

Editorial Board

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-Assoc. Prof. Ir. Dr. Ahmad Baharuddin Abdullah

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-Zarirah Karrim Wani

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Active Grants

FRGS Grant
Title: Investigation on the effect of hot forging on the deformation behavior and microstructural response of Wire Arc Additive Manufacturing (WAAM) of high strength low alloy (HSLA) steel components.

ASEAN-India Collaborative Project

Title: Development of Titanium-steel and Nickel-titanium bimetallic structures through additive manufacturing for structural and aerospace applications

Preface

Year 2025 remains to be among the most productive years for the group. Not just numbers of papers, but also quality and more importantly international collaboration is becoming one of the strengths of the group.

In total 11 out of 15 publications are closely related to the group and 8 or more than 50% produced by the group's members. Interestingly, 6 of the papers was produced by our collaborators, local as well as international.

The MFRL plans several events in 2026. The closest is the 3rd MFRL Research Seminar by focusing on the bi-metallic research in additive manufacturing. This event is in conjunction with the visit by Prof. D. Rajamani under the ASEAN-India Collaborative R&D Project from 16th to 30th of February 2026.

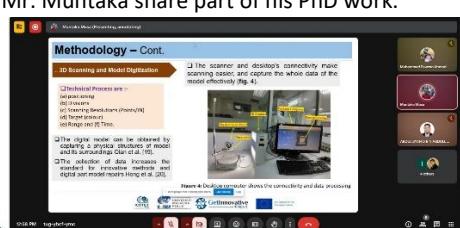
There are also on-going projects between MFRL and other institutions, recently on the use of AFDEX software (MFRC, Korea) on the cold forged additively manufactured low carbon steel. This project is under initiative of Assoc. Prof. Dr. Noor Azlina from UiTM Shah Alam. Another project is an industrial based FYP project with Dr Boey Kok Hong (Solid Precision Engineering, Sungai Petani, Kedah) on stamping die health monitoring.

List of Publication 2024

- Rizlan, M.Z., Abdullah, A.B. & Hussain, Z. (2025). The effect of post-weld heat treatment on the formability of aluminum to steel friction stir welded blanks. *Int J Mater Form* 18, 38.
- Kamarul Al-Hafiz Abdul Razak, Ahmad Baharuddin Abdullah & Norzalilah Mohamad Nor. (2025). Effect of Single Point Incremental Forming (SPIF) Process Parameters on Surface Roughness of Dissimilar Tailor Welded Blanks using the Taguchi Method, *Jurnal Kejuruteraan* 37(1), pp. 299-308
- Jamaludin, Mohd Fadzil and Abdullah, Ahmad Baharuddin et al., (2025). Formability analysis of dissimilar aluminium tailor welded blanks by low-powered fibre laser for lightweight automotive application *Journal of Applied Engineering Design & Simulation (JAEDS)*, 5 (1): 6. pp. 57-65.
- Saravanamuthukumar, P., Abdullah, A.B. & Wani, Z.K. Machine learning-based prediction and optimization of WAAM process parameters for enhanced deposition efficiency. *Prog Addit Manuf* 10, 11093-11107 (2025).
- Aslam, M., Abdullah, A.B., Chandan, G.K. et al. Melt-Pool Sledding of SiC-AS1304 Stainless Steel Cladding on Low-Carbon Steel Using Gas Metal Arc Welding Process. *Silicon* 17, 3617-3624 (2025).

Congratulation Muntaka

One of our members, Mr. Muntaka Musa has participated at the ICDTET 2026 hosted by Universiti Malaysia Perlis. The event was conducted in hybrid mode from 19 to 20th of January 2026. Mr. Muntaka share part of his PhD work.



Contact Details

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IN COMING EVENT

All Are Invited
TO
THE 3RD MFRL RESEARCH SEMINAR
RESEARCH ON BI-METALLIC ADDITIVE MANUFACTURING
24th of February 2026
2 pm - 5 pm

ORGANIZED BY
MFRL METAL FORMING RESEARCH LAB, USM
Seminar Room, School of Mechanical Engineering

Free Admission

Opening



Assoc. Prof. Ir. Dr. Ahmad Baharuddin

Universiti Sains Malaysia, Malaysia
Coordinator of Metal Forming Research Lab

Invited Speaker

Prof. Dr. D. Rajamani

Vel-Tech Rangarajan Dr. Sagunthala R&D Institute of of Science & Technology, India
Title: Not yet



Presenters



Dr. Mohd Aslam
Postdoctoral Fellow
Title: Review of bi-metallic AM



Mr. Jiang Aimin
PhD Student
Title: Interlayer bonding performance of IN718-18Ni300 fabricated via Cold Metal Transfer



Mr. Mohd Faris Akmal Md Azlin
PhD Student
Title: HSLA Steel to Gray Cast Iron Bi-Metallic Structure Manufactured using WAAM



Mr. Saravanantakumar Ponraj
PhD Student
Title: Additive manufacturing of shape memory alloy using machine learning



Mrs Zarirah Karrim Wani
MSc Student
Title: Shear performance of SS-MS fabricated using MIG based WAAM.



Mr. Liu Xin
PhD Student
Title: Thermal-assisted machining of wire arc additive manufactured part.

FURTHER INFO PLEASE CONTACT



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