SHAPING A RESILIENT FUTURE THROUGH SCIENTIFIC CONVERGENCE

WURC

2026

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PROGRAMME BOOK

11th WAYAMBA UNIVERSITY RESEARCH CONGRESS

Senate Research and Higher Degrees Committee
Wayamba University of Sri Lanka

Wayamba University of Sri Lanka

Programme Book

11th Wayamba University Research Congress

WURC
Our Innovations for National Development

13 November, 2026

Programme of the 11th Wayamba University Research Congress - 2026

Wayamba University of Sri Lanka

"Shaping a Resilient Future Through Scientific Convergence"

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Message from the Vice Chancellor
Wayamba University of Sri Lanka



It is with immense pleasure and great enthusiasm that I extend my warmest greetings and best wishes to the 11th Wayamba University Research Congress (WURC 2026), organized by the Senate Research and Higher Degrees Committee of the Wayamba University of Sri Lanka.

This year's theme, "Shaping a Resilient Future through Scientific Convergence," is both timely and profoundly significant. At a time when the world is confronted with complex and interconnected challenges, the advancement of knowledge through research, innovation, interdisciplinary collaboration, and the convergence of diverse scientific disciplines has become more important than ever. Building a resilient future requires not only scientific excellence but also the ability to translate knowledge into meaningful solutions that benefit society and contribute to sustainable national development.

Research remains at the heart of the mission of any university. At Wayamba University of Sri Lanka, we recognize that a vibrant research culture is essential for academic excellence, innovation, and institutional advancement. WURC provides an invaluable opportunity for our academic staff, researchers, postgraduate students, and other scholars to present their findings, exchange ideas, engage in constructive dialogue, and establish meaningful research collaborations.

I am particularly pleased that WURC 2026 provides an opportunity to bring together researchers from diverse disciplines. Such scientific convergence encourages us to move beyond traditional disciplinary boundaries and explore new perspectives and innovative approaches to addressing contemporary challenges. I firmly believe that collaboration among different fields of knowledge can generate transformative ideas and solutions that would not emerge through isolated efforts.

I commend the Senate Research and Higher Degrees Committee, the Editorial Committee, organizing committees, academic staff, researchers, postgraduate students, and all other contributors for their dedication and commitment to organizing this important academic event. The quality and diversity of the research contributions presented at this Congress are a reflection of the growing commitment of our University community towards research and knowledge creation.

I also take this opportunity to acknowledge the valuable contribution of our national and international research collaborators, reviewers, presenters, and participants whose engagement strengthens the academic and research environment of Wayamba University of Sri Lanka. I encourage all participants to use this Congress not merely as a forum for presenting research, but also as an opportunity to establish new partnerships, share knowledge, inspire one another, and identify avenues for future collaborative research.

As we move towards a future shaped by rapid technological advancement, environmental challenges, economic uncertainties, and evolving societal needs, universities have a vital responsibility to generate knowledge that is relevant, innovative, ethical, and impactful. I am confident that the research presented at WURC 2026 will contribute towards this endeavor and inspire further research and innovation for a more resilient and sustainable future.

I wish the 11th Wayamba University Research Congress – WURC 2026 every success and extend my sincere appreciation to everyone who has contributed to its organization and success.

Prof. E.M.P. Ekanayake
The Vice Chancellor
Wayamba University of Sri Lanka

Message from Chairman
Senate Research and Higher Degrees Committee



The *Wayamba University Research Congress (WURC)* is the premier annual research event of the Wayamba University of Sri Lanka, serving as a platform to present and discuss the research outputs of university research grant holders and the progress of postgraduate research. It brings together our research community in the spirit of knowledge sharing and scholarly collaboration.

This year marks the **11th Anniversary of WURC**, representing more than a decade dedicated to fostering research excellence and innovation. Building on the success of previous congresses, WURC 2026 once again highlights the vibrant research conducted across the six faculties under the theme **"Shaping a Resilient Future Through Scientific Convergence**."

The event features faculty-level research awards, the Wayamba University Research Awards in both junior and senior categories, and special recognition for publications in SCI-indexed journals. These achievements reflect the dedication of our postgraduate students and staff and their invaluable contributions to advancing the research profile of the university.

The Senate Research and Higher Degrees Committee continues to guide a wide range of MPhil and PhD programmes across diverse disciplines. Despite the challenges, our researchers have maintained a strong publication record. Continuing our commitment to sustainability, the online proceedings also contribute to reducing paper use and financial costs.

The success of WURC depends on the unwavering support of the Vice-Chancellor and the academic, administrative, and non-academic staff. I extend my sincere appreciation to the Co-Chairs, Dr. Mihira Wanninayake, Dr. (Mrs.) Manavi Ekanayake and Dr. (Mrs.) Namalee Napagoda, for their leadership in coordinating this year's event, as well as to the reviewers, contributors, and authors whose research enriches these proceedings.

As we celebrate over a decade of scholarly excellence, I warmly welcome all participants to WURC 2026 and congratulate the presenters and award winners whose achievements continue to inspire our academic community.

Prof. Kapila Yakandawala
Chairman, Senate Research & Higher Degrees Committee
Wayamba University of Sri Lanka

Message from the Dean
Faculty of Agriculture and Plantation Management



It is with great pleasure that I convey my message to the 11th Wayamba University Research Congress (WURC 2026). Today's most pressing challenges cannot be addressed by any single discipline alone. Climate change, food and water security, biodiversity loss, and rapidly advancing technologies are deeply interconnected and do not respect the boundaries of any single subject. This is the essence of this year's theme, "*Shaping a Resilient Future through Scientific Convergence.*"

Scientific convergence means bringing different kinds of knowledge together - agriculture and biology, engineering, data science and artificial intelligence, economics, policy, and the wisdom passed down through generations of local farming. Resilience, similarly, is not merely the ability to recover from adversity. This kind of strength does not grow inside one discipline alone; it grows where different kinds of knowledge, and different kinds of people, come together.

At the Faculty of Agriculture and Plantation Management, this commitment is advanced through high-impact research, climate-smart agriculture, sustainable plantation systems, digital innovation, interdisciplinary collaboration, industry engagement, student research, international partnerships, and the translation of scientific knowledge into practical solutions for society. The true value of research, however, should not be measured solely by the number of publications produced, but by its ability to solve real-world problems, support farmers, inform good policy, strengthen an industry, and create real opportunities for the next generations. WURC provides an important platform for students, researchers, policymakers, industry partners, and experienced scientists to exchange ideas, foster meaningful collaborations, and generate innovative solutions.

I warmly congratulate the organizing committee, every researcher, author, student, and staff contributing to WURC 2026. May this Congress inspire ideas and partnerships that extend well beyond the event itself. When knowledge converges, innovation emerges; when innovation serves people in the society, resilience grows, and a more sustainable future becomes possible for all of us.

Prof. K.G.M.C.P. Bandara Gajanayake
Dean, Faculty of Agriculture and Plantation Management
Wayamba University of Sri Lanka

Message from the Dean
Faculty of Applied Sciences



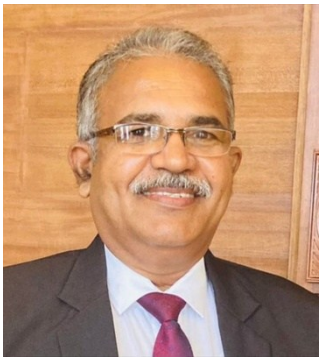
It is with great pleasure and pride that I extend my warmest greetings to all researchers, academics, and guests attending the 11th Wayamba University Research Congress (WURC) 2026. As a member of Wayamba University's community, I am honored to celebrate this landmark event, which highlights the university's deep-rooted commitment to academic and research excellence. This year's compelling theme, "Shaping a Resilient Future Through Scientific Convergence," resonates deeply with the core mission of the Faculty of Applied Sciences and Wayamba University at large. Today's global challenges are complex and interconnected, demanding that universities step outside traditional academic silos. True innovation happens at the crossroads of disciplines. By bringing together diverse fields from agriculture, livestock, fisheries, nutrition, and medicine to business and technology, this congress provides a vital platform where pure and applied scientific concepts converge to spark real-world solutions.

WURC 2026 serves as an invaluable ecosystem for our faculty, sister faculties, postgraduates, and administrative staff to share original insights, challenge existing paradigms, and build lasting networks. The technical sessions will undoubtedly showcase rigorous scholarship that addresses both local needs and global advancements. I am sure that the active engagement of researchers and participants of the WURC 2026 creates a platform for generous insight sharing and an embrace of the spirit of collaborative discovery.

I would like to express my sincere appreciation to the Senate Research and Higher Degrees Committee (SRHDC) for their meticulous organization and dedication to elevating our institution's research culture. I also congratulate all the presenters and the recipients of the annual Wayamba University Research Awards (WURA). Your tireless pursuit of knowledge drives our collective progress. May this congress inspire new avenues of inquiry, foster impactful partnerships and cross-disciplinary research, and empower the Wayamba University community to shape and create a more resilient and sustainable tomorrow.

Prof. M.M.D.R. Deegahawature
Dean, Faculty of Applied Sciences
Wayamba University of Sri Lanka

Message from the Dean
Faculty of Business Studies and Finance



It is with great pleasure and pride to write this message for the Wayamba University Research Congress (WURC) organized by the Senate Research and Higher Degrees Committee (SRHDC) of the Wayamba University of Sri Lanka.

WURC offers a valuable platform to foster a research culture among the postgraduate students, academia, and other scholars across various academic disciplines. Participants of the WURC stand to enhance their knowledge, share experiences, and gain insights into the latest scholarly perspectives. Innovative thinking and searching for new ways are significant to cope with the context of the present socio-economic challenges in Sri Lanka. The increasing socio-economic challenges reflect the importance of research findings based on empirical studies. The aims of the research congress go far beyond the dissemination and sharing of knowledge, and the contribution of the research findings can play a significant role for the sustainable development of the country.

I hope that the Wayamba University Research Congress is a great opportunity for the academia, researchers, and scholars to acquire new knowledge and to exchange their experience and findings of the research results that encompass the creation and dissemination of novel intellect to ensure the advancement of social human beings.

I extend my heartfelt congratulations and convey my best wishes to the Chairman of the Senate Research and Higher Degrees Committee, and the Co-chairs and members of the Wayamba University Research Congress, and to all the presenters, awardees, and participants for a very fruitful research session.

Prof. S.K. Gamage
Dean, Faculty of Business Studies and Finance
Wayamba University of Sri Lanka

Message from the Dean
Faculty of Livestock, Fisheries and Nutrition



It is with great pleasure and anticipation that I convey this message to the 11th Wayamba University Research Congress (WURC) - 2026. Research Conferences serve as catalysts for innovation, transformation, and the exchange of scientific findings and research ideas that shape the future and future research. This is a truly unique platform for graduate students to come forward and showcase their progress and tangible outcomes. In addition, it brings together brilliant minds, visionaries, and thought leaders from diverse fields and backgrounds, each contributing their unique perspective to the collective pursuit of solutions to some of the most pressing challenges of our time.

WURC- 2026 theme, "Shaping a Resilient Future Through Scientific Convergence", makes a stage to discuss solutions for the challenges constantly evolving in a world and explore new horizons, foster interdisciplinary collaboration, and harness the power of our collective intellect to drive positive change. Today, we are going to see a series of stimulating presentations and discussions that will undoubtedly expand our knowledge and inspire us to think beyond conventional boundaries. I would like to express my heartfelt gratitude to our dedicated organizing committee, whose tireless efforts and commitment have made this conference possible. Their dedication to ensuring a seamless and enriching experience for all attendees is truly commendable. I would also like to extend my deepest appreciation to our presenters, who have graciously agreed to share their expertise and insights with us. Your contributions are invaluable, and we are honored to have you as part of this event. Scientists' presence here today is a testament to your commitment to lifelong learning and your dedication to making a difference. Furthermore, your active engagement in discussions and networking with peers provides an opportunity to develop you personally and professionally.

I extend my warm wishes for a productive and enriching 11th Wayamba University Research Congress - 2026 and may this conference be a source of inspiration, knowledge, and meaningful connections.

Prof. Gamika A. Prathapasinghe
Dean, Faculty of Livestock, Fisheries and Nutrition
Wayamba University of Sri Lanka

Message from the Dean
Faculty of Medicine



With great pleasure, I send my warm greetings to the Research Congress of Wayamba University of Sri Lanka. "Shaping a Resilient Future through Scientific Convergence" is a timely and attractive theme, highlighting the vital role of interdisciplinary research and collaboration in addressing the complex challenges of our time. In an increasingly interconnected world, scientific progress requires the integration of knowledge, expertise, and innovative thinking across diverse disciplines. Such convergence is essential to generate novel solutions and to face challenges in all spheres around us. It will strengthen resilience and contribute towards sustainable development and societal well-being as well.

As the newly appointed Dean of the Faculty of Medicine, I strongly endorse research as the foundation for advancement in medical education, improving healthcare, and addressing the evolving health needs of the country. Through collaboration among medical professionals, scientists, academics, and other stakeholders, we can foster a vibrant research culture that translates scientific discoveries into meaningful improvements in health and quality of life.

I commend the University for providing this valuable platform to share knowledge, exchange ideas, and establish research collaborations. I appreciate the hard work of the organizing committee, researchers, and all contributors for their dedication and commitment towards making this event a success.

May this congress inspire new partnerships, innovative discoveries, and a shared commitment to shaping a healthier, more resilient, and sustainable future.

Prof. Priyantha Perera
Dean, Faculty of Medicine
Wayamba University of Sri Lanka

Message from the Dean
Faculty of Technology



It is with great pleasure that I extend my warmest greetings to all participants of the 11th Wayamba University Research Congress (WURC 2026). This year's inspiring theme, "Shaping a Resilient Future through Scientific Convergence," reflects the growing need to bring together knowledge, expertise, and perspectives across disciplines to address the complex challenges facing our world and our nation. In an era characterized by rapid technological advancement, environmental uncertainty, economic pressures, and emerging societal challenges, no single discipline can provide all the answers. Scientific convergence-where diverse fields of knowledge intersect, complement one another, and generate new possibilities-is increasingly essential for meaningful research and innovation. By fostering such collaboration, our researchers can move beyond disciplinary boundaries and develop solutions that are not only scientifically sound but also relevant, practical, and impactful.

As the Dean of the Faculty of Technology, I strongly believe that universities have a vital responsibility to transform knowledge and research into innovations that contribute to national development and societal well-being. Research should therefore extend beyond the generation of academic knowledge; it should create pathways for technological advancement, sustainable development, industrial growth, and improved quality of life. In this context, strengthening collaboration among disciplines, academia, industry, government, and society is fundamental to building a resilient and future-ready nation.

I sincerely commend the organizing committee for their dedication and commitment in bringing this important academic event to fruition. I also extend my heartfelt appreciation to all researchers, presenters, reviewers, and awardees whose contributions enrich this congress and strengthen the research culture of our University. May WURC 2026 inspire new partnerships, breakthrough ideas, and a shared commitment to shaping a more resilient, sustainable, and prosperous future.

I wish the 11th Wayamba University Research Congress every success and all participants an intellectually enriching and rewarding experience.

Dr. Manjula Wickramasinghe
Dean, Faculty of Technology
Wayamba University of Sri Lanka

Message from the Co-chairs
11th Wayamba University Research Congress





It is our great pleasure to welcome you to the 11th Wayamba University Research Congress 2026 (WURC 2026), inspired by the theme, "Shaping a Resilient Future through Scientific Convergence". In a world facing increasingly complex challenges, research plays a vital role in generating knowledge, inspiring innovation, and developing solutions for a sustainable and resilient future. Addressing these challenges requires us to move beyond disciplinary boundaries and embrace the power of collaboration, bringing together diverse perspectives, expertise, and experiences. Scientific convergence provides an important pathway towards this goal, enabling us to transform knowledge into meaningful outcomes for the society.

WURC 2026 provides a vibrant platform for researchers at Wayamba University of Sri Lanka to share their findings, exchange ideas, and establish new collaborations. The main research presentation sessions reflect the breadth and diversity of scholarly analysis across disciplines, demonstrating the university's commitment to advancing knowledge and addressing contemporary challenges. Beyond these sessions, this year's congress continues to strengthen the inclusive and collaborative spirit of research at Wayamba University through several distinctive initiatives. A notable feature of WURC 2026 is the introduction of the Research Gallery, designed to showcase research findings and achievements of postgraduate researchers who have completed their studies. The Three-Minute Research Competition and the Webinar Series returns as another two important events organized by WURC 2026, to empower and uplift the undergraduates, graduates, postgraduate students alongside with the staff of WUSL. These initiatives provide an opportunity to recognize their scholarly contributions, bring completed research into wider view, and demonstrate the lasting value of postgraduate research. Together, these activities, along with the main research presentation sessions, vividly

demonstrate the research strength of Wayamba University and the collaborative spirit of its research community.

We warmly congratulate all awardees on their outstanding contributions to our university's research community. Your achievements inspire us to further strengthen a culture of research excellence and innovation at Wayamba University of Sri Lanka. As Co-Chairs, we wish to express our sincere gratitude to Prof. EMP Ekanayake, the Vice-Chancellor of Wayamba University of Sri Lanka for his visionary leadership and unwavering commitment to advancing research at the Wayamba University of Sri Lanka. Our special thanks go to Prof. Kapila Yakandawala, Chairman of the Senate Research & Higher Degrees Committee for his dedicated efforts in shaping this event into a prestigious academic gathering. We extend our sincere gratitude to our keynote speaker, Mr. Johan Gely, Asia Director for Research Impact at the International Water Management Institute (IWMI), for his insightful and thought-provoking address, which inspired meaningful dialogue and set an engaging tone for the conference.

We extend our special appreciation to the subject experts who generously devoted their time and expertise to evaluating submissions and ensuring the academic standards of the congress. Our thanks also go to the session chairs, judging panel members, authors, presenters, postgraduate researchers, and everyone who contributed to bringing this event to realization. We sincerely appreciate the invaluable administrative support of the Registrar, Bursar, Acting Librarian, Deputy Registrar of Academic Division and the team. The tireless efforts of the leaders and members of the WURC 2026 sub-committees, whose behind the scenes have been instrumental in making this congress a success. Finally, we extend our profound gratitude to the entire university staff for their collective efforts in realizing this remarkable event. Your contributions exemplify the spirit of collaboration and dedication that define the Wayamba University community.

We hope WURC 2026 will serve not only as a platform for disseminating research findings but also as a catalyst for new ideas, meaningful partnerships, and future collaborations. May the discussions, connections, and shared experiences of this congress strengthen our collective commitment to scientific excellence and inspire research that contributes to a more resilient and sustainable future.

With our sincere appreciation,

Dr. Mihira Wanninayake | Dr. Manavi Ekanayake | Dr. Namalee Napagoda
Co-chairs, Wayamba University Research Congress 2026
Wayamba University of Sri Lanka

Message from the Keynote Speaker



It is a privilege to be with you at the 11th Wayamba University Research Congress (WURC) 2026.

The theme "Shaping a Resilient Future through Scientific Convergence" is clear: knowledge creates public value when disciplines converge, when evidence drives action, and when discovery improves lives.

Since arriving in Sri Lanka in 2019, just after the Easter bombings and shortly before the Covid pandemic, I have seen a country that has endured deep shocks, and I have seen how those shocks revealed the resilience, ingenuity, and solidarity on which renewal can be built.
The challenge now is to turn resilience into progress: a fairer, greener, more productive country, ready for uncertainty. At the International Water Management Institute (IWMI), we see our responsibility plainly: research must begin with people's realities and end with solutions that are scientifically sound, locally grounded, and scalable.

Three words capture what it will take to deliver on this theme: Create. Compete. Belong. Create ideas and enterprises. Compete through productivity, quality, and distinctive value. Belong by enabling young people to build meaningful futures at home. Creation starts with imagination. As Ms. Randhula de Silva, CEO of Good Life X, has observed, the arts and reading are not luxuries; they cultivate curiosity, creativity, judgment, and leadership. Imagination must then be matched by innovation, intelligent risk-taking, economic literacy (understanding how policy shapes opportunity and enterprise), and the willingness to explore "green field" research areas that the country needs. Currently, my research group is working on a project that takes an innovative humanities-led approach to understanding over 500 years of human–wetland interaction in Colombo - bringing together environmental historians, heritage scholars, artists, ecologists, social scientists and engineers. The project complements technical and ecological studies by exploring the cultural, historical and community significance of wetlands, and using participatory workshops and creative approaches to engage diverse communities in reimagining their future. We hope the project will generate new insights for wetland policy and management. Competition is not only industrial. Let me be a little disruptive: Sri Lanka's culture, biodiversity, and gastronomy are strategic assets, sources of soft power and high-value economic opportunity. They offer the potential to distinguish the country internationally, attract investment and talent, and create new forms of sustainable enterprise. Here too, science has much to contribute by documenting and valuing these assets, supporting their sustainable management, and translating knowledge into innovation and economic opportunity. Alongside these assets, agriculture and energy are sectors where resilience and the transition to a renewable, resource-efficient economy become tangible. Advances in science, technology and innovation can help raise productivity, reduce vulnerabilities, create

new markets and livelihoods, and deliver more broadly shared prosperity. Together, these areas offer opportunities to build a more competitive, resilient and sustainable future for Sri Lanka.

Finally, Belong. Today, Sri Lanka exports its people by the tens of thousands. I believe a resilient future will be better built by exporting ideas, services, and value. This means creating an economy that not only generates jobs but also provides opportunities for people to apply their talents, innovate, build enterprises and contribute to society. Education, research, entrepreneurship and investment all have a role in creating these opportunities and connecting Sri Lanka to the wider world. Equally important is creating a society in which people feel their contributions are valued and their aspirations can be realised. Resilience begins when talent finds purpose and possibility at home: a true sense of belonging.

Let me end on a personal note for the students:
Personal development requires goals, values, and the courage to adapt.
Plans may fail; purpose need not. Clear goals, steadfast values, and decisive action turn uncertainty into possibility.

- Goals give direction when plans change.
- Values keep us steady under pressure.
- Progress begins now: take meaningful risks and act.

The same principles must guide Sri Lanka: a clear destination; values that command trust; and action that strengthens food, water, and energy security, builds industry, expands dignified opportunity, protects natural heritage, and grows the strategic assets mentioned earlier.

Let us build a research culture rigorous in evidence, generous in collaboration, responsive to society, and bold enough to challenge convention. We must equip students not merely to enter the future, but to shape it.
I thank the organizing committee for bringing this gathering to life, and I congratulate every presenter, participant, and awardee.
Resilience begins when imagination thrives, knowledge finds purpose, and purpose becomes action.

Let this Congress turn insight into commitment and commitment into Sri Lanka's resilience.

I wish the 11th WURC 2026 every success.

Dr. Matthew McCartney
International Water Management Institute (IWMI)

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Programme Schedule

Programme

Technical Sessions

8.00 a.m. **Registration and Refreshments**

08.30 a.m. **Technical Sessions (6 parallel sessions)**

Inaugural & Awarding Ceremony

11.30 a.m. **Lighting of the Traditional Oil Lamp**

11.40 a.m. **University Anthem**

11.45 a.m. **Welcome Address by Dr. Mihira Wanninayake**
Co-chair, WURC 2026

11.50 a.m. **Address by Prof. Kapila Yakandawala**
Chairman, SRHDC, WUSL

11.55 a.m. **Address by the Chief Guest, Prof. E. M. P. Ekanayake**
Vice Chancellor, Wayamba University of Sri Lanka

12.05 p.m. **Introduction of Keynote Speaker by Dr. Manavi Ekanayake**
Co-chair, WURC 2026

12.10 p.m. **Keynote Address by Dr. Matthew McCartney**
International Water Management Institute

12.45 p.m. **Dance Performance**

12.50 p.m. **Awarding Ceremony**
Wayamba University Research Awards

01.45 p.m. **Vote of Thanks by Dr. Namalee Napagoda**
Co-chair, WURC 2026

01.55 p.m. **National Anthem**

02.00 p.m. **Lunch**

Technical Session Details

Postgraduate Sessions

Session 1	**Aquatic Biodiversity and Sustainability**
Time	8.30 am – 10.45 am
Venue	Main Auditorium (FAS) – New Wing (3rd Floor)
Session Chair	Snr. Prof. (Mrs.) N.S. Kottearachchi
Panel Members	Prof. R.G.S. Wijesekara Prof. (Mrs.) W.A.H. Champa
Session Coordinator	Dr. Shashya Diyapaththugama

Time	**Paper ID**	**Title of Paper**	**Author(s)**
8.30 am – 8.45 am	FLFN 42	Molecular Identification of Sharks in the Local Dry Fish Trade: Evidence of Insufficient Labelling and Marketing of Threatened Species	M.A.M. Rupasinghe A. Tanna W.M.G. Sandamalika E. Humble S. Jayakody D. Fernando
8.45 am – 9.00 am	FLFN 60	Microalgal Diversity in North-Western Sri Lankan Coastal Waters: A Baseline for Bioprospecting Commercially Valuable Lipids and Fatty Acids	C.C. Walpita M.D.S.T. de Croos C.N. Walpita
9.00 am – 9.15 am	FLFN 69	Relationship between Sediment Organic Matter Content and Sandfish Growth in a Pearl Oyster-Seaweed-Sandfish IMTA System in Northern Sri Lanka	A.M.C.P. Kumara S.T. Gonapinuwala P.P.M. Heenatigala M.D.S.T. de Croos

9.15 am - 9.30 am	FLFN 71	Species-Specific Post-Harvest Losses, Economic Devaluation, and Quality Degradation in the Artisanal and Multiday Marine Fisheries of Northern Sri Lanka	A. Sivanandan S.T. Gonapinuwala M.D.S.T. de Croos
9.30 am - 9.45 am	FLFN 73	Selective Trap Evaluation for Harvesting Giant Freshwater Prawn (*Macrobrachium rosenbergii*) in Sri Lankan Culture-based Fisheries	S.A.S. Pilagolla U.S. Amarasinghe J. Clive H.A.C.C. Perera M.D.S.T. De Cross
9.45 am - 10.00 am	FLFN 78	Assessment of Depth and Temporal Variations in the Density of *Thenus orientalis* off the Pethalai Coast, Batticaloa District in Sri Lanka	I.U. Wickramaratne R.M.G.N. Thilakarathne M.D.S.T. de Croos
10.00 am 10.15 am	FLFN 79	Temporal Recovery and River Mediated Vulnerability of Tropical Seagrass Ecosystems After Cyclone and Associated Flood Impacts	H.K.T. Amaya M.D.S.T. de Croos
10.15 am - 10.30 am	FLFN 83	Environmental Impact Assessment in Sri Lanka: An Assessment of Policy Frameworks, Gaps and Implementation Challenges	J.A.W.W. Jayasinghe S. Jayakody J. Gunawardana K.G.T.N. Kiriella
10.30 am - 10.45 am	FLFN 85	Variation in *Terebralia palustris* Density Across Natural and Restored Mangrove Habitats in Relation to Lunar Phase, pH and Salinity at Pubudugama, Sri Lanka	H.N.T.M. Kumarasiri S. Jayakody M. Fernando W.M.H.K. Wijenayake

Session 2		**Food and Agriculture**	
Time		8.30 am- 10.45 am	
Venue		Mini Auditorium - Old Wing (1st Floor)	
Session Chair		Prof. K.D.P.P. Gunathilake	
Panel Members		Prof. (Mrs.) B.L.W.K. Balasooriya Dr. Nimali De Silva	
Session Coordinator		Mr. A. L. Janith Bandara	
Time	**Paper ID**	**Title of Paper**	**Author(s)**
8.30 am – 8.45 am	FAPM 02	Reassessment of the Conservation Status of the Genus *Blyxa* in Sri Lanka Using IUCN Red List Categories and Criteria	R.H.L. Ranasinghe D.M.D. Yakandawala K. Yakandawala
8.45 am – 9.00 am	FAPM 08	Pulp Quality of Oil Palm Empty Fruit Bunch-Based Fibre Blends for Sustainable Non-Wood Paper Development	L.B. Dunsford D.C. Abeysinghe R.C.W.M.R.A. Nugawela
9.00 am – 9.15 am	FAPM 17	Comparison of Above-ground Carbon Stocks between Dieback-Affected and Healthy Forest Patches in the Knuckles Conservation Forest, Sri Lanka	T. Herath S. Lakmali S. Salgadoe N. Wickramasinghe R. Wanigasinghe

9.15 am – 9.30 am	FAPM 23	Integrating InVEST SDR Modeling and Avoided-Cost Framework for Watershed Conservation in the Gurugoda Oya Sub-Basin of the Upper Kelani River Basin	S.S.K.T. Seelanatha J.M.M. Udugama L. Udayanga
9.30 am – 9.45 am	FAPM 44	Value Chain Bottlenecks in Protected Vegetable Farming: Evidence from Commercial Growers in Welimada, Sri Lanka	K.P.N.G. Kanuwana H.M.L.K. Herath J.C. Edirisinghe
9.45 am – 10.00 am	FLFN 56	Food Literacy, Dietary Diversity, and Nutritional Status Among Secondary School Children: Baseline Findings from a School-based Nutrition Intervention	M.M.S. Karunanayaka O.S. Indramali U. Dissanayeke T. Kudagammana D. Hunter J. Mohotti T. Perera K.D.R.R. Silva
10.00 am 10.15 am	FLFN 57	Diet Quality and Dietary Diversity Among Women of Reproductive Age in Rural and Urban Communities in Badulla and Rathnapura Districts of Sri Lanka	S.M.H.D. Sitisekara A. Christopher N. Koyratty R.M.T.K. Ranathunga D. Olney P.H. Nguyen K.D.R.R. Silva

10.15 am – 10.30 am	FLFN 58	Knowledge-practice Gap in School Gardening Among Secondary School Students in Sri Lanka: A Mixed-methods Study	O.S. Indramali M.M.S. Karunanayaka T. Perera U. Dissanayke T. Kudagammana J. Mohotti D. Hunter K.D.R.R. Silva
10.30 am – 10.45 am	FAPM 45	An Integrated Framework for Assessing Technical Efficiency in Protected Vegetable Farming: A PRISMA-Based Systematic Review	K.P.N.G. Kanuwana H.M.L.K. Herath J.C. Edirisinghe

Session 3	**Green Technologies and Sustainable Solutions**		
Time	8.30 am – 10.45 am		
Venue	Seminar Room (ELTN) – New Wing – (2nd Floor)		
Session Chair	Prof. W.A. Susantha Wijesinghe		
Panel Members	Dr. W.M.H.K. Wijenayake Dr. (Mrs.) Thusitha Somarathne		
Session Coordinator	Ms. Ayanthi Rathnayake		
Time	**Paper ID**	**Title of Paper**	**Author(s)**
8.30 am – 8.45 am	FLFN 20	Response Surface Methodology-Based Optimisation of Alkaline Extraction for Improved Carrageenan Yield and Functional Properties	S. Simmaky S. Srivarathan R.G.S. Wijesekara K.D.P.P. Gunathilake
8.45 am – 9.00 am	FOT 35	Preliminary Development and Experimental Evaluation of Bismuth Chloride-Incorporated Natural Rubber Latex Composites for Lead-Free Diagnostic X-ray Shielding	T.V.A. Ruwansiri U.S. Liyanaarachchi H.T.D.S. Madusanka H.W. Jeong
9.00 am – 9.15 am	FOT 22	Self-Healing Performance of Natural Rubber Latex Films Modified with Thymine and Zinc Acetate as Supramolecular Healing Agents	M.N.S. Gunawardhana S.P.A.U.K. Samarakoon W.M.N.B. Wanninayake U.S. Liyanaarachchi

9.15 am – 9.30 am	FOM 28	Antibacterial Potential and Phytochemical Screening of Selected Local Fabaceae Species: Basis for Green Synthesis of Silver Nanoparticles	H.G.H. Gallage H.P.S. Jayaweera J. Perera S. Jeevathayaparan N.S. Muthunayake
9.30 am – 9.45 am	FOT 21	Preliminary Germination Assessment of Selected Fodder Crops for the Design of a Controlled-Environment Hydroponic Fodder Production System	A.A.P. Abediwakara H.T.D.S. Madusanka A.S.A. Salgadoe U.S. Liyanaarachchi
9.45 am – 10.00 am	FLFN 49	Conceptual Development of a Food Regulatory Alignment Assessment Framework for Assessing Sri Lanka's Food Regulatory System Against International Best Practices	C.R.A. Pathirana C.V.L. Jayasinghe S. Jayatilake
10.00 am - 10.15 am	FOT 54	Development and Investigation of the Antimicrobial Activity of CuO/ZnO Core- Shell Nanoparticles	P.U.J. Pathiranage W.M.H.N. Wickramasinghe W.M.N.M.B Wanninayake
10.15 am – 10.30 am	FLFN 55	Artificial Intelligence-assisted Gamified Mobile Application for Dietary Assessment and Healthy Food Choices among Adolescent Girls in Sri Lanka: A Feasibility Study	H.M.N.J. Karunarathna T. Perera A. Gelli K.D.R.R. Silva

10.30 am – 10.45 am	FOT 77	Investigation of Property Improvement in Rubber Composites by Partially Replacing Silica with Microcrystalline Cellulose	J.A.K.M. Fernando C. Yalegama C.A.N. Fernando

Session 4		**Smart Solutions for a Resilient Future**	
Time		8.30 am – 10.45 am	
Venue		Interactive Centre - Old Wing (2nd Floor)	
Session Chair		Snr. Prof. (Mrs.) G.A.K.S. Perera	
Panel Members		Prof. H.M.A. Herath Dr. A.D. Dharmawansa	
Session Coordinator		Ms. Nuwansala Kumari	
Time	**Paper ID**	**Title of Paper**	**Author(s)**
8.30 am – 8.45 am	FBSF 03	Nurse Managers' Leadership Practices for Promoting Cost-Effective Resource Utilisation in Sri Lankan Public Hospitals: A Qualitative Study	M.M.A.R. Chandralatha D.A.M. Perera K.H.U.D.N. Kumara
8.45 am – 9.00 am	FBSF 04	A Qualitative Exploration of Financial Management Competency and Administrative Challenges among Nurse Managers in Sri Lankan Public Hospitals	R.P.C.W. Rajapaksa K.H.U.D.N. Kumara W.A.D.K.J. Wanigasekra
9.00 am – 9.15 am	FBSF 06	Leadership Determinants of Organizational Effectiveness in Healthcare Delivery System in Sri Lanka with Special Reference to State Sector Hospitals	K.W.C.U.K. Kendangamuwa D.A.M. Perera T.K. Karandekatiya

9.15 am - 9.30 am	FAS 15	A Real-Time Computer Vision Approach to Countering AI-Generated and Screen Replay Attacks in Video Conferencing	W.C.C. Premarathna V.G.T.N. Vidanagama
9.30 am - 9.45 am	FAS 26	Spatio-temporal Analysis of Conflict Dynamics across Africa Using Large-Scale Conflict Event Data and a Composite Conflict Risk Index	P.B.W.S.R. Kumarasinghe N.A.D.N. Napagoda
9.45 am – 10.00 am	FAS 41	Comparative Analysis of ML Models for Predictive Maintenance Using Industrial Sensor Data	H.I.D. Pubudunee W.A.S. Wijesinghe
10.00 am - 10.15 am	FAS 47	CAAD-Gate: A Lightweight Context Aware Adaptive Data Gate for Resource Constrained Edge Sensing	H.M.T.N. Herath W.A.S. Wijesinghe I.P.M. Wickramasinghe
10.15 am - 10.30am	FAS 61	A Statistical Approach for Understanding Spatio-Temporal Variability of Water Level Dynamics in the Kelani River Basin	L. Wickramasinghe E.M.P. Ekanayake U. Rathnayake J.M.J.W. Jayasinghe
10.30 am - 10.45 am	FOT 70	Empirical Stability Boundary of Initial Tilt Angle for a Self-Balancing Two-Wheeler Stabilized by a Scissor-Paired Control Moment Gyroscope	V.K.D. Wijesekara I.P.M. Wickramasinghe W.A.M. Fernando

Staff Sessions

Session 5		**Cross-Disciplinary Pathways to Biological Resilience**	
Time		8.30 am – 10.30 am	
Venue		Board Room (FAS) - New Wing – (1st Floor)	
Session Chair		Snr. Prof. J.C. Edirisinghe	
Panel Members		Prof. Dileepa de Croos Prof. (Mrs.) H.M.I.K. Herath	
Session Coordinator		Ms. Nethmini Bandara	
Time	**Paper ID**	**Title of Paper**	**Author(s)**
8.30 am – 8.40 am	FLFN 50	Development and Evaluation of Roadside Forage Silage as an Alternative Feed Resource for Lactating Crossbred Dairy Cattle	N.N. Wijesuriya W.A.A.W. Weerakumara G.A. Prathapasinghe K.A.H.T. Kodithuwakku
8.40 am – 8.50 am	FOM 11	Antibacterial Activity of Silver Nanoparticles Synthesized Using *Mimosa pudica* L. Leaf Extract	H.G.S.D. Gamage N.S. Muthunayake
8.50 am – 9.00 am	FLFN 18	Perceptions and Practices of Women Affected with Hyperglycaemia in Pregnancy on Use of Smartphone-Based Applications in Managing Their Glycaemic Control	H.P. Gunawardena W.G.N. Wijesinghe
9.00 am – 9.10 am	FLFN 24	Assessment of Epigenetic Responses to Water Quality Stressors in Guppy (*Poecilia reticulata*)	W.M.G. Sandamalika H.H.S.M.P. Fernando M.S. Ekanayake G. Nishanthan E.P.M. Keshawa

9.10 am – 9.20 am	FAPM 67	Nitrogen Use Efficiency of Selected Rice (*Oryza sativa* L.) Genotypes under Urea-Fertilized and Unfertilized Conditions	K.S.A. Premaweera H.M.M.D. Herath D.R. Gimhani L.P.M. Kumarasiri B. Gajanayake N.S. Kottearachchi
9.20 am – 9.30 am	FLFN 32	Isolation, Identification, and Antimicrobial Susceptibility of *Vibrio* Species in Live Polychaetes Used in Shrimp Hatcheries Located in North Western Province of Sri Lanka	S. Gallage S.D. Amarathunga G. Nishanthan
9.30 am – 9.40 am	FLFN 40	Effects of Different Time-Restricted Eating Windows on Cardiometabolic Risk Markers among Evening-Chronotype Shift Workers: A Randomised Controlled Trial	A.J.H.P. Jaliyagoda A.S. Wanigasinghe K.M. Rathnayake
9.40 am – 9.50 am	FOM 59	Bloom's Taxonomy Levels in Structured Essay Questions: Forensic and Community Medicine Exams at Wayamba University of Sri Lanka	A.M.P.S. Adikari K. Senanayake G. Amarasinghe A. Wijekoon
9.50 am – 10.00 am	FLFN 65	Native Triple-Helical Collagen from Sea Bass Skin: Extraction, Characterisation, and Cosmetic Potential	S.T. Gonapinuwala M.D.S.T. de Croos

10.00 am - 10.10 am	FAPM 76	Perceived Health and Socio-Economic Impacts of Heat Stress on Outdoor Workers in the North-Western Province of Sri Lanka	L. Udayanga J.M.M. Udugama J.K.W.N. Subashini
10.10 am – 10.20 am	FAPM 82	Effect of Spray-Dried Encapsulated Vitamin B12 on the Quality Attributes of a Fortified Reconstituted Mango Beverage	K.G.D. Bandara K.M.G.K. Pamunuwa W.M.N.M.B. Wanninayake
10.20 am – 10.30 am	FLFN 66	Valorization of Sri Lankan Pumpkin Peel as a Source of Dietary Fiber for Development of a Gut Health-Targeted Synbiotic Yogurt Incorporating *Lactobacillus rhamnosus*	W.S.Y.S. Dewsini D.R.D. Roshani G.D.M.P. Madhusankha C.V.L. Jayasinghe

Session 6		**Emerging Technologies and Sustainable Systems**	
Time		8.30 am – 10.40 am	
Venue		Seminar Room (FAS) – New Wing – (1st Floor)	
Session Chair		Snr. Prof. Kamal Vidanapathirana	
Panel Members		Prof. L.D.R.D. Perera Prof. E.A.C.P. Karunarathne	
Session Coordinator		Ms. H.M. Shasiprabha Mihihansi	
Time	**Paper ID**	**Title of Paper**	**Author(s)**
8.30 am – 8.40 am	FAS 05	Impact of Environmental Factors on Grid-Tied Half-Cell Multi-Busbar Solar Panels on Rooftop Power Generation: A Case Study in Kurunegala	J.M.J.W. Jayasinghe U.S. Rathnayake
8.40 am – 8.50 am	FAS 09	Adaptive Mobility and Link-Quality Aware MPR Selection for Efficient OLSR Routing in Mobile Ad Hoc Networks	V.G.T.N. Vidanagama
8.50 am – 9.00 am	FOT 13	Ground Plane Optimization of Antenna Booster-Embedded Wireless Devices	W.M.S.M. Wickramasinghe J.M.J.W. Jayasinghe D.N. Uduwawala J. Anguerad
9.00 am – 9.10 am	FOT 16	Thermal Imaging for Detecting Challenging Defects in Textile Surface	M.R.H.E. Bandara M.B. Dissanayake I.P.M. Wickramasinghe W.A.S. Wijesinghe

9.10 am – 9.20 am	FOT 19	Design and Performance Assessment of a Microgrid Cluster under Load Disturbances	W.E.P.S. Ediriweera
9.20 am – 9.30 am	FOT 33	An Experimental Comparison of Single-Core and Dual-Core RTOS Scheduling on ESP32 for Edge AI Pipelines	T.M.P Tennakoon
9.30 am – 9.40 am	FBSF 34	Community Resilience Across Two Decades of Disaster: A Conceptual Perspective from Sri Lanka	W.D.N.S.M. Tennakoon D.M.T.D. Dissanayake W.J.A.J.M. Lasanthika
9.40 am – 9.50 am	FBSF 62	Analysis of Factors Affecting Credit Growth of Commercial Banks in Sri Lanka: Evidence from the ARDL Bounds Testing Approach	R.A. Rathnasiri J.S.V.N.T. Soysa
9.50 am – 10.00 am	FOT 68	An Inverse Duhamel–Bessel Approach for Estimating the Effective Thermal Diffusivity of Graded Coconut Shell Packed Beds	H.K.G.S.H. Hathurusinghe P.M. Wickramasinghe B.J.C.L. Jayathunga W.A.M. Fernando
10.00 am – 10.10 am	FOT 72	Mitigation of Overvoltage Caused by High Rooftop Solar PV Penetration: A Comparative Study of Inverter Control Techniques	D.R.M.T.N. Bandara W.E.P.S Ediriweera

10.10 am – 10.20 am	FOT 81	Sol-Gel Derived CuO on Cu-Au Interdigitated Electrodes for Room-Temperature Formaldehyde Sensing	R.M.N.D. Rathnayaka K.K.M.S. Kandanapitiya U.S. Liyanaarachchi R.D.A.A. Rajapaksha
10.20 am – 10.30 am	ADMIN 86	Tacit Knowledge Transfer and Clinical Innovations in Indigenous Medicine: A Qualitative Investigation of Kadum Bindum Weda Ancestry	W.A.D. Chithrananda H.M.S. Priyanath R. Priyankara W. Sanjeewa
10.30 am – 10.40 am	ADMIN 31	Perceived Glass-Ceiling Barriers Among Administrative Officers in Sri Lankan Universities: An Empirical Study	K.B.V.B.R. Gunathilaka Y.R.N.D. Yapa

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