



## PERSONAL DETAILS

**Name** : Mohd Zul Hanif bin Mahmud  
**Gender** : Male  
**Date of Birth** : 20 August 1987  
**Place of Birth** : Kuching, Sarawak  
**Nationality** : Malaysia  
**Title** : Doctor in Civil Engineering  
**Position** : Senior Lecturer, Universiti Teknologi Malaysia  
**Tel** : 60138077173  
**E-mail** : mzhanif@utm.my  
**Website** : <https://people.utm.my/mzhanif>  
**Expertise** : **Pavement Materials, Traffic Engineering & Transportation Engineering**

## ACADEMIC BACKGROUND

2019 : Ph.D in Civil Engineering (Highway Materials), Universiti Teknologi Malaysia  
2012 : Master of Civil Engineering (Transportation & Highway), Universiti Teknologi Malaysia  
2011 : Bachelor of Engineering with Hons (Civil Engineering), Universiti Malaysia Sarawak

## AWARD AND ACHIEVEMENTS

### Individual

Date	Awards/Achievement
1. 2021	Gold Medal Award Asphalt FWB International Alumni Convention And Innovation Exhibition (INACIX) 2021
2. 2020	Gold Medal Award Asphalt FWB International, Invention, Innovation & Technology Exhibition 2020 (ITEX 2020)
3. 2020	Gold Medal Award Asphalt FWB International Invention Innovation Competition in Canada (iCAN) 2020
4. 2020	Special Award Asphalt FWB International Invention Innovation Competition in Canada (iCAN) 2020
5. 2020	Best Invention Video Award Asphalt FWB International Invention Innovation Competition in Canada (iCAN) 2020

## PROFESSIONAL MEMBERSHIP / QUALIFICATIONS / RECOGNITION

### *Professional Membership:*

- Board of Engineers Malaysia (BEM) 2011 – Present
- The Institution of Engineering Malaysian (IEM) 2008 – Present

3. Malaysia Board of Technologists (MBOT)

2021-Present

## ADMINISTRATIVE EXPERIENCE

### Faculty Level

<b>Date</b>	<b>:</b>	<b>Positions</b>
1. Feb 2020 – December 2021	:	Webmaster Jabatan SKA
2. Aug 2020 – July 2021	:	Team Member Task Force Micro Credential Committee for Geotechnics and Transportation Department
3. Feb 2020 – Dec 2021	:	Secretary, Pavement and Transportation Research Group (PTRG)
4. Oct 2020 – May 2021	:	Commite Member for Webinar Series for SKA Leaders

## INTERNATIONAL APPOINTMENT/COMMITTEE

1. Appointment as Reviewer for Proceedings of 4th National Conference on Wind & Earthquake Engineering
2. Appointment as Technical Committee (Website) INFINID 2021 – International Forum on Integrated Infrastructure Development
3. Editorial Board Member for *FDMP-Fluid Dynamics & Materials Processing*. ISSN: 1555-2578.

## RESEARCH ACTIVITES

### RESEARCH PROJECT UNDERTAKEN

<b>Date</b>	<b>:</b>	<b>Project Leader/ Project Member</b>
1. 2020	:	Traffic Study For Pengerang Integrated Complex (PIC) During Operation Stage For Petronas Refinery And Petrochemical Corporation Sdn Bhd (PRPC) VOT 1624 (RM380,000) <b>Project Member – Contract Research – (Petronas)</b>
2. 2020-2022	:	Impact of COVID-19 on Johor Bahru Bus Operation, Ridership and Facilities UTMER Q.J130000.3851.19J80 (RM 56,000) <b>Project Leader (UTM)</b>
3. 2020-2022	:	Application of Fly Ash as Paving Material in Asphalt Pavement UTMShine Q.J130000.2451.09G26 (RM 40,000) <b>Project Member (UTM)</b>

4. 2020-2021 : Potential Application of Resin Polymer Residue from SURFACTOR factory  
 Contract Research R.J130000.7651.4C404 (RM 22,000)  
**Project Member (UTM)**

## FUNDAMENTAL RESEARCH GRANT SCHEME (FRGS FUND)

- Date : Project Leader/ Project Member**
1. 2021-2023 : Acoustic Behaviour of Porous Asphalt Mixture  
 FRGS R.J130000.7851.5F438 (RM 96,246)  
**Project Leader (UTM)**
2. 2020-2022 : Geometric Design Consistency Model Of Horizontal Curve On Two-Lane Rural Road Using Operating Speed (FRGS) R.J130000.7851.5F362 (RM54, 700)  
**Project Member (UTM)**
3. 2020-2022 : Characterization of Fracture Behaviour of Asphalt Mixture (FRGS) R.J130000.7851.5F285 (RM 96600)  
**Project Member (UTM)**

## TEACHING ACTIVITIES

Sesi	Semester	Subject Code	Subject	Credit Hour
2020/2021	2	SKAB 3842	Traffic Engineering	2
		SKAB 3012	Civil Engineering Laboratory II	2
		MKAQ1063	Public Transportation System	3
		UHMT1012	Graduate Success Attributes	2
2020/2021	1	SKAB 3842	Traffic Engineering	2
		SKAB 3012	Civil Engineering Laboratory II	2
		MKAQ 1073	Airport Planning and Design	3
		MKAQ 1083	Traffic Management & Analysis	3
2019/2020	2	SKAB 3842	Traffic Engineering	2
		SKAB 3012	Civil Engineering Laboratory	2
		SKAA 2012	Civil Engineering Laboratory	2

## SUPERVISION

### MSc. Student

Year	No.	Name	Status	Title	Type	Roles of Supervision
2020	1	Mohamad Fikri Hazim bin Mohd Johari	Ongoing	Impact Of Covid-19 on Johor Bahru Bus Operation, Ridership and Facilities	Research	Main Supervisor
2022	2	Zulhakim Ab Aziz	Graduated	Characterization Of Surface Texture Properties And Sound Absorption Coefficient Of Steel Wool Porous Asphalt	Taught Course	Main Supervisor
2021	3	Muhammad Azri Zakwan bin Fauzi	Graduated	Effect of length of acceleration lanes on delays at midblock U-turn facility	Taught Course	Main Supervisor
2022	4	Eric Ting Sie Ming	Ongoing	Simulation of Traffic Incident Recovery Time In Urban Streets Congestion using SUMO	Taught Course	Main Supervisor

### PhD. Student

Year	No.	Name	Status	Title	Type	Roles of Supervision
2022	1	Hasanain Radhi Radeef	Graduated	Characterisation of Cracking Resistance of Modified Hot Mix Asphalt	Research	Co-Supervisor

2022	2	Zulhakim Ab Aziz	Ongoing	Acoustic behaviour of Porous Asphalt	Research	Co-Supervisor
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## POSTGRADUATE EXAMINATION /VIVA

1. Co-Chairman for Viva Examination for Phd candidate, Kabiru Usman Rogo, 24 November 2021
2. Co-Chairman fro Viva Examination for Phd candidate, Thanwa Filza binti Nashruddin, 24 December 2020
3. Co-Chairman for Viva Examination for PhD candidate, Suleiman Abdulrahman, 9 July 2020
4. Co-Chairman for Viva Examination for PhD candidate, Tareq Mohammed Ali Al-Bahr, 28 October 2020
5. Co-Chairman for Viva Examination for PhD candidate, Salam Ridha Oleiwi Al-Etba, 15 July 2020

## PUBLICATIONS

**JOURNAL - H INDEX :11 with 375 citations (Google Scholar), 9 with 237 citations (SCOPUS), 7 with 130 citations (WOS) (update 6 September 2022)**

### ISI-WOS Journal

1. Radeef, H. R., Hassan, N. A., Katman, H. Y., **Mahmud, M. Z. H.**, Abidin, A. R. Z., & Ismail, C. R. (2022). The mechanical response of dry-process polymer wastes modified asphalt under ageing and moisture damage. *Case Studies in Construction Materials*, 16, e00913. (IF: 4.934, WOS-Q2).
2. Jeffry, S. N. A., Putra Jaya, R., Abdul Hassan, N., Yaacob, H., **Mahmud, M. Z. H.**, & Al-Saffar, Z. H. (2022). The influence of nano-carbon from coconut shell ash as modifier on the properties of bitumen. *Road Materials and Pavement Design*, 23(4), 770-786. (IF: 3.805, WOS-Q2).
3. Radeef, H. R., Hassan, N. A., **Mahmud, M. Z. H.**, Abidin, A. R. Z., Jaya, R. P., Ismail, C. R., & Abbas, H. F. (2022). Linear viscoelastic response of semi-circular asphalt sample based on digital image correlation and XFEM. *Measurement*, 192, 110866. (IF: 5.131, WOS-Q1).
4. Radeef, H. R., Abdul Hassan, N., Abidin, A. R. Z., **Mahmud, M. Z. H.**, Yusoffa, N. I. M., Idham Mohd Satar, M. K., & Warid, M. N. M. (2021). Enhanced Dry Process Method for Modified Asphalt Containing Plastic Waste. *Frontiers in Materials*, 247. (IF: 3.315, WOS-Q2).
5. **Mahmud, M.Z.H.**, Hassan, N.A., Hainin, M.R., Ismail, C.R., Jaya R.J., Warid, M.N.M., & Mashros, N.(2021). Characterisation of microstructural and sound absorption properties of porous asphalt subjected to progressive clogging. *Construction and Building Materials*, 283, 1-12. (IF: 4.419,WOS-Q1).
6. **Mahmud, M.Z.H.**, Hassan, N.A., Hainin, M.R., & Ismail, C.R. (2017). Microstructural investigation on air void properties of porous asphalt using virtual cut section. *Construction and Building Materials*, 155, 485-494. (IF: 3.169, WOS-Q1).

7. Mohd Shukry, N.A., Hassan, N.A., Abdullah, M. E., Hainin, M. R., Yusoff, N. I. M., **Mahmud, M.Z.H.**, & Mohd Satar, M.K.I. (2018). Influence of diatomite filler on rheological properties of porous asphalt mastic. *International Journal of Pavement Engineering*, 1-9. (IF: 2.322, WOS-Q2).
8. Farouk, A.I.B., Hassan, N.A., **Mahmud, M.Z.H.**, Mirza, J., Jaya, R.P., Hainin, M.R., & Yusoff, N.I.M. (2017). Effects of mixture design variables on rubber-bitumen interaction: properties of dry mixed rubberized asphalt mixture. *Materials and Structures*, 50(1), 12. (IF: 2.607, WOS-Q1).

## SCOPUS Journal

1. Hassan, N.A., **Mahmud, M. Z. H.**, & Putra Jaya, R. (2014). Air void characterisation in porous asphalt using x-ray computed tomography. *Advanced Materials Research*, 911, 443-448.
2. **Mahmud, M.Z.H.**, Yaacob, H., Jaya, R.P., & Abdul Hassan, N. (2014). Laboratory Investigation on the Effects of Flaky Aggregates on Dynamic Creep and Resilient Modulus of Asphalt Mixtures. *Jurnal Teknologi*, 70(4).
3. Hassan, N.A., Airey, G., Jaya, R. P., **Mahmud, M. Z. H.**, & Mashros, N. (2015). Use of Imaging Techniques for Viewing the Internal Structure of Rubberised Asphalt Mixtures. In *Applied Mechanics and Materials* (Vol. 695, pp. 8-11).
4. Hassan, N.A., Abdullah, N.A.M., Shukry, N.A.M., **Mahmud, M. Z. H.**, Yunus, N.Z.M., Jaya, R.P & Yaacob, H. (2015). Laboratory evaluation on the effect of clogging on permeability of porous asphalt mixtures. *Jurnal Teknologi*, 76(14).
5. Hassan, N.A., **Mahmud, M. Z. H.**, Adi, N., Rahmat, N., Hainin, M.R. and Putra Jaya, R. (2016). Effects of air voids content on the performance of porous asphalt mixtures. *ARPN Journal of Engineering and Applied Sciences*, 11(20).
6. Hassan, N.A., **Mahmud, M. Z. H.**, Abdullahi Ahmad, K., Hainin, M.R., Putra Jaya, R. and Mashros, N. (2016). Air voids characterisation and permeability of porous asphalt mixture used in different countries. *ARPN Journal of Engineering and Applied Sciences*, 11(24).
7. Hassan, N. A., Almusawi, A. A. A., **Mahmud, M. Z. H.**, Abdullah, N. A. M., Shukry, N. A. M., Mashros, N., Jaya R. P. & Yusoff, N. I. M. (2019). Engineering properties of crumb rubber modified dense-graded asphalt mixtures using dry process. In *IOP Conference Series: Earth and Environmental Science* (Vol. 220, No. 1, p. 012009). IOP Publishing.
8. Jaya, R.P., Abdul Hassan, N., **Mahmud, M.Z.H.**, Aziz, M.M.A., Hamzah, M.O., & Wan, C.N.C. (2014). Effect of Aggregate Shape on the Properties of Asphaltic Concrete AC14. *Jurnal Teknologi*, 71(3).
9. Al-Saffar, Z. H., Yaacob, H., Satar, M. K. I. M., Kamarudin, S. N. N., **Mahmud, M. Z. H.**, Ismail, C. R., Hassan S. A. & Mashros, N. (2021). A review on the usage of waste engine oil with aged asphalt as a rejuvenating agent. *Materials Today: Proceedings*.
10. Aletba, S. R. O., Hassan, N. A., Jaya, R. P., Aminudin, E., **Mahmud, M. Z. H.**, Mohamed, A., & Hussein, A. A. (2021). Thermal performance of cooling strategies for asphalt pavement: a state-of-the-art review. *Journal of Traffic and Transportation Engineering (English Edition)*.
11. Radeef, H. R., Hassan, N. A., Abidin, A. Z., **Mahmud, M. Z. H.**, Satar, M. M., Warid, M. M., & Al Saffar, Z. H. (2021, February). Determining Fracture Energy in Asphalt Mixture: A Review. In *IOP Conference Series: Earth and Environmental Science* (Vol. 682, No. 1, p. 012069). IOP Publishing.
12. Radeef, H. R., Hassan, N. A., Abidin, A. R. Z., **Mahmud, M. Z. H.**, Yaacob, H., Mashros, N., & Mohamed, A. (2021). Effect of aging and moisture damage on the cracking resistance of rubberized asphalt mixture. *Materials Today: Proceedings*, 42, 2853-2858.
13. Radeef, H. R., Hassan, N. A., Abidin, A. R. Z., **Mahmud, M. Z. H.**, Ismail, C. R., Abbas, H. F., & Mashros, N. (2022). Mixture design and test parameter effect on fracture performance of asphalt: a review. *ASEAN Engineering Journal*, 12(1), 27-39.
14. Radeef, H. R., Hassan, N. A., Abidin, A. Z., **Mahmud, M. Z. H.**, Ismail, C. R., Abbas, H. F., ... & Redha, S. (2022). Impact of ageing and moisture damage on the fracture properties of plastic waste modified

asphalt. In *IOP Conference Series: Earth and Environmental Science* (Vol. 971, No. 1, p. 012009). IOP Publishing.