

BITSOC NEWS

VOLUME 18 | ISSUE 1
APRIL 2026

[E - CIRCULATED
NEWSLETTER]

<https://wyb.ac.lk/bitsoc-news/>



BIOTECHNOLOGY SOCIETY (BITSOC)
DEPARTMENT OF BIOTECHNOLOGY
FACULTY OF AGRICULTURE AND PLANTATION MANAGEMENT
WAYAMBA UNIVERSITY OF SRI LANKA



BitSoc Fundraising Event

The Biotechnology Society (BitSoc) organized an engaging movie night on 13th January 2025, at the FAPM Auditorium, featuring the Tamil crime thriller “Eleven”. The event provided students with an opportunity to relax and unwind while experiencing a suspense-filled story of crime, investigation, and unexpected twists. The program attracted enthusiastic participation, creating a lively and enjoyable atmosphere.



New Recruitments

Dr Dileepa Liyanage recently assumed duties as a Senior Lecturer in the Department of Biotechnology, FAPM, WUSL. A graduate of the 2009/2010 batch of the B.Sc. (Agriculture) degree programme specializing in Biotechnology, he obtained both his MSc. and PhD. in Science from Jeju National University in year 2019 and 2022 respectively.

Dr Liyanage specializes in genomic selection, molecular characterization, bioinformatics, and artificial intelligence applications in biotechnology, with expertise in genomic prediction, genome analysis, and deep learning-based biological data analysis. He has also contributed extensively to research on marine life proteins and advanced molecular



Dr Liyanage is a highly accomplished researcher with an h-index of 13, more than 650 citations, over 55 peer-reviewed publications, and seven patents related to genomic selection. His outstanding contributions have been recognized through several prestigious awards, including the SLCARP National Award in year 2025, the Korea Prime Minister's Award in year 2020, the Sri Lanka President's Award in year 2017, and Jeju National University President's Awards in years 2019 and 2022.

With his exceptional academic achievements and international research experience, Dr Liyanage is expected to make significant contributions to teaching, research, and student mentorship in the field of Biotechnology.



Dr Janith Aluthmuhandiram has joined the Department of Biotechnology, FAPM, WUSL as a Lecturer (Unconfirmed). He is a graduate of the 2010/2011 batch of the Department of Biotechnology and obtained his PhD in Biosciences from Mae Fah Luang University and the Beijing Academy of Agriculture and Forestry Sciences in 2024.

His research expertise includes fungal systematics, microbial interactions, molecular genetics, and metabolomics, with extensive experience in molecular biology and advanced analytical techniques. During his doctoral studies, he conducted research on pathogenicity-related genes and phytotoxic secondary metabolites of *Lasiodiplodia theobromae*.

His expertise includes advanced molecular biology techniques and analytical platforms, such as HPLC, UPLC-MS/MS, and UPLC-QTOF-MS/MS, for studying microbial interactions. He has also contributed to the identification of novel fungal taxa and the resolution of complex taxonomic groups through multilocus molecular phylogenetics and molecular clock analysis. He was also awarded the Outstanding Graduate Scholarship by the Beijing Academy of Agricultural and Forestry Sciences in recognition of his research excellence.

Prior to his PhD, Dr Aluthmuhandiram worked as a Junior Scientist at Credence Genomics (Pvt) Ltd, contributing to clinical diagnostics and metagenomic analysis through high-throughput sequencing technologies. His work on improving analytical pipelines and detecting bacterial pathogens from clinical specimens contributed to a scientific publication, and the team received the Sri Lanka President's Award for Scientific Research in 2017.

With his strong academic and research background, he is expected to make valuable contributions to teaching and research within the Department of Biotechnology.

Achievements of BT Academic Staff

International Research Grant Awarded Under India–Sri Lanka Joint Research Programme



Congratulations to Prof. Nisha Kottearachchi of the Department of Biotechnology, FAPM, WUSL, on the successful selection of the research proposal titled "Identification of Salinity Tolerance Gene Variants in Locally Adapted Rice (*Oryza sativa* L.) Genotypes from India and Sri Lanka Conferring the Best Salinity Tolerant Traits (Sodium Exclusion and Tissue Tolerance) and Development of Molecular Markers by Genome and Exome Profiling" under the prestigious India–Sri Lanka Joint Research Programme. The project has been selected for funding through the joint evaluation process conducted in collaboration with the Department of Science and Technology (DST), Government of India. As a Co-Investigator of this internationally collaborative research project, her contribution is expected to advance scientific understanding of salinity tolerance mechanisms in rice and support the development of molecular tools for future crop improvement programmes. The outcomes of this research are anticipated to contribute significantly toward sustainable agriculture, food security and scientific collaboration between Sri Lanka and India.

President's Award for Scientific Research

Prof. Wajira Balasooriya of the Department of Biotechnology, FAPM, WUSL was honoured with the President's Award for Scientific Research 2021 at the awarding ceremony organized by the National Research Council under the Ministry of Science and Technology. The awarding ceremony was held on 18th December 2026 at Bandaranaike Memorial International Conference Hall (BMICH), Colombo, Sri Lanka.

This prestigious recognition highlights her outstanding contribution to scientific research and brings great pride to the Department of Biotechnology. Congratulations to Prof. Wajira Balasooriya on this well-deserved award



Most Outstanding Young Researcher Award 2024

Dr Shehan Kurera, Senior Lecturer in the Department of Biotechnology, Faculty of Agriculture and Plantation Management, Wayamba University of Sri Lanka, was honored with the "Most Outstanding Young Researcher Award 2024" at the 10th Wayamba University Research Congress (WURC 2025), held on 7th November 2025 in the Prof. H.P.M. Gunasena Auditorium, Wayamba University of Sri Lanka. This prestigious recognition highlights his significant contributions to advancing biotechnology research, particularly in areas bridging agriculture, natural products chemistry, immunology, and molecular biology. His work demonstrates a strong commitment to innovative, impactful, and sustainable scientific solutions.



Inter-Institutional Multidisciplinary Research Grant -IIMD/2026/WUSL/APM/01

Congratulations to Dr Shehan Kurera, Senior Lecturer, Department of Biotechnology, FAPM, WUSL for successfully securing a highly competitive Inter-Institutional Multidisciplinary Research Grant (IIMD/2026/WUSL/APM/01) valued at Rs. 4.4 Mn. The funded research project focuses on the “Development of a *Saccharomyces cerevisiae*-based whole-cell biosensor for the detection of aflatoxin and ochratoxin contamination”. The outcomes of this research are expected to contribute significantly to global scientific advancement and the protection of public health.



Receipt of Grant for Establishment of the Sustainable Agri-Biotech Service and Training Centre (SABSTraC)

The Ministry of Science and Technology has granted approval for the project titled “Establishment of Sustainable Agri-Biotech Service and Training Centre (SABSTraC)” submitted by the Department of Biotechnology, FAPM, WUSL, under the programme “Strengthening the National Quality Infrastructure (NQI) Systems – 2026.” Accordingly, a total allocation of Rs. 12 Mn has been allocated for the implementation of the project.

The Department of Biotechnology pursued this grant opportunity with the expectation of strengthening the faculty's biotechnology capacity through the purchase of high-end biotechnology equipment and further development of the infrastructure facilities of the partially constructed Biotechnology Laboratory. The project is also expected to enhance teaching, research, training, and service capabilities of the Department while facilitating future accreditation and industry collaboration initiatives.

The successful award of this grant reflects the dedication, commitment, and collective efforts of the academic staff and technical officers of the Department of Biotechnology. The encouragement and support extended by Snr. Prof. Jagath Edirisinghe, Dean, Faculty of Agriculture and Plantation Management, in securing this grant are greatly appreciated. This achievement marks a significant milestone for the department and underscores its growing contribution to national development in the fields of biotechnology, research, innovation, and quality infrastructure enhancement.

Initiation of New Biotechnology Laboratory

As an initial step to establish a Standard Biotechnology Laboratory under the Department of Biotechnology, funds were allocated from the ITA-STHRD Project, Higher Education Division, Ministry of Education, in the year 2025, under the guidance of Snr. Prof. Jagath Edirisinghe, Dean, Faculty of Agriculture and Plantation Management. Accordingly, eight (08) study tables, 100 laboratory stools, a fume hood, and a gas system worth Rs. 22 Mn to partially fill the laboratory on the 2nd floor of the faculty building. Side benches, filing cabinets, and chemical and glassware storage facilities are yet to be installed. To operate the biosafety cabinet, PCR, and gel documentation unit, partitioning the remaining space is yet to be done. Six study tables, two teacher tables, an eye washer, a safety shower and a fire extinguisher are also to be purchased and installed. The laboratory was designed under the supervision of Dr Priyanwada Warakagoda, Head, Department of Biotechnology, with technical support provided by the Technical Officer, Mr Chinthaka Bandara. This development marks a significant step in strengthening research capacity and enhancing practical learning facilities within the Department of Biotechnology.



Web Launching of Biotechnology Industrial Training Abstract Booklet- 2025

6

For the 5th consecutive year, the launching of the Biotechnology Industrial Training- 2025 Executive Summaries (BIT- 2025) took place during the opening ceremony of the Industrial Training Technical Sessions of the Department of Biotechnology, FAPM, WUSL held on 12th November 2025. Prof. Nisha Kottearachchi was cordially invited for the web launch of the booklet with the assistance of Dr Priyanwada Warakagoda, Head/ Department of Biotechnology, FAPM, who served as the Editor-in-Chief of BIT- 2025. The BIT-2025 booklet comprises the abstracts of case studies conducted by 44 undergraduate students during their industrial training placements in various biotechnology-related industries and institutions. For the year 2025, Dr Shehan Kurera served as the In-Plant Training Coordinator. The department gratefully acknowledge the valuable service rendered by the distinguished panel of judges, comprising, Prof. Kumari Rathnayake, Professor, Department of Applied Nutrition, FLFN, WUSL, Dr Darshani Jayamanne, Additional Director (Research), Sustainable Agriculture Research and Development Centre, Makandura, Dr Madushani Herath, Lecturer, Department of Biosystems Engineering, FAPM, WUSL, Ms Samanthi Priyangika, Assistant Director of Agriculture (Research), Organic Technology Division, Sustainable Agriculture Research and Development Centre, Makandura, Mr Hasun Wickramasinghe, General Manager, Avon Pharmo Chem (Pvt.) Ltd. and Mr Kapila Wambatuwewa, Lab Manager, Pyramid Welmar (Pvt.) Ltd. were participated.



Best Presenter Award- IPTS 2025

Mr Sanjula Ariyaratna received the Best Presenter Award (Panel I) at the Biotechnology Presentation Sessions of the 19th In-Plant Training Symposium, Department of Biotechnology, FAPM, WUSL, held on 12th November 2025. His case study was “Optimizing Fatty Acid Composition Analysis in High FFA Crude Palm Oil Derivatives Used in the Food Industry” conducted at Pyramid Wilmar (Pvt.) Ltd.



Mr Sashika Premasiri received the Best Presenter Award (Panel II) at the Biotechnology Presentation Sessions of the 19th In-Plant Training Symposium, Department of Biotechnology, FAPM, WUSL, held on 12th November 2025. His case study was “Innovating Passion Fruit Quality and Shelf Life for Export Markets” conducted at Nidro Supply (Pvt.) Ltd.



Practical Workshop on Basic Molecular Techniques in Gene Technology for G.C.E. A/L Students

The Department of Biotechnology conducted a two-day practical training workshop on “Basic Molecular Techniques in Gene Technology” on 9th and 10th October 2025 for G.C.E. Advanced Level Biology stream 200 students from 11 schools in the Negombo Education Zone. The workshop covered several practical components aligned with the Advanced Level Biology curriculum. The resource persons were Prof. Nisha Kottearachchi, Dr Radhika Gimhani, and Dr Shehan Kurera from the Department of Biotechnology, and the workshop was coordinated by Dr Radhika Gimhani, Senior Lecturer, Department of Biotechnology. The Department of Biotechnology wishes to acknowledge Snr. Prof. Jagath Edirisinghe, Dean, Faculty of Agriculture and Plantation Management and Dr Priyanwada Warakagoda, Head, Department of Biotechnology, for granting permission and facilitating the workshop successfully. Special appreciation is extended to all academic, academic-supportive, and non-academic staff members of the Department of Biotechnology for their cooperation and contribution towards the successful completion of the training programme.



Alumni Scholarship Spotlight

Master's Studies at the University of Tasmania, Australia

Ms Oshadi Gunawardhana, a first-class graduate of the 2018/2019 batch and a former demonstrator of the Department of Biotechnology, has been selected to pursue a Master's degree in Agriculture and Food Science at the University of Tasmania, Australia. She has been awarded a partial scholarship in recognition of her academic achievements. Warmest congratulations to Ms Oshadi Gunawardhana on continued success in her future academic endeavors.



Master's Studies at the University of Queensland, Australia



Ms Lawanya Wedamulla, a graduate of the 2018/2019 batch of the Department of Biotechnology, has been selected to pursue a master's degree programme in Biotechnology at the University of Queensland, Australia. Congratulations to Ms Lawanya Wedamulla on this achievement, and best wishes for her future success.

Research Publications

Ms Upekkha Abhayarathne, former vice president of BitSoc of the 2015/2016 batch and a second year Master's student at the University of Lethbridge, Canada, secured 3rd place in the poster presentation category at the Meeting of the Minds 2026 conference hosted by the University of Lethbridge Graduate Students' Association in Alberta, Canada. Her research was titled as "Assessment of *Spongospora subterranea* in soil, rotational crops and weeds of southern Alberta using molecular methods". Competing among Master's students across diverse research fields, her poster was recognized for its scientific merit, clarity, and overall impact. This achievement highlights the excellence of BitSoc alumni in international research platforms.



Ms Gayasha Rathnayaka, representing the 2018/2019 batch of the Department of Biotechnology, presented her research findings under the title “Optimizing Coconut Anther Culture Callogenesis and Cytological Assessment of Microspore Maturity Gradient Along Coconut Rachillae” at the 16th International Conference on Sustainable Built Environment (ICSBE) 2025 and Next Gen Innovation and Advancement, held on 20th and 21st December 2025 in Kandy, Sri Lanka.

Her research paper was honoured with the prestigious Best Scientific Paper Award under the special session on “Advanced Crop Production Technologies for Sustainable Agriculture”. The study made a significant contribution to the field of plant biotechnology and sustainable agriculture. The research focused on evaluating the effect of different 2,4-D concentrations on coconut anther culture callogenesis and identifying the optimal position along coconut rachillae to obtain suitable anthers for further experimental applications. The findings provided valuable insights into improving efficiency in coconut anther culture techniques.



Ms Gayarohanam Shawjanthy, representing the 2019/2020 batch of the Department of Biotechnology, presented her research titled “Genetic and Morpho-Physiological Analyses of Drought Tolerance and Recovery Mechanisms in the Vegetative Stage of Cowpea” at the 16th International Conference on Sustainable Built Environment (ICSBE) 2025, held in December 2025 in Kandy, Sri Lanka. The study was conducted under the supervision of Dr Radhika Gimhani. Her research was recognized with the Best Scientific Paper Award under a special session focused on “Next-generation Technologies for Sustainable, Resilient and Smart Food Systems”. The study explored key genetic and physiological traits associated with drought tolerance and recovery in cowpea, providing valuable insights into improving crop resilience under water-limited conditions. This achievement highlights the growing contribution of biotechnology research towards sustainable agriculture and climate-resilient crop development.



Ms Sahathra Yapa of the 2019/2020 batch of the Department of Biotechnology, presented a research study titled “Comparative Analysis of Aquatic Macrophyte-Based Phytoremediation for Heavy Metal Removal from Apparel Industry Effluents” at the III International Biological and Life Sciences Congress (BIOLIC), held from 16th to 19th November 2025 in Antalya, Turkey. The research was conducted under the supervision of Dr Radika Gimhani and Dr Shehan Kurera. This research demonstrates the potential of eco-friendly phytoremediation approaches for wastewater treatment, contributing to sustainable solutions for industrial environmental management.



Ms Anuththara Perera of the 2019/2020 batch of the Department of Biotechnology, presented her research titled “Genetic Diversity of Sri Lankan Pomegranate (*Punica granatum*) Cultivars and Global Allelic Variation in Anthocyanin Biosynthesis Genes” at the 14th Young Scientists Forum (YSF) Research Symposium 2026, held on 30th January 2026 at the Sri Lanka Foundation Institute, Colombo 07. The study was conducted under the supervision of Dr Radhika Gimhani. Her presentation was awarded Best Presenter under the track of “Trends in Agriculture, Fisheries and Livestock”, highlighting the significance of her research in understanding genetic diversity and its applications in crop improvement.





Mr Sanjula Ariyaratna of the 2019/2020 batch of the Department of Biotechnology, presented a research study titled “Development of a *Saccharomyces cerevisiae* - Based Whole-Cell OR Gate Biosensor for the Detection of Aflatoxin and Ochratoxin Contamination” at the III International Biological and Life Sciences Congress (BIOLIC), held from 16th to 19th November 2025 in Antalya, Turkey. The research was conducted under the supervision of Dr Radhika Gimhani and Dr Shehan Kurera. This study highlights innovative applications of biosensor technology in food safety, contributing to the development of advanced tools for the detection of harmful mycotoxin contamination.



Mr Nileesha Wijesooriya of the 2019/2020 batch of the Department of Biotechnology, presented a research paper titled “Evaluation of Antibacterial and Phytotoxic Activity of Pure and Bismuth Doped Copper Oxide Nanoparticles” at the 03rd International Conference on University-Industry Collaborations for Sustainable Development (ICSD 2026), held on 25th–27th March 2026 in Colombo, Sri Lanka. The study was conducted under the supervision of Prof. Nisha Kottearachchi of the Department of Biotechnology. This research highlights important advancements in nanobiotechnology, contributing to the understanding of antimicrobial properties and their potential applications in sustainable development.





Ms Piyumi Jayasundara of the 2019/2020 batch of the Department of Biotechnology, published her research titled “Identification and Characterization of Culturable Nitrogen Fixing Cyanobacteria from Rice Fields in the Wet Zone of Sri Lanka” at the 37th Annual Congress of the Postgraduate Institute of Agriculture (PGIA), University of Peradeniya, held on 21st November 2025. The study was conducted under the supervision of Prof. Wajira Balasooriya. This research highlights the potential of nitrogen-fixing cyanobacteria in enhancing soil fertility and promoting sustainable agricultural practices.

Mr Mohammed Nafrees of the 2019/2020 batch of the Department of Biotechnology, presented his research titled “Assessment of Genetic Diversity and Drought Tolerance with Post-Stress Recovery of Selected Sri Lankan Black Gram (*Vigna mungo*) Varieties” at the 16th International Conference on Sustainable Built Environment 2025 and Next-Gen Innovation and Advancement (DIAMOND 75), held on 20th and 21st December 2025. The research was conducted under the supervision of Dr Radhika Gimhani. This achievement highlights the significance of his research in addressing climate-related challenges in agriculture and reflects the growing impact of student-led research in advancing scientific knowledge.



Mr Chathura Jayathissa of the 2019/2020 batch of the Department of Biotechnology, presented his research titled “Integrating Germination-Stage Drought Screening and Genetic Diversity Analysis of Selected Foxtail Millet (*Setaria italica*) Genotypes in Sri Lanka” at the 9th International Research Conference of Uva Wellassa University (IRCUWU 2025), held on 11th and 12th February 2026. The research was conducted under the supervision of Dr Radhika Gimhani and Dr Shehan Kurera. The study highlights the integration of physiological and molecular approaches to evaluate drought tolerance and genetic diversity in foxtail millet, contributing to the development of resilient crop varieties for sustainable agriculture.

Ms Dinithi Gunawardhana of the 2019 /2020 batch of the Department of Biotechnology presented her research titled “Decoding Germination Stage Drought Tolerance and Genetic Diversity of Proso Millet (*Panicum miliaceum*) Genotypes in Sri Lanka using SSR Markers” at the International Conference on Innovation and Emerging Technologies (ICIET) 2025, held from 25th to 27th November 2025 under the track of Agricultural Technologies for Sustainability. The conference was organized by the University of Sri Jayewardenepura where her presentation was awarded Best Oral Presenter. The research was conducted under the supervision of Dr Radhika Gimhani and Dr Shehan Kurera. This achievement highlights the importance of her research in advancing genetic studies and improving drought tolerance in millet crops for sustainable agriculture.



Ms Dinithi Gunawardhana of the 2019 /2020 batch of the Department of Biotechnology, also presented her research titled “Assessment of Soil Nutrient Variability in Low-Input Proso and Foxtail Millet Cultivations in Sri Lanka” at the International Research Conference of the Open University of Sri Lanka (IRC-OUSL 2025), held on 13th and 14th November 2025, under the track of Life Sciences – Agriculture. Her presentation was recognized with the Best Oral Presenter Award. The research was conducted under the supervision of Dr Radhika Gimhani and Dr Shehan Kurera. This recognition reflects the value of her research in supporting sustainable soil nutrient management strategies for millet cultivation.

Representing Leading Societies of WUSL

Ms Ama Perera, representing the 2021/2022 batch of the Department of Biotechnology, serves as the President of the International Association of Students in Agricultural and Related Sciences (IAAS) of Wayamba University of Sri Lanka. As President of IAAS, she leads initiatives that promote youth leadership, global exposure, and professional development. She also serves as the Projects Manager of Waya Voice by providing her contribution to enhancing students’ presentation and communication skills through organizing and managing impactful projects. Her active involvement reflects strong leadership and commitment to student empowerment.





Ms Chamodya Bandarawatta of the 2021/2022 batch of the Department of Biotechnology, serves as the President of AIESEC in Wayamba and as the Finance Chair - External Membership of the FAPM Nature Team. She leads youth-driven initiatives that foster leadership development and global engagement among students. Her involvement reflects strong leadership and commitment to both student development and environmental responsibility.

Ms Saroja Weerakkody, representing the 2021/2022 batch of the Department of Biotechnology, serves as the Secretary of the FAPM Nature Team. She contributes to the coordination and organization of environmental and nature-based initiatives within the faculty. Her involvement reflects a strong commitment to promoting sustainability and environmental awareness among students.



Ms Dasuni Aberathna of the 2021/2022 batch of Department of Biotechnology, actively contributes to student leadership and representation through her role as Joint Director of Communication and Public Relations of the International Association of Students in Agricultural and Related Sciences (IAAS) of Wayamba University of Sri Lanka. She also serves as the Public Relations Chair - External Membership Management Board of the FAPM Nature Team.

Ms Ishanka Kapukotuwa of the 2021/2022 batch of Department of Biotechnology serves as the Joint Director of Communication and Public Relations of the International Association of Students in Agricultural and Related Sciences (IAAS) of Wayamba University of Sri Lanka. She is responsible for coordinating communication activities and managing PR initiatives within the organization.

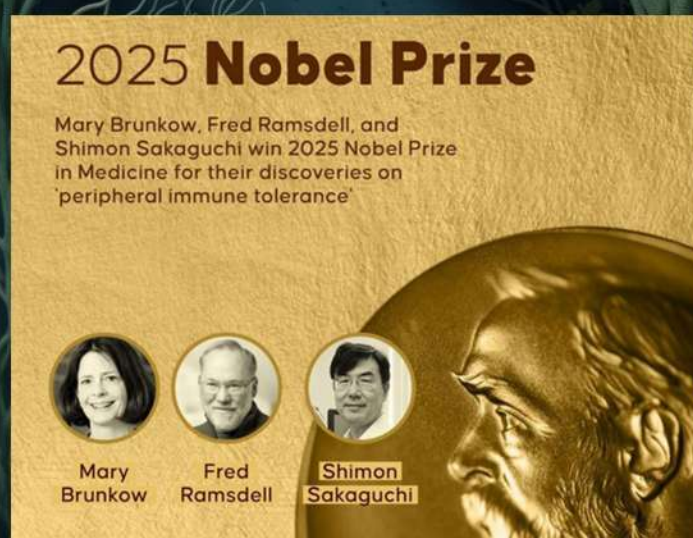


Ms Lakshika Champani, representing the 2021/2022 batch of the Department of Biotechnology, represents the Gavel Club as the Sergeant-at-Arms. She actively contributes to enhancing English communication and public speaking skills among students while ensuring the smooth conduct of club activities.

The Hidden Protectors of the Immune System

Nobel Prize 2025

The 2025 Nobel prize in physiology or medicine was awarded to Dr Mary E. Brunkow, Prof. Fred Ramsdell, and Prof. Shimon Sakaguchi for their groundbreaking discovery of regulatory T cells (Tregs), which play a crucial role in controlling the human immune system. Their research revealed how the body prevents the immune system from attacking its own tissues, a process known as immune tolerance. They also identified the key gene FOXP3, essential for the development and function of these cells. This discovery has significantly advanced our understanding of autoimmune diseases such as type 1 diabetes and rheumatoid arthritis, where the immune system mistakenly targets the body. Beyond explaining disease mechanisms, their work has opened new pathways in biotechnology and medicine, including the development of targeted immunotherapies, improved organ transplantation success, and innovative treatments for cancer. Overall, this Nobel-winning research highlights the importance of immune balance and has had a profound impact on modern biomedical science.



Technical Editing

**Dr Priyanwada Warkagoda, Head and Senior Lecturer,
Department of Biotechnology, FAPM, WUSL**

Editorial Assistance

**Ms Dinithi Gunawardhana, Temporary Demonstrator,
Department of Biotechnology, FAPM, WUSL**

Design and Typesetting

**Mr Thisula Somarathna, BSc (Agriculture) Undergraduate
(2023/2024 Batch), FAPM, WUSL**