

ORAL PRESENTATIONS

27th September 2024

ENGINEERING

Technical Session I

Venue: FOE 6-1, 6th Floor, Faculty of Engineering

Chairperson	Dr. Sanika Wijayasekara Assistant Professor, Faculty of Computing, SLIIT, Sri Lanka
0900 – 0905 Hrs	Introduction of the Chair
0905 – 0910 Hrs	Preliminary Remarks by the Chair
0910 – 0925 Hrs	Integration of Image Processing with Underwater Rover to Monitor Coral Growth. WAMPL Adhipaththu, AMMHB Abeysinghe, BY Ranasinghe, UVH Sameera and BLS Thilakarathne
0925 – 0940 Hrs	Designing a Portable Solar Power Station for Outdoor Activities HAS Eranda, RAIT Rathnayake, PMP Rodrigo, KGNS Karunarathne and JP Karunadasa
0940 – 0955 Hrs	Enhancing Electrical Grid Reliability through Predictive Cycle Detection with Graph Neural Networks WMKGVB Wijekoon and HPPP Hettiarachchi
0955 – 1010 Hrs	Edge Computing using FPGA with the Deployment of Neural Networks for General Purpose Application Kevini Perera, Chamod Hettihewa, Manupa Wickramasinghe, Ashan Sandanayake, Chamali Rajapaksha and Pubudu Pathirana
1010 – 1020 Hrs	Summing up by the Session Chair
1020 – 1030 Hrs	Awards Ceremony
1030 – 1100 Hrs	Refreshments

ENGINEERING

Technical Session II

Venue: FOE 6-1, 6th Floor, Faculty of Engineering

Chairperson	Prof. Shiromi Karunaratne Professor, Department of Civil Engineering, Faculty of Engineering, SLIIT, Sri Lanka
1100 – 1105 Hrs	Introduction of the Chair
1105 – 1110 Hrs	Preliminary Remarks by the Chair
1110 – 1125 Hrs	Management of Construction Wastage in Building Projects of Sri Lanka NGP Aparna and TMWRMB Samarakoon
1125 – 1140 Hrs	Graphene Oxide as a corrosion mitigation agent in reinforced concrete: An evaluation DA Oshadhi and BHJ Pushpakumara
1140 – 1155 Hrs	Analysis on Design Standards of Bus Terminals in Sri Lanka MPVP Medawatte and RMNT Sirisoma
1155 – 1210 Hrs	Investigation of Stormwater Quality in Different Impervious Surfaces – Case Study in General Sir John Kotelawala Defence University RARS Ranasinghe, HK Pathinayaka, and NS Miguntanna
1210 – 1225 Hrs	Socio-hydrological influence of floods in Kelani River basin due to Southwest monsoon: A comparative study LY Hitige, MT Gunasekara, and WCDK Fernando
1225 – 1230 Hrs	Summing up by the Session Chair
1230 – 1235 Hrs	Awards Ceremony

1235 – 1330 Hrs

Lunch

ENGINEERING

Technical Sessions III

Venue: FOE 6-1, 6th Floor, Faculty of Engineering

Chairpersons

Prof. Indika De Silva

Professor, Department of Materials Science and Engineering,
Faculty of Engineering, University of Moratuwa, Sri Lanka

1330 – 1335 Hrs

Introduction of the Chair

1335 – 1340 Hrs

Preliminary Remarks by the Chair

1340 – 1355 Hrs

Design and Analysis of Rotor and Airfoil Configurations for Vertical Axis Wind Turbine to Harvest Wind Generated at Highways

MM Kothalawala, RDMHM Ariyaratne, HGS Hikkaduwa, NVL De Silva, KREMSB Ekanayaka, MCH Chandrasiri, and PS Gauder

1355 – 1410 Hrs

Design and Implementation of Operational Level Arduino Based Marine Two Stroke Engine Simulator

HGS Hikkaduwa, KMPK Senarathne, DVP Wijethunga, MCH Chandrasiri, LAKR Athukorala, LBND Rajasekara, SADR Maduwantha, RGYK Rajapaksha, and JPKD Amarathunga

1410 – 1425 Hrs

Transforming Waste to Wealth: Development of a Feedstock-Specific Auto-Thermal Pyrolizer for Carbonizing Compost Residues in Sri Lanka

MSK Ranaweera, EANK Edirisinghe, M Narayana, BCL Athapattu, DGC Wickramasinghe, and M Vithanage

1425 – 1440 Hrs

Preliminary Study on Design and Development of Unmanned Shallow Water Surface Surveillance Craft

HGS Hikkaduwa, TADBP Thissarachchi, KMPK Senarathne, DNT Karunarathne, P Danthanarayana, BADR Balachandra, UVPS Perera, TV Induruwage, and BMJC Balasuriya

1440 – 1450 Hrs Summing up by the Session Chair

1450 – 1500 Hrs Awards Ceremony

1500 – 1530 Hrs Refreshments

ENGINEERING

Technical Session IV

Venue: FOE 6-1, 6th Floor, Faculty of Engineering

Chairperson	Prof. Jeyasingam Jeyasugithan Professor, Department of Nuclear Science, Faculty of Science, University of Colombo, Sri Lanka
1530 – 1535 Hrs	Introduction of the Chair
1535 – 1540 Hrs	Preliminary Remarks by the Chair
1540 – 1555 Hrs	Analyzing the Difference in Joint Angular Kinematics between Professional and Amateur Tennis Players AS Rajendran, KNS Silva, and LT Rupasingha
1555 – 1610 Hrs	Comprehensive Review on the use of Arterial Spin Labelling MRI for localization of the Epileptogenic Zone in Drug- Resistant Epilepsy BMAT Perera, PPCR Karunasekara, and MSS Fernando
1610 – 1625 Hrs	Biomechanical Analysis of Basketball Shooting Techniques: A Motion Capture Study of Joint Angles and Movement Patterns KMRY Samarakoon, SHVK Kumaranayake, SMVM Senanayake and PDK Dewanmini
1625 – 1640 Hrs	Advanced Nanotechnology for Intracranial Pressure Monitoring: A Comprehensive Review of Carbon Nanotube Based ICP Pressure Sensors ARA Rahman and WLPK Wijesinghe
1640 – 1650 Hrs	Summing up by the Session Chair
1650 – 1700 Hrs	Awards Ceremony
1700 – 1730 Hrs	Refreshments

POSTER PRESENTATIONS

27th September 2024

ENGINEERING

Self-Sensing Concrete: A Breakthrough in Structural Health Monitoring- A review

OMR Priyantha

The impact of plastic waste as a partial replacement for sand in normal strength concrete

ME Sutharsan, P Pushparaj, D Sajithkumar, and V Kaneesh

Wireless Underground Sensor Network for Soil Monitoring

C Bandara, D Guruge, I Dalpathadu, P Samarathunga, P Karunanayake, T Weerwardane, A Könsgen, and A Förster

Design and Development of a Wall-Climbing Robot for Wall Inspection and Crack Detection

MY Deundaraarachchi, PD Walawege, AR Dolage and HDI Piyumini

Bidirectional Power Conversion Redefined: A review on the superiority of Dual Active Bridge (DAB) Converters

Sachethana Ranasinghe

Development of a Footstep-Based Energy Harvesting System Using Piezoelectric Material for Military Applications

RRGSN Senarathna, PSR Dilshan, DMSS Delgamuwa, and MRRA Bandara

Efficient Smart Home System Using IoT and Arduino for Enhanced Automation and Security

NT Sandanayake, KR Walawege, EGSM Gunathilake, DDGR Karunarathne

Driver Drowsiness Detection & Accident Alert System

GAPK Gunasinghe, BMDP Rathnayake, SHRT Sooriyagoda, RMCP Ranasinghe

Smart Liquefied Petroleum Gas (LPG) Level Monitoring System with Gas Leakage Detection System

MPSM Pathirana and Sachethana Ranasinghe

Review of Different Business Models Applicable for a Community Microgrid

DLSA Dahanayake, AUC Perera, KV Wickramanayake and MGBP Charaka

A Comprehensive Review of Cardiac Output Determination and Radial Pulse Analysis Using Piezoelectric Sensors

PS Walawege, and WLPK Wijesinghe

Enhanced Pulse Simulator for Medical and Nursing students

ML Niane, AWA Iqbal, IT Ponnampereuma and KG Samarawickrama

A Novel Air Bubble Removal System in Infusion Pumps Utilizing Vacuum and Air-Permeable Membrane Technology for Enhanced Patient Safety

WKD Fernando, RAIB Chandrasekera, MHND Hewage, and KG Samarawickrama

Designing an IoT-enabled syringe pump with remote monitoring feature

JMTA Bhashini, MALST Perera, KG Samarawickrama, WKMND Bandara

Optimizing Vertical Axis Wind Turbines to Suit Sri Lankan Residential Applications

CJ Kekirideniya, SG Nugegoda, WVPP Madhumali, PRA Dissanayake, and WRU Fernando

Automated Fabric Hook-and-Eye Closure Feeding System

NBA Hettiarachchi, MMBMB Seneviratne, ACL Bandara, HDI Piyumini, and PPSS Pussepitiya

Numerical Study of Single Stage Travelling Wave Thermoacoustic Generator Through Regenerator Optimization

MDA Wickramasinghe, MMID Manthilake, MA Wijewardane, RACP Ranasinghe

Design of an AI-Assisted Digital Flight Data Recording System for Sri Lanka Air Force Light Aircraft

EMDJ Ekanayaka, RSJ Karunarathne, TGT Peiris, SN Kiriwella, and KGT Jayasooriya

Designing Noise Reduction Propeller System for DJI Matrice 300 Drone

MMPT Gallella, MT Liyanagamage, HMTN Herath, and SLMD Rangajeewa

Factors Influencing Human Error in the Aviation Industry

KAP Malake, and AA Azeez

**Optimization of the Performances of P 47 Series Fast Attack Craft in Sri Lanka Navy
Using AI-Driven Hydrodynamics Analysis**

KREMSB Ekanayake, TADBP Tissarachchi, NVL De Silva, RDMHM Ariyaratne and LAKR Athukorala