



PERSONAL INFORMATION

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EDUCATIONAL BACKGROUND

Ph.D (Engineering Science) The University of Mississippi, Oxford, MS, USA (2019)
Title: Condition Deterioration Modeling and Computational Simulations to Enhance Asphalt Highway Pavement Design and Asset Management

MSc (Asphalt Technology) Universiti Sains Malaysia, Pulau Pinang, Malaysia (2012)
Title: Porous Parking Materials and Design for Stormwater Management

BSc (Civil Engineering) Universiti Sains Malaysia, Pulau Pinang, Malaysia (2008)

RESEARCH INTERESTS

Asphalt; Pavement; Transportation; Performance Modeling; 3D-Finite Element Simulation; Pavement Design; Asset Management

HONORS/AWARDS

Ph.D

1. Scholarship and Outstanding Student Merit Awards, Universiti Sains Malaysia, Pulau Pinang, Malaysia and Ministry of Education (MOE) Malaysia (January 16, 2013-January 15, 2017).
2. Outstanding Ph.D Candidate 2016, Civil Engineering Department, The University of Mississippi.

MSc

1. Scholarship and Outstanding Student Merit Awards, Universiti Sains Malaysia, Pulau Pinang, Malaysia and Ministry of Education (MOE) Malaysia (2009-2011).
2. Runner Up Award for National Road Safety Essay Competition supported by Ministry of Higher Education, Malaysia.

BSc

1. Certificate of Excellent Sport Management by Universiti Sains Malaysia (2007/2008)
2. Most Outstanding 4th Year Undergraduate in Civil Engineering (2007)
3. Recipient of POSCO ASIA Fellowship by POSCO TJ Park Foundation (20th July 2007)
4. Most Outstanding 4th Year Undergraduate in Civil Engineering (2006)
5. Recipient of Dean List Award Semester 1 2005/2006

WORK EXPERIENCES

1. Research Assistant, Center of Advance Infrastructure Technology (CAIT) – The University of Mississippi, Oxford, MS, USA. (January 2014–August 2014)
2. Teaching Assistant for Dr. Waheed Uddin’s Transportation and Geospatial Courses – The University of Mississippi (2013-2015)
3. Research Assistant at Sustainable Asphalt Research Group (SARG) Universiti Sains Malaysia Engineering Campus, Pulau Pinang, Malaysia. (1st August 2011 – 14th Feb 2012) & (15th April 2012 – 14th July 2012)
4. Research Officer (N41) at Sustainable Asphalt Research Group (SARG) Universiti Sains Malaysia Engineering Campus, Pulau Pinang, Malaysia. (15th Feb 2012 – 14th April 2012)

CONSULTANCY AND RESEARCH PROJECTS

1. Uddin, W. “A Synthesis Study of Noncontact Nondestructive Evaluation of Top-down Cracking in Asphalt Pavements.” Final Report FHWA/MS-DOT-RD-13-255, Sponsored Research Study SS 255, Center for Advanced Infrastructure Technology Report UMCAIT/2013-01, The University of Mississippi, for the Mississippi Department of Transportation, December 2013. (Assisted Dr. Uddin in literature review process)

2. Project: Integrated Intermodal Transportation Corridors for Economically Viable and Safe Global Supply Chain
Tasks: (1) Commodity domestic flow data extraction from Oak Ridge National Laboratory (ORNL) database and data analysis. (2) Development of the spatial maps for the U.S. commodities inbound and outbound data visualization using GeoMedia Professional (GMPPro), a Geographic Information System (GIS) software. (3) Development of combined spatial map database of NAFTA countries (Canada, USA, Mexico) for data visualization and decision making process using GMPPro.
3. Porous Parking Materials and Design for Storm Water Management. Master of Science (MSc) Thesis. Sponsored by Ministry of Higher Education Malaysia and Universiti Sains Malaysia.
4. Laboratory Experiment for Rehabilitation of Al Garabolli-Misuratah Coastal Road, Libya. A project by Nurol Insaat Ve Ticaret, A.S., Turkey (2008 - 2009)
5. Sieve Analysis and Aggregate Properties Determination for Kuad Sdn. Bhd (Local Quarry in Penang) (10th– 13th January 2012)
6. Laboratory Testing on Asphalt Pavement Quality Involving Binder Content Determination by Ignition Method, Sieve Analysis, Marshall Stability and Theoretical Optimum Specific Gravity using Rice Method. A Project by PENS Industries Sdn. Bhd. (6th – 10th February 2012)

INNOVATION

1. Water Flow Simulator (Used in Master Degree Study 2009 - 2012)

ACADEMIC SEMINAR AND OTHER COURSES ATTENDED

1. Nationality and Character Building by Biro Tatanegara (22nd– 26th September 2011)
2. Research Design Methodology by Universiti Sains Malaysia (23rd – 29th July 2011)
3. 2nd Civil Engineering Colloquium, CEC 2011 at School of Civil Engineering, Universiti Sains Malaysia Engineering Campus (23rd & 24th March 2011)
4. Linear Regression Analysis by School of Mathematical Sciences, USM Penang (1st & 2nd March 2011)
5. Statistical Applications Training Program For Research Purpose by Graduate School Of Business, Universiti Sains Malaysia (24th & 25th January 2011)
6. Elementary Statistics For Practitioners by School of Mathematical Sciences, Universiti Sains Malaysia (10th & 11th November 2009)
7. Stress Management Workshop by Universiti Sains Malaysia (25th November 2008)
8. Scientific Writing / Research Design And Methodology by Institute of Postgraduate Studies (IPS) (16th – 26th June 2008)
9. Student – Centered Workshop At Jerejak Resort & Spa, Penang (2nd – 3rd May 2009)

ACADEMIC CONTRIBUTIONS AND ACHIEVEMENTS

CONFERENCES

1. Mohamed Jaafar, Z. F., W. Uddin. “Development of Asphalt Pavement Roughness and Rutting Models by Using LTPP Database and Considering Maintenance and Rehabilitation History.” Presented at TRB’s Data Analysis Working Group (“the DAWG”), *95th Annual Meeting of Transportation Research Board*, Washington, DC, January 9, 2016. (Presenter)
2. National Center for Intermodal Transportation for Economic Competitiveness (NCITEC) First Annual Conference, Colvard Student Union, Mississippi State University (MSU), Starkville, MS, USA. October 31- November 1, 2013. (Participant)

POSTER PRESENTATIONS

1. Mohamed Jaafar, Z. F., W. Uddin. and Y. Najjar. “Asphalt Pavement Roughness Modeling Using the Artificial Neural Network and Linear Regression Approaches for LTPP Southern U.S. States.” *95th Annual Meeting of Transportation Research Board*, Washington, DC, January 11, 2016. (Presenter)

ACADEMIC ARTICLES

1. W. Uddin, Barros, R., and Mohamed Jaafar, Z. F. “Sensitivity Analysis of Mechanistic-Empirical Pavement Structural Design Methods Considering Climate Impacts on Layer Modulus Values” *Proc., 7th International Conference Bituminous Mixtures and Pavements*, Thessaloniki, Greece, 12-14 June 2019, pp. 357-364.

2. Mohamed Jaafar, Z. F., W. Uddin. "Modeling of Asphalt Pavement Rutting for LTPP Southern Region Using Multiple Linear Regression Method." *Eight International Conference on Maintenance and Rehabilitation of Pavements (MAIREPAV8)*, DOI: 10.3850/978-981-11-0449-7-178-CD, July 27-29, 2016, Singapore.
3. Mohamed Jaafar, Z. F., W. Uddin. and Y. Najjar. "Asphalt Pavement Roughness Modeling Using the Artificial Neural Network and Linear Regression Approaches for LTPP Southern U.S. States." *TRB 95th Annual Meeting Compendium of Papers*, Washington, DC, January 11, 2016.
4. Mohamed Jaafar, Z. F., M. Ahlan., and W. Uddin. "Modeling of Pavement Roughness Performance Using the LTPP Database for Southern Region in the U.S." *Proc., 6th International Conference Bituminous Mixtures and Pavements*, Thessaloniki, Greece, 2015, pp. 714-722.
5. Uddin, W. and Z.F. Mohamed Jaafar. "Achieving Sustainability without Compromising Long-Term Pavement Performance for Road Infrastructure Assets." *Online Proceedings, First Conference, 2013 IJPC - International Journal of Pavements Conference*, São Paulo, SP, Brazil, December 9-10, 2013.
<http://www.ijpavement.com/2013-ijpc-papers/>
6. M.O. Hamzah, Z. F. Mohamed Jaafar, M. R. Mohd Hasan, A. Shingani, S. H. A. Talib, S. S. M. Tahir, (2013), "Binder Flow Due to Gravitational Forces in Asphalt Mixes." *Online Proceedings, First Conference, 2013 IJPC - International Journal of Pavements*, São Paulo, SP, Brazil, December 9-10, 2013.
<http://www.ijpavement.com/wp-content/uploads/2013/12/2013-IJPC-130-1.pdf>
7. M.O. Hamzah, Z. F. M. Jaafar and F. Ahmad, Laboratory Simulation of Porous Asphalt Parking Lot System and Mix Design for Storm Water Management, *Journal of Engineering Science And Technology (JESTEC)*, Vol. 8, No. 2 (2013) 217-232, School of Engineering, Taylor's University.
8. Z.F. Mohamed Jaafar. "Porous Parking Materials and Design for Storm Water Management." Master of Science (MSc) Thesis. Sponsored by Ministry of Higher Education Malaysia and Universiti Sains Malaysia (2012).
9. Meor Othman Hamzah, Zul Fahmi Mohamed Jaafar and Fauziah Ahmad, Laboratory Assessment of Water Flow Simulator for Porous Parking Lots System. *World Applied Sciences Journal* 16 (5), pp 748-758 (2012) ISSN 18184952
10. Meor Othman Hamzah, Marliana Azura Ahmad Puzi, Khairun Azizi Mohd Azizli and Zul Fahmi Mohamed Jaafar, (2011) Investigation on the Dynamic Properties of Asphalt Mixture Incorporating Geometrically Cubical Aggregate, 5th International Conference Bituminous Mixtures and Pavements, Thessaloniki, Greece, 1-3 June 2011
11. Meor Othman Hamzah, Zul Fahmi Mohamed Jaafar and Fauziah Ahmad, (2011), Laboratory Assessment of Water Flow Simulator for Porous Parking Lots Reservoir and Soil Layers, *Journal of Applied Sciences*, ISSN 18125654, DOI: 103923/JAS 2011
12. M. O. Hamzah, Z. F. M. Jaafar and F. Ahmad (2010) Verification of Porous Asphalt Mix Design Using NMAS 20 mm as a Storm Water Runoff Mitigation Measure, *Civil Engineering Colloquium 2010 (CEC 2010)*, Universiti Sains Malaysia Engineering Campus, Pulau Pinang (March 2011)