Editorial Team

Editor in Chief
Prof. Ir. Dr. Kaharudin Dimyati, Universiti Malaya

Editorial Board
Prof. Ir. Dr. Hamzah Arof, Universiti Malaya
Prof. Ir. Dr. Hazlee Azil Illias, Universiti Malaya
Prof. Ir. Dr. Hazlie Mokhlis, Universiti Malaya
Prof. Saad Mekhilef, Swinburn University of Technology, Australia
Prof. Ir. Dr. Sulaiman Wadi Harun, Universiti Malaya
Assoc. Prof. Dr. Tutut Herawan, Universiti Malaya
Dr. Mohammad Aminul Islam, Universiti Malaya
Dr Marif Daula Siddique, King Fahd University of Petroleum and Minerals, Kingdom of Saudi Arabia
Dr. Noraisyah Mohamed Shah, Universiti Malaya

Journal Manager
Dr. Wan Amirul Wan Mohd Mahiyiddin, Universiti Malaya

Table of Contents

No	Article	Page
1	Preface	1
2	Machine Learning-Based Structural Damage Identification Utilising Frequency Response Function Peak Amplitude Ratios *Bing Zhen Cheah, Zhi Chao Ong*, Shin Yee Khoo, Pei Yi Siow, Zainah Ibrahim and Chee Ghuan Tan*	… 2 – 11
3	A SARIMA-Based Rolling One-Step-Ahead Framework for Monthly Forecasting of Prefecture-Level Guest Nights in Japan *Chang Xu, Wong Jee Keen Raymond*, Hazlie Mokhlis, and Hazlee Azil Illias*	… 12 – 20
4	Evaluating Visual Generalization Boundaries in Low-Parameter Vision-Language-Action Models During Rigid Robotic Manipulation *Jac Tze Tang, Pauline Shan Qing Yeoh* and Hong Vin Koay**	… 21 – 30
5	Reinforcement Learning-Controlled Quadruped Robot: From Basic Gaits to Complex Motions *Lin Yashan, Mahidzal Bin Dahari**	… 31 – 40
6	Comparative Analysis of Sequential and Non-Sequential Machine Learning Models for Electrical Load Forecasting in Medical Facilities *Muhammad Alif Hidayat Zulkarnain, Muhammad Daniel Fahmi Mohd Razi, Muhammad Mokhzaini Azizan* and Azharudin Mukhtaruddin*	… 41 – 51
7	Gap Analysis of WtE Technologies for Tropical MSW: A Systematic Review and Development Direction of Waste Heat Recovery-Based Hybrid Architectures *Mukhyiddin Muhammad Ihsan, Farah Ramadhani*, Lindiasari Martha Yustikaa, and Risha Diah Rhamadhani*	… 52 – 61
8	YOLOv8-Based Pest Detection for a Plant Treatment Spraying Machine in Agriculture *Vilasine Anantharaj*, Nor Hidayah Abdul Kahar, Izanoordina Ahmad, Julie Roslita Rusli, Siti Marwangi Mohamad Maharum, Nur Amirah Sabrina Luqman, Alfin Hikmaturokhman and Hasanah Putri*	… 62 – 72
9	A Low-Voltage High-Speed DRAM Sense Amplifier Employing Hidden Diode-Connected Offset Cancellation *Yi Joe Low and Harikrishnan Ramiah**	… 73 – 84

Preface

It is with great enthusiasm that we present Volume 2, No. 1 of *New Explorations in Electrical Engineering* (NECE), the official journal of the Department of Electrical Engineering, Faculty of Engineering, Universiti Malaya. Building on our previous issues, this publication continues our commitment to fostering a vibrant research culture among faculty members and students while providing a platform for technical advancement and knowledge sharing within the broader electrical engineering community.
NECE remains dedicated to promoting rigorous academic discourse and enhancing technical writing through constructive peer review and editorial guidance. The journal covers key disciplines in electrical engineering, including power systems, automation and control, robotics, computer engineering, signal and image processing, renewable energy, and emerging intelligent technologies.

In this issue, we are pleased to feature eight research articles spanning machine learning, intelligent robotics, energy systems, environmental sustainability, and semiconductor circuit design:

- **Machine Learning and Structural Health Monitoring:** A study investigates structural damage identification using machine learning techniques based on frequency response function peak amplitude ratios, contributing to data-driven structural condition assessment.
- **Forecasting and Predictive Analytics:** Two articles explore forecasting methodologies, including a SARIMA-based rolling one-step-ahead framework for predicting monthly guest nights in Japan and a comparison of sequential and non-sequential machine learning models for electrical load forecasting in medical facilities.
- **Artificial Intelligence, Computer Vision, and Robotics:** Three contributions examine visual generalization in low-parameter vision-language-action models for robotic manipulation, reinforcement learning-based quadruped robot control, and YOLOv8-based pest detection for agricultural spraying applications.
- **Renewable Energy and Waste-to-Energy Technologies:** A systematic review identifies gaps in waste-to-energy technologies for tropical municipal solid waste and explores hybrid architectures incorporating waste heat recovery.
- **Microelectronics and Semiconductor Circuit Design:** A study presents a low-voltage, high-speed DRAM sense amplifier employing hidden diode-connected offset cancellation for memory circuit applications.

We extend our sincere appreciation to the authors for sharing their research, the reviewers for their thorough evaluations and constructive feedback, and the editorial team for their continued dedication. We hope this issue inspires further innovation, interdisciplinary collaboration, and advancement in electrical engineering and related fields.
We warmly invite researchers, practitioners, and students to contribute to future issues of NECE as we continue strengthening the journal as a platform for scholarly exchange and technical advancement.

Prof. Ir. Dr. Kaharuddin Dimyati
Editor-in-Chief
New Explorations in Electrical Engineering (NECE)
Department of Electrical Engineering
Faculty of Engineering, Universiti Malaya