

ICET 2025

“Technology for Sustainable Future”

International Conference on Emerging Technologies (ICET) 2025

Faculty of Technology



02nd April 2025

Faculty of Technology

Sabaragamuwa University of Sri Lanka

ICET 2025

“Technology for Sustainable Future”

International Conference on Emerging Technologies (ICET) 2025

02nd April 2025

At Faculty of Technology Auditorium,

Sabaragamuwa University of Sri Lanka, Belihuloya

Conference Programme at a Glance

07:30 am – 08:30 am	Registration of Participants
08.30 am - 10.30 am	Inauguration Ceremony
10.30 am – 11.00 am	Morning Refreshment
11.00 am – 01:00 pm	Technical Sessions I
01:00 pm- 02:00 pm	Lunch
02:00 pm - 04.00 pm	Technical Session II
04.00 pm - 04.30 pm	Evening Refreshment
04.30 pm - 05.30 pm	Closing Ceremony
07.30 pm - 11.30 pm	Conference Dinner

Conference Tracks

Advances in Emerging Sciences

Bioenergy and Bio Fuel Generation Technology

Applied Biotechnology and Microbiology

Mechanical Engineering Technology

Electrical and Electronic Engineering Technology

Drug Discovery and Development

TECHNICAL
SESSION I

Technical Session I - Spotlight on Excellence

Date : 02.04.2025

Time : 11.00 am – 12.30 pm

Venue : Auditorium

Session Chair		Prof. Satoshi Kera
Panel Member		Associate Prof. Yasuo Nakayama
Session Coordinator		Ms. Madara Nugegoda
Time	Paper ID	Paper Title & Authors
11.00 am- 11.15 am	50	Halogen ion migration in lead halide perovskite solar cells. <i>Senku Tanaka</i>
11.15 am- 11.30 am	62	Sustainable Waste Valorisation: Biochar Production from Municipal Solid Waste. <i>M. Narayana</i>
11.30 am - 11.45 am	103	Investigation of Ionic Conductivities in Natural Rubber-Based Solid Polymer Electrolytes with different Salts for suitability in Energy Storage Applications. <i>H.G.N Rajapaksha, G.A.K.S Perera, K.P Vidanapathiran</i>
11.45 am - 12.00 pm	105	Experimental Study on Thermal Conductivity, Thermal Diffusivity, and Viscosity of MgO:Graphite Nanocomposite – Engine Oil Nanofluid. <i>C. Galpaya, A. Induranga, V. Vithanage, K. Gunasena, I. Ishr, K. Vardharaja, I. Sandun, U. Samarakoon, H. Wijesekara, K. Koswattage.</i>
12.00 am- 12.15 pm	111	Microplastic Conundrum: Sources, Fate and Transportation, Quantification, Characterization, Impacts and Remediation. <i>S.S.R.M.D.H.R Wijesekara</i>
12.15 am- 12.30 pm	112	Modelling Neglected and Underutilised Crops: A Pathway to Food Security and Sustainability. <i>Eranga M. Wimalasiri</i>

Technical Session I - Advances in Emerging Sciences - Oral Presentations

Date : 02.04.2025

Time : 11.00 am – 12.15 pm

Venue : Lecture Hall 1

Session Chair		Dr. HNM Sarangika
Panel Member		Dr. M.W.P. Maduranga
Session Coordinator		Ms.Vindya Mathagaweera
Time	Paper ID	Paper Title & Authors
11.00 am- 11.15 am	38	Innovative Self-Cleaning Superhydrophobic Coating for Printed Paper: Protecting Ink Integrity, Facilitating Printability and Writability <i>V.G.C. Samanmali, A.R.M.A.M. Rathnayake, N. Dharmaweera, M.M.M.G.P.G. Mantilaka, T. Bandara, and R.T. De Silva</i>
11.15 am- 11.30 am	40	Impact of Reaction Time on the Synthesis of Graphene Oxide: Structural and Optical Analysis for Enhanced Sensor Performance <i>M.I. Ishra, P.G.W. Ariyasena, Chanaka Galpaya, H.C.S Perera, R.G.S.C. Rajapakse, K.R. Koswattage, M.M.M.G.P.G. Mantilaka</i>
11.30 am - 11.45 am	43	Eco-Friendly Green Reduction of Graphene Oxide: Morphological and Chemical Insights for Conductive Applications in Printing Toners <i>G.D.M.H. Wijewardhana, M.M.M.G.P.G. Mantilaka, T.B.N.S Madugalla, W.S.S. Gunathilake, H.C.S. Perera</i>
11.45 am - 12.00 pm	106	Synthesis of ascorbic acid/ Zn-Al layered double hydroxide/agar bio-nanohybrids for skincare cosmetics <i>Chandradasa HWWT, De Silva SSK, Pahalagedara MN</i>
12.00 pm - 12.15 pm	107	Electrospun Polyvinyl Alcohol (PVA)/ Hydrolyzed Collagen (HC)/ Reduced Graphene Oxide (rGO) Blended Antibacterial Nanofibers <i>A.G.P.M. Sithumini, R.A.D.N. Rajapakse, N. De Silva</i>

Technical Session I - Applied Biotechnology and Microbiology Oral - Presentations

Date : 02.04.2025

Time : 11.00 am – 12.45 pm

Venue : Lecture Hall 2

Session Chair		Prof. A. D. Ampitiyawatta
Panel Member		Dr. P. G. I. Dias
Session Coordinator		Ms. Nayani Herath
Time	Paper ID	Paper Title & Authors
11.00 am- 11.15 am	04	Isolation of Cellulolytic Termite Gut Bacteria and Soil Fungi and The Kinetic Comparison of <i>Aspergillus Niger</i> and Commercial Cellulase. <i>F. F. Shouketh, K. Niranjana.</i>
11.15 am- 11.30 am	10	Assessment of Growth, Flowering, and Plumbagin content in <i>Plumbago indica</i> L.: Tissue Culture vs. Conventional Propagation. <i>H.A.S.A. Priyanjani, M.D.K.M. Gunasena, P.K. Lawrence and W.T.P.S.K. Senarath.</i>
11.30 am- 11.45 am	39	Characterization and Comparative Analysis of Pomelo (<i>Citrus maxima</i>) Peel Essential Oil Using Soxhlet Extraction and Hydrodistillation. <i>M.A.W.N. Marasinghe, R. Liyanage, P.C. Bandara, R.S. Dassanayake, S.M. Rajapaksha, K.G.L.R. Jayathunge.</i>
11.45 am- 12.00 pm	46	Studying the antibiotic-resistant patterns of bacteria isolated from commercially available chicken manure samples. <i>Nipuni K. Parakramasinghe, Anupama P. Halmillawewa.</i>
12.00 pm- 12.15 pm	63	Pollutant Removal Efficiency and Phytotoxicity Assessment of Textile Industry Wastewater using <i>Spirulina</i> sp. <i>S.M.D.C. Bandara, R.R. Ratnayake.</i>
12.15 pm- 12.30 pm	79	Feasibility Study on the Green Synthesis of CuO Nanoparticles Using <i>Tithonia diversifolia</i> (Wild Sunflower) Leaf Extract. <i>S.S. Millavithanachchi, M.D.K.M. Gunasena, K.R. Koswattage, D.V.S. Kaluthanthri, P.K.G.S.S. Bandara, G.D.C.P. Galpaya, K.M. Jambugaswaththa, V. Kirthika and A.M.P. Hansini.</i>
12.30 pm- 12.45 pm	81	Activity analysis of extracellular α -amylase enzyme produced by <i>Anoxybacillus caldiproteolyticus</i> , a thermophilic bacterium isolated from Nelumwewa hot water spring. <i>W.H.P. Sandamali, P.K.G.S.S. Bandara, S.S. Millavithanachchi, M.D.K.M. Gunasena, W.G.B.P. Dharmasena.</i>

Technical Session I - Drug Discovery and Development - Oral Presentations

Date : 02.04.2025

Time : 11.00 am – 12.45 pm

Venue : Lecture Hall 3

Session Chair		Prof. Sakeena Hameem
Panel Member		Mr. NMYK Bagyawantha
Session Coordinator		Ms. Niluni Samindi
Time	Paper ID	Paper Title & Authors
11.00 am - 11.15 am	6	Assessment of the Larvicidal Potential of Catunaregam spinosa Seed Extract Against Aedes aegypti Mosquito Larvae <i>P.K. Lawrence, W.T.P.S.K. Senarath, M.D. Hapugoda , M.D.K.M. Gunasena , H.A.S.A. Priyanjani</i>
11.15 am- 11.30 am	73	Comparative Microbiological, Physiochemical and Phytochemical Analysis of Sri Lankan Traditional Medicine “Nawarathna Kalka” on Different Market Samples; Towards Standardization <i>G.R.A Gunasekara, A. Manoraj, T.K. Nawarathne, R.K Jayarathne, M.D.K.M Gunasena and S.S. Millavithanachchi</i>
11.30 am- 11.45 am	86	Formulation and Evaluation of Herbal Hair Gel from <i>Cyclea peltata</i> Leaf Extraction and Aloe Vera Leaf Extraction <i>H.S.R. Thathsarani, D.D.Vitharana, A.L.P.Gimhani , C.J.Abeygunawardena</i>
11.45 am- 12.00 pm	91	Analytical Method Development and Validation for Quantifying the Active Pharmaceutical Ingredient (API) in Aspirin Tablets <i>E. C. Nethmina, U. K. Jayasundara</i>
12.00 am- 12.15 pm	94	Method Development and Validation for Quantifying the Active Pharmaceutical Ingredient in Paracetamol Based Drugs Using UV Visible Spectrophotometry <i>K. M. S. Thejitha, U. K. Jayasundara</i>
12.15 pm- 12.30 pm	97	Feasibility Study of ¹³¹ I Radioisotope Production in Sri Lanka <i>R. Thenabadu, M. Perera, M. R. Lamabadusuriya, and C. Sumithrarachch.</i>
12.30 pm- 12.45pm	100	Phytochemical Variation and Anti-hyperlipidemic Potential in <i>Camellia sinensis</i> : A Comparative Study of Sri Lankan Cultivars <i>A. D. J. L. Wickramaarachchi, K.A.H.G Kuruppu, J. M. K. M. Jambugaswaththa, M.P.M.S. Pathirana, H.S.R. Thathsarani, W.G.B.P Dharmasena, H.G.N Rajapaksha</i>

Technical Session I - Applied Biotechnology and Microbiology – Poster Presentations

Date : 02.04.2025

Time : 11.00 am - 01.00 pm

Venue : Exam Hall

Session Chair		Snr. Prof. WTPSK Senarath
Panel Member		Dr. WMAUKM Wijesekara
Session Coordinator		Mrs. Wathsala Gunasinghe
Time	Paper ID	Paper Title & Authors
11.00 am – 01.00 am	29	Feasibility Analysis of Single Stage Anaerobic Digestion Compared to Multi Stage AD in a Lab Scale Setup Under Controlled Conditions for Industrial Prospects <i>W.A.H. V Perera, W.A.Y.Walpola, K. S Hosan, R.J.M.D.D. P Wijesekara, H.V. V Priyadarshana, K.R. Koswattage</i>
	31	Identified Plant Pigments for Colorizing a Natural PH Indicator to Manipulating the PH of Bio Energy Processes as a Sustainable Process Improvement <i>W.A.H. V Perera, K. T. Dhananjaya, K. S Hosan, R.J.M.D.D. P Wijesekara, H.V. V Priyadarshana, K.R. Koswattage</i>
	48	Impact of Deacetylation Duration on the Characteristics of Chitosan Derived from Crab Shells. <i>Varadharaja Kirthika, Chanika N. Kariyawasam, Lakshani Bhagya, A.M.Prathibha, P.A.I.S.Abejeewa, Chanaka Galpaya, Ashan Induranga, Vimukthi Vithanage, Hasintha Wijesekara, Kaveenga Koswattage.</i>
	78	Identification of Tolerance Levels of Groundnut Genotypes to <i>Aspergillus flavus</i> <i>W.A.L.T. Madhushika, M.D.K.M. Gunasena, M.T. Gunasena.</i>
	80	Evaluating the Efficacy of <i>Beauveria bassiana</i> in Controlling <i>Deltocephalus menoni</i> (Hemiptera: Cicadellidae), the Vector of Sugarcane White Leaf Disease. <i>R.A.S.M. Ranathunga, M.D.K.M. Gunasena, A.N.W.S. Thushari, K.M.G. Chanchala.</i>
	87	Optimization of Primer Annealing Temperature for Real-Time Quantitative PCR for Detection and Quantification of White Leaf Disease Causing Phytoplasma in Sugarcane. <i>K.S Thamesha, P.K.G.S.S Bandara, H.A.H.R Samindi, A.N.W.S Thushari.</i>
	88	Assessment of the Feasibility of Producing Fiber-Enriched Pasta from Sugarcane Bagasse <i>H. E. Sandaruwan, S. M. T. A. Maralanda, S. S. Millavithanachchi, M. D. K.</i>

		<i>M. Gunasena.</i>
	95	Circulating Nutrient Solutions for Paddy Cultivation in Urban and Water-Scarce Areas. <i>W. N. Chamodya, J. A. S. N. Nadeeshani, H. A. M. M. Ruwankumari, and G. Y. P. Madumali, E. R. J. M. D. D. P. Wijesekara.</i>
	96	Assessing the Feasibility of Urban Areas with Low Water Availability Participating in Nutrient Soluble Hydroponic Paddy Cultivation: A Novel Method of Sustainable Rice Production. <i>W.N. Chamodya, G.Y.P. Madumali, J.A.S.N. Nadeeshani, H.A.M.M. Ruwankumari, E.R.J.M.D.D.P. Wijesekara.</i>

Technical Session I - Bioenergy and Biofuel Generation Technology – Poster Presentations

Date : 02.04.2025

Time : 11.00 am – 01.00 pm

Venue : Exam Hall

Session Chair		Mr. Isuru Hettiarachchi
Panel Member		Mr. Chandimal Ranathunga
Session Coordinator		Ms. Alanka Oshadhi
Time	Paper ID	Paper Title & Authors
11.00 am – 01.00 pm	11	Production of Biomass Briquettes from Industrial Waste for Use as Fuel: Combustion Performance Analysis and Fuel Consumption Evaluation Using Simulation Software <i>S.H.L.N. Kularathne, E.R.J.M.D.D.P. Wijesekara, E.P.R.H.H.W. Nilmalgoda, P.M. Abesundara, L.J.M.U. Lankathilake</i>
	12	Production of Biomass Briquettes from Industrial Waste for Fuel Applications: Environmental Impact Assessment Using Simulation Software <i>P.M. Abesundara, E.R.J.M.D.D.P. Wijesekara, A.M.P.C. Amarasinghe, S.H.L.N. Kularathne, L.J.M.U. Lankathilake</i>
	19	<i>Organic Fertilizer from Anaerobic Digestate: A Case Study of Slaughterhouse Waste Co-Digestion as a Sustainable Waste Management Solution</i> <i>W. A. H. V. Perera, I. B. Wijethunga, E. P. R. H. H. W. Nilmalgoda, E. R. J. M. D. D. P. Wijesekara, K. S. Hosan, H. V. V. Priyadarshana, and K. R. Koswattage</i>
	24	<i>An Innovative Approach for Bioenergy Production from Slaughterhouse Waste: Enhancing the C: N Ratio for Maximized Biogas Yield</i> <i>W.A.H. V Perera, M.G.S.S Samarasekara, K. S Hosan, R.J.M.D.D. P Wijesekara, H.V. V Priyadarshana, K.R. Koswattage</i>
	27	Anaerobic Reactor Design for Industrial Waste Management: An Overall Prospective with Pressure Control to Enhance System Reliability Using CAD Software <i>W.A.H. V Perera, S.H.P Ariyaratne, K. S Hosan, R.J.M.D.D. P Wijesekara, H.V. V Priyadarshana, K.R. Koswattage</i>
	30	Evaluation of NH ₃ Production in Anaerobic Reaction: The Importance of Reducing Ammonia As a waste for Energy Value and Efficiency Determination Using Aspen Plus <i>W.A.H. V Perera, G.H. R Sujeera, K. S Hosan, R.J.M.D.D. P Wijesekara, H.V. V Priyadarshana, K.R. Koswattage</i>
	54	Utilization of Ceylon Satinwood Latex (Burutha) And Glycerol as

		Alternative Binders in Biomass Briquette Manufacturing <i>G.H.R. Sujeera; V.A.D. Nisansala; A.W.M.M. Kalhari; W.A.S. Hansani; P.H.I. Hansani; E.R.J.M.D.P. Wijesekara; and E.P.R.H.H.W. Nilmalgoda</i>
	55	Sustainable Bioenergy Production Through the Pyrolysis of Mimosa pigra (Yodha Nidikumba): A Solution for Invasive Species Management <i>K.T. Dhananjaya, K.A.C.S. Kaluarachchi, D.M.D.P. Disanayaka, P. Vimesh, M.A.U Chamikara, S.S. Abaysinghe, and E.P.R.H.H.W. Nilmalgoda</i>
	56	Production of Biodiesel from Waste Poultry Fat: A Case Study in Sabaragamuwa University of Sri Lanka <i>K.D.K. Kulasiri, B.A.D.M. Veerachandra, H.W.S. Yasadari, H.A.K.P. Rathnayaka, M.A.K.M. Premarathna, A.M.P.C. Amarasinghe and E.P.R.H.H.W. Nilmalgoda</i>
	69	Optimization of Free Fatty Acid Reduction in Sludge Palm Oil Through Base Neutralization and Esterification for Enhanced Biodiesel Production <i>N.A.I. Chamara, S.H.L.N. Kularathne and E.P.R.H.H.W. Nilmalgoda</i>
	70	Feasibility Study of Producing Charcoal Briquettes from Coconut Shell Charcoal and Sawdust Using Eco-Friendly Natural Binders for Sustainable Energy Solutions <i>D.M.L.R. Madhusanka, S.H.L.N. Kularathne and E.P.R.H.H.W. Nilmalgoda</i>
	71	The Role of Invasive Plants in Biomass Energy Production: A Case Study of Pinus caribaea in Sabaragamuwa Province of Sri Lanka <i>B.G.U.K. Batagoda, S.H.L.N. Kularathne and E.P.R.H.H.W. Nilmalgoda</i>
	75	Biomass Utilization of Pinto Peanut (Arachis pinto) for Sustainable Energy: Feasibility of Biodiesel, Bio-Oil, Biochar, and Briquette Production <i>N.M.D.N. Gunathilaka, S.H.L.N. Kularathne and E.P.R.H.H.W. Nilmalgoda</i>
	76	Sustainable Waste Disposal and Energy Generation from Scrap Rubber Tracks Through Pyrolysis Technology <i>B.G.L. Sampath, S.H.L.N. Kularathne and E.P.R.H.H.W. Nilmalgoda</i>
	77	Biochar-Enriched Organic Fertilizers from Sugar Industry Waste: A Sustainable Approach to Soil Fertility and Crop Growth <i>K.M.J.K. Bandara, D.H. Maduranga, S.H.L.N. Kularathne and E.P.R.H.H.W. Nilmalgoda</i>
	101	Sanitary Napkins Disposal Practices Among Non-Residential Women: A Comparative Study in Sabaragamuwa University of Sri Lanka <i>S. Jayasekara, U.A.S Nilakshi, E.S.D Wickramasinghe, D.D.M.O Dissanayake, P.W.M. Tharindi and E.P.R.H.H.W. Nilmalgoda</i>
	108	Adoption, Challenges, and Potential for Sustainable Farming with Utilization of Bio-Charcoal Enriched Organic Fertilizer <i>D. M. D. Nipuni, K. W. D. B. W. Kobbekaduwa, P. G. U. Sammani, E. G. P. Kumarathunga and E.P.R.H.H.W. Nilmalgoda</i>

TECHNICAL

SESSION II

Technical Session II - Bioenergy and Biofuel Generation Technology – Oral Presentations

Date : 02.04.2025
Time : 02.00 pm - 04.15 pm
Venue : Lecture Hall 01

Session Chair		Prof. Mahinsasa Narayana
Panel Member		Dr. Hasintha Wijesekara
Session Coordinator		Ms. Lasitha Kularathne
Time	Paper ID	Paper Title & Authors
02.00 pm- 02.15 pm	21	Bioremediation of Textile Industry Wastewater by Nostoc sp. and Analysis of its Fatty Acid Profile for Biodiesel Production <i>S.M.D.C. Bandara, R.R. Ratnayake</i>
02.15pm-02.30 pm	23	An Assessment of the Indoor Air Quality of a Printing Industry with a special reference to TVOCs and PM ₁₀ <i>A.L. Wickramaarchchi, R.T. Nilusha, N.A.T.D.D. Gunasekara, P.V. Jayasinghe</i>
02.30 pm - 02.45 pm	32	Analysis of Phase Equilibrium and Molar Fraction Behavior in Anaerobic Digestion with Acid Pre-Treated Substrates Using Aspen Plus Simulation <i>W.A.H. V Perera, K. S Hosan, R.J.M.D.D. P Wijesekara, H.V. V Priyadarshana, K.R. Koswattage</i>
02.45 pm- 03.00 pm	53	Coagulation for Pre-Treatment of Dairy Wastewater and Energy Recovery from Sludge <i>D.A.A.S. Yapa, E.R.J.M.D.D.P. Wijesekara, A.M.P.C. Amarasinghe, E.P.R.H.H.W. Nilmalgoda, S.S. Abeysinghe</i>
03.00 pm- 03.15 pm	66	Sustainable Bioenergy: Enhancing Biomass Briquettes through the Combination of Rice Waste & Gliricidia <i>C.W. Wijesingha, C.P. Rupasinghe, H.M. Jayasekara, V.P.M. Prasantha</i>
03.15 pm- 03.30 pm	74	Pyrolytic Conversion of Plastic Waste into Sustainable Energy: An Investigation of Bio-Oil, Syngas, And Biochar Production at Sabaragamuwa University of Sri Lanka <i>I.G.L Pramuditha, S.H.L.N. Kularathna, E.P.R.H.H.W. Nilmalgoda</i>
03.30 pm- 03.45 pm	84	Preparation, characterization, and cationic dye removal study of biochar prepared from king coconut husk <i>S D Guruwansha, J A Kasindu Pramod, Nuwan De Silva, Heshan Galagedara, T P Wijesinghe</i>
03.45 pm- 04.00 pm	89	Valorization of Corn Husk Waste: A Sustainable Natural Dye for Textile Coloration <i>J. A Kasindu Pramod, M.Upeksha Sewwandi, Nuwan De Silva, Heshan Galagedara, T.P Wijesinghe</i>

04.00 pm- 04.15 pm	93	Biochar Surface Functionality as Affected by Base Modifications: FTIR based Principal Component Analysis (PCA) <i>G. Ranali P. Silva, Yowin M. Senadheera, Yasmitha A. Alahakoon, P. Walpita¹, Sameera R. Gunatilake</i>
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Technical Session II - Mechanical Engineering Technology - Oral Presentations

Date : 02.04.2025

Time : 02.00 pm - 04.00 pm

Venue : Lecture Hall 02

Session Chair		Dr.S.S.G.C. Siriwardana
Panel Member		Dr. DNS Wanniarachchi
Session Coordinator		Ms. Jayamini Wickramaarachchi
Time	Paper ID	Paper Title & Authors
02.00 pm- 02.15 pm	14	Proposed Sustainability Assessment Framework for Electric Vehicles: Comparison among EV, PHEV, HEV and ICE Vehicles <i>T.S. Niroshan, T.S.Khan, V.K.D. Wijesekara</i>
02.15pm - 02.30 pm	15	Gamification to Boost Up Training in Manufacturing – An Industry Based Approach <i>D.E.Y. Nomitha, G. Rangajeewa</i>
02.30 pm - 02.45 pm	16	AI-Powered Decision-Making for an Automated Industrial Scale Cocopeat Dryer <i>N.A.K. Wijesinghe, G. Rangajeewa</i>
02.45 pm- 03.00 pm	22	Comparative Study on Enhancing Aerodynamic Performance of Fuselage in Vertical Take-Off and Landing Aircrafts Using Computational Fluid <i>K.T.D.Sumanarathna, R.M.S.Madhuka, H.M.R.S.Priyadarshana, A.A.W.T.Adikari, E.A.K.S.Edirisinghe, P.G.G.U.Bandara, R.M.N.D.Rathnayaka, M.M.L.R.D.B.Mapa, D.P.Jayasanka, D.M.L.Chathuranga and S.V.A.Amalka Indupama</i>
03.00 pm- 03.15 pm	35	Comparative Analysis of Calorific Values in Ethanol-Gasoline Blends with Carbon Nano Spheres as Additives to Enhance Combustion Efficiency <i>Gamage D.W., Priyankara W.A.L., Viduranga I.G.R., Senarathna S.S.M., Galpaya G.D.C.P., Vithanage H.V.V., Induranga D.K.A., Nilmalgoda H. and Koswattage K.R</i>
03.15 pm- 03.30 pm	37	Design, Development, and Experimental Testing of a Propeller Test Rig for Computational Fluid Dynamics Model Validation in Propeller Performance Analysis <i>Priyankara W.A.L., Viduranga I.G.R., Senarathna S.S.M., Indupama S.V.A.A., and Koswattage K.R.</i>
03.30 pm- 03.45 pm	67	Computational Fluid Dynamics (CFD) Analysis of Brake Wear Particle Behavior Under Different Driving Conditions <i>M. W. A. L. S. Wijewickrama, D. A. A. S. Dissanayaka, H. D. N. Jayawardhana, M. A. D. D. Shiwantha, S. V. A. A. Indupama</i>
03.45 pm- 04.00 pm	99	Experimental Study on Enhancing Mechanical, Thermal Properties and Biodegradability of Paper Pulp-Based Packaging Materials

		<i>J.D. Chathuranga, H.M.D.U. Sewwandi, S.V.A.A. Indupama, H.V.V. Priyadarshana, K.R. Koswattage</i>
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Technical Session II - Electrical Engineering Technology - Oral Presentations

Date : 02.04.2025

Time : 02.00 pm - 03.00 pm

Venue : Lecture Hall 03

Session Chair		Prof. R.M. Kapila Tharanga Rathnayaka
Panel Member		Dr. W.T.L.S. Fernando
Session Coordinator		Ms. Raneesha Jayasena
Time	Paper ID	Paper Title & Authors
02.00 pm- 02.15 pm	58	An Experimental Study on Performance Degradation of Solar PV Systems Due to Industrial and Environmental Soiling <i>N. Kinchchalar, G. Thanesvaran, R. Jeemas Jelson, K. Piriyanakan Wijekoon, S. Elilan, Vimukthi Vithanage, P.A.I.S Abejeewa, Chanika N. Kariyawasam, K R Koswattage</i>
02.15pm - 02.30 pm	64	Design and Development of a Nanofluid based Cooling System to Enhance the Efficiency of Li-Ion Batteries and Identify the Thermal Properties using Microcontrollers <i>K. S. Hosan, T. N. Wijerathne, R. H. H. D. Premachandra, K. W. A. T. Kulasuriya, A. R. P. H. Wijewardhana, W. A. H. V. Perera, H. V. V. Priyadarshana, D. K. A. Induranga, G. D. C. P. Galpaya, K. R. Koswattage</i>
02.30 pm - 02.45 pm	92	Bio-Derived Kata Kela (<i>Bridelia retusa</i>) Trunk Dye and Metal Oxide Nanostructures for Dye-Sensitized Solar Cells: A Preliminary Study <i>P.A.I.S Abejeewa, Vimukthi Vithanage, Galpaya.C, Ashan Iduranga, V.Kirthika, Hansini A.M.P, W.A Lakshitha Madhushan, Lakshani Bhagya, Pubudunee H.I.D ,K R Koswattage</i>
02.45 pm- 03.00 pm	102	Store Management Utilizer Tool <i>N.V.P.M Erandaka, L.V.W Muniweera, D.L Ruberu</i>

Technical Session II - Advances in Emerging Sciences - Poster Presentations

Date : 02.04.2025

Time : 02.00 pm - 04.00 pm

Venue : Exam Hall

Session Chair		Dr. HNM Sarangika
Panel Member		Mr. Malith M De Silva
Session Coordinator		Ms. Vindya Mathangaweera
Time	Paper ID	Paper Title & Authors
02.00 pm – 04.00 pm	42	Enhanced Synthesis of Graphene Quantum Dots from Graphite: Optimizing Hydrothermal Reduction of Graphene Oxide <i>S.T. Upeksha, Atula S. D. Sandanayaka, Chandana P. Udawatte, Kaveenga Koswattage</i>
	44	Novel Palm Shell-Derived Activated Charcoal for Efficient Reactive Dye Removal: A Sustainable Approach to Textile Wastewater Treatment <i>A.M.P. Hansini, J.A.K. Pramod, Nuwan D. Silva, G.D.C.P. Galpaya, M.D.K.M. Gunasena, P.A.I.S. Abejeewa, Keerthika V, K.R. Koswattage</i>
	45	Environmentally Friendly Synthesis of ZVI Nanoparticles Using Green Tea and Ilmenite <i>Kulochana M. Jambugaswaththa, Tharindu P. B. Rajakaruna, Chandana P. Udawatte, Kaveenga Koswattage</i>
	47	Pine Needle Biochar as a Precursor for Carbon Quantum Dots (CQDs) Synthesis: Influence of Pyrolysis Temperature <i>Chanika N. Kariyawasam, S.T. Upeksha, Varadharaja Kirthika, Ashan Induranga D.K., Chanaka Galpaya, Renuka Nilmini, Hasintha Wijesekara, Kaveenga Koswattage</i>
	57	An Experimental Study on Performance Degradation of Solar PV Systems Caused by Natural Soiling: A Case Study in Belihuloya, Sri Lanka <i>R. Jeemas Jelson, G. Thaneshvaran, K. Piriyankan Wijekoon, N.Kinchchalar, S.Elilan, Vimukthi Vithanage, P.A.I.S Abejeewa, Chanika N. Kariyawasam, K R Koswattage</i>
	59	Experimental Analysis of Optimal Cleaning Methods for Natural Soiling on Solar PV Modules Using FTIR Spectroscopy <i>G. Thaneshvaran, N. Kinchchalar, R. Jeemas Jelson¹, K. Piriyankan Wijekoon, S. Elilan, Vimukthi Vithanage, P.A.I.S Abejeewa, Chanika N. Kariyawasam, K R Koswattage</i>
	72	Microplastics Removal Using Nano-Magnetite in Aqueous Medium <i>Lakshani Bhagya, Varadharaja Kirthika, P.A.I.S Abejeewa, Chanaka Galpaya, Hasintha Wijesekara, Kaveenga Koswattage, and Anushka Upamali Rajapaksha</i>

	82	Structural and Chemical Modifications of Heat-treated Tourmaline under Oxidizing Environments <i>B. Tharaka Dilshan, Nuwan Wanniarachchi, Hasintha Wijesekara, I.A.A. Gunasekara, K. R. Koswattage</i>
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Technical Session II - Mechanical Engineering Technology - Poster Presentations

Date : 02.04.2025

Time : 02.00 pm - 04.00 pm

Venue : Exam Hall

Session Chair		Dr. M.D.S.L. Wimalananda
Panel Member		Mr. PP Weerakkody
Session Coordinator		Ms. Sanduni Sasikala
Time	Paper ID	Paper Title & Authors
02.00 pm – 04.00 pm	18	AI-Driven Microcontroller System for Leaf Maturity Detection: Toward SMART Operations in Agriculture <i>K.S. Hosan, W.R.J. Soyza, W.A.H.V Perera, I.B. Wijethunga, E.P.R.H.H.W. Nilmalgoda and K.R. Koswattage</i>
	33	Design, Development, and Testing of Automated Coolant Injection System for Bench Drilling Machine <i>W.R.T.K. Mirihella, I.L.I. Sandaruwan, R.A.K. Milani, W.M.D.K.C. Weerakoon</i>
	34	Comparative Study on Mixing Efficiency of Paper Pulp Beaters Using Computational Fluid Dynamics <i>M.D.B. Sandaruwan, B.N.D.D. Manujitha, A.A.H.L. Abeysinghe, H.P.B.R. Caldera, R.N. Kalugamage, S.V.A. Amalka Indupama</i>
	36	Comparative Analysis of Calorific Values in Ethanol-Enriched Gasoline and Other Fuel Blends to Assess Efficiency <i>Senarathna S.S.M., Priyankara W.A.L., Viduranga I.G.R., Gamage D.W., Galpaya G.D.C.P., Vithanage H.V.V., Induranga D.K.A., Nilmalgoda H and Koswattage K.R.</i>
	51	Nuclear Attack Radiation Impact Study on Geographically Varied Educational Institutional Environment <i>K. S. Hosan, W. A. H. V. Perera, M. G. A. G. Samarasekara, H. V. V. Priyadarshana, E. R. J. M. D. D. P. Wijesekara, K. R. Koswattage</i>