

# 45<sup>th</sup> Annual Sessions of the Institute of Biology, Sri Lanka Schedule of the Scientific Sessions

Theme

Biological Innovations for Food Security and Sustainable Green Economy

25<sup>th</sup> September 2025

Center for Banking Studies, Sri Jayewardenepura Mawatha, Kotte



#### **ORAL PRESENTATIONS**

#### **Parallel Session 1: Microbiology and Chemical Biology**

Time	Abstract Number	Title and Author(s)
1.30 - 1.40 pm	MC_001	In vitro evaluation of synergistic antibacterial effects of three Sri Lankan medicinal plants against selected skininfecting bacteria  J.R. Geeganage, R.D.S. Isara, S.D.U. Senarathna, L.A.L. Saundarya, G.T.C. Neththrika, A.L.A.P. Randika, N. Ullah and B. Deepachandi
1.40 - 1.50 pm	MC_002	Enhancing the biodegradation of nylon-based textile waste using microbial consortia  I.G.N.B. Wijewardhana, T.A. Perera, R.U. Halwatura and A. Sathsarasinghe
1.50 - 2.00 pm	MC_003	Bioactivities of termite nest-derived actinomycetes K.H. Kaumadi, C.M. Nanayakkara, E.D. De Silva and P.A.N. Punyasiri
2.00 - 2.10 pm	MC_004	Preliminary assessment of the enzyme activity of wild mushrooms collected from Baduraliya, Sri Lanka E.A.D.S. Madhubashana and S.S. Ediriweera
2.10 - 2.20 pm	MC_005	Preliminary investigation of plant-growth promotion and bioremediation of diesel by fungal endophytes associated with salt marsh plants in Kalpitiya, Sri Lanka G.K. Perera, S.S. Ediriweera and I.A.J.K. Dissanayake



Time	Abstract Number	Title and Author(s)
2.20 - 2.30 pm	MC_006	In vitro antimicrobial and antioxidant activity of some mangrove-derived fungi isolated from Kalpitiya, Sri Lanka W.D.S.N. Sewmini, C.M. Nanayakkara, K.G.S.U. Ariyawansa, S.S. Ediriweera, E.D. De Silva and P.A.N. Punyasiri
2.30 - 2.40 pm	MC_008	Understanding the influence of environmental factors on cyanobacterial dynamics in Nuwara Wewa, Sri Lanka D.A.D. Weththasinghe, H.M. Herath and R.P. Wanigatunge
2.40 - 2.50 pm	MC_009	Isolation of algicidal bacteria from Beira Lake to control bloom-forming <i>Microcystis aeruginosa</i> P.G.S. Ishadani, M.A.P.C. Piyathilaka, G.Y. Liyanage, A.R. Pilapitiya and P.M. Manage
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## Parallel Session 2: Molecular Biology and Biotechnology

Time	Abstract Number	Title and Author(s)
1.30 - 1.40 pm	MB_001	Do life history traits and ecological features shape up MHC diversity? The patterns of selection and polymorphism in exon 3 of the avian MHC N.V.P.G. Chathuranga, P.C. Fernando, E.S.C. Scordato and S.S. Seneviratne
1.40 - 1.50 pm	MB_004	Dual regulatory role of the Mycobacterium xylanase Regulator (MxyR): a promising drug target in drug- resistant tuberculosis R.G.V.R.B. Rathnayake, S.P.N.N. Senadeera, S. Mauran, N.P. Senanayake and I.C. Perera
1.50 - 2.00 pm	MB_007	Feasibility of designing a CADMA-based real-time PCR assay for the detection of the R248Q & R273C TP53 mutations C.D.G. Prabodhya, M. Kajan, I. Kumarasinghe, R. Perera, J. Balawardana, N. Perera and G.H. Galhena
2.00 - 2.10 pm	MB_008	Association of <i>TERT</i> rs2736100 gene polymorphism with interstitial lung disease and its prognostic significance in a Sri Lankan cohort Y.B. Dias, B. Hamza, R.D.S. Karunathilake, D.K. Weerakoon, G.N. Malavige and G.H. Galhena
2.10 - 2.20 pm	MB_009	Comparative evaluation of the anti-gastric activity of <i>Eclipta prostrata, Tinospora cordifolia, Acrostichum aureum</i> , and their polyherbal formulation using <i>in vitro</i> antacid assays  M.S.A. Cooray, I.U. Kariyawasam and C.D. Jayasinghe
2.20 - 2.30 pm	MB_011	Molecular insights into the regulation of copper detoxification in pathogenic <i>Leptospira</i> R.B.A.R. Wijerathna, S. Mauran, J.M.D.D.Jayasundara, S.P.N.N. Senadeera and I.C. Perera



Time	Abstract Number	Title and Author(s)
2.30 - 2.40 pm	MB_012	Evolutionary analysis and host state reconstruction of rust fungi (Pucciniales; Basidiomycota), with emphasis on the morpho-molecular characterization of coffee rust ( <i>Hemileia vastatrix</i> ) in Sri Lanka U.S.R. Isanka, D.A.D.A. Daranagama and M.C. Samarakoon
2.40 - 2.50 pm	MB_013	Characterization of Xylariales diversity in the Kanneliya forest reserve K.A.D.H. Jayasekera and D.A.D.A. Daranagama
2.50 - 3.00 pm	MB_014	Uncovering the transcriptional factors of <i>Cocos nucifera</i> : a genome-wide study N.U. Ranaweera and H.D.D. Bandupriya
3.00 - 3.10 pm	MB_015	Evaluating the dietary impact of cooking – induced changes in Essential Trace Elements in Sri Lankan rice (Oryza sativa L.)  J.W. Gunawardana, S.A. Gunawardena, C. Witharana, N.D.A. Wageesha and I.C. Perera
3.10 - 3.20 pm	MB_018	Full genome annotation of polythene-degrading fungus <i>Phlebiopsis flavidoalba</i> H.M.B.Y. Chandrasena and R.N. Attanayake
3.20 - 3.30 pm	MB_019	Characterization of <i>Sclerotinia sclerotiorum</i> isolates collected from cabbage fields in Sri Lanka, with insights into mycovirus-associated hypovirulence D.G.D.R. Gunawardhana, Sudeep Bag and R.N. Attanayake
3.30 - 3.40 pm	MB_020	Integrating morphological characterization and DNA barcoding for the identification of <i>Aporosa</i> species in Sri Lanka W.M.D.K. Wickramasingha, A.G.K.S. De Silva, Y.K.D.D. Thathsarani, D.V.S. Kaluthanthri and R.A.S.P. Senanayake



	Number	
3.40 - 3.50 pm	MB_024	In silico analysis of non-synonymous single nucleotide polymorphisms in the human HNF1A gene P.A.R.R. Wijerathne and A.M. Wickramasuriya
3.50 – 4.00 pm	MB_025	Antioxidant properties of the methanolic crude extract, beta-carotene, and carrageenan from <i>Hypnea</i> sp. (Rhodophyta) W.V. Seneviratne, H.M. Weerasinghe, W.M.K.M. Ratnayake and K.V.K. Gunathilake
4.00 – 4.10 pm	MB_026	Molecular characterization of <i>Citrus</i> species in Sri Lanka using <i>matK</i> and <i>rbcL</i> DNA barcode markers W.A.N.R. Wickramaarachchi, W.W.P. Rodrigo and S.R. Weerakoon



## **Parallel Session 3: Plant Sciences and Agriculture**

Time	Abstract Number	Title and Author(s)
1.30 - 1.40 pm	PS_002	Brontispa longissima (Gestro): an emerging pest of coconut in Sri Lanka D.H. Dilrukshika, P.H.P.R. De Silva, D.P.M. Silva, N.S. Aratchige and K.S. Hemachnadra
1.40 - 1.50 pm	PS_003	First identification of <i>Nigrospora</i> sp. causing blister blight on tea in Sri Lanka P.D.P.M.D. Silva and T.R. Glare
1.50 - 2.00 pm	PS_004	Artificial intelligence in crop development: using protein sequences, structures, and protein-protein interaction networks in deep learning to predict root development proteins S.A. Weththasinghe, S. Ganeshiny, D.L. Abeywardhana and P.C. Fernando
2.00 - 2.10 pm	PS_005	Genome-wide identification and comprehensive <i>in silico</i> analysis of aspartate aminotransferases in Poaceae crops W.M.M. Upeka and P.C. Fernando
2.10 – 2.20 pm	PS_006	Developing an AI model for classifying the level of tolerance for iron toxicity in new improved rice lines/varieties S.L.S. Jayamini, D.L. Abeywardhana, P.C. Fernando, D.M.R.G. Mayakaduwa, W.R.K.D.W.K.V. Wickramasinghe and G.D.A. Priyantha



Time	Abstract Number	Title and Author(s)
2.20 - 2.30 pm	PS_007	Morphological diversity and taxonomic resolution of Sri Lankan <i>Impatiens</i> (Family Balsaminaceae) with emphasis on evolution of floral characters Kosala Abeykoon, H.D. Jayasinghe and H.S. Kathriarachchi
2.30 - 2.40 pm	PS_008	Morphological and fibre quality characterization of cotton populations in Sri Lanka A.S. Rathmalgoda, H.S. Kathriarachchi, D.M.R.G. Mayakaduwa and C.N. Hearth
2.40 - 2.50 pm	PS_011	Do Plesispa beetles equally prefer and orient towards different coconut varieties?  D.P.M. Silva, D.H. Dilrukshika, P.H.P.R. De Silva, N.S. Aratchige, H.D.M.A.C. Dissanayaka and K.P. Waidyarathne
2.50 - 3.00 pm	PS_012	Conservation-oriented <i>in vitro</i> propagation of <i>Munronia pinnata</i> and phytochemical comparison with <i>Andrographis paniculata</i> R.M.D.P. Rathnayake and H.D.D. Bandupriya
3.00 - 3.10 pm	PS_014	A comparative <i>in vitro</i> study of salt tolerance in cultivated chili ( <i>Capsicum annuum</i> ) varieties in Sri Lanka P.A.H. Hansima and H.D.D. Bandupriya
3.10 - 3.20 pm	PS_015	Stomatal trait plasticity helps plant species to survive in environmental gradients in a forest restoration site C.S. Jayasinghe, H.I.U. Caldera, A. Perera and N. Geekiyanage
3.20 – 3.30 pm	PS_017	Uncovering regulatory modules and hub genes of somatic embryogenesis in <i>Coffea arabica</i> through gene coexpression network analysis T.H.N. Malinda and A.M. Wickramasuriya



Time	Abstract Number	Title and Author(s)
3.30 - 3.40 pm	PS_018	In vitro shoot regeneration from cultured leaf explants of Passiflora edulis f. flavicarpa A.S. Dassanayake and T.D. Silva
3.40 - 3.50 pm	PS_019	BlackPepKB: an interactive web platform for exploring black pepper ( <i>Piper nigrum L.</i> ) genomics L.M.D. Bawanga, S. Viswakula and A.M. Wickramasuriya
3.50 - 4.00 pm	PS_021	Floral phenology and sex expression in <i>Piper nigrum</i> L. (black pepper) E.A.D.D.S.C. Edirisinghe and T.D. Silva



## **Parallel Session 4: Zoology and Environment Sciences**

Time	Abstract Number	Title and Author(s)
1.30 - 1.40 pm	ZE_001	The influence of protected area management practices on climate resilience M.D. Dulashi Chathunika, Mayuri R. Wijesinghe and Hiran H.E. Jayaweera
1.40 - 1.50 pm	ZE_002	Incipient speciation through spatial divergence in Dark-fronted Babbler ( <i>Dumetia atriceps</i> ) of South Asia A.V.P.P.Y.V. Gunewardene, C.K. Wijekulathilake, C.K. Vishnudas, P.N. Chalke, V.V. Robin, P. Koparde, D. Halwatura and S.S. Seneviratne
1.50 - 2.00 pm	ZE_003	Detection and quantification of microplastics in pelagic seabirds from the Exclusive Economic Zone (EEZ) of Sri Lanka P.V.S. Iresha, K.D.S. Meecle, L. Walpita, S.R.C.N.K. Narangoda, L. Jayawickrama, K. Mahatantila and S.S. Seneviratne
2.00 - 2.10 pm	ZE_006	Effects of microplastics on immunological properties of human peripheral blood mononuclear cells H. Sivarathan, M.G.Y.L. Mahagamage, A.D. De Silva and M. Mapalagamge
2.10 - 2.20 pm	ZE_011	Variations in morphometry in populations of the common honeybee, <i>Apis cerana</i> , distributed across different bioclimatic zones in Sri Lanka S.S. Kannangara, M.R. Wijesinghe, W.A.I.P. Karunarathne and D.K. Weerakoon
2.20 - 2.30 pm	ZE_012	Morphological, plumage, vocal and characterization of the genus <i>Glaucidium</i> in Sri Lanka T.H. Edirisinghe, D. Halwathura and S.S. Seneviratne



Time	Abstract Number	Title and Author(s)
2.30 - 2.40 pm	ZE_013	Breeding ecology and feather molting pattern of recently described Hanuman plover ( <i>Anarhynchus seebohmi</i> ) M.I. Bilal, Jude Janith Niroshan, Yang liu and Sampath S. Seneviratne
2.40 - 2.50 pm	ZE_014	Comparative analysis of meteorological and soil moisture droughts in urban wetlands of Sri Lanka to validate the use of SPI as the primary measurement to assess drought I.A. Seneviratne and D. Halwathura
2.50 – 3.00 pm	ZE_015	Metal-dominated nest architecture of the House Crow ( <i>Corvus splendens</i> ) in urban Colombo, Sri Lanka S.M. Samarajeewa, G.P.N. Poojani, M.P.O.T.B. Jayarathna, D.M.Y. Ravisara, B.M.K.S. Jeewamali, U.L.P. Induwari, K.A.D.S. Meecle and P.N. Dayawansa
3.00 - 3.10 pm	ZE_017	Morphometric and meristic analysis of endemic freshwater fish <i>Belontia signata</i> (Anabantiforms: Belontiinae) in six river basins in Sri Lanka N.S. Malage, T.S.P. Fernando, V.R. Gunasekara, N. A. Liyanarachchi and D.K. Weerakoon
3.10 - 3.20 pm	ZE_018	Phylogenetic characterization of Sri Lankan Hipposideridae and Rhinolophidae bats based on mitochondrial COI sequences S.M.P.S. Samarakoon, A.M.P.E.K. Atapattu, T. Kusuminda, T.S.P. Fernando and M.R. Wijesinghe
3.20 - 3.30 pm	ZE_019	Using ant diversity as bioindicators of soil health: the role of human influence and urbanization impact B.A.P.R. Perera, D.R.I.L. Silva, M.G.J.T. Guruge, A. Niroshan, G.P.S.K. Perera, E.H.I.C.E. Hewage and P.N. Dayawansa



Time	Abstract Number	Title and Author(s)
3.30 - 3.40 pm	ZE_021	Effects of habitat complexity on growth and behavior in Neon Tetra Fish ( <i>Paracheirodon innesi</i> ) S.H.N.I. Siriwardhana, C.V. Vithana, V.T. Kaluthota Arachchige, D.V. Wijesooriya, W.P.S.R. Weerawardana, K.S. Lokubalasuriyage, T. Tharmarasa, H.U.O.C. Uluwaduge, K.A.D.S. Meecle and P.N. Dayawansa
3.40 - 3.50 pm	ZE_024	Assessment of precipitation effects on atmospheric heavy metal concentrations using Tillandsia usneoides as a biomonitor W.M.N.A. Wijekoon and R.L. Jayaratne



#### **E-POSTER SESSIONS**

Time	Abstract Number	Title and Author(s)
	MC_007	In silico analysis of virulence factors and secondary metabolite biosynthesis clusters in the genome of the plant pathogenic fungus Rhizoctonia solani S.A. Matharage and K.G.S.U. Ariyawansa
	MC_011	Application of a newly isolated probiotic strain as a starter culture in curd production and determining the encapsulation efficiency W.M.N.H. Wijesingha and N.S. Weerakkody
3.00 - 4.30 pm	MC_012	Mycoherbicidal potential of <i>Nigrospora sphaerica</i> against <i>Synedrella nodiflora</i> , a common weed in Sri Lanka D.L. Gunasena and K.G.U.S. Ariyawansa
3.00 - 4.30 pm	MC_010	Identification of synthetic dyes as adulterants in commonly used turmeric powder in Sri Lanka using high-performance liquid chromatography with diode array detection (HPLC-DAD)  S.N. Epa, K.V.K. Gunathilake, E. Dilshan and R. Amarasinghe
	MB_002	Biorefinery potential of freshwater microalgae cultivated in synthetic wastewater: a sustainable approach for biomass valorization  U.D. Samaranayake and P.S. Saputhanthri
	MB_003	First insights into HLA-C*06:02 (HLA-Cw6) prevalence and its association with disease onset and severity in pediatric and adult psoriatic patients in Sri Lanka N.D. Wanniarachchi, N.N. Samarakoon, N. Ranaweera, Sriyani Samaraweera, Jayamini Seneviratne, J. Akarawita, H.A.S.G. Dharmaratne and A.D.D.S. Amarasekara



Time	Abstract Number	Title and Author(s)
3.00 - 4.30 pm	MB_005	Preliminary validation of multiplex qPCR assay for the detection of 22q11.2 microdeletion in children showing neuropsychiatric phenotypes W.A.D.M. Subawickrama, T.M.O.D. Tennakoon, N. Warsapperuma, D.M. Ranaweera, D.C. de Silva, N. Perera and G.H. Galhena
	MB_006	Screening of antibiotic resistance in probiotic bacteria for tetracycline group antibiotics in aquaculture practices in Sri Lanka T.H.H.E. Jayathma, M.A.P.C. Piyathilaka, A.R. Pilapitiya, J.A.G.V. Sewmi, G.Y. Liyanage and M.M. Pathmalal
	MB_022	Prevalence of clinically significant <i>PIK3CA</i> hotspot mutations: a comparative cohort study of HER2-positive and HER2-negative breast cancer subtypes in Sri Lanka C.B. Ganegoda, I. Kumarasinghe, J. Balawardena, N.R.P. Perera, S. Viswakula and G.H. Galhena
	MB_023	Evaluation of <i>in vitro</i> cytotoxicity and clonogenic activity of a clinically used traditional medicine formula A.G.N. Nirmali, K.W. Gunawardana, N. Kumarasinghe, N. Salim, and A.I. Kuruppu
	PS_001	TLC-based phytochemical screening and quantitative determination of total phenolic content in tuberous roots of <i>Mirabilis jalapa</i> L. under different extraction conditions  M. Luvedika, N. Ladhurshika, A. Manoraj, S.P.N. N. Senadeera and C.B. Ranaweera
	PS_009	A helical motif as perfect foil: Nudix Box residues and folate biosynthesis  D. Gunawardana
	PS_010	Investigating selected tissue extracts of <i>Artocarpus</i> spp. and <i>Nymphaea</i> spp. for potential antimicrobial activity K.D.N.S. Kalubowila and P.S. Saputhanthri



Time	Abstract Number	Title and Author(s)
3.00 - 4.30 pm	PS_013	Influence of glyphosate on leaf phenolics, flavonoids, and antioxidant potential of <i>Camellia sinensis</i> var. <i>assamica</i> TRI 4042 U. Adshaja, J. Minal and H.D.S. Kavishka
	PS_016	Comparative analysis of protein-protein interaction network modules responsible for Kranz and non-Kranz leaf development: a systems biology approach K.A.B.K. Wijeratne, P.C. Fernando and T.L.S. Tirimanne
	PS_020	Investigation of genotoxic effects of common food preservative, calcium propionate, on root tips of <i>Allium cepa</i> V.T. Koggalage and R. Wimalasekara
	PS_022	Investigating the thermal capacity, total phenolic and flavonoid contents of selected herbal extracts O.C. Wijekoon, I.A.J.K. Dissanayake, N.P.O.V. Pathirana, M.N. Kaumal and S. Gopura
	PS_023	Exploring natural pigments from selected true salt marsh species in Kalpitiya, Sri Lanka B.M.N.S. Balasooriya, B.G.C.I. Bopitiya, R.P.T. Chamuditha, D.M.H.S. Dissanayake, N.S.G. Punchihewa, R.V. Ranasinghe, P.G.T.N. Ranruwini and I.A.J.K. Dissanayake
	PS_024	Factors influencing adoption decision of integrated rice-fish farming among agriculture instructors in Hambantota district, Sri Lanka H.K.R.S. Kumara, M.M.K.I. Marasinghe, K.S.S. Atapaththu, S.S. Herath and N.P. Vidanapathirana
	ZE_004	Comparative analysis of the vocal repertoires of <i>Centropus Coucals</i> of Sri Lanka M.D. Farook and S.S. Seneviratne



Time	Abstract Number	Title and Author(s)
3.00 - 4.30 pm	ZE_005	Sensitivity of <i>Poecilia reticulata</i> and <i>Danio rerio</i> to polyethylene terephthalate microplastic fibers: implications for freshwater ecotoxicology  V.S. Jayasinghe, H.M.T.R. Samarakoon and C.K. Hemachandra
	ZE_007	Wing morphometry of Sri Lankan honeybee ( <i>Apis cerana</i> ) across different agro ecological zones in Sri Lanka R.L.P.M. Somarathna and W.H. Jayasinghe
	ZE_008	Utilizing Duckweed ( <i>Lemna minor</i> ) for sustainable Lead removal: a phytomining approach to water treatment and resource recovery  K.G.S.S. Maduwantha, M.A.P.C. Piyathilaka, K.G.N. Nanayakkara, E.M.M.S. Ekanayake and A.R. Pilapitiya
	ZE_009	Nesting ecology and hatching success of marine turtles in the eastern coast of Sri Lanka B.M.G. Chinthaka Bandara, M. Akila S.W. Peiris, D.M. Wasantha Dissanayaka, R.A.D.D.D. Samaranayake and Mayuri R. Wijesinghe
	ZE_010	The impact of health condition, sex, life stage, environmental variables, and human influence on the feeding behavior of Elephants in selected areas of Udawalawa National Park W.M.V.K. Wickramasinghe and K.M.S. Ruvinda
	ZE_016	A morphometric assessment of Indian Palm Squirrel ( <i>Funambulus palmarum</i> ) across Sri Lanka A.G.R.H. Amarasooriya, T.S.P. Fernando, V.R. Gunasekara, N.A. Liyanarachchi and D.K. Weerakoon
	ZE_022	Enhancing toxicological predictions through Machine Learning on Zebrafish model data P.H.D.G.N. De Silva, L.N.C. De Silva, D.P.N. De Silva and Kasun De Zoysa



Time	Abstract Number	Title and Author(s)
3.00 - 4.30 pm	ZE_023	Ulva fasciata pigments: extraction, chemical characterization, and evaluation of antioxidant and anti- inflammatory activities H.W.G.P. Sewwanthi and K.V.K. Gunathilake
	ZE_025	Spatial and temporal variation of phytoplankton diversity and abundance in Chilaw lagoon, Sri Lanka N.D. Hettige, T.L. Gamage, S.R.C.N.K. Narangoda, H.V.A.B. Nuwanthi, S.P.Y.B. Pathirana, K.A.W.S. Weerasekara and Sansifica M. Young
	ZE_026	Assessing the effects of Devil's trumpet ( <i>Datura metel</i> ) on muscle strength, muscle 1 coordination, and hematological parameters using the Wistar rat model P.V. Gunawardena, P.H.R. Sushmika, R. Amarasooriya, I. Bilal, T. Edirisinghe, D. Farook, S. Kannangara, P. Samarakoon, N.S. Malage, T. Wickramasinghe, J.R.A.C. Jayakodi, V.K. Fernando, D. Weerakoon and M. Mapalagamage
	ZE_028	Assessment of regional variations in vocalization structures of the Oriental Magpie Robin ( <i>Copsychus saularis</i> ) in Sri Lanka D.S. Sudusinghe, D.W.R. Shashimal, P.K. Abeynayake, Y.M.S. Yapa, G.M.S.N. Ariyarathna, M.I.S. Fernando, W.A.T.S. Samanthilake, K.A.D.S. Meecle and P.N. Dayawansa