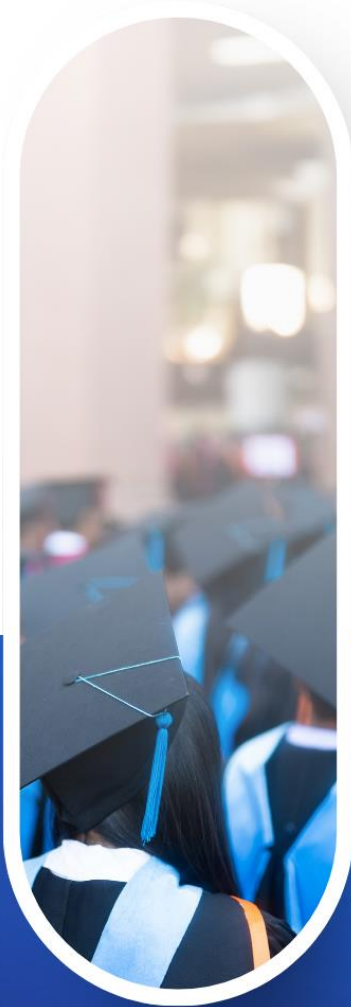
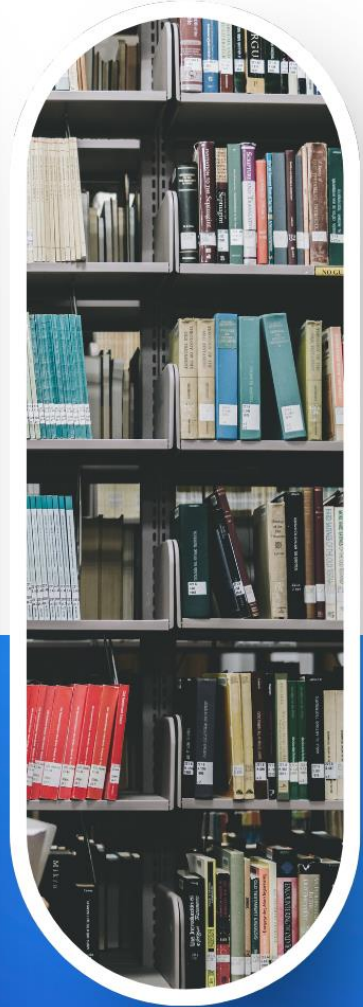


BEAM VOL 5
NO 2 / 2026



**BORNEO
ENGINEERING &
ADVANCED
MULTIDISCIPLINARY**
INTERNATIONAL JOURNAL

eISSN 2948-4049



9 7 7 2 9 4 8 4 0 4 0 4

**BORNEO ENGINEERING & ADVANCED
MULTIDISCIPLINARY INTERNATIONAL JOURNAL
(BEAM)**



POLITEKNIK MUKAH SARAWAK

BORNEO ENGINEERING & ADVANCED MULTIDISCIPLINARY INTERNATIONAL JOURNAL (BEAM)

Thirteenth Edition 2026 | 1 November 2026
First Printed 2022

© Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License
(CC BY-NC-ND 4.0)

Authors who publish in Borneo Engineering & Advanced Multidisciplinary International Journal (BEAM) retain full copyright of their work. By agreeing to publish under the **Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0)**, authors grant BEAM the right to distribute and publicly share their article while maintaining ownership of the intellectual property.

Published by,

Politeknik Mukah,
KM 7.5, Jalan Oya,
96400 Mukah, Sarawak
Telephone No: 084-874001
Fax No: 084-874005

TABLE OF CONTENTS

Paper ID	Title	Pages
ID 0312	Development and Evaluation of a Modular KNX-Based Smart Building Automation Trainer Platform for Research and Education	1-10
	<i>Bong Siaw Wee, Ling Ee Hwang, Chen Wong Keong</i>	
ID 0309	Hydrogen Futures for Malaysia: Techno-Economic, Environmental, and Policy Pathways through Sarawak's Renewable Transition	11-19
	<i>Michael Sillang George Albert, Susie Patricia Bujang</i>	
ID 0300	Assessing the Impact of Basic Air Conditioning Maintenance Workshops on Rural Participants' Technical Skills and Confidence	20-27
	<i>Nur Raihana Sukri, Norsheila Buyamin, Mohd Zulhairi Zulkipli</i>	
ID 0324	Employer Perceived Factors Associated with Candidate Rejection: An Exploratory Study at a Malaysian Polytechnic Career Event	28-36
	<i>Jamaah Suud, Siti Noor Aishah Mohammad, Lee Kong Fah</i>	
ID0302	TVET Reforms and Outcomes in Malaysia and Korea (2010-2025)	37-43
	<i>Ulaimi Yahya, Hooi Peng Lim, Muhammad Mustapha</i>	
ID0326	Analysis of the Suitability of Air Conditioning Capacity in the Civil Engineering Workshops at Polytechnic Kuching Sarawak	44-53
	<i>Lukman Nul Hakim Md Terasid, Muhammad Iqmal Qusyairie Mazlan, Anis Mastura R Azmi</i>	

PREFACE



Welcome to the Borneo Engineering & Advanced Multidisciplinary International Journal (BEAM). As the Chief Editor, it is my pleasure to introduce this esteemed publication, dedicated to fostering innovation and collaboration across diverse engineering and multidisciplinary fields.

BEAM is committed to advancing knowledge by providing an open access platform that ensures accessibility and visibility for researchers, practitioners, and students worldwide. Our journal publishes high-quality, peer-reviewed articles twice a year, with issues released in May and November. This regular publication schedule allows us to consistently showcase cutting-edge research and emerging trends.

We aim to create a vibrant community of scholars and professionals who share a passion for engineering and multidisciplinary studies. We encourage contributions that not only highlight technical advancements but also address real-world challenges, fostering interdisciplinary dialogue and solutions.

Thank you for joining us on this journey to advance knowledge and innovation in engineering and related fields. We look forward to your contributions and hope you find inspiration within our pages.

Sincerely,

Ts. Dr Muhammad Sufyan Safwan Mohamad Basir

Chief Editor

Borneo Engineering & Advanced Multidisciplinary International Journal

BORNEO ENGINEERING & ADVANCED MULTIDISCIPLINARY INTERNATIONAL JOURNAL (BEAM)

Chief Editor

Ts. Dr Muhammad Sufyan Safwan Mohamad Basir

Deputy Chief Editor

Dr Linda Agun

Secretary

Sara Ruran Fabian

Treasurer

Muhammad Najib Mohd Amin

Section Editor

Dr Tan Kheng Wee

Ts. Dr Nurul Izzatul Akma Katim

Ts. Dr Bong Siaw Wee

Editorial Advisor

Suhaili Aleh

Samsawi Bujang

Dr Habsah Mohamad Sabli

Deputy Editorial Advisor

Dr. Noraida Razali

Mohamad Sobri Suhaili

International Advisory Board

Prof. Ir. Dr Rizalafande Che Ismail (Universiti Malaysia Perlis, Malaysia)

Prof. Dr Teruaki Ito (Matsuyama University, Japan)

Prof. Dr Mohammad Ismail (Universiti Malaysia Kelantan, Malaysia)

Assoc. Prof. Dr Ugi Suharto (Universitas Islam Internasional Indonesia, Indonesia)

Assoc. Prof. Ts. Dr Saifudin Hafiz Yahaya (Universiti Teknikal Malaysia Melaka, Malaysia)

Dr. Sari Lestari Zainal Ridho (Politeknik Negeri Sriwijaya, Indonesia)

Dr Nico Irawan (Rajamangala University of Technology Krungthep, Thailand)
Dr Zulkefle Ismail (Universiti Teknologi Brunei, Brunei)
Assoc. Prof. Dr Nelson Lajuni (Universiti Malaysia Sabah, Malaysia)
Dr Nyayu Latifah Husni (Politeknik Negeri Sriwijaya, Indonesia)
Dr Ashley Tong Hui Hui (University of Newcastle, Singapore Campus, Singapore)
Assoc. Prof. Ts. Dr Mohd Effendi @ Ewan Mohd Matore (Universiti Kebangsaan Malaysia, Malaysia)
Prof. Ir. Dr Yusri Yusof (Universiti Tun Hussein Onn Malaysia, Malaysia)

Technical Editor

Dr Ho Shuh Huey
Muhamad Nur Arsh Mohamad Basir
Shazrin Eqwal Sulaiman
Sara Ruran Fabian
Mohamad Shafiq Mohamed Nasaruddin
Nur - Adibah Raihan Affendy
Yong Hua Ying
Aisyah Suhailla Jili
Annatasia Ambang
Amizan Abdullah

Copyeditor

Mohd Ridzuan Abdul Rahman
Nur Riana Abdul Rahim
Ts. Michael Sillang George Albert
Maxwell March Joseph Anthony Polycarp
Muhammad Hasbollah Hassan
Dzatiah Mohamad

Webmaster

Muhammad Thariq Abdul Razak

Designer

Timotius Petrus Ayi
Ag. Aswan Ag. Mohd Kassim

**UNIT PENYELIDIKAN
INOVASI & KOMERSIALAN**

POLITEKNIK MUKAH, SARAWAK
KM 7.5, JALAN OYA, 96400,
MUKAH, SARAWAK



Visit Our Website

<https://beam.pmu.edu.my>