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Foreword

It is with great pleasure that we present the latest edition of the EPI International Journal of Engineering (EPI-IJE), Volume 8, Number 1, February 2025. This issue brings together a diverse range of research studies that contribute to the advancement of engineering knowledge and its practical applications. The selected papers highlight current challenges and innovations across various engineering disciplines, including thermal comfort analysis, computational fluid dynamics, mining engineering, renewable energy systems, structural mechanics, and industrial engineering.

The first paper, “The Assessment of Indoor Thermal Comfort of University Classrooms in Hot and Humid Area”, investigates thermal comfort conditions in university classrooms located in tropical climates. The study emphasizes the importance of environmental control in enhancing student productivity and well-being. The second paper, “Computational Fluid Dynamic Analysis on Double-Type Drying Machine Design”, presents a computational analysis of airflow and heat transfer in a double-type drying machine, aiming to improve drying efficiency and optimize machine performance.

The third paper, “Evaluation of Articulated CAT 745 Fuel Ratio Based on Haul Road Geometry at PT Hillconjaya Sakti Site PT Adhi Kartiko Pratama Tbk”, evaluates fuel consumption performance of articulated dump trucks by analyzing the influence of haul road geometry, providing insights for improving operational efficiency in mining activities. The fourth paper, “Preliminary Design and Energy Production of a Mobile Floating Structure (MFS) for Offshore Wind Turbines in Indonesian Waters”, explores the conceptual design and energy generation potential of mobile floating platforms for offshore wind applications, highlighting opportunities for renewable energy development in Indonesia.

The fifth paper, “Design of Quasi-isotropic Rectangular Plates for Optimizing the Fundamental Mode of Bending Vibration”, focuses on structural optimization of rectangular plates to achieve improved vibration characteristics, contributing to advancements in structural mechanics and materials engineering. The final paper, “Inventory Model Simulation to Reduce Bullwhip”, discusses the application of simulation techniques in inventory management systems to minimize the bullwhip effect, thereby enhancing supply chain efficiency and stability.

We extend our sincere appreciation to all authors, reviewers, and contributors for their dedication and valuable contributions to this issue. It is our hope that the studies presented herein will provide meaningful insights, foster further research, and support the advancement of engineering science and technology across various disciplines.

Sincerely,

Dr. Faisal Mahmuddin
Editor-in-Chief of EPI-IJE

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