e-ISSN 2088-6985
p-ISSN 2087-3379

Journal of Mechatronics, Electrical Power, and Vehicular Technology

Volume 15, Issue 1, 2024

Aim and Scope

Journal of Mechatronics, Electrical Power, and Vehicular Technology (MEV) is an internationally peer-reviewed journal aims to provide authoritative global source of scientific information for researchers and engineers in academia, research institutions, government agencies, and industries. The Journal publishes original research papers, review articles and case studies focused on:

Mechatronics: including control system, robotic, CNC Machine, sensor, signal processing, electronics, actuator, and mechanical dynamics.

Electrical Power: including power generation, transmission system, new and renewable energy, turbine and generator design and analysis, grid system, and source assessment.

Vehicular Technology: including electric/hybrid vehicle design and analysis, vehicle on grid, fuel efficiency, and safety analysis.

MEV's vision is to become an international platform with high scientific contribution for the global community. MEV's mission is presenting important results of work, whether in the form of research, development, application, or design.

Imprint

MEV is published by National Research and Innovation Agency (BRIN) - *formerly* Indonesian Institutes of Sciences (LIPI).

ISSN print: 2087-3379
ISSN electronics: 2088-6985

Electronics edition is available at: https://mev.brin.go.id

All published article are embedded with DOI number affiliated with Crossref DOI prefix 10.14203

Peer Review Policy

MEV reviewing policies are:

Every submitted paper will be reviewed by at least two peer-reviewers.

Reviewers are unaware of the identity of the authors, and authors are also unaware of the identity of reviewers (double blind review method).

Reviewing process will consider novelty, objectivity, method, scientific impact, conclusion, and references.

Accreditation

MEV is Sinta 1 accredited by Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia via National Journal Accreditation (ARJUNA) accreditation platform.

https://sinta.kemdikbud.go.id/journals/profile/814

Publication Frequency

MEV is managed to be issued twice in every year. The first issue should be in the mid of the year (July) and the second issue is at the end of the year (December).

Postal Address

MEV Journal Secretariat:

Research Center for Smart Mechatronics,

National Research and Innovation Agency (BRIN)

KST Samaun Samadikun BRIN

Jl. Sangkuriang, Dago,

Kec. Coblong, Bandung,

West Java, 40135 INDONESIA

Business hour: Monday to Friday 08:00 to 16:00 GMT+7

e-mail: jmev@brin.go.id

e-ISSN 2088-6985
p-ISSN 2087-3379

Journal of Mechatronics, Electrical Power, and Vehicular Technology

Volume 15, Issue 1, 2024

Online Submissions

If you already have a Username/Password for Journal of Mechatronics, Electrical Power, and Vehicular Technology?
Go to login at:
https://mev.brin.go.id/mev/login

Need a Username/Password?
Go to registration at:
https://mev.brin.go.id/mev/user/register

Registration and login are required to submit items online and to check the status of current submissions.

Copy Editing and Proofreading

Every article accepted by MEV Journal shall be an object to **Grammarly**® writing-enhancement program conducted by MEV Journal Editorial Board.

Reference Management

Every article submitted to MEV Journal shall use reference management software e.g. **Endnote**® or **Mendeley**.

Open Access Policy

MEV Journal provides immediate open access to its content on the principle that making research freely available to the public to supports a greater global exchange of knowledge.

Processing Charges

Every article submitted to MEV Journal **will not have** any Article Processing Charges. This includes submission, peer-reviewing, editing, publishing, maintaining and archiving, and allows immediate access to the full text versions of the articles.

Plagiarism Check

iThenticate®

Plagiarism screening will be conducted by MEV Editorial Board using **Crossref Similarity Check™** powered by iThenticate®.

Crossmark

Check for updates

Every article will be published along with **Crossmark** button in the PDF and in the online abstract page. Crossmark gives readers quick and easy access to the current status of a piece of content.

Cited-by

Crossref Cited-by

Published article will be equipped with Crossref **Cited-by** service. Cited-by lets publishers show authors and readers what other Crossref content is citing their content.

Indexing & Abstracting

MEV has been covered by these following indexing services:

EBSCOhost, Google Scholar, Directory of Open Access Journal (DOAJ), Science and Technology Index (SINTA), Crossref, Indonesian Scientific Journal Database (ISJD), Indonesian Publication Index (IPI), CiteULike, Academic Journal Database, ResearchBib, Bielefeld Academic Search Engine (BASE), WorldCat, Sherpa Romeo, Index Copernicus, and Open Academic Journal Index (OAJI).

MEV has been indexed in Scopus and the profile page can be visited at https://www.scopus.com/sourceid/21101101245

CC License

e-ISSN 2088-6985
p-ISSN 2087-3379

Journal of
Mechatronics, Electrical Power, and Vehicular Technology

Volume 15, Issue 1, 2024

Journal of

Mechatronics, Electrical Power, and Vehicular Technology

Volume 15, Issue 1, 2024

Journal of

Mechatronics, Electrical Power, and Vehicular Technology

Volume 15, Issue 1, 2024

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, Apriharta *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

Journal of

Mechatronics, Electrical Power, and Vehicular Technology

Volume 15, Issue 1, 2024

LIST OF CONTENTS

Complete articles can be found at https://mev.brin.go.id/