

CURRICULUM VITAE



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Education

1. PhD Aerospace Engineering, Universiti Putra Malaysia (2021 - 2025).
2. B.Eng. Aerospace Engineering, Universiti Putra Malaysia (2017 - 2021).
3. Foundation of Agricultural Science, Universiti Putra Malaysia (2016 - 2017).
4. Sijil Pelajaran Malaysia, Sekolah Berasrama Penuh Integrasi Kuantan (2014 - 2015).

Areas of Interest

1. Rocket and space propulsion.
2. Solid rocket propellant.
3. Combustion optimization.
4. Explosion and pyrotechnics.

Professional Qualification/Membership/Affiliation

1. Graduate Engineer, Board of Engineers Malaysia (BEM)
2. Graduate Technologist, Malaysian Board of Technologist (MBOT)

Working Experiences

Position/Employer	Duration
Universiti Putra Malaysia	
1. Research assistant (Enumerator)	2025 – Present
2. Tenaga Akademi Muda (TAM)	2023 – 2024 (12 Months)
3. Graduate Research Assistant	2021 – 2023 (24 Months)
4. Laboratory Instructor	2020 – 2020 (6 Months)
Leonardo Helicopter	
1. Trainee Engineer (Internship)	2020 - 2020 (3 Months)
Department of Statistic Malaysia	
1. Enumerator (MYSTEP)	2019 - 2019 (3 Months)

Administrative Works

Position	Date Appointed
1. Reporters and editor, <i>Bengkel Hala Tuju UPM-STRIDE: Teknologi Raket di Malaysia</i>	2025
2. Bulletin Editor, Department of Aerospace Engineering Bulletin, Faculty of Engineering, Universiti Putra Malaysia	2023
3. Organizing Committee, 1st UPM-NMIT International Workshop: Composite & Non-Destructive Test	2022
3. Organizing Committee, Aerotech VIII Conference	2022
4. Organizing Committee, Japanese Chamber of Trade, and Industry	2022

Publications

Journals

1. **Yaacob, I. N.**, Gires, E., Basri, A. A., Ahmad, K. A., Kamal, K., Salleh, N. A., ... & Mazlan, N. (2025). Enhanced Thermal Performance and Hydrochloric Acid Gas (HCl) Emission Mitigation in Ammonium Perchlorate (AP)-Based Solid Propellants with Potassium Permanganate (KMnO₄)/AP Dual Oxidisers. *Atmospheric Environment: X*, 100329.
2. **Izzat Najmi Yaacob** Norkhairunnisa Mazlan, Nur Amalin Huda Rozuki, Siti Madiha Muhammad Amir, Natesen Kapilan Ablation Properties of Glass Fiber Reinforced Geopolymer Composite Incorporation of Nanoclay and MWCNTs using Response surface Methodology (RSM) Approach. *Semarak International Journal of Material Research (SIJMR)*. 2024 Vol 2 (1).
3. Azizi, M. Z., Hamid, A. H. A., Salleh, Z., Ghaffar, Z. A., Adnan, A. A., **Yaacob, I. N.**, & Salleh, N. (2025). Heat of Combustion and Thermal Decomposition of Ammonium Perchlorate/Sorbitol Solid Propellant with Metal Additives. *Journal of Advanced Research in Experimental Fluid Mechanics and Heat Transfer*, 18(1), 94-105.
4. Shauqi, I., **Yaacob, I. N.**, Hua, T. C., Amir, S. M. M., Rahim, S., Umar, M. Z., ... & Mazlan, N. (2024). Nanoclay Effect on the Ablative Behaviour of Glass Fiber Reinforced Polymer and Glass Fiber Reinforced Geopolymer Nanocomposite Using Radiography. *Journal of Aeronautics, Astronautics and Aviation*, 56(1), 77-83.
5. **Yaacob, I. N.**, Asli, A. F., Norkhairunnisa, M., Ahmad, K. A., Ismail, O., Salleh, N. A., & Shahedi, S. (2023). A review on viscoelastic behaviour of plasticizers in ap/al/htpb based composite solid propellant. *Materials Today: Proceedings*.
6. **Yaacob, I. N.**, Mazlan, N., Ahmad, K. A., Basri, A. A., Gires, E., Ismail, O., ... & Shahedi, S. (2023). REDUCTION OF HCl EXHAUST PRODUCTS IN AP/HTPB PROPELLANTS BY DIFFERENT METAL ADDITIVES USING ROCKET PROPULSION ANALYSIS. *EDITORIAL BOARD*, 220, 125.
7. **Yaacob, I. N.** M., Singh, B., Mazlan, N., Gires, E., Basri, A. A., Ismail, O., ... & Ahmad, K. A. (2022). Numerical Study of the AP/Al/HTPB Composite Solid Propellant based Combustion Process in a Small Retro Rocket Motor. *Journal of Advanced Research in Fluid Mechanics and Thermal Sciences*, 96(2), 98-114.

Chapter in Books

1. Mazlan, N., Shah, A. U. M., Hua, T. C., **Najmi, I.**, & Ramli, N. (2024). Biocomposites as Aircraft Materials. *Sustainable Materials and Manufacturing Techniques in Aviation*, 27-53.
2. Norkhairunnisa, M., Chai Hua, T., Bajuri, F., **Yaacob, I. N.**, & Ahmad, K. A. (2024). Sustainable Biocomposite-Based Biomass for Aerospace Applications. *Plant Biomass Derived Materials: Sources, Extractions, and Applications*, 517-535.
3. **Izzat Najmi Yaacob**, Kamarul Arifin Ahmad, Norkhairunnisa Mazlan, N. Yidris, Balbir Singh (2025), Machine learning based new sparse algorithms and reinforcement learning for CFD. *Book name: Artificial Intelligence for Computational Fluid Dynamics*

Conferences

1. Composite Science and Technology International Conference, 2022, (Presenter).
2. Aerotech VIII Conference, 2022, (Presenter).
3. Fourth International Conference on Emerging Research in Civil, Aeronautics, and Mechanical Engineering, 2023, (Presenter).
4. International Conference on Computational Methods in Engineering & Health Sciences (ICCMEH 2024) (Presenter)

Co-Curricular

No.	Activity	Year	Organizer/Level
1.	The 2025 Langkawi International Maritime and Aerospace Exhibition (LIMA 2025) (exhibitor)	2025	Ministry of Defence Malaysia (International)

2.	International Malaysia Rocket Competition 2024	2024	Universiti Rocket Consortium (International)
3.	STEM program Department of Aerospace Engineering representative (Instructor)	2023	Ministry of Higher Education (MOHE)
4.	International paper plane competition (Technical crew)	2023	Ministry of Education (MOE)
5.	Engineering Innovation & Exhibition 2023 (Presenter)	2023	Faculty of Engineering, UPM
6.	Malaysia Rocket competition	2023	Universiti Rocket Consortium
7.	5 Minutes thesis	2023	MNNF Network
8.	Defence Service Asia Exhibition and Conference (Exhibitor)	2022	Ministry of Defence, Malaysia

Awards and Recognitions				
No.	Name of award	Title	Award type	Year
1.	Malaysia Rocket Competition	AERO-R Putra	National (Gold)	2023
2.	Engineering Innovation & Exhibition	2.75-Inches Sounding Rocket	International (Silver)	2023
3.	5 Minutes thesis	Simulation on the Heat Transfer Performance of Ablative Insulators of Composite Solid Rocket Motor Using Abaqus Software	International (Gold)	2023
4.	Semarak International Research Article Competition 2024 III (SIRAC 2024 III)	Ablation Properties of Glass Fiber Reinforced Geopolymer Composite Incorporation of Nanoclay and MWCNTs using Response surface Methodology (RSM) Approach	International (Silver)	2024
5.	International Rocket Competition 2024	AERO-R Putra	National (Silver)	2024

Research Grants/Consultations				
No.	Title	Position	Year	Source of Fund
1.	Feasibility studies on Malaysia Spaceport (Consultant)	Member	2023	LESTARI AERO SDN BHD
2.	Geran Putra IPS	Member	2023	Universiti Putra Malaysia
3.	Research Product Development Grant (GPPP)	Member	2023	Putra Science Park, UPM
4.	Fundamental Research Grant Scheme (FRGS)	Member	2024	Ministry of Science and Technology (MOSTI)

Intellectual Property				
No.	Title	IP Number	Type of Intellectual property	Year
1.	2.75-Inches UPM Rocket	TS2023092101	Trade secret	2024
2.	Composite Solid Propellant Composition and Formulation Manual " <i>KMnO₄/AP dual oxidizer formulation</i> "	LY2024W063742	Copyright	2024

References

- 1) Prof. Madya Dr. Norkhairunnisa Binti Mazlan
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Associate Professor in Department of Aerospace, UPM
- 2) Prof. Ir. Dr. Kamarul Arifin Ahmad
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Professor in Department of Aerospace, UPM