Mohamad Nur Hidayat Mat

PhD in Mechanical Engineering

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BIOGRAPHY

Dr. Hidayat holds a PhD in Mechanical Engineering from Universiti Tun Hussein Onn Malaysia (UTHM) and a First-Class Bachelor of Engineering from Universiti Teknologi PETRONAS (UTP). He has over five years of industrial experience and more than four years of academic research and teaching experience. His research interests include Computational Fluid Dynamics (CFD), thermal comfort, nanofluid heat sinks, and ventilation strategies. He has authored over 35 publications with more than 200 citations and an h-index of 9. He is also a registered Professional Engineer (Ir.) and Professional Technologist (Ts.) in Malaysia.

EDUCATION

PhD in Mechanical Engineering
Universiti Tun Hussein Onn Malaysia (UTHM) | *Sep 2017 – Oct 2019*

- Thesis: Geometry Optimization of Dry Ice Blasting Nozzle for Noise Reduction
- Used CFD and RSM techniques for optimization
- Awarded Graduate on Time; Research patented by UTHM

Bachelor of Mechanical Engineering (First Class)
Universiti Teknologi PETRONAS (UTP) | *Jul 2010 – Nov 2014*

- CGPA: 3.73 / 4.00
- Thesis: Real-time Study on Effect of Dust Accumulation on Solar PV
- Received Best Paper Award

ACADEMIC & INDUSTRY EXPERIENCE

Senior Lecturer
Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA) | *March 2025 – Present*

- Teaching, supervising undergraduate and postgraduate
- Coordinate Work Base Learning (WBL) students for placement
- Industry engagement through consultancy and TVET
- Perform fundamental and applied research works on ventilation strategies using CFD

Senior Lecturer
Universiti Teknologi Malaysia (UTM) — *Nov 2020 – March 2025*

- Taught Fluid Mechanics and Programming for Engineers
- Supervised degree and postgraduate students
- Faculty-level research and admin duties

Technical Specialist (ASEAN)
Hexagon Measurement Technologies — *Feb 2020 – Nov 2020*

- Delivered training on Simufact, scFLOW, scSTREAM
- Supported technical sales and CFD business development

Project Engineer
Muhibbah Engineering Berhad — *May 2015 – Aug 2017*

- Projects: TGAST, RAPID Package 4 & 16A
- Managed site execution, subcontractors, QA/QC
- Promoted to lead engineer for Pengerang project

GRANTS

Fundamental Research Grant Scheme (FRGS)

- Title: Association of Indoor Environment with Airborne Transmission and Designing Suction System
- Position: Principal Investigator (PI)
- Duration: 2021 – 2024 | Amount: RM 98,020 (USD ~23,500)
- Funding Body: Ministry of Higher Education Malaysia

UTM Fundamental Research Grant (UTMFR)

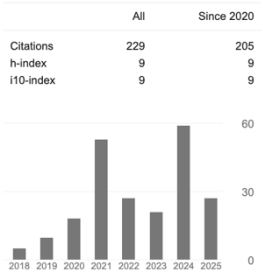
- Title: Exploring Air Change Rates on Pathogen Transmission Under Stratum Ventilation Setting in Hospital Isolation Ward Rooms
- Position: Member
- Duration: 2025 – 2028 | Amount: RM 127,350 (USD ~29,692)
- Funding Body: Universiti Teknologi Malaysia (UTM)

AWARDS & HONOURS

- Journal Writing Award, UTM Citra Karisma 2024
- Best Presenter, I-CReST Conference 2023
- Gold Medal, Malaysian Youth Upcycle Challenge 2021
- Gold Medals on DIBONETRY, i-FINOG Competition 2019

- Gold Medals on IMPOMET, i-FINOG Competition 2019
- National Winner, 3 Minute Thesis (3MT), 2019
- Best Presenter, Int'l Conf. on Applied Computing 2021

PUBLICATIONS



🔗 Full list: Google Scholar Profile
Metrics: 35+ Publications | 200+ Citations | h-index: 9

Selected Publications:

- "Influence of Air Changes Per Hours (ACH) on Human Thermal Comfort under Stratum Ventilation Setting in a Single Isolated Wardroom", *Journal of Advanced Research in Fluid Mechanics and Thermal Sciences* (2025)
- "Effectiveness Of Physical Distancing In A Mosque During Congregational Prayer Using Cfd Simulation Approach", *Jurnal Mekanikal* (2024)
- "Particle Dispersion for Indoor Air Quality Control Considering Air Change Approach: A Novel Accelerated CFD-DNN Prediction", *Energy and Buildings* (2024)
- "Minimizing Pathogen Transmission Through Indoor Environment Optimization Using Central Composite Design of Experiment", *Energy and Buildings* (2023)
- "Effect of Airborne Pathogen Transmission Released by an Assailant in a Mosque Using CFD Simulation", *International Journal of Integrated Engineering* (2023)
- "Would Sneezing Increase the Risk of Passengers Contracting Airborne Infection? A Validated Numerical Assessment in a Public Elevator", *Energy and Buildings* (2023)
- "CFD Investigation on Thermal Comfort in Open Spaces Library in Tropical Climate", *CFD Letters* (2023)
- "Effect of Indoor Condition with Cross Ventilation on Deposition of Airborne Droplets Emitted from Human Cough", *Journal of Advanced Research in Fluid Mechanics and Thermal Sciences* (2023).

STUDENT SUPERVISION

- PhD's Student: 1-Ongoing as co-SV, 2-completed as co-SV
- Master's Students: 2 Completed as main SV
- Final-Year Projects: 10+ undergraduate students supervised

TECHNICAL SKILLS

- Tools : CATIA V5, Origin PRO, Ansys Fluent, scFLOW, & scSTREAM
- Programming: C, Matlab, Dart, & Flutter,
- Media Tools: Adobe Photoshop, Illustrator, Premier Pro

LANGUAGES

- Bahasa Melayu (Native)
- English (IELTS Band 6, All sections above 5.5)

PROFESSIONAL CERTIFICATIONS

- Professional Engineer (Ir.) – Board of Engineers Malaysia
- Professional Technologist (Ts.) – Malaysia Board of Technologists

REFEREES

Assoc. Prof. Dr. Nor Zelawati Asmuin
Universiti Tun Hussein Onn Malaysia (UTHM)
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