



## Ts. Dr. Ahmad Nabil Bin Mohd Khalil

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### Personal

Born on November 10, 1982.

Malaysian.

### Education

Phd. Manufacturing Engineering (Machining), UniMAP, 2023

M.Sc. Manufacturing Engineering, UniMAP, 2012

B.Eng. Mechanical Engineering (Manufacturing & Production), UTHM, 2006.

### Experience

Academic Advisor Panel, Diploma Technology in Industrial Machining, KV Lebu Catur, Perak : 2024-2026

Programme Chairperson, Bachelor of Technology in Industrial Machining, Universiti Malaysia Perlis : 2024-present.

Senior Lecturer, Universiti Malaysia Perlis : 2023-present.

Lecturer, Universiti Malaysia Perlis : 2012-2023.

Graduate Engineer, Naza Automotive Manufacturing Sdn Bhd : 2007-2008.

## Current Professional Membership

Professional Technologies, Ts. MBOT (PT18050048)  
Graduate Member of BEM  
Member of Malaysian Tribology Society (MYTRIBOS)  
Member of Society of Manufacturing Engineers (SME.org)  
Malaysian Society for Engineering & Technology (MySET)

## Teaching Experience

MMT 35404 Acts and Risks Assessment in Machining Production 2022/2023, 2023/2024  
MMT 15003 Product Drafting and Specification 2021/2022, 2022/2023, 2023/2024  
MMT 15603 Assessment on Machinability 2021/2022, 2022/2023, 2023/2024  
EPT 315 Machine Component Design 2014/2015, 2015/2016  
EPT 314 Machine Mechanism 2014/2015  
EPT 312 Vibration and Mechanics of Machine 2014/2015  
EPT 283 Computer Aided Design 2013/2014, 2014/2015  
EPT 114 Static 2013/2014

## Posgraduate Supervising

Phd Student:

1. Primary Advisor (2023) Kartini Alir (on-going)

MSc Students:

1. Primary Advisor (2023) Muhd Nasrin Dzulkiffli (on-going)
2. Primary Advisor (2022) Siti Munirah Bt Faudzi (on-going)
3. Primary Advisor (2016) Mohamed Asyraf bin Mahboob Ali (completed).
4. Secondary Advisor (2014) Mohd Syedi Imran bin Dawi (completed).

## Research

*Research Interests:* Machining, Nanolubricant, Manufacturing Process, Machine Design, Product Development

## Research Publication Strength

	No. of Articles	H-Index	No. of Citation
Scopus Indexed	37	11	419
Google Scholar	50	12	599

## Awards & Honours

1. **Gold Medal : ITEX 2023** - Refil+3DP: A Biodegradable 3D Printing Filament Formulation from Recycled PLA + Dopamine + Kenaf
2. **Gold Medal : ITEX 2023** - Reduced Graphene Oxide (RGO) from Graphene Oxide Produced from Oil Palm Trunk Waste
3. **Gold Medal & Best Category Award for Advance Material: Ekspo Maya Rekacipta dan Pameran Penyelidikan UniMAP (EREKA 2023)** - Refil+3DP: A Biodegradable 3D Printing Filament Formulation from Recycled PLA + Dopamine + Kenaf
4. **Gold Medal : Ekspo Maya Rekacipta dan Pameran Penyelidikan UniMAP (EREKA 2023)** - Reduced Graphene Oxide (RGO) from Graphene Oxide Produced from Oil Palm Trunk Waste
5. **Gold Medal : ITEX 2022** - Low Cost Semi Automatic Steel Spring Reinforced Capal Sandal Mould Press
6. **Gold Medal & Best Category Award for Machinery Equipment: Ekspo Maya Rekacipta dan Pameran Penyelidikan UniMAP (EREKA 2022)** - Low Cost Semi Automatic Steel Spring Reinforced Capal Sandal Mould Press

## List of Awarded Grants

1. Team member : BIOMASS INNOVATION CIRCULAR ECONOMY PROGRAMME (BICEP) - SCALE UP PRODUCTION OF REDUCED GRAPHENE OXIDE (RGO) FROM OIL PALM, NanoMalaysia, RM 4.5 million, 2022.
2. Team member : Synergistic Effect of Hexagonal Boron Nitride and Sodium Dodecyl Sulfate on Bio-Based Nano-Lubricant System For Surface Integrity Enhancement in Machining of Stainless Steel 316L. FRGS (MOHE), RM 126,640, 2022
3. Lead Researcher : Elucidating the effects of chip formation and built-up-edge (BUE) behaviours towards surface work hardening of NiTi shape memory alloys under bio-based hybrid nano-lubricant. FRGS (MOHE), RM 140k, 2021
4. Team Member : The effects of polydopamine coated recycled polylactic acid with kenaf fiber reinforced polymer composites to improve mechanical properties in 3D printing filament. FRGS (MOHE), RM 125k, 2019, In Progress
5. Team Member : New formulation of palm oil ester based nanofluid for better insulation property and transformer efficiency. FRGS (MOHE), RM 90k, 2019, In Progress
6. Team Member : The behaviour of green additives in bio-based hybrid nanoparticle cutting fluid for machinability performance improvements in machining process, FRGS (MOHE), RM 87k, 2018, In Progress

7. Lead Researcher : The Effects of Bio-based Nanolubricant Cutting Fluid Enhanced with CocoAmidoPropylaBetaine (CAPB) for Tool Wear Resistant under Minimum Quantity Lubrication System, FRGS (MOHE), RM91k, 2016-2018, Completed

## List of Publications

1. Faudzi, S.M., Khalil, A.N.M., Azmi, A.I., Sowi, S.A. Thermophysical Properties of Molybdenum Disulfide (MoS<sub>2</sub>) and Aluminium Oxide (Al<sub>2</sub>O<sub>3</sub>) in Bio-based Coconut Oil Hybrid Nanolubricant for Cleaner Metalworking Cutting Fluid Applications. (2023) *Journal Tribology in Industry*, 45 (2), pp. 247-256. SCOPUS.
2. Hamat, S., Ishak, M.R., Salit, M.S., Yidris, N., Showkat Ali, S.A., Hussin, M.S., Abdul Manan, M.S., Ahamad Suffin, M.Q.Z., Ibrahim, M., Mohd Khalil, A.N. The Effects of Self-Polymerized Polydopamine Coating on Mechanical Properties of Polylactic Acid (PLA)â€”Kenaf Fiber (KF) in Fused Deposition Modeling (FDM) (2023) *Polymers*, 15 (11), art. no. 2525
3. Hussin, M.H.C., Sowi, S.A.A., Mahadi, M.A.S., Sanuddin, A., Khalil, A.N.M., Rahim, Y.A. Experimental Performance of R134a/SiO<sub>2</sub> in Refrigeration System for Domestic Use, *Journal of Advanced Research in Fluid Mechanics and Thermal Sciences*, (2022), SCOPUS.
4. Hussin, N., Subri, N.A., Azizie, N.A., Khalil, A.N.M., Jamil, M.K.M., Abd-Rahman, R., Arshad, S.N.M., Low Concentration Vegetable Oil Based Nanofluid : Dielectric properties, AC Breakdown Voltage and Kinematic Viscosity *IOP Publishing Ltd*, , 2021, SCOPUS.
5. Shariff, M.A.-H.M., Rahim, Y.A., Ali, A.M., Khalil, A.N.M., Azmi, A.I., Salleh, H.M. Effect of Coco Amido Propyl Betaine (CAPB) on Thermal Conductivity of Bio-Based Hybrid Nanolubricant *Springer Science and Business Media Deutschland GmbH*, 2021, SCOPUS.
6. Shariff, M.A.-H.M., Rahim, Y.A., Khalil, A.N.M., Ali, A.M., Azmi, A.I., Salleh, H.M. A Study on the Effect of Hybrid Nanolubricant on Cutting Energy During Turning of Inconel 718 Under Minimum Quantity Lubricant Approach *Springer Science and Business Media Deutschland GmbH*, 2021, SCOPUS.
7. Khalil, A.N.M., Azmi, A.I., Murad, M.N., Ali, M.A.M. Influence of hybrid cooling-lubricating strategy in the turning of astm f2063 austenitic nickel-titanium alloy *Faculty of Engineering, University of Kragujevac*, 2021, SCOPUS.
8. Ali, M.A.M., Azmi, A.I., Murad, M.N., ...Khalil, A.N.M., Shuaib, N.A. Roles of new bio-based nanolubricants towards eco-friendly and improved machinability of Inconel 718 alloys, *Tribology International*, 2020, 144, 106106, ISI, IF=4.271.
9. Khalil, A.N.M., Azmi, A.I., Murad, M.N., Annuar, A.F., Ali, M.A.M. Coupled effects of vortex tube hybrid cooling with minimal quantity reinforced nanoparticle lubricants in turning NiTi alloys, *International Journal of Advanced Manufacturing Technology*, 2019, 105(7-8), pp. 3007â€”3015, ISI, IF = 2.633.
10. Imran, M.S., Abdul Manan, M.S., Khalil, A.N.M., ...Ahmad, R.N., Mdnaim, M.K., The transplanter tools for small paddy fields: System of Rice Intensification (SRI) compliance, *IOP Conference Series: Materials Science and Engineering*, 2019, 551(1), 012014, SCOPUS
11. Abdul Nasir, A.A., Azmi, A.I., Chye Lih, T., Mohd. Khalil, A.N., Kyeun Kim, N., Tensile behaviour of open hole flax/epoxy composites: Influence of fibre lay-up and drilling parameters, *Journal of Composite Materials*, 2019, 53(4), pp. 445â€”454, ISI, IF = 1.972.

12. Mohd Khalil, A.N., Azmi, A.I., Murad, M.N., Mahboob Ali, M.A., The effect of cutting parameters on cutting force and tool wear in machining Nickel Titanium Shape Memory Alloy ASTM F2063 under Minimum Quantity Nanolubricant, *Procedia CIRP*, 2018, 77, pp. 227-230, SCOPUS
13. Ali, M.A.M., Azmi, A.I., Zain, M.Z.M., Khalil, A.N.M., Mansor, A.F., Salleh, H.M., The effect of concentration of coco amido propyl betaine (CAPB) as green additive in bio-based coconut oil lubricant on the machining performance of Inconel 718 (2018) *AIP Conference Proceedings*, 2030, art. no. 020041,, SCOPUS.
14. Mahboob Ali, M.A., Azmi, A.I., Khalil, A.N.M Specific cutting energy of Inconel 718 under dry, chilled-air and minimal quantity nanolubricants (2018) *Procedia CIRP*, 77, pp. 429-432. . SCOPUS.
15. Mansor, A.F., Zakaria, M.S., Azmi, A.I., Khalil, A.N.M., Musa, N.A. A study of energy consumption in turning process using lubrication of nanoparticles enhanced coconut oil (NECO)