

2nd International Conference on Consumer Technology and Engineering Innovation (ICONTENTION 2023)

Exploring and Cutting-Edge Innovations
and Transformative Trends

Held online

Advances in Engineering Research Volume 233

Kuala Lumpur, Malaysia
7 - 8 November 2023

ISBN: 978-1-7138-9700-2

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Print copyright© (2024) by Atlantis Press (part of Springer Nature)
All rights reserved.
Copyright for individual electronic papers remains with the authors.

For permission requests, please contact the publisher:

Atlantis Press
Van Godewijkstraat 30
3311GX Dordrecht
The Netherlands

contact@atlantis-press.com

Printed with permission by Curran Associates, Inc. (2025)

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Enhancing Material Selection Efficiency: A Multi-Criteria Decision-Making Approach <i>Aryo De Wibowo Muhammad Sidik, Ilyas Aminuddin, Cahya Laxa Eka Putra, Edwinanto Edwinanto, Apriditia Karisma, Yufriana Imamulhak</i>	1
Technical Challenges of the Energy Transition PLTU Palabuhan Ratu Pgu to a Clean Energy Source..... <i>Muhammad Syahrul Fauzie, Akhmad Afjudin, Fandi Sugih Sugriwa, Marina Artiyasa</i>	7
Design and Strength Analysis of Bean Washing Machine Frames Using the Fea Method..... <i>Dede Kurtubi, Dani Mardiyana</i>	12
Comparison of Techniques for Long-Term Transformer Load Forecasting: A Systematic Literature Review..... <i>Dwigian Netha Putra, Mochammad Firdian Ramadhani P, Muchtar Ali Setyo Yudono</i>	20
Gradation Analysis of Fine Aggregate with Comparison of Cimangkok Sand, Jebrok Sand, Cipelang Sand, Pelabuhan Ratu Sand in Sukabumi <i>Abdul Malik Algoni, Nurarti Awalia, Yusi Nurusyifa, Dio Damas Permadi, Nadhya Susilo Nugroho, Triono Triono</i>	25
Enhancing CSTR System Performance: A Novel Approach with Flower Pollination-Based Integral Derivative Control..... <i>Aryo Wibowo Muhammad Sidik, Alfaozan Imani Muslim, Wahyu Dwi Nurhidayat, Harurikson Lumbantobing, Andika Kurniawan, Odi Akhyarsi</i>	31
Evaluation of Impurities in Hydrogen Cooling System and Their Influence on Power Generation Efficiency at Pelabuhan Ratu Power Plant <i>Anggi Dwiyanto, Muflihun Muflihun, Muhammad Alif Alfaturisya, Anang Suryana</i>	37
Design of Fume Extrator for SMAW Welding in Nusa Putra University Mechanical Engineering Workshop..... <i>Erik Suwandana, Dida Kadarisman, dan Qodratullah, Fabrobi Ridha</i>	43
Biomass Generator Analysis for Renewable Energy Transition with the Co-Firing Program at PLTU Pelabuhan Ratu..... <i>Alfaozan Imani Muslim, Andika Kurniawan, Wahyu Dwi Nurhidayat, Aryo Wibowo Muhammad Sidik</i>	53
Performance Analysis of Three-Armed Intersection Capacity on Jalan Raya Sukabumi-Cisaat and Jalan Cibaraja <i>Lulu Ayu Indriani, Silvia Rahayu Gunawan, Rendi, Dio Damas Permadi, Utamy Sukmayu Saputri</i>	59
Intersection Performance Analysis at Unsignalized Triple Intersection at Karang Tengah Lodaya Road - Nagrak, Cibadak- Sukabumi..... <i>Didih Lesmana, Dini Andriani, Wisnu Mubarak</i>	66
Identification of Pedestrian Comfort Level on Pedestrian Paths Sukabumi City - West Java (Case Study Jl. Jend. Sudirman Sukabumi City)..... <i>Herawati Nursamsi Firdaus, Lupi Apriansyah, Muhammad Hidayat, Adjeng Siti Nurfadillah, Syaekhudin Rizal, Utamy Sukmayu Saputri</i>	73

Analysis Study of the Bearing Capacity of Pile Foundations in the Construction of Bogor SMA-SMAK Educational Buildings	82
<i>Siti Fatimah Rahmawati, Aditya Faryansyah, Fikri Febriansyah, Danang Purwanto, Dio Damas Permadi</i>	
Modification of the Control Electrical Circuit in the Hydrogen System at the Pelabuhan Ratu Power Plant to Maintain Generator Reliability	88
<i>Agus Tomi, Denny Maijer, Yongki stevi Mentu, Anang Suryana</i>	
Analysis of Operational Anormality in 3 Phase Induction Motors Using the Fuzzy Method of PLTU Pelabuhan Ratu	93
<i>Aryo De Wibowo Muhammad Sidik, Cahya Laxa Eka Putra, Apriditia Karisma, Ilyas Aminuddin</i>	
Analysis of Solar Power Prediction Employs Linear Regression, Random Forest Regression, Decision Tree and Neural Network	97
<i>Danial Zulfiqar, Marina Artiyasa, Irvan Syah Riadi, Robby Ardiansah</i>	
Tackling Organic Waste with a Circular Economy: Case Study in Sukabumi City	103
<i>Eneng Rahmi</i>	
Control System for Plastic Molding Machine Using PLC at CV. Guna Teknik	112
<i>Ujang Ruhiat, Robi Kholiloh, Fauzan Adhima, Anang Suryana</i>	
Enhancing Wind Power Generation: A Novel Equilibrium Optimizer Algorithm for Maximum Power Point Tracking in Synchronous Generators Under Variable Wind Speed Conditions	118
<i>Efendi Muchtar, Aldi Rustandi, Aryo Wibowo Muhammad Sidik, Riyo Saputra, Badrudin Badrudin, Bayu Indrawan</i>	
The Management of Occupational Health and Safety and Environmental Management in Order to Achieve the Blue Proper (Peformance Rating Program) Target at the Nusa Penida Power Plant in Bali	124
<i>Aldika Priyaga Perwira, Dodi Sopandita</i>	
Analysis of Brain Wave Signals Using Electroencephalography in People with Depression	131
<i>Muhammad Rizki Fadillah, M. Ramdhani Firmansyah, Rojudin, Ilman Hilmawan K</i>	
Effect of Adding Natural Rubber to Inner Tires Using the Pressure Method	135
<i>Akhmad Herdianto, Zaid Sulaiman, Dodi Iwan Sumarno</i>	
The Percentage of Structural Costs in Houses Structured Type 30, 36, 45 and 70 with Houses with Simple Structures	140
<i>Cece Suhendi, M. Fadjri Kusumah, Ferdi Priatman, Febi Ferdiansyah</i>	
Implementation of Occupational Safety and Health Management System in Cibeber Irrigation Project with Hirarc Method	149
<i>Canda Halim Azhari, Maharani Tira Yusina, M. N. Revi Yusup Tri</i>	
Cost Comparison Analysis of Fence Work Between Conventional Walls and Pracest Concrete (Case Study of West Java Petrochemical Complex Project) at PT Pertamina International	154
<i>Dede Ahmad Yusuf, Andra Gerinta Prahasta, Tesan Peranata Pauzan, Dio Damas Permadi, Utamy Sukmayu Saputri</i>	
Analysis of Delays in Housing Construction PT. Tata Building Facilities Using the Faul Tree Analysis Method.....	159
<i>Vicky Maulana, Dini Apriliani, Darwan Susila, Rizky Ardiansyah</i>	

Author Index