sri Lanka <i>I.A.N. Udahena, E.D.N.S. Abeyrathne, M.G.P.P. Mahindaratne</i> |
| 040 11:20-11:30 | Technical efficiency of potato farmers in Welimada, Sri Lanka <i>N.H.P. Wasana, R.A.P.I.S. Dharmadasa</i> |
| 068 11:30-11:40 | Factors affecting consumer awareness of fairtrade tea products: A study on Colombo and Badulla districts <i>W.D. Thilini, M.G.P.P. Mahindaratne, S. Karunathilake</i> |
| 073 11:40-11:50 | Exploring the determinants of consumer preference for organic herbal tea products in the Colombo metropolitan area <i>D.M.D.A. Rathnasekara, M.G.P.P. Mahindaratne, M.A.A.K. Aththanayake</i> |
| 077 11:50-12:00 | Determinants of food price inflation in Sri Lanka – an application of ARDL model <i>B.D.A.Y. Ananda, M.W.A.C.S. Wijetunga</i> |
| 093 12:00-12:10 | Tea smallholders' perceived effectiveness of Public-Private Producer and Society Partnership (4PS) model in Ratnapura district <i>S.U.S. Dharmarathna, M.K.S.L.D. Amarathunga, K.A.D.P. Kumarasingha, M.R.N. Dhammika, R.A.S.S. Ranathunga</i> |



- 097**
12:10-12:20
Assessing the factors affecting tourists' satisfaction with the hands-on experience of tea tours in Halpewatte tea factory in Uva region, Sri Lanka
J.P. Wijesinghe, M.G.P.P. Mahindaratne, E.A.P.S. Dissanayaka
- 115**
12:20-12:30
Assessing feasibility of launching organic certified fruity tea into local market: Case in Colombo district
S.M.B.K. Weeraratna, M.G.P.P. Mahindaratne
- 122**
12:30-12:40
Factors influencing the consumer preference on iced tea products in an urban area
W.K.A.T. Karunaratna, M.G.P.P. Mahindaratne, A. Manohar
- 134**
12:40-12:50
Evaluating paddy production and farmers' profit under Sri Lanka's fertilizer ban policy (a pooled cross-sectional analysis)
G.D.U.N.D. Garusinghe, V.D.N. Ayoni, M.W.A.C.S. Wijetunga
- 142**
12:50-13:00
Determinants of the export performance of coconut shell-activated Carbon in Sri Lanka
W.S.W. Jayasekara, R.A.P.I.S. Dharmadasa, P.V.S.C. Wickramaratna
- 13:00-13:40
SESSION BREAK
- 153**
13:40-13:50
Minor export crops and economic growth in Sri Lanka
B.P.J. Bogahawaththage, M.W.A.C.S. Wijetunga
- 154**
13:50-14:00
Assessing the entrepreneurial behavior of vegetable farmers in Bandarawela area, Sri Lanka
A.H.D.D. Wickramasinghe, M.K.S.L.D. Amarathunga, V.R. Thantrige, A.S.M. Roshan
- 165**
14:00-14:10
Analysis of export demand of coconut substrates (coco peat) industry in Sri Lanka
K.M.N. Shammika, M.W.A.C.S. Wijetunga, M.A.E.K. Jayasinghe, K.V.N.N. Jayalath
- 170**
14:10-14:20
Feasibility of organic coconut-based intercropping systems: A pre-implementation financial assessment
A.M.M. Amarakoon, M.W.A.C.S. Wijetunga, M.A.E.K. Jayasinghe, K.V.N.N. Jayalath
- 182**
14:20-14:30
Analysis of export competitiveness of desiccated coconut industry in Sri Lanka
G.H.M.S. Hewage, M.W.A.C.S. Wijetunga, C. Wickramaratne, V.R. Thantrige



185

14:30-14:40

Challenges faced by Kithul jaggery producers in Nuwara Eliya district in the exportation of Kithul products

P.M.P. Peiris, M.G.P.P. Mahindaratne

202

14:40-14:50

Factors influencing the quantity of tea sold by brokers in Sri Lankan tea auction: A time-series analysis

K.V.G.D. Chandima, M.K.S.L.D. Amarathunga, M.A.E.K. Jayasinghe, C. Punchihewa

15:00

END OF ORAL SESSION

Poster session

Time: 11:00-13:00

Venue: E1

Panel Members: Dr. M.G.P.P. Mahindaratne (Uva Wellassa University of Sri Lanka)
Dr. B.V.A.S.M. Bambaranda (Uva Wellassa University of Sri Lanka)
Dr. G.A.R.R. Perera (Uva Wellassa University of Sri Lanka)
Dr. G. Abhiram (Uva Wellassa University of Sri Lanka)
Ms. G.Y.A.D.D. Perera (Uva Wellassa University of Sri Lanka)

021

Assessing tourist engagement, awareness and satisfaction in tea tourism: A study of New Giragama tea factory, Central province, Sri Lanka

W.H.S. Wickramasingha, M.G.P.P. Mahindaratne, M.M.D.M. Marasingha

060

Impact of socio economic indicators on revenue generation of dairy farmers in sub urban areas of Galle district

M.N.F. Ismiya, S.N.S.L.H.P. Neelawala

062

Impact of level of milk consumption on the nutritional issues of protein malnutrition: A case study from children under age five in selected divisional secretariat areas in Ampara district

A.P.G.S. Rathnayaka, S.N.S.L.H.P. Neelawala

064

Factors influencing export market diversification of pepper (*Piper nigrum* L.) in Sri Lanka

R.M.N.S. Rathnayake, W.G.G. Chathurika, M.G.P.P. Mahindaratne

081

Assessing the impact of export agriculture support on Small and Medium Enterprises (SMEs) entrepreneurship and export growth in Kandy, Sri Lanka

B.G.R. Madushan, P. Idemekorala, M.G.P.P. Mahindaratne

090

Assessing the effectiveness of the 4PS model in enhancing the level of adoption of Good Agricultural Practices (GAP) of tea smallholders in Ratnapura district

A.M.A.M. Adikaram, M.K.S.L.D. Amarathunga, K.A.D.P. Kumarasingha, M.R.N. Dhammika, R.A.S.S. Ranathunga



109

Analyzing tourist purchasing preferences for Halpe tea products, to optimize product promotion strategies and identify market opportunities

W.P. Sudarshani, M.G.P.P. Mahindarathne, E.A.P.S. Dissanayaka

13:00

END OF POSTER SESSION



AGRICULTURAL ENGINEERING AND PROCESS TECHNOLOGY

23rd January 2025

Oral session

Time: 11:00–14:40

Venue: ABTOC Unit

Panel Members: **Prof. Y.N.S. Wijewardana** (Uva Wellassa University) - Chairperson
Dr. M.D.S.L. Wimalananda (Uva Wellassa University)
Dr. K.M.T.S. Bandara (University of Ruhuna)

| Paper ID | Title of Abstract |
|---------------------------|--|
| Time | Names of Authors |
| 080 11:00-11:10 | Preliminary study on the comparison of rubber tapping performance of motorized tapping machine and traditional tapping knife <i>P.G.A.G. Kaushalya, T.U.K. Silva, G. Abhiram, P. Charithangi</i> |
| 103 11:10-11:20 | Investigating immature pineapple Bromelain enzyme activity on Chitin extraction <i>N.G.R.M. Dewawansha, M. Sukanya, K.H.I.K. Hewavitharana</i> |
| 117 11:20-11:30 | Developing an automated firecracker-based repellent system for sustainable crop protection against monkeys' attack in Sri Lanka <i>R. Shathurjan, M. Dhanushan, H.L.M. Nishad, P. Krishanth, Y.N.S. Wijewardana</i> |
| 123 11:30-11:40 | Synthesis of reduced Graphene Oxide (rGO) and the effect of its loading on properties of natural rubber composites <i>M.A.Y.A. Manchanayake, W.D.M. Sampath, G. Abhiram, T.A.R.W.M.M.C.G. Bandara</i> |
| 124 11:40-11:50 | Assessing soil erosion hazard using SWAT model in Delthota and Pathahewaheta catchments in upper Mahaweli watershed in Sri Lanka <i>S.N.N. Senadheera, T.A.N.T. Perera, H.M.S.K. Herath</i> |
| 129 11:50-12:00 | Watershed assessment for soil erosion risk prioritization: A case study in Beli UI Oya sub-basin of Mahaweli river basin, Sri Lanka <i>R.M.V.M. Rajapaksha, N.S. Withanage, R.A.G.C.N.M. Nawarathna, A.M. Thrimawithana, D.M.C.L. Dharmasena</i> |



- 151**
12:00-12:10
Enhancing the flexibility of palmyrah tender leaves for handicraft making in Jaffna district
P. Sayenthini, N. Sobini, U.G.A.T. Premathilake, P.W. Jeewanthi
- 175**
12:10-12:20
Deproteinization of natural rubber using Ficin enzyme extracted from Fig (*Ficus racemosa*) fruit latex
W.D.S.R. Sandeepani, K.S.P. Adhikari, T.A.R.W.M.M.C.G. Bandara, A.M.W.K. Senevirathna
- 200**
12:20-12:30
Capability of cost reduction through utilizing White Reclaim Rubber (WRR) for solid tire center compound
K.T. Nethmini, V.A. Silva, T.A.R.W.M.M.C.G. Bandara, A.M.W.K. Senevirathna
- 206**
12:30-12:40
Optimizing the performance of flame weeder for tea fields
M. Abiram, G. Abhiram, K.G. Premathilake
- 208**
12:40-12:50
Raw cashew nut-shell liquid as an alternative plasticizer for Ribbed Smoked Sheets (RSS) compounding
D.G.K.S. Dangalla, G. Abhiram, M.B.J.M. Fernando, M.K. Meegahakumbura
- 209**
12:50-13:00
Comparative analysis of Carbon quantum dots derived from banana peels and coffee grounds: Synthesis, characterization, and optical properties
R.M.S.D. Rathnayaka, N.D. Karunarathne, N.P. Liyanage
- 13:00-13:40
SESSION BREAK
- 211**
13:40-13:50
Evaluation of APSIM model accuracy in predicting sugarcane yield: A case study at Galoya plantation, Sri Lanka
E.M.M.S. Anuththara, T.A.N.T. Perera, G. Abhiram, G.Y. Jayasinghe
- 213**
13:50-14:00
Acoustic sensor technology for soil sensing in precision agriculture: A review
G. Thibiha, J. Inthujan, G. Abhiram
- 214**
14:00-14:10
Advancements in acoustic sensing technology for enhanced pest management in agriculture: A review
J. Inthujan, G. Thibiha, G. Abhiram
- 217**
14:10-14:20
Effects of origin and processing methods on physical properties of green tea: A meta-analysis
S. Duxana, J. Inthujan, G. Abhiram



219 14:20-14:30 **Formation of shining and quick drying shoe polish using banana (*Musa sapientum*) peel and coconut (*Cocos nucifera*) shell charcoal**
M.H.S. Tharaka, J. Vithanachci, G. Abhiram, M.K. Meegahakumbura

222 14:30-14:40 **Machine learning-based yield prediction for rubber (*Hevea brasiliensis*) cultivation**
H.W.N.O. Wadugoda, T.A.N.T. Perera, G. Abhiram, G.Y. Jayasinghe

14:40

END OF ORAL SESSION

Poster session

Time: 11:00-13:00

Venue: E1

Panel Members: Dr. M.G.P.P. Mahindaratne (Uva Wellassa University of Sri Lanka)
Dr. B.V.A.S.M. Bambaranda (Uva Wellassa University of Sri Lanka)
Dr. G.A.R.R. Perera (Uva Wellassa University of Sri Lanka)
Dr. G. Abhiram (Uva Wellassa University of Sri Lanka)
Ms. G.Y.A.D.D. Perera (Uva Wellassa University of Sri Lanka)

| Paper ID | Title of Abstract Names of Authors |
|------------|---|
| 017 | Determination of the curing and physio-mechanical properties of sugarcane bagasse fiber powder as a potential filler in natural rubber compound <i>K.H.H. Bhagya, G.R.V.S. Gamlath, A.M.W.K. Senevirathna</i> |
| 172 | Assessment of crop water requirement of chili (<i>Capsicum annuum</i>) variety MICH HY 1 grown in protected houses <i>L.M.K. Hansika, R.R.U.R. Perera, G. Abhiram, E.A.N.V. Edirisinghe, N.S. Withanage</i> |
| 207 | Robotics in precision agriculture: A systematic literature review of applications, challenges, and future prospectives <i>S.H.L. Sandamali, H.N.L. Jayasekara, T.A.N.T. Perera</i> |

13:00

END OF POSTER SESSION



AGRICULTURAL MICROBIOLOGY AND BIOTECHNOLOGY

23rd January 2025

Oral session

Time: 11:00–15:00

Venue: English Learning Facility, E block

Panel Members: **Prof. S.A.C.N. Perera** (University of Peradeniya) - Chairperson
Dr. K.S.A. Kotawatta (University of Peradeniya)
Dr. T. Karunarathne (University of Peradeniya)

| Paper ID Time | Title of Abstract Names of Authors |
|---------------------------|---|
| 013 11:00-11:10 | Effect of commercial Urea as a replacement for Ammonium Nitrate in nutrient media for <i>in-vitro</i> propagation of sour banana (Mysore AAB) <u>D.W.C. Nilakshika, N.M.C. Nayanakantha, H. Rohanadeera</u> |
| 026 11:10-11:20 | Efficacy of Chitosan and garlic extracts as a bio-fungicide in managing fusarium wilt disease of tomato (<i>Solanum lycopersicum</i>) <u>S.D. Mekhala, N.M.C. Nayanakantha</u> |
| 033 11:20-11:30 | Efficacy of <i>Trichoderma asperellum</i> as a biocontrol agent in managing anthracnose disease in chili (<i>Capsicum annum</i> L.) <u>B.M.G.D.K. Bannak, N.M.C. Nayanakantha</u> |
| 035 11:30-11:40 | Assessment of antioxidant activities in various rose varieties for skin care applications <u>W.M.S.N. Wanasinghe, K.G.C. Senarathna</u> |
| 044 11:40-11:50 | Investigation and isolation of potential Zinc solubilizing microorganisms to use as bioinoculants in soils <u>M.S.F. Hathifa, A.M.K.C.B. Aththanayake</u> |
| 046 11:50-12:00 | Phenotypic and genotypic determination of Tetracycline resistant <i>Escherichia coli</i> isolated from commercial broilers <u>U.M.G.M.M. Bandara, T.S.R. Fernando, P.S. De Alwis, R.P. Madalagama</u> |



- 047**
12:00-12:10
Morphological and molecular characterization of wild macrofungi from localities in the mid and up-country intermediate zones (IM 1a and IU 3c) in the Badulla district, Sri Lanka
P.M.M. Peiris, N.W. Gunasekara, A.N. Ediriweera, P.B. Rathnaweera, M.K. Meegahakumbura
- 048**
12:10-12:20
Phenotypic and genotypic resistance of coagulase-positive *Staphylococcus* spp. to Tetracycline isolated from cow milk
H.M.I.G.C.J. Herath, T.S.R. Fernando, P.S. De Alwis, R.P. Madalagama
- 051**
12:20-12:30
Isolation and testing of the bio-controlling ability of *Trichoderma* isolates from the rhizosphere soil of chili plants against *Fusarium*
I.D.D. Sewmini, P.D.S.U. Kumari
- 071**
12:30-12:40
Effect of biofilm biofertilizers on paddy soil biofilm formation and mycorrhization in *Oryza sativa* L.: A laboratory simulation study
D.M.K.S.K. Divisekara, M. Premarathna, G. Seneviratne, S. Ekanayake, E. Karunaratne
- 074**
12:40-12:50
Induction of callus from anther culture of selected tomato (*Solanum lycopersicum* L.) germplasm for haploid plant production
W.A.D.M. Weerasingha, N.M.C. Nayanakantha, H.M.P.S. Kumari
- 12:50-13:40
SESSION BREAK
- 138**
13:40-13:50
Genetic characterization of the MC1R gene in Thamankaduwa white local cattle
D. L. Perera, C. Gajaweera, K.A. Viveka, T.D. De Silva, M. Nikzaad, U.D.P. Manjula
- 147**
13:50-14:00
Antibacterial Phenazine-1-Carboxylic acid from the entomopathogenic fungus *Penicillium citrinum*
H.K.G.G.G. Jayathunga, D.E. Williams, P.B. Ratnaweera, R.J. Andersen
- 149**
14:00-14:10
Effect of Ultraviolet (UV) radiation on different *in-vitro* growth stages of Madonna lily (*Lilium candidum*) and Zebra plant (*Haworthiopsis attenuata*)
R.M.Y.K. Rathnayake, P.E. Kaliyadasa, T.T.D. Dharmarathna
- 186**
14:10-14:20
Identification of plant-derived inhibitor from *Gymnema sylvetre* targeting African swine fever virus DNA polymerase X (ASFVpIX) enzyme
S. Poorni, A. Hasintha, W.M.M.P. Hulugalla, N.M.T. Anupama, K. Karunaratna, H. Gunathilaka, N. Jayampathi, A. Peiris, A. Subasingha, H. Adhikari, L. Ranathunga



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14:20-14:30

Antiviral properties of compounds derived from *Acalypha indica* against Seneca virus A 3C protease

S. Poorni, K. Karunarathna, N.M.T. Anupama, W.M.M.P. Hulugalla, A. Hasintha, N. Jayampathi, H. Gunathilaka, H. Wijekoon, B. Jayawardana, L. Ranathunga

194

14:30-14:40

Identification of bioactive compounds of *Brucea javanica* as potential inhibitors of African swine fever virus E296R protein: A computational and molecular dynamics analysis

S. Poorni, H. Gunathilaka, N.M.T. Anupama, W.M.M.P. Hulugalla, N. Jayampathi, A. Hasintha, K. Karunarathna, A. Peiris, A. Subasingha, B. Jayawardana, L. Ranathunga

212

14:40-14:50

Floral and molecular characterization of old tea genetic resources in Sri Lanka

K.P.A.E.S.D. Ambalampitiya, J.D. Kottawa-Arachchi, N.N. Dayarathna, T.T.D. Dharmarathna, M.K. Meegahakumbura

220

14:50-15:00

Evaluation of root and shoot morphology of F4 generation rice (*Oryza sativa* L.) crosses under iron toxic lowland and upland conditions

K.M.G.P. Dewmini, M.C. Millawithanachchi, M.G.N.R. Kumari, T.T.D. Dharmarathna, M.K. Meegahakumbura

15:00

END OF ORAL SESSION



ANIMAL PRODUCTION AND TECHNOLOGY

23rd January 2025

Oral session

Time: 11:00–13:00

Venue: A2 Hall

Panel Members: **Dr. N.M.N. Nambapana** (Uva Wellassa University) - Chairperson
Dr. U.D.P. Manjula (Uva Wellassa University)
Mr. Sisitha Ramachandra (SLTC Research University)

| Paper ID | Title of Abstract |
|---------------------------|---|
| Time | Names of Authors |
| 005 11:00-11:10 | Development of a complete dog food utilizing offcuts of Yellowfin tuna (<i>Thunnus albacares</i>), and Swordfish (<i>Xiphias gladius</i>) for young adult dogs <u>E.M.T.N. Ekanayaka, C.S. Kahakotuwa, I.M.I.V. Ilangakoon, E.D.N.S. Abeyrathne</u> |
| 006 11:10-11:20 | Development of a snack for young adult cats (<i>Felis catus</i>) using Yellowfin tuna (<i>Thunnus albacares</i>) and Swordfish (<i>Xiphias gladius</i>) <u>C.S. Kahakotuwa, E.M.T.N. Ekanayaka, I.M.I.V. Ilangakoon, E.D.N.S. Abeyrathne</u> |
| 011 11:20-11:30 | Sequential separation of Lysozyme, Ovomucin, globular protein and ovomucoprotein from chicken egg white <u>G.D.Y. Pabasari, A.G.A.W. Alakolanga, D.U. Ahn, E.D.N.S. Abeyrathne</u> |
| 043 11:30-11:40 | Effect of dietary Canistel fruit (<i>Pouteria campechiana</i>) meal on growth performance and egg quality traits of Japanese quail (<i>Coturnix coturnix japonica</i>) <u>K.M.N. Nadeesha, N.M.N. Nambapana</u> |
| 066 11:40-11:50 | Quality evaluation of red (<i>Amaranthus cruentus</i> L.) and green (<i>Amaranthus graecizans</i> L.) Amaranth as an alternative forage crop for dairy cattle <u>T. Shathursana, R.M.H. Tharangani</u> |
| 076 11:50-12:00 | A study on the prevalence of haemoparasites in cattle, buffalo, goats, and chicken reared in mixed farming systems in Oddusudan veterinary range <u>S. Kalaiyarasan, R.R.M.K.K. Wijesundara, T.S.R. Fernando, N.M.T. Anupama</u> |
| 078 12:00-12:10 | Prevalence of zoonotic protozoan gastrointestinal parasites in goats across three agro-climatic zones of Sri Lanka <u>W.P.K.P. Pathirage, D.S. Thilakarathne, T.S.R. Fernando</u> |



098

12:10-12:20

Effect of Coated Sodium Butyrate (CSB) on growth performances and intestinal health of commercial broilers

D.M.N.S. Dissanayake, H.K.R.S. Kumara, M.A.B.C. Darmasiri

152

12:20-12:30

Effect of plant essential oils on pathogens and water quality in swine farm effluents

R.H.M.C.G. Rathnayake, N.M. Wijesundara, D.B.O. Malaweera

171

12:30-12:40

Investigation of pathogen profile, risk factors, antimicrobial resistance, and hematological changes of dairy calves infected with navel infection

D.Y.T. Kushanthi, H.K.R.S. Kumara

201

12:40-12:50

Tibia characteristics and occurrence of footpad dermatitis in Cobb 500 broiler chickens fed two commercial vitamin-mineral premix mixtures

K.M.S. Karunarathna, A. Kumara, N.M.N. Nambapana

216

12:50-13:00

Consumer perception and purchasing intention on welfare-friendly meat products in Galle district

W.G.K. Ravihari, D.K.D.D. Jayasena, D.B.O. Malaweera

13:00

END OF ORAL SESSION



AQUATIC SCIENCES

23rd January 2025

Oral session

Time: 11:00–14:50

Venue: C3 Hall

Panel Members: **Prof. R.A. Maithreepala** (University of Ruhuna) - Chairperson
Prof. M.N.M. Fouzi (University of Peradeniya)
Mr. N.P.P. Liyanage (Uva Wellassa University of Sri Lanka)

| Paper ID | Title of Abstract |
|---------------------------|---|
| Time | Names of Authors |
| 031 11:00-11:10 | Abundance and variation of pathogenic bacteria in coral mucus from the Pareiwella reef, Tangalle, Sri Lanka <i>A.M.W.S. Alahakoon, Y.M.H.C.K. Samaradiwakara, S.S.L.H. Rosa, M.F.M. Fairoz</i> |
| 036 11:10-11:20 | Abundance and distribution of microplastics in surface sediment of Negombo lagoon, Sri Lanka <i>M.S. Marapana, B.M.C.A. Bandara, W.K. Suwandahannadi, H.P.T.S. Hewathilake, P.B.T.P. Kumara, K.P.G.K.P. Guruge</i> |
| 037 11:20-11:30 | Microplastic pollution in mangrove sediments around Negombo lagoon, Sri Lanka <i>B.A.A.D. Bamunuarachchi, B.M.C.A. Bandara, W.K. Suwandahannadi, P.B.T.P. Kumara, K.P.G.K.P. Guruge</i> |
| 061 11:30-11:40 | Analysis of the level of farmers' Knowledge, Attitude, and Practices (KAP) on seaweed farming in Northern province, Sri Lanka <i>W.P.S. De Silva, A.C.W.W.M.C.L.K. Coswatte, P.C.B. Dias, B.V.A.S.M. Bambaranda</i> |
| 063 11:40-11:50 | Phytochemical composition of brown seaweed species <i>Sargassum polycystum</i> and <i>Padina antillarum</i> <i>R.M.A.S.R. Bandara, B.V.A.S.M. Bambaranda, D.C. Mudannayake</i> |
| 065 11:50-12:00 | Post-harvest fish handling practices and quality loss analysis at Gurunagar fishing village, Jaffna district, Sri Lanka <i>S. Pooja, A.S. Mahaliyana</i> |



- 085**
12:00-12:10
Automated quality grading of processed *Holothuria scabra* using deep learning and image processing techniques
K.J.M. Perera, J.R.M.H. Jayalath, L.M. Kulathunga, Y. Milani, P.C.B. Dias, E.M.U.W.J.B. Ekanayake, C.N. Walpita
- 102**
12:10-12:20
Assessment of heavy metal concentrations in the water, plankton, sediments, and food fish of Beira lake, Sri Lanka
T.D.U.I. Dilshan, A.C.W.W.M.C.L.K. Coswatte, A.A.G.D. Amarasooriya
- 104**
12:20-12:30
Optimization of the higher stocking density of green cobra (*Poecilia reticulata*) in aquaponics system with *Echinodorus harbich*
R.M.N.M. Rathnayake, A.C.W.W.M.C.L.K. Coswatte, B.V.A.S.M. Bambaranda, N.P.P. Liyanage
- 110**
12:30-12:40
16S rRNA biomarker designing for shark species identification: Bioinformatics approach
S.S. Karunanama, J.D.M. Senevirathna
- 111**
12:40-12:50
Development of micropropagation protocol for *Anubias barteri* var. *nana* 'Golden' (Anubias Golden)
A.R.P.S.D. Rajanayake, M.M.L.I.W. Bandara, J.M.S.M. Jayalath, B.V.A.S.M. Bambaranda
- 112**
12:50-13:00
Increasing the stocking density of Glow tetra (*Gymnocorymbus ternetzi*) by improving the water quality
W.M.S.D.B. Weerasinghe, A.C.W.W.M.C.L.K. Coswatte, N.P.P. Liyanage
- 13:00-13:40
SESSION BREAK
- 113**
13:40-13:50
Synergistic effects of probiotic *Bacillus clausii* and ginger (*Zingiber officinale* Roscoe) incorporated diets on the growth, survival, and health of *Catla catla*, within the context of a 60-day feeding trial
V. Lageeshan, N.P.G. Pushpitha
- 135**
13:50-14:00
The importance of site selection in marine bioindicator studies: A case study of polychaetes in the urban coastal area of Colombo
H.M.S.D. Wickramasinghe, R.D.G.R. Jayawickrama, H.M.S.K. Thilakarathna
- 150**
14:00-14.10
Weathering of plastic pellets under ambient condition in a selected fluvial system: A preliminary study
N.P.D. Fernando, H.G.C.S. Divyanjalee, G.A.Y.M. Wimalarathne, A.P. Abeygunawardana, N.S. Withanage, G.G.N. Thushari
- 167**
14:10-14.20
Influence of sediment composition on marine polychaete distribution in selected locations along the Southern coast of Sri Lanka



M.D.G.V. Priyankara, B.G.H.J. Kumari, R.G.D.R. Jayawickrama, H.M.B.N. Wickramasooriya

173

14:20-14:30

Developing a new integrated Water Quality Index (WQI) for Sri Lanka to assess drinking water sources

P.R.S. Perera, G.G.T. Chaminda, C.E. Kankanamge, D.A.M.N. Shanthi, D.A.B.N. Amarasekara

197

14:30-14:40

Patterns and trends in fish harvest from Senanayake Samudraya, Sri Lanka from 2011 to 2022

G.K.D. Gamage, C. Marasinghe, K.A.S. Kaushalya, Y.N.M. Somarathne, I. Pathirana, E. Pathirana

210

14:40-14:50

Geographical variation in pathogenic bacteria in Bigeye scad (*Selar crumenophthalmus*) along the Western coast of Sri Lanka

P.H.S. Kavindya, A.I.A. Imthikab, G.D.N. George

14:50

END OF ORAL SESSION

Poster session

Time: 11:00-13:00

Venue: E1

Panel Members: Dr. M.G.P.P. Mahindaratne (Uva Wellassa University of Sri Lanka)
Dr. B.V.A.S.M. Bambaranda (Uva Wellassa University of Sri Lanka)
Dr. G.A.R.R. Perera (Uva Wellassa University of Sri Lanka)
Dr. G. Abhiram (Uva Wellassa University of Sri Lanka)
Ms. G.Y.A.D.D. Perera (Uva Wellassa University of Sri Lanka)

Paper ID

Title of Abstract

Names of Authors

032

Diversity and abundance of cryptofauna associated with coral rubble generated by *Pocillopora* sp. at the selected sites on the Southern coast, Sri Lanka

Y.M.H.C.K. Samaradiwakara, A.M.W.S. Alahakoon, M.F.M. Fairoz

055

A review on the current status of Fish-borne Parasitic Zoonoses (FPZ)

A.N. Ekanayake, K.H.D.T. Kasagala, C.T.D. Ambepitiya, D.I. Prabash

070

Antibacterial potential of Fucoidan extracted from *Sargassum polycystum* in coastal Sri Lanka: A study on bioactive properties and elemental composition

K.M.M.K. Konara, B.V.A.S.M. Bambaranda, D.C. Mudannayake



-
- 087 **Enhancing high-density culture through biological filtration system for Glow tetra (*Gymnocorymbus ternetzi*)**
D.K.E. Asiri, A.C.W.W.M.C.L.K. Coswatte, N.P.P. Liyanage
- 088 **Preliminary study on zooplankton diversity in whale watching area, off Mirissa, Sri Lanka**
R.M.P.A. Rathnayaka, J.D.M. Senevirathna
- 094 **Effects of Heen Bovitiya (*Osbeckia octandra* L.) on growth, breeding performance and survival of Guppy fish (*Poecilia reticulata*)**
B.D.J.T. Bodhinagoda, W.L.D.N.N. Wijethunge, N.P.G. Pushpitha
- 095 **Effect of wild Sunflower (*Tithonia diversifolia*) powder on growth performance and color enhancement of Guppy fish (*Poecilia reticulata*)**
W.L.D.N.N. Wijethunge, B.D.J.T. Bodhinagoda, N.P.G. Pushpitha
- 101 **Investigating the causative agents and factors contributing to high mortality in *Scylla serrata* (Mud crab) in a crab fattening facility in Puttalam district, Sri Lanka**
Y.K.S.E.B. Yatiwelle, S.S.S de S. Jagoda, N.P.P. Liyanage
- 106 **Effect of powdered shrimp waste on growth performance, color development and retention of Red Comet Swordtail fish (*Xiphophorus helleri*)**
D.M.R.U. Ekanayake, K.P.N.N.S. Jayarathna, A.C.W.W.M.C.L.K. Coswatte, D.C. Mudannayake
- 131 **Analyze the shoreline dynamics of Mannar island, Sri Lanka using the Digital Shoreline Analysis System (DSAS)**
E.A.V. Vaz, A.P. Abeygunawardana, E.P.D.N. Thilakarathne, H.G.C.S. Divyanjalee
- 198 **Determination and characterization of *Vibrio* species contamination in *Litopenaeus vannamei* in hatchery environment**
M.N.M. Naflan, D.M.S. Dasanayaka, N.M.P. Fernando, R.M.G.N. Rajapaksha, J.A. Athula, D.P.N. De Silva

13:00

END OF POSTER SESSION



CROP PRODUCTION TECHNOLOGY

23rd January 2025

Oral session

Time: 11:00–14:10

Venue: TLH2 Hall, Faculty of Technological Studies

Panel Members: **Prof. B.M.L.D.B. Suriyagoda** (University of Peradeniya) - Chairperson
Dr. S.H.N.P. de Silva (University of Peradeniya)
Dr. N.M.C. Nayanakantha (Uva Wellassa University)

| Paper ID | Title of Abstract |
|---------------------------|--|
| Time | Names of Authors |
| 010 11:00-11:10 | Induction of lateral branches in black pepper (<i>Piper nigrum</i> L.) nursery plants through hormone treatment and shoot tip removal <i>I.G.H.I. Jayakody, P.G.A.L. Kumara, U.G.A.T. Premathilake, R.W.I.B. Priyadarshana</i> |
| 015 11:10-11:20 | Study on dormant crown disorder of pineapple (<i>Ananas comosus</i>) and its response to Ethephon hormone application <i>A.J. Elvitigala, S.K.A. Dewage, U.G.A.T. Premathilake</i> |
| 016 11:20-11:30 | Evaluation of different potting media on growth of tissue-cultured Cavendish banana (<i>Musa acuminata</i>) plants during hardening <i>P.H.M.V. De Silva, S.K.A. Dewage, U.G.A.T. Premathilake</i> |
| 028 11:30-11:40 | Evaluation of growing media and fertilizer combinations for optimizing soilless cultivation for betel (<i>Piper betle</i> L.) <i>S.G.V.R.D.L. Yasoda, D.M.P.V. Dissanayaka, U.G.A.T. Premathilake</i> |
| 038 11:40-11:50 | Effect of different colored polythene shades on growth of betel (<i>Piper betle</i> L.) at nursery stage <i>P.N.H.S. Rajakaruna, M.S.S. Munasinghe, S.R.W.M.C.J.K. Ranawana</i> |
| 041 11:50-12:00 | Effect of Potassium Silicate on growth of <i>Gerbera jamesonii</i> at acclimatization and field establishment stages in two different potting media <i>P.H.N.M. Wickramasinghe, P.E. Kaliyadasa, G.Y.A.D.D. Perera, R.W.I.B. Priyadarshana</i> |



- 059**
12:00-12:10
Screening antagonistic activity of endophytic bacteria from rice (*Oryza sativa* L.) against *Xanthomonas oryzae* pv. *oryzae* and evaluating their growth promotion potential on rice seedlings under *in-vitro* conditions
E.M.N.N. Nawarathna, K.R.D. Gunapala, N.W. Gunasekara, A.N.R. Weerawansha
- 105**
12:10-12:20
Effect of LED light radiation on growth of tea (*Camellia sinensis* L.) nursery plants
I.M.M. Jayarathna, S.R.W.M.C.J.K. Ranawana, K.G. Premathilake, P.D.P.M.D. Silva
- 127**
12:20-12:30
Evaluating the suitability of different coir pith pellets as nursery pots for chili (*Capsicum annuum* L.)
D.W.S.N. Dehiwaththa, A. Gunasena, U.G.A.T. Premathilake, R.W.I.B. Priyadarshana
- 143**
12:30-12:40
Development of fertilizer enriched coco peat-based nursery growing media for tomato (*Solanum lycopersicum*) and brinjal (*Solanum melongena*)
R.V.T. Rubasinghe, B.G.H. Abeywardena, W.P.C. Madhusanka, G.Y.A.D.D. Perera, P.E. Kaliyadasa
- 159**
12:40-12:50
Investigating the factors influencing *Parthenium* weed infestation in Sri Lanka and assessing the reproductive potential of *Zygogramma bicolorata* for mass rearing
A.G.U.L. Rathnayake, K.M.D.W.P. Nishantha, A.N.R. Weerawansha
- 160**
12:50-13:00
Investigation of physico-chemical properties of Ramie fiber (*Boehmeria nivea*) and its feasibility as a fiber source for tissue paper production
J.P.L.S. Jayalath, S.R.W.M.C.J.K. Ranawana, P.E. Kaliyadasa, R.W.I.B. Priyadarshana
- 13:00-13:40
SESSION BREAK
- 183**
13:40-13:50
Screening of groundnut (*Arachis hypogea* L.) lines to mid-season drought condition
K.S.P. Withanage, Y.P.J. Amarasinghe, K.G. Ketipearachchi, G. Wijesinghe
- 195**
13:50-14:00
Investigating the impact of population dynamics on life history strategies of Red Mite in tea plantation: An *in-vitro* study
P.K.K. Perera, A.N.R. Weerawansha
- 218**
14:00-14:10
Evaluation of growth yield and postharvest quality of salad cucumber varieties for polytunnel cultivation in Sri Lanka
T.D.R. Jansz, G.G.S.U. Gamage, M.K. Meegahakumbura, U.G.A.T. Premathilake, W.G.R.S. Kosgolla
- 14:10
END OF ORAL SESSION



ENVIRONMENTAL SCIENCE AND CLIMATE CHANGE

23rd January 2025

Oral session

Time: 11:00–14:40

Venue: Language Laboratory

Panel Members: **Ms. N.S. Withanage** (Uva Wellassa University) - Chairperson
Dr. G.G.N. Thushari (Uva Wellassa University)
Dr. (Eng.) M.N.P. Dushyantha (Uva Wellassa University)

| Paper ID | Title of Abstract |
|---------------------------|--|
| Time | Names of Authors |
| 012 11:00-11:10 | Variability of biological productivity indicators in the Arabian sea: Insights from decadal observations (1993–2023) <i>M.G.M.P. Gunarathna, J.K. Rajapaksha</i> |
| 018 11:10-11:20 | Perception of marine fishers on fisheries insurance: A case study of Tangalle, Sri Lanka <i>O.M.T.D. Mohotti, S.N. Dushani</i> |
| 019 11:20-11:30 | Marine fisheries insurance: Insights from financial institutes in Hambantota district, Sri Lanka <i>D.M.M.G. Dissanayake, S.N. Dushani</i> |
| 096 11:30-11:40 | Urban road dust pollution: A preliminary study from Galle, Southern province, Sri Lanka <i>T.C. Wathugedara, H.G.C.S. Divyanjalee, G.A.Y.M. Wimalarathne, W.M.K.R.T.W. Bandara, G.G.N. Thushari, G.G.T. Chaminda</i> |
| 121 11:40-11:50 | Treatment of textile dye wastewater using biochar derived from tea waste <i>S.P. Mahela, R.A. Maithreepala, H.M.C.S. Wijerathne</i> |
| 125 11:50-12:00 | Evaluating the potential of ALOS-2 PALSAR-2 satellite data for above-ground biomass estimation in Kadolkele mangrove ecosystem in Sri Lanka <i>A.A.D.O. Himarangi, A.P. Abeygunawardana, J.A.D.S.S. Jayakody</i> |
| 126 12:00-12:10 | An analysis of secondary vegetation on abandoned shrimp farms in Anawilundawa Ramsar sanctuary <i>K.M.G.S.K. Disanayaka, A.P. Abeygunawardana, J.A.D.S.S. Jayakody</i> |



- 128**
12:10-12:20
Assessing the health impacts of climate induced extreme weather events: Challenges and adaptive strategies in vulnerable communities
S. Selvakumar
- 130**
12:20-12:30
Evaluating the economic impacts of Carbon pricing policies: Legal frameworks and policy implications for sustainable development
S. Selvakumar
- 137**
12:30-12:40
Assessing the impact of land use land cover changes on river discharge by correlation analysis: A case study in Nawalapitiya river basin of upper Mahaweli catchment
K.M.E.U.W.R.I. Ellepola, R.M.G.N. Rajapaksha, A.U. Bandara
- 163**
12:40-12:50
Removal of reactive red dye from aqueous solution using magnetic biochar prepared from Dipping Tank Coagulum (DTC) of rubber glove production
R. Divyadarshini, R.A. Maithreepala, A.M.K.C.J. Costa
- 166**
12:50-13:00
Analysis of anomalies of soil properties in Tharanagahawewa area in Puttalam district
S.N.H.B.S. Lakmal, W.A.P.P. Christopher
- 13:00-13:40
SESSION BREAK
- 169**
13:40-13:50
Assessment of water quality and coral diversity for conservation of the Kayankerni marine sanctuary, Eastern coast of Sri Lanka
H.G.I.N. Chandrarathna, E.P.D.N. Thilakarathne, W.G.I.T. Gunathilaka, A.K.N.K. Perera, R.S.P.K. Abhishek
- 178**
13:50-14:00
Simple and high throughput approach to enumerate *Escherichia coli* in water by measuring β -D Glucuronidase (GUS) activities via microplate reader
W.P.D. Chamika, K.M.P.N. Chandrasekara, G.G.T. Chaminda, W.M.K.R.T.W. Bandara, M.N.M. Shayan, H. Satoh
- 179**
14:00-14:10
High-resolution mapping and elevation profiling of Panama sand dunes, Sri Lanka: A geospatial assessment of coastal vulnerability and morphological characteristics
A.K.N.K. Perera, E.P.D.N. Thilakarathne, W.G.I.T. Gunathilaka, P.L.M. Hasaranga, H.G.I.N. Chandrarathna, R.S.P.K. Abhishek
- 184**
14:10-14:20
Fate and transport of bacteriophages and viruses in soil around on-site sanitation systems in Sri Lanka
R.M.D.H. Bandara, M.M.I. Udayanga, M. Inoue, G.G.T. Chaminda, Y. Otaki, M. Otaki



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14:20-14:30

Investigation of coagulation, antibacterial, and cytotoxicity properties of *Nymphaea nouchali* Burm. f. (Blue water lily) and *Artocarpus altilis* (Park.) Fosh. (Breadfruit) extracts

Z.C.K. Pereira, D.V. Dushanthan, K.M.K. De Silva, A.V.L.K. Udalamaththa

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14:30-14:40

Wastewater treatment plants as a source of microplastic pollution: A preliminary study from Galle, Southern province, Sri Lanka

D.C.A. Gammanpila, H.G.C.S. Divyanjalee, G.A.Y.M. Wimalarathne, W.M.K.R.T.W. Bandara, G.G.N. Thushari, G.G.T. Chaminda

14:40

END OF ORAL SESSION

Poster session

Time: 11:00-13:00

Venue: E1

Panel Members: Dr. M.G.P.P. Mahindarathne (Uva Wellassa University of Sri Lanka)
Dr. B.V.A.S.M. Bambaranda (Uva Wellassa University of Sri Lanka)
Dr. G.A.R.R. Perera (Uva Wellassa University of Sri Lanka)
Dr. G. Abhiram (Uva Wellassa University of Sri Lanka)
Ms. G.Y.A.D.D. Perera (Uva Wellassa University of Sri Lanka)

Paper ID

Title of Abstract
Names of Authors

045

Water access and its implications on farm production: Evidence from Hakwatuna irrigation system in Kurunegala district, Sri Lanka

P.T.U. Jayaweera, S. Sarujan, S. Sivashankar, K. Sooriyakumar

13:00

END OF POSTER SESSION



FOOD SCIENCE AND TECHNOLOGY

23rd January 2025

Oral session

Time: 11:00–15:00

Venue: E2 Hall

Panel Members: **Dr. W.S.M. Senevirathne** (Sabaragamuwa University of Sri Lanka) - Chairperson
Dr. C.M. Peries (Uva Wellassa University of Sri Lanka)
Dr. K.M.G.M.M. Kariyawasam (Uva Wellassa University of Sri Lanka)

| Paper ID Time | Title of Abstract Names of Authors |
|---------------------------|--|
| 009 11:00-11:10 | Determination of best hydrolysis condition for egg yolk Phosvitin and checking the functional properties of its hydrolysates <i>Y.M.C.S. Yapa, R. Thushyanthy, D.U. Ahn, E.D.N.S. Abeyrathne</i> |
| 022 11:10-11:20 | Development of nectar from Bael (<i>Aegle marmelos</i> L.) fruit and evaluation of its physicochemical, nutritional, and quality parameters <i>R. Uthayakumar, M.P.M. Arachchige, V.G.G. Chandrajith</i> |
| 023 11:20-11:30 | Development of protective non-edible coating using Dawul Kurudu (<i>Neolitsea cassia</i>) leaf extract and Flax seed (<i>Linum usitatissimum</i>) gel to enhance the shelf life of bananas <i>H.M.S.V. Herath, C.M. Peiris, A.P. Henagamage</i> |
| 039 11:30-11:40 | Microwave-assisted Far-Infrared drying of grapes <i>J.P.B.D. Sumanaweera, W.A.J.P. Wijesinghe, G. Abhiram</i> |
| 050 11:40-11:50 | Development of duckweed powder incorporated cookie and evaluation of its physicochemical, nutritional, functional, microbial and sensory properties <i>W.M.S.U. Weerakoon, R. Hiththathiyage, M.A. Wickramasinghe, I. Rathnayake, W.A.J.P. Wijesinghe, R. Liyanage</i> |
| 054 11:50-12:00 | The assessment of food wastage in food establishments in Sri Lanka <i>M. Sabhanayakam, W.A.C. Ishara, A.M.N.T. Adikari</i> |
| 056 12:00-12:10 | Improvement of viscosity and mouthfeel in drinking yoghurt by incorporating Tapioca modified starch <i>K. Mohan, D.C. Mudannayake</i> |



- 057**
12:10-12:20
An evaluation of executive-level professionals' preference for Traffic Light Labeling system versus Health Star rating format in Sri Lanka
S.H.S. Gunachandra, S.N.S.L.H.P. Neelawala
- 072**
12:20-12:30
Development of sweet potato (*Ipomoea batatas*) flour and corn (*Zea mays*) flour based gluten-free cookie incorporating pumpkin (*Cucurbita maxima*) seed powder and evaluation of its quality parameters
T.M.I.D. Thennakoon, M.P.M. Arachchige, K.P.M. Kahandage
- 084**
12:30-12:40
Development of ready-to-drink spicy beverage from buttermilk
W.H.T. Anuththara, R.M.S. Gunathilaka, D.C. Mudannayake
- 086**
12:40-12:50
Assessing antibacterial properties of *Moringa oleifera* extracts and their application in yoghurt preservation
E.M.M.S. Ekanayaka, T.A. Gunathilake
- 089**
12:40-12:50
Comparison of wine yeast and baker's yeast in alcohol production from *Gracilaria edulis*
K.V.N.S. De Silva, B.V.A.S.M. Bambaranda, E.D.N.S. Abeyrathne
- 099**
12:50-13:00
Potential utilization of *Saccharomyces boulardii* as a probiotic in a dairy beverage
P.K.D.L.S. Panapitiya, E.D.N.S. Abeyrathne, D.C. Mudannayake
- 13:00-13:40
SESSION BREAK
- 108**
13:40-13:50
Potential of developing a red wine using king coconut (*Cocos nucifera var aurantiaca*) water and hibiscus (*Hibiscus rosa-sinensis*) flower extract
E.K.N. Wickramasinghe, S.K.A. Dewage, G.A.A.R. Perera
- 116**
13:50-14:00
Development and standardization of balloon vine (*Cardiospermum halicacabum* Linn.) and cinnamon (*Cinnamomum verum*) incorporated herbal black tea
R.G.M.D.N. Rajakaruna, G.A.A.R. Perera, R.M. Dharmadasa
- 145**
14:00-14:10
Effects of stabilizing agents and shear homogenization on the emulsion stability of creamed coconut
D.A.N. Lakmini, A.G.C.K.M. Harold, A.M.N.L. Abesinghe, W.A.J.P. Wijesinghe
- 162**
14:10-14:20
Formulation and nutritional analysis of cookies made from coconut flour, finger millet flour and wheat flour blend
W.M.S. Dilmini, M. Sivaji, S. Amarasiri, M.W.C. Palliyeguru, N.M. Wijesundara



- 180**
14:20-14:30 **Developing a coffee (*Coffea arabica*) cherry husk-based wine and evaluation of its quality parameters**
P.M.N.N. Pathirathna, G.A.A.R. Perera, H.A.E. Ariyasinghe, U.L.S.R. Perera
- 192**
14:30-14:40 **Effect of fat content of raw cow milk on physicochemical and functional properties of mozzarella cheese**
L.D. Oshadee, R.M.S. Gunathilaka, A.M.N.L. Abesinghe
- 225**
14:40-14:50 **Effect of sous-vide cooking and ultrasonication on tenderization of spent hen breast meat marinated with pineapple juice**
D.A.E. Amaranayake, D.K.D.D. Jayasena, B.G.W.M.A. Aishcharya, P. Kumaradasa, K.M.N.T.K. Bandara, H. Pamarathne, R. Sandakelum
- 226**
14:50-15:00 **Utilization of *Gracilaria verrucosa* red seaweed as a functional ingredient in chicken meatballs**
K.A.V.B. Indrawanshe, W.K.M.H.S. Pamarathna, K.M.N.T.K. Bandara, D.K.D.D. Jayasena, D.C. Mudannayake
- 15:00 **END OF ORAL SESSION**

Poster session

Time: 11:00-13:00

Venue: E1

Panel Members: Dr. M.G.P.P. Mahindaratne (Uva Wellassa University of Sri Lanka)
Dr. B.V.A.S.M. Bambaranda (Uva Wellassa University of Sri Lanka)
Dr. G.A.R.R. Perera (Uva Wellassa University of Sri Lanka)
Dr. G. Abhiram (Uva Wellassa University of Sri Lanka)
Ms. G.Y.A.D.D. Perera (Uva Wellassa University of Sri Lanka)

| Paper ID | Title of Abstract Names of Authors |
|------------|---|
| 004 | Determination of best hydrolysis condition for egg yolk LDL and checking the functional properties of its hydrolysates <i>R. Thushyanthy, Y.M.C.S. Yapa, D.U. Ahn, E.D.N.S. Abeyrathne</i> |
| 027 | Development of cinnamon-infused beetroot (<i>Beta vulgaris</i> L.) wine and a study on the production process, physicochemical properties, and sensory analysis <i>R.M.T.N. Rathnayake, P.N.H. Liyanage</i> |
| 034 | Development of homemade dark chocolate with probiotics addition <i>Y.A.D.B.C. Jayasinghe, I.V.A.D.C.S. Induruwa, N.M. Wijesundara</i> |



- 042** **Development of peanut (*Arachis hypogea* L.) based pumpkin (*Cucurbita maxima*) seed spread incorporating different flavors and evaluation of its quality parameters**
P.D.H. Wanasingha, M.P.M. Arachchige, K.P.M. Kahandage
- 049** **Minimizing browning and maintaining quality in fresh-cut tender Jackfruit (*Artocarpus heterophyllus* L.) through optimized processing parameters**
K.H. Edirisinghe, M. Lakmali, W.A.J.P. Wijesinghe
- 058** **Effect of different drying conditions on phytochemical content and antioxidant activity of curry leaves (*Murraya keonigii*) collected from dry and wet zone areas of Sri Lanka**
U.G.K. Chethana, T.M.S.B. Thennakoon, V.G.G. Chandrajith
- 067** **Optimization of conditions for the preparation of protein concentrate from *Moringa oleifera* leaf**
E.M.N.A. Ekanayaka, G.A.A.R. Perera
- 082** **Studying the potential of utilizing cassava (*Manihot esculenta*) root starch as the primary starch source in manufacturing Ale beer**
S.D. Samaraweera, M. Lakmali, G.A.A.R. Perera
- 100** **Optimization of conditions for protein extraction from *Sesbania grandiflora* leaves**
M.W.N. Ganeesha, G.A.A.R. Perera
- 144** **Edible coating for banana using *Cyclea peltata* leaf, Neem leaf (*Azadirachta indica*) and cassava starch**
K.B.D.D. Kumarasinghe, P.N.H. Liyanage
- 146** **Development of a coconut milk-based fruit smoothie**
R.K.D.D. Samarakkodi, G.A.A.R. Perera, B.G.R.R. Bandara, M. Sivaji, L.L.W.C. Yalgama
- 164** **Comparative analysis of sun, oven, and freeze-drying techniques on the physicochemical, functional, and antimicrobial properties of *Curcuma longa* (turmeric)**
R.T.H. Rajapaksha, K.M.S.A.K. Dehideniya
- 177** **Enhancement of cheese yield through fortification of cheese milk with isolated milk protein powder and evaluation of its physicochemical, microbial and sensory characteristics**
W.P.B. Hemachandra, W.L.C.M. Gunathilaka, D.C. Mudannayake
- 190** **Prevalence and quantification of Coliform bacteria in street foods from Colombo district: A comparative study of Galle Face, Aluthkade, and Kimbulawala**
S.O.D. Manoj, W.W.A.A. Fernando, S.B.M.G.S. Bandara, M.G.S.P. Wijesinghe, S.H.I.U. De Silva, N. Samarakoon, M. Peiris



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Development of coconut-based sweetened condensed milk

W.M.S.W. Wijesingha, A.M.N.L. Abesinghe, B.G.R.R. Bandara, L.L.W.C. Yalegama

13:00

END OF POSTER SESSION



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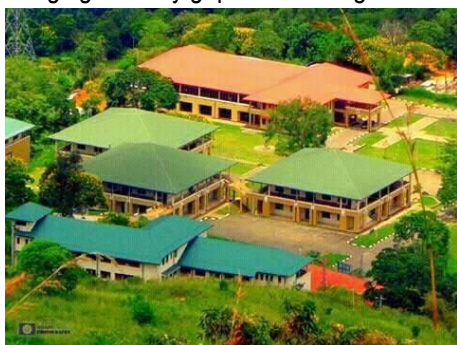
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Uva Wellassa University of Sri Lanka

Nestled amidst the tranquil and misty mountains of Badulla in Uva Province of Sri Lanka, Uva Wellassa University (UWU) stands out not just for its breathtaking scenery but also for its groundbreaking approach to higher education. Established in 2005 as 14th national university, UWU is distinguished as the nation's first entrepreneurial university. Focusing to the vision, "To be the Center of Excellence for Value Addition to National Resource Base", UWU is dedicated to cultivating graduates who possess knowledge, skills, and entrepreneurial spirit essential for bridging industry gaps and driving sustainable national development.



UWU houses five faculties: Faculty of Animal Science and Export Agriculture, Faculty of Applied Sciences, Faculty of Management, Faculty of Technological Studies and Faculty of Medicine. These faculties collectively offer 17 demand-driven degree programs designed to align with the country's diverse resource base. From Aquatic Resources, Animal Science, and Export Agriculture to Tea, Tourism, Information Technology, and Biosystems

Engineering Technology, Information Technology, each program emphasizes value addition, sustainable practices, and entrepreneurial innovation. The curricula are meticulously designed to integrate Essential Skills Development and Broad General Education alongside discipline-specific courses, ensuring that graduates are well-rounded and industry-ready. Notably, the UWU's focus on English as the medium of instruction further prepares students for global opportunities.

UWU has gained a reputation for producing tech-savvy, highly specialized graduates who excel in their respective fields. The university's emphasis on positive attitudes, creativity, communication, and rational thinking ensures that its alumni are not only employable but also capable of contributing significantly to the socio-economic development of the country. This approach has resulted in an impressive average employability rate of 80% for its graduates within a short time period upon graduation. Research forms a cornerstone and thus fosters an environment of scientific inquiry, aligned with its vision. Students are guided by a dynamic and highly competent team of lecturers who bring diverse expertise and experience to the classroom. The annual International Research Conference of UWU (IRCUWU)





serves as a prestigious platform for students and faculty to present their findings, engage with industrial experts, and contribute to academic and practical advancements in their fields.

What sets UWU apart from other national universities is its distinctive practices and innovative governance. The university operates a centralized resource utilization system, ensuring equitable access to physical resources and services across all faculties. Outsourced services guarantee efficiency and quality in the university operations, while the surrounding free from posters, banners, cutouts etc. fosters a clean and disciplined environment. Sustainability is deeply embedded in UWU's ethos. The university actively promotes environment-friendly practices and encourages students to innovate eco-conscious solutions. This commitment to sustainability not only benefits the university community but also extends to the broader society through various outreach and knowledge-sharing initiatives.

UWU's engagement with the local community and industries is facilitated through entities such as the University Business Linkage (UBL) Cell and faculty technology transfer cells. These platforms bridge the gap between academia and society by promoting the dissemination of knowledge, experience, and resources. The programs and outreach activities of UWU are tailored to address societal needs, ensuring that its contributions extend beyond the confines of the university.

Since its inception, UWU has benefited from the visionary leadership of its Vice Chancellors, beginning with Dr. Chandra Embuldeniya, followed by Prof. Ranjith Premalal de Silva, Dr. Gamani Chandrasena, Prof. Jayantha Lal Ratnasekera, and currently, the tenure is held by Senior Prof. Kolith B. Wijesekera with his dedicated guidance. Their collective efforts, combined with the dedication of the UWU Family, have propelled the university to its present stature as a center of excellence and also expect to reach new heights.

The commitment of UWU to innovation, sustainability, and entrepreneurial education sets it apart as a pioneer in Sri Lanka's higher education landscape. Its unwavering focus on value addition to the national resource base, coupled with its emphasis on research, industry collaboration, and community engagement, ensures that UWU graduates are equipped to drive the country's socio-economic advancement. As it continues to expand and evolve, UWU remains a beacon of academic and entrepreneurial excellence, fostering a brighter future for Sri Lanka and beyond.





Faculty of Animal Science and Export Agriculture

Faculty of Animal Science and Export Agriculture of Uva Wellassa University (UWU) is a cornerstone of agricultural education and innovation in Sri Lanka. Established as one of the inaugural faculties in 2005, it has been at the forefront of producing skilled agriculturalists capable of making transformative contributions to the agriculture sector. Driven by the overarching vision of UWU, the faculty emphasizes scientific approaches, entrepreneurial mindsets, and technological advancements to equip its graduates for ever-evolving challenges of the agriculture sector.

The faculty comprises three specialized departments: Department of Animal Science, Department of Export Agriculture and, Department of Food Science and Technology. Together, they currently offer six unique undergraduate degree programs tailored to address critical national needs: BScHons (Animal Production and Food Technology), BScHons (Export Agriculture), BScHons (Tea Technology and Value Addition), BScHons (Palm & Latex Technology and Value Addition), BScHons (Aquatic Resources Technology) and BScHons (Plantation Management and Technology). These four-year degree programs, conducted in English and aligned with the Sri Lanka Qualification Framework (SLQF) Level 6, prioritize hands-on-experience, field exposure, industrial internships, and research projects to ensure that the students are well-rounded and job-ready upon graduation.

Graduating approximately 300 students annually, the faculty plays a pivotal role in addressing gaps in Sri Lanka's agriculture sector. Its graduates are envisioned not only as future leaders but also as drivers of innovation and value addition across diverse agricultural domains. In addition to imparting knowledge, the faculty is committed to cultivating essential skills and attitudes, encouraging entrepreneurship among students, and promoting sustainable practices in agriculture. At the postgraduate level, the faculty offers Master of Philosophy (MPhil) programs across various disciplines of agriculture and related aspects and these two-year, research-based programs aim to address complex challenges in the sector. Additionally, the faculty conducts external programs, including short courses on Plant Tissue Culture, Floral Decoration, and Agribusiness Management, meeting the growing demand for specialized skills.

The faculty's commitment to excellence extends beyond academics and research. Over the years, its academic staff have been recognized for their outstanding contributions to research, with numerous awards, including the prestigious President's Awards. Faculty members have also helped the university gain distinction as a leader in agricultural research publications on a per capita basis. With state-of-the-art facilities, including 27 advanced laboratories and centers/units, and a dedicated academic staff of 65 members, the Faculty of Animal Science and Export Agriculture continues to strengthen its contributions to Sri Lanka's agricultural development. Its graduates, equipped with knowledge, skills, and entrepreneurial spirit, are poised to lead the sector towards a sustainable and prosperous future, fulfilling the vision of the university



PAST SYMPOSIUM: NSALS '24



The National Symposium on Agriculture and Life Sciences 2024 (NSALS '24) was successfully held on January 5, 2024, marking the inaugural symposium of the Faculty of Animal Science and Export Agriculture. The event brought together budding scholars and innovators to present their novel research findings, groundbreaking innovations, and scholarly contributions, all aimed at

advancing national agricultural development.

NSALS '24 was not limited to participants from Uva Wellssa University but also welcomed undergraduates from other universities across Sri Lanka. This approach established NSALS as a truly national platform, enabling undergraduates to share and exchange their latest scientific findings with peers from diverse academic institutions.

The symposium revolved around the theme, “Shaping the Future: Research and Innovations,” emphasizing the crucial role of academia in addressing contemporary challenges. The keynote address, titled “Inventions and Innovations Towards Sustainability,” was delivered by Prof. Rangika Halwathura, a distinguished Professor in Civil Engineering from the Department of Civil Engineering, University of Moratuwa, Sri Lanka. Additionally, Mr. Anurudda Gamage, General Manager/Head of HR & Corporate Sustainability at Kelani Valley Plantations PLC, Sri Lanka, delivered a special address on the importance of graduates contributing to a sustainable, ethical, and responsible workforce.

The symposium showcased 100 scholarly abstracts, highlighting the diverse and impactful research efforts of the participants. The event was expertly coordinated by Dr. Kasun Meegahakumbura, with Ms. Ayantha Abeygunawardana serving as Secretary of NSALS '24.





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