

Journal of Mechatronics, Electrical Power, and Vehicular Technology

Volume 15, Issue 1, 2024

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MEV Journal Secretariat:
Research Center for Smart Mechatronics,
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KST Samaun Samadikun BRIN
Jl. Sangkuriang, Dago,
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West Java, 40135 INDONESIA
Business hour: Monday to Friday
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FOREWORD FROM EDITOR-IN-CHIEF

Most valued Readers,

Let us welcome you back to this journal in the first issue of the 15th volume in 2024. Thanks to contributors, practitioners, scientists, and researchers who have entrusted us with publishing their very valuable articles and reports. Thanks also go to the editorial board and management of this journal. With their efforts, this journal has been listed as a Q4 journal in SJR 2023 with a citation score of 0.7.

This issue consists of ten papers written by authors from different countries, such as Bangladesh, Germany, Indonesia, Iraq, Japan, Malaysia and Vietnam. We are pleased in this issue to present a diverse range of articles and papers that cover a wide range of topics within the field of Mechatronics, Electrical Power, Vehicular Technology, and other relevant and related topics.

In the first paper Nguyen Huu Tho and Le Thanh Danh presented about the design of an energy regeneration suspension (ERS) that converts kinetic energy into electrical energy. Their investigation and experimental results demonstrate that ERS models with higher permeability inner sleeves exhibit superior energy regeneration efficiency. In the next article, Aripriharta *et al.* proposed an optimization approach using heuristic techniques to determine the optimal droop parameters on DC microgrid under load variation using two techniques: queen honey bee migration (QHBM) and particle swarm optimization (PSO). In the next paper, Jaafar *et al.* presented a performance evaluation of a solar tracker system that improved energy output compared to the fixed solar panel (FSP) while also reducing the numerical calculation (NC) efficiency of DASTS. They emphasized also that solar tracker systems can provide sustainable and environmentally friendly energy solutions that are both feasible and substantial. While Antar and Saied proposed an active power compensation circuit (APCC) with two categories of linear/non-linear loads implemented and regulated using an adjusted pulse width modulation technique to minimize AC side distortions, improve the improve input power factor (IPF), and mitigate harmonics resonance at the same time. The next article introduces a maximum power point tracking (MPPT) control methodology utilizing a sand cat swarm optimizer (SCSO) used for photovoltaic energy harvesting booster under partially shaded conditions.

There are another five papers written in this issue about a prototype of a defect inspection system on fabric production using machine learning-based image processing technology using the open-source Google teachable machine application integrated with Raspberry Pi-3B; a bibliometric analysis of the extreme learning machine (ELM) research, with a particular emphasis on ELM-based control systems and applications; smart watering of ornamental plants: exploring the potential of decision trees in precision agriculture based on IoT; robust remaining useful life prediction of lithium-ion battery with convolutional denoising autoencoder; and application of lidar sensors to detect distance in the Intelligent Cruise Control (ICC) system using the Fuzzy-PID control method.

We encourage academic and research professionals to submit manuscripts on practical and scientific key issues in mechatronics, electrical power, and vehicular technology of all disciplines. We are looking forward to receiving extraordinary manuscripts and promoting cutting-edge technology development.

Bandung, July 2024

Editor-in-Chief

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