

Associate Professor Dr Fauzan Mohd Jakarni



A03992



Department of Civil Engineering, Faculty of Engineering
Universiti Putra Malaysia



fauzan.mj@upm.edu.my / fauzan.mj@gmail.com



Field of Specialisation:
Highway Engineering & Pavement Materials



The University of
Nottingham

PhD
(2007-2012)



MSc (Highway & Transportation Engineering)
(2004-2006)



BEng (Civil)
(2000-2004)

ADMINISTRATIVE DUTIES

Senior Lecturer (DS51)
Department of Civil Engineering
2012-2020

**Acting Coordinator - Student
Affairs & Alumni**
2015

2020-2024
Head of Department
Department of Civil Engineering

Associate Professor (DS54)
Department of Civil Engineering
2020-Date

2004-2012

Tutor

Department of Civil Engineering

2015-2018

**Coordinator - ECV 4901
Industrial Training**

2015-2017

**Coordinator - Industry
& Community Relations**

2017-2019

**Coordinator - Student
Affairs & Alumni**

**Programme Coordinator -
MSKK MHTE**
2019-Date

STUDENTS: TEACHING & SUPERVISION

UNDERGRADUATE COURSES

ECV3125 CIVIL ENGINEERING LABORATORY II
ECV3622 HIGHWAY ENGINEERING
ECC3012/ECC3002 ENGINEERING MATHEMATICS II
ECV3611 TRANSPORTATION ENGINEERING
ECV3613 HIGHWAY ENGINEERING
ECV3602 HIGHWAY ENGINEERING I
ECV3603 HIGHWAY ENGINEERING II
ECV4602 PAVEMENT ENGINEERING
ECV4604 ROAD CONSTRUCTION & MAINTENANCE

12

YEARS OF
TEACHING
EXPERIENCE

9

DIFFERENT
COURSES

> 4.0

TEACHING
ASSESSMENT

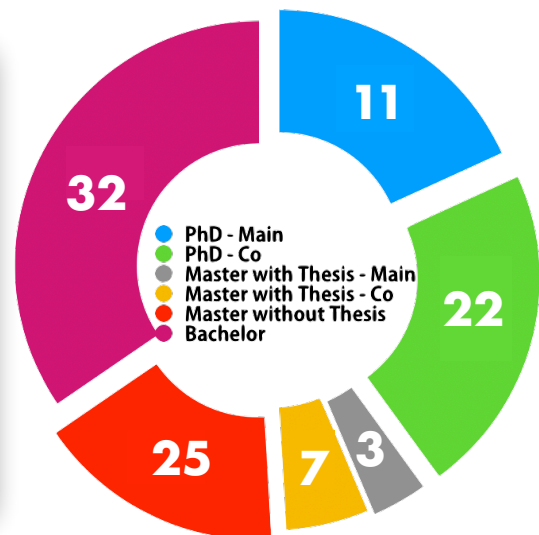
POSTGRADUATE COURSES

ECV5609 HIGHWAY DESIGN

MASTER BY COURSEWORK -
MASTER OF HIGHWAY &
TRANSPORTATION ENGINEERING

10 SEMESTERS

FROM SEMESTER 2 2014/2015 UNTIL
DATE (SEMESTER 1 2023/2024)



RESEARCH, PUBLICATION & INDUSTRY



Road Engineering Association of Malaysia

**Member of REAM R&D Committee
(2017-2019)**

(Professional Service to Industry & Community)(icris 4★)

TASKS:

1. Establish REAM as knowledge enterprise
2. Address relevant problems related to road industry
3. Initiate & execute R&D activities
 - 10th Malaysian Road Conference (MRC) & Exhibition 2018 / PIARC International Seminar on Asset Management
 - ✓ Lead the technical programme committee on budget estimation, submission & reviewing technical papers & arrangement of Guest Speaker for Plenary Session
 - ✓ Editors for Conference Proceedings - 10th Malaysia Road Conference & Exhibition 2018
 - Half Day Seminar on Green Technology in Transport Engineering

NON-CITED JOURNALS

48

CITED JOURNALS

11

CHAPTER(S) IN BOOKS

2

BOOK(S)

4

19

SEMINAR PAPERS PRESENTED
including 1 Keynote Address

**2 RESEARCH GRANT
(FRGS)**
AS PROJECT LEADER
Total Up RM168K

RM811K

In 6 Research Grants
As Co Researcher



CURRICULUM VITAE



ASSOCIATE PROFESSOR DR FAUZAN MOHD JAKARNI

Department of Civil Engineering, Faculty of Engineering
Universiti Putra Malaysia, 43400 UPM Serdang
Selangor, Malaysia

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Email : fauzan.mj@upm.edu.my / fauzan.mj@gmail.com

ORCID ID : <https://orcid.org/0000-0002-6511-1794>
Scopus Author ID : 16833760800
Google Scholar ID : Fauzan Mohd Jakarni

Education

- Doctor of Philosophy (PhD) in Civil Engineering (2007-2012)**
University of Nottingham, United Kingdom
Thesis Title: Adhesion of Asphalt Mixtures
- Master of Science (MSc) in Highway and Transportation Engineering (2004-2006)**
Universiti Putra Malaysia, Malaysia
Thesis Title: Properties of Stone Mastic Asphalt Slabs Compacted Using A Newly Developed Roller Compactor
- Bachelor of Engineering (BEng) in Civil (2000-2004)**
Universiti Putra Malaysia, Malaysia
Thesis Title: Physical Properties of Sewage Sludge Molten Slag for Use in Asphalt Mixes

Areas of Interest

Fauzan's research interests are in the area of asphalt pavement, particularly in the adhesion, adhesive bond strength and failure characteristics of thin films of bitumen (bitumen-filler mastic) and aggregates, moisture damage mechanisms of asphalt mixtures, fundamental and rheological properties of asphalt mixture materials, mechanical performance and distress mechanisms of asphalt pavement and testing of asphalt mixtures.

Professional Qualifications / Memberships / Affiliations

- Member of Asian Pavement Engineering Society (APES) (2019-Date)
- Quarterly Franklin Membership of London Journals Press (UK) (2018-Date) (EI88108)
- Member of International Association of Engineers (IAENG) (2014-Date) (143976)
- Member of Institution of Highway and Transportation (IHT) (2008-Date)
- Graduate Member of Board of Engineers Malaysia (BEM) (2005-Date) (GE46362A)

Appointments

Position	Duration
1. Head of Department Department of Civil Engineering Faculty of Engineering Universiti Putra Malaysia 43400 UPM Serdang Selangor, Malaysia	2020-2024
2. Associate Professor Department of Civil Engineering Faculty of Engineering Universiti Putra Malaysia 43400 UPM Serdang Selangor, Malaysia	2020-Date



UPM
UNIVERSITI PUTRA MALAYSIA
BERILMU BERAKSI



**FAKULTI
KEJURUTERAAN**
FACULTY OF ENGINEERING
فاكولتي كجوروتراان

3. **Programme Coordinator Master by Coursework:
Master of Highway and Transportation
Engineering** 2019-Date
Department of Civil Engineering
Faculty of Engineering
Universiti Putra Malaysia
43400 UPM Serdang
Selangor, Malaysia
4. **Department Coordinator for Student Affairs and
Alumni** 2017-2019
Department of Civil Engineering
Faculty of Engineering
Universiti Putra Malaysia
43400 UPM Serdang
Selangor, Malaysia
5. **Department Coordinator for Industry and
Community Relations** 2015-2017
Department of Civil Engineering
Faculty of Engineering
Universiti Putra Malaysia
43400 UPM Serdang
Selangor, Malaysia
6. **Acting Department Coordinator for Student
Affairs and Alumni** 2015 (12 Weeks)
Department of Civil Engineering
Faculty of Engineering
Universiti Putra Malaysia
43400 UPM Serdang
Selangor, Malaysia
7. **Department Coordinator for ECV4901 Industrial
Training** 2015-2018
Department of Civil Engineering
Faculty of Engineering
Universiti Putra Malaysia
43400 UPM Serdang
Selangor, Malaysia
8. **Senior Lecturer** 2012-2020
Department of Civil Engineering
Faculty of Engineering
Universiti Putra Malaysia
43400 UPM Serdang
Selangor, Malaysia
9. **Tutor** 2004-2012
Department of Civil Engineering
Faculty of Engineering
Universiti Putra Malaysia
43400 UPM Serdang
Selangor, Malaysia

Publications

Cited Journals

1. Elahi, Z, ¹**Jakarni, FM**, Muniandy, R, Hassim, S, Ab Razak, MS & Ansari, AH 2024, 'Influence of novel modified waste cooking oil beads on rheological characteristics of bitumen', *Construction and Building Materials*, vol. 414, p. 134829. (ISSN 0950-0618). **(Published) (Indexed by Scopus) (Q1 Journal)**
2. Ansari, AH, ¹**Jakarni, FM**, Muniandy, R, Hassim, S, Elahi, Z & Ben Zair, MM 2023, 'Mechanical performance of cup lump rubber modified asphalt mixtures incorporating polyphosphoric acid', *Construction and Building Materials*, vol. 408, p. 133625. (ISSN 0950-0618). **(Published) (Indexed by Scopus) (Q1 Journal)**
3. Poi, AWH, Law, TH, Hamid, H, **Jakarni, FM**, Ishak, SZ & Ng, CP 2023, 'Examining the effects of relative advances in higher mobility roads over higher accessibility roads and income inequality on the relationship between car ownership and economic growth', *Transportation Research Record*, vol. 2677 (10), pp. 360-374. (ISSN 0361-1981). **(Published) (Indexed by Scopus) (Q2 Journal)**
4. Akraym, HM, Muniandy, R, **Jakarni, FM** & Hassim, S 2023, 'Review: Shear properties and various mechanical tests in the interface zone of asphalt layers', *Infrastructures*, vol. 8 (48), pp. 1-24. (Online ISSN: 2412-3811). **(Published) (Indexed by Scopus) (Q2 Journal)**
5. Al-Sabaei, AM, Alhussian, H, Abdulkadir, SJ, Giustozzi, F, **Jakarni, FM** & Md Yusoff, NI 2023, 'Predicting the rutting parameters of nanosilica/waste denim fiber composite asphalt binders using the response surface methodology and machine learning methods', *Construction and Building Materials*, vol. 363, p. 129871. (ISSN 0950-0618). **(Published) (Indexed by Scopus) (Q1 Journal)**
6. Al-Sarafi, AHM, Alias, AH, Mohd Shafri, HZ & **Jakarni, FM** 2022, 'Factors affecting BIM adoption in the Yemeni construction industry: A structural equation modelling approach', *Buildings*, vol. 12 (2066), pp. 1-27. (Online ISSN: 2075-5309). **(Published) (Indexed by Scopus) (Q2 Journal)**
7. Tamassoki, S, Nik Daud, NN, **Jakarni, FM**, Mohd Kusin, F, A.Rashid, AS & Roshan, MJ 2022, 'Performance evaluation of lateritic subgrade soil treated with lime and coir fibre-activated carbon', *Applied Sciences*, vol. 12 (8279), pp. 1-16. (Online ISSN: 2076-3417). **(Published) (Indexed by Scopus) (Q2 Journal)**
8. Tamassoki, S, Nik Daud, NN, **Jakarni, FM**, Mohd Kusin, F, A.Rashid, AS & Roshan, MJ 2022, 'Compressive and shear strengths of coir fibre reinforced activated carbon stabilised lateritic soil', *Sustainability*, vol. 14(15), p. 9100. (Online ISSN: 2071-1050). **(Published) (Indexed by Scopus) (Q2 Journal)**
9. Al-Sarafi, AHM, Alias, AH, **Jakarni, FM**, Mohd Shafri, HZ & Gamil, Y 2022, 'Building Information Modelling: Challenges, benefits and prospects for adoption in developing countries', in Al-Emran, M, Al-Sharafi, MA & Shaalan, K (eds), *International Conference on Information Systems and Intelligent Applications (ICISIA 2022): Lecture Notes in Networks and Systems*, Springer Cham: Switzerland, vol. 550, pp. 551-566, 2022. (ISBN: 978-3-031-16865-9) **(Published) (Indexed by Scopus)**
10. Al-Sarafi, AHM, Alias, AH, Mohd Shafri, HZ & **Jakarni, FM** 2022, 'Factors affecting the BIM adoption in the Yemeni construction industry', in Al-Emran, M, Al-Sharafi, MA & Shaalan, K (eds), *International Conference on Information Systems and Intelligent Applications (ICISIA 2022): Lecture Notes in Networks and Systems*, Springer Cham: Switzerland, vol. 550, pp. 513-526, 2022 (ISBN: 978-3-031-16865-9) **(Published) (Indexed by Scopus)**
11. Ansari, AH, ¹**Jakarni, FM**, Muniandy, R, Hassim, S, Elahi, Z & Ben Zair, MM 2022, 'Effect of cup lump rubber as a sustainable bio-modifier on the properties of bitumen incorporating polyphosphoric acid', *Construction and Building Materials*, vol. 323, p. 126505. (ISSN 0950-0618). **(Published) (Indexed by Scopus) (Q1 Journal)**



12. Poi, WHA, Law, TH, Hamid, H, **Jakarni, FM** & Hejazi, F 2022, 'A review about effects of road development, income inequality and economic growth on private vehicle ownership growth', *Journal of the Eastern Asia Society for Transportation Studies*, vol. 14, pp. 71-89. (Online ISSN 1881-1124). **(Published) (Indexed by Scopus)**
13. Eldeek, MI, ¹**Jakarni, FM**, Muniandy, R & Hassim, S 2022 Utilization of waste cooking oil as a sustainable product to improve the physical and rheological properties of asphalt binder: A review, in Pasindu, HR, Bandara, S, Mampearachchi, WK & Fwa, TF (eds), *Road and Airfield Pavement Technology: Lecture Notes in Civil Engineering*, Springer Cham: Switzerland, vol. 193, pp. 883-901, 2022 (ISBN: 978-3-030-87378-3) **(Published) (Indexed by Scopus)**
14. Ben Zair, MM, ¹**Jakarni, FM**, Muniandy, R, Hassim, S & Ansari, AH 2022 A brief review: Application of recycled polyethylene terephthalate as a modifier for asphalt binder, in Pasindu, HR, Bandara, S, Mampearachchi, WK & Fwa, TF (eds), *Road and Airfield Pavement Technology: Lecture Notes in Civil Engineering*, Springer Cham: Switzerland, vol. 193, pp. 739-756, 2022 (ISBN: 978-3-030-87378-3) **(Published) (Indexed by Scopus)**
15. Ansari, AH, ¹**Jakarni, FM**, Muniandy, R, Hassim, S, Elahi, Z & Ben Zair, MM 2022 Physical and rheological properties of cup lump rubber modified bitumen, in Pasindu, HR, Bandara, S, Mampearachchi, WK & Fwa, TF (eds), *Road and Airfield Pavement Technology: Lecture Notes in Civil Engineering*, Springer Cham: Switzerland, vol. 193, pp. 713-723, 2022 (ISBN: 978-3-030-87378-3) **(Published) (Indexed by Scopus)**
16. Elahi, Z, ¹**Jakarni, FM**, Muniandy, R, Hassim, S, Ab Razak, MS, Ansari, AH & Ben Zair, MM 2021, 'Waste cooking oil as a sustainable bio modifier for asphalt modification: A review', *Sustainability*, vol. 13 (20), p. 11506. (Online ISSN: 2071-1050). **(Published) (Indexed by Scopus) (Q2 Journal)**
17. Sirajudeen, AO, Law, TH, Wong, SV, **Jakarni, FM** & Ng, CP 2021, 'The sources of the Kuznets relationship between the road death to road injuries ratio and economic growth', *Journal of Safety Research*, vol. 78, pp. 262-269. (ISSN: 0022-4375). **(Published) (Indexed by Scopus) (Q1 Journal)**
18. Ansari, AH, ¹**Jakarni, FM**, Muniandy, R, Hassim, S & Elahi, Z 2021, 'Natural rubber as a renewable and sustainable bio-modifier for pavement applications: A review', *Journal of Cleaner Production*, vol. 289, p. 125727. (Online ISSN: 0959-6526). **(Published) (Indexed by Scopus) (Q1 Journal)**
19. Ansari, AH, ¹**Jakarni, FM**, Muniandy, R & Hassim, S 2021, 'A review on the application of natural rubber as asphalt modifier', *IOP Conference Series: Materials Science and Engineering*, vol. 1075 (012031), p. 11. (Online ISSN: 1757-899X) (Print ISSN: 1757-8981). **(Published) (Indexed by Scopus)**
20. Safa Eldeen, GI, ¹**Jakarni, FM**, Al-Attar, AA, Muniandy, R & Hassim, S 2021, 'Improve recycled concrete aggregate properties in order to use it in paving application as aggregate', *IOP Conference Series: Materials Science and Engineering*, vol. 1075 (012031), p. 9. (Online ISSN: 1757-899X) (Print ISSN: 1757-8981). **(Published) (Indexed by Scopus)**
21. Malhas, Y, ¹Muniandy, R, Hassim, S & **Jakarni, FM** 2021, 'Establishing stress boundaries for various loading and pavement configuration', *IOP Conference Series: Materials Science and Engineering*, vol. 1075 (012031), p. 8. (Online ISSN: 1757-899X) (Print ISSN: 1757-8981). **(Published) (Indexed by Scopus)**
22. Al-Humairi, SFI, Alias, AH, Haron, NA, Hassim, S & **Jakarni, FM** 2021, 'Sustainable pavement: A review on the usage of pavement as a mitigation strategy for UHI', *IOP Conference Series: Materials Science and Engineering*, vol. 1075 (012031), p. 10. (Online ISSN: 1757-899X) (Print ISSN: 1757-8981). **(Published) (Indexed by Scopus)**
23. Ben Zair, MM, ¹**Jakarni, FM**, Muniandy, R & Hassim, S 2021, 'A brief review: Application of recycled polyethylene terephthalate in asphalt pavement reinforcement', *Sustainability*, vol. 13 (3), p. 1303. (Online ISSN: 2071-1050). **(Published) (Indexed by Scopus) (Q2 Journal)**



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24. Poi, AWH, Law, TH, Hamid, H & **Jakarni, FM** 2021, 'Motorcycle to car ownership: The role of road mobility, accessibility and income inequity', *Transportation Research Part D: Transport and Environment*, vol. 90, p. 102650. (Online ISSN: 1361-9209). **(Published) (Indexed by Scopus) (Q1 Journal)**
25. Aziz, MMA, Kassim, KA, Shokravi, Z, **Jakarni, FM**, Liu, HY, Zaini, N, Tan, LS, Saiful Islam, ABM & Shokravi, H 2020, 'Two-stage cultivation strategy for simultaneous increase in growth rate and lipid content of microalgae: A review', *Renewable and Sustainable Energy Reviews*, vol. 119, p. 109621. (Online ISSN: 1364-0321). **(Published) (Indexed by Scopus) (Q1 Journal)**
26. Taib, A, **Jakarni, FM**, Rosli, MF, Yusoff, NIM & Aziz, MA 2019, 'Comparative study of moisture damage performance test', *IOP Conference Series: Materials Science and Engineering*, vol. 512, no. 1, p. 10. (Online ISSN: 1757-899X) (Print ISSN: 1757-8981). **(Published) (Indexed by Scopus)**
27. Bi, YC & **Jakarni, FM** 2019, 'Evaluating properties of wood ash modified asphalt mixtures', *IOP Conference Series: Materials Science and Engineering*, vol. 512, no. 1, p. 7. (Online ISSN: 1757-899X) (Print ISSN: 1757-8981). **(Published) (Indexed by Scopus)**
28. Liew, PW, Muniandy, R, **Jakarni, FM** & Hassim, S 2019, 'Capability of chained interlocking plastic beads in enhancing properties of dense bituminous macadam', *IOP Conference Series: Materials Science and Engineering*, vol. 512, no. 1, p. 10. (Online ISSN: 1757-899X) (Print ISSN: 1757-8981). **(Published) (Indexed by Scopus)**
29. Al-Ammari, MAS, **Jakarni, FM**, Muniandy, R & Hassim, S 2019, 'The effect of aggregate and compaction method on the physical properties of hot mix asphalt', *IOP Conference Series: Materials Science and Engineering*, vol. 512, no. 1, p. 12. (Online ISSN: 1757-899X) (Print ISSN: 1757-8981). **(Published) (Indexed by Scopus)**
30. Radzi, HM, Muniandy, R, Hassim, S, Law, TH & **Jakarni, FM** 2019, 'An overview of asphalt mix design using various compactors', *IOP Conference Series: Materials Science and Engineering*, vol. 512, no. 1, p. 8. (Online ISSN: 1757-899X) (Print ISSN: 1757-8981). **(Published) (Indexed by Scopus)**
31. Ng, CP, Law, TH, **Jakarni, FM** & Kulanthayan, S 2019, 'Road infrastructure development and economic growth', *IOP Conference Series: Materials Science and Engineering*, vol. 512, no. 1, p. 10. (Online ISSN: 1757-899X) (Print ISSN: 1757-8981). **(Published) (Indexed by Scopus)**
32. Tayh, SA, Muniandy, R, Hassim, S & **Jakarni, FM** 2019, 'Chemical analysis and consistency characterization of domestic waste bio-asphalts', *GCEC 2017 Proceedings of the 1st Global Civil Engineering Conference: Lecture Notes in Civil Engineering*, vol. 9, pp. 1441-1451. (ISBN 978-981-10-8015-9). **(Published) (Indexed by Scopus)**
33. **Jakarni, FM**, Safa Eldeen, GI, Muniandy, R & Hassim, S 2019, 'Effect of compaction on the degradation of crushed concrete used as partial aggregate substitute in asphalt mixtures', *GCEC 2017 Proceedings of the 1st Global Civil Engineering Conference: Lecture Notes in Civil Engineering*, vol. 9, pp. 1333-1344. (ISBN 978-981-10-8015-9). **(Published) (Indexed by Scopus)**
34. Ng, CP, Law, TH, **Jakarni, FM** & Kulanthayan, S 2018, 'Relative improvements in road mobility as compared to improvements in road accessibility and urban growth: A panel data analysis', *Transportation Research Part A: Policy and Practice*, vol. 117, pp. 292-301. (ISSN 0965-8564). **(Published) (Indexed by Scopus) (Q1 Journal)**
35. Omar, HA, Yusoff, NIM, Ceylan, H, Rahman, IA, Sajuri, Z **Jakarni, FM** & Ismail, A 2018, 'Determining the water damage resistance of nano-clay modified bitumens using the indirect tensile strength and surface free energy methods', *Construction and Building Materials*, vol. 167, pp. 391-402. (ISSN 0950-0618). **(Published) (Indexed by Scopus) (Q1 Journal)**
36. Yousif, RA, Muniandy, R, Hassim, S & **Jakarni, FM** 2018, 'Effect of stem aging on performance-related properties of hot asphalt mixture', *Journal of Materials in Civil Engineering*, vol. 30 (3). (ISSN 0899-1561). **(Published) (Indexed by Scopus) (Q1 Journal)**
37. Tayh, SA, Muniandy, R, Hassim, S & **Jakarni, FM** 2017, 'Aging and consistency characterization of bio-binders from domestic wasters', *International Journal of Applied Engineering Research*, vol. 12, np. 10, pp. 2613-2622. **(Published) (Indexed by Scopus) (Q3 Journal)**

38. Omar, HA, Yusoff, NIM, Sajuri, Z, Ceylan, H, **Jakarni, FM** & Ismail, A 2016, 'Determining the effects of aging on halloysite nano-tube modified binders through the pull-off test method', *Construction and Building Materials*, vol. 126, pp. 245-252. (ISSN 0950-0618). **(Published) (Indexed by Scopus) (Q1 Journal)**
39. Omar, HA, Yusoff, NIM, Ceylan, H, Sajuri, Z, **Jakarni, FM** & Ismail, A 2016, 'Investigation of the relationship between fluidity and adhesion strength of unmodified and modified bitumens using the pull-off test method', *Construction and Building Materials*, vol. 122, pp. 140-148. (ISSN 0950-0618). **(Published) (Indexed by Scopus) (Q1 Journal)**
40. ¹**Jakarni, FM**, Rosli, MF, Yusoff, NIM, Aziz, MMA, Muniandy, R & Hassim, S 2016 'An overview of moisture damage performance tests on asphalt mixtures', *Jurnal Teknologi*, vol. 78, no. 7-2, pp. 91-98. (e-ISSN 2180-3722). **(Published) (Indexed by Scopus) (Q3 Journal)**
41. Omar, HA, Yusoff, NIM, Sajuri, Z, Ceylan, H, **Jakarni, FM** & Ismail, A 2015 'Evaluating the Effect of Mixing Process on Nano-clay Modified Binders Using the Pull-off Test Method', *Applied Mechanics and Materials*, vol. 802, pp. 357-362. (ISSN 1662-7482). **(Published) (Indexed by Scopus) (Q4 Journal)**
42. Aziz, MMA, Hamad, AW, Maleka, AM & **Jakarni, FM** 2015 'Effect of Viscoelastic Behaviour of Cellulose Oil Palm Fiber (COPF) Modified 60-70 Asphalt Binder for Deterioration for Roads and Highways', *Jurnal Teknologi (Sciences and Engineering)*, vol. 75, no. 11, pp. 17-23. (e-ISSN 2180-3722). **(Published) (Indexed by Scopus) (Q3 Journal)**
43. ¹**Jakarni, FM**, Yusoff, NIM, Wu, J & Aziz, MMA 2015 'Utilization of sewage sludge molten slag as aggregate substitute in asphalt mixtures', *Jurnal Teknologi Special Edition (Highway and Transportation Engineering)*, vol. 73, no. 4, pp. 105-110. (e-ISSN 2180-3722). **(Published) (Indexed by Scopus) (Q3 Journal)**
44. Hainin, MR, Aziz, MMA, Feizabadi, SM, Putra Jaya, R, Hassan, NA & **Jakarni, FM** 2015 'An overall review: Modified asphalt binder containing sasobit in warm-mix asphalt technology', *Jurnal Teknologi Special Edition (Highway and Transportation Engineering)*, vol. 73, no. 4, pp. 1-6. (e-ISSN 2180-3722). **(Published) (Indexed by Scopus) (Q3 Journal)**
45. Wu, J, Yusoff, NIM, **Jakarni, FM** & Hainin, MR 2013 'Correction of compliance errors in the dynamic shear modulus of bituminous binders data', *Sains Malaysiana*, vol. 42, no. 6, pp. 783-792. (ISSN 0126-6039). **(Published) (Indexed by Scopus) (Q2 Journal)**
46. Yusoff, NIM, **Jakarni, FM**, Nguyen, VH, Hainin, MR & Airey, GD 2013, 'Modelling the rheological properties of bituminous binders using mathematical equations', *Construction and Building Materials*, vol. 40, pp. 174-188. (ISSN 0950-0618). **(Published) (Indexed by Scopus) (Q1 Journal)**
47. ¹**Jakarni, FM**, Muniandy, R, Hassim, S & Mahmud, AR 2010, 'Analysis of stone mastic asphalt (SMA) slab dimensions for evaluation of the newly developed roller compactor (Turamesin)', *Pertanika Journal of Science and Technology (JST)*, vol. 18, no. 1, pp. 13-22. (ISSN 0128-7680). **(Published) (Indexed by Scopus) (Q4 Journal)**
48. Muniandy, R, ¹**Jakarni, FM**, Hassim, S & Mahmud, AR 2008, 'A newly developed laboratory slab roller compactor (Turamesin): An overview', *International Journal of Engineering (IJE Transactions A: Basics)*, vol. 21, no. 2, pp. 131-140. (ISSN 1025-2495). **(Published) (Indexed by Scopus)**

Note: ¹As corresponding author

Non-cited Journals

1. Tan, AP, Hamid, H, Law, TH, **Jakarni, FM** & Wong, SV 2021, 'Development of composite motorcycling safety index along urban roads in Malaysia', *Journal of the Society of Automotive Engineers Malaysia*, vol. 5, issue 1, pp. 117-136. (Online ISSN: 2600-80892). **(Published)**
2. Baqadeem, AOA, **Jakarni, FM**, Al-Shahkhrit, AKS & Masri, KA 2021, 'The usage of recycled glass in hot mix asphalt: A review', *Construction*, vol. 1, issue 1, pp. 29-34. (Online ISSN: 2785-8371). **(Published)**



3. Muniandy, R, Xavier, F, **Jakarni, FM** & Hassim, S 2020, 'Preliminary investigation on establishing a new resilient modulus test approach for reduced size asphalt mixture samples smaller than 100 mm diameter', *Journal of Traffic and Transportation Engineering*, vol. 8, pp. 93-105. (Online ISSN: 2328-2142). **(Published)**
4. Muniandy, R, **Jakarni, FM**, Hassim, S & Oladimeji, A 2020, 'Effect of various additives on the low temperature performance of petroleum based asphalt binders', *Journal of Traffic and Transportation Engineering*, vol. 8, pp. 113-126. (Online ISSN: 2328-2142). **(Published)**
5. Safa Eldeen, GI, ¹**Jakarni, FM**, Muniandy, R & Hassim, S 2018, 'Evaluation of Marshall compactor effect on the degradation of recycled concrete aggregate', *Journal of Civil, Construction and Environmental Engineering*, vol. 3, issue 5, pp. 133-146. (Online ISSN: 2637-3890) (Print ISSN: 2637-3882). **(Published)**
6. Tayh, SA, Muniandy, R, Hassim, S & **Jakarni, FM** 2018, 'Evaluation of the fatigue behavior of stone mastic asphalt modified by domestic waste bio-asphalt', *Journal of Engineering and Sustainable Development*, vol. 22, issue 2(Part-3), pp. 139-149. (ISSN 2520-0917). **(Published)**
7. Rosli, MF, ¹**Jakarni, FM**, Yusoff, NIM & Aziz, MMA 2015 'Moisture damage performance tests of asphalt mixtures: A review', *Journal of Industrial Engineering Research*. (ISSN 2077-4559). **(Published)**
8. Yousif, RA, Muniandy, R, Hassim, S, **Jakarni, FM** & Aburkaba, E 2015 'An overview of quantification of fatigue resistance of asphalt mixture using pre-aged binder', *WALIA Journal*, vol. 31 (S1), pp. 125-132. (ISSN 1026-3861). **(Published)**
9. Tayh, SA, Muniandy, R, Hassim, S, **Jakarni, FM** & Aburkaba, E 2014 'An overview of utilization of bio-oil in hot mix asphalt', *WALIA Journal*, vol. 30 (S3), pp. 131-141. (ISSN 1026-3861). **(Published)**
10. Muniandy, R, ¹**Jakarni, FM**, Hassim, S & Mahmud, AR 2007, 'Development of criteria for slab compaction of laboratory roller compactor', *American Journal of Applied Sciences*, vol. 4, no. 11, pp. 908-911. (ISSN 1546-9239). **(Published)**
11. Muniandy, R, ¹**Jakarni, FM**, Hassim, S & Mahmud, AR 2007, 'Thickness analysis of Stone Mastic Asphalt (SMA) slab compacted using a newly developed roller compactor', *American Journal of Applied Sciences*, vol. 4, no. 4, pp. 233-236. (ISSN 1546-9239). **(Published)**

Note: ¹As corresponding author

Book(s)

1. Muniandy, R, Hassim, S, **Jakarni, FM** & Ab Razak, MS, "11th International Conference on Road and Airfield Pavement Technology (11th ICPT 2019) Steering A Global Pavement Sustainability Through Engineering Marvels", IOP Conference Series: Materials Science and Engineering, Online ISSN: 1757-899X & Print ISSN: 1757-8981, 2021
2. Hamidun, R, **Jakarni, FM** & Wah, YC, "10th Malaysian Road Conference and Exhibition 2018", IOP Conference Series: Materials Science and Engineering, Online ISSN: 1757-899X & Print ISSN: 1757-8981, 2019

Chapter(s) in Book

1. Akraym, HM, Muniandy, R, **Jakarni, FM** & Hassim, S, Study Influence of Gradation Limit at Interface Shear Strength Between Double Asphalt Layer Specimens Using A New Direct Shear Device, in Yao, H, Zhang, J, Fwa, TF & Wang, C (eds), *International Conference on Road and Airfield Pavement Technology 2023*, American Society of Civil Engineers: Virginia, USA, pp. 659-672, 2024 (ISBN (PDF): 978-078-448-525-5)
2. ¹**Jakarni, FM**, Yusoff, NIM, Airey, G, Grenfell, J, Omar, HA & Rosli MF, Adhesive Behaviour and Failure Characteristics of Asphalt Mixtures, in Azhari, CH, Sulong, AB & Zulkifli, R (eds), *Advances in Materials: Processing and Integrity: Non Metals and Hybrids*, Penerbit Universiti Kebangsaan Malaysia: Bangi, Malaysia, pp. 107-132, 2017 (ISBN: 978-967-412-543-1)



3. Omar, HA, Yusoff, NIM, Sajuri, Z, Ceylan, H, **Jakarni, FM** & Ismail, The Role of Adhesion in Asphalt Mixtures, in Azhari, CH, Sulong, AB & Zulkifli, R (eds), *Advances in Materials: Processing and Integrity: Non Metals and Hybrids*, Penerbit Universiti Kebangsaan Malaysia: Bangi, Malaysia, pp. 133-154, 2017 (ISBN: 978-967-412-543-1)
4. Aziz, FNAA & **Jakarni, FM**, Jejak Kegemilangan Alumni: Menelusuri Sejarah 30 Tahun Jabatan Kejuruteraan Awam, Universiti Putra Malaysia, in Razak, MSA, et al. (eds), *30 Tahun Jabatan Kejuruteraan Awam 1985-2015*, Penerbit Universiti Putra Malaysia: Sedang, Malaysia, pp. 77-90, 2016 (ISBN: 978-967-344-592-9)

Note: ¹As corresponding author

Conference Proceedings

1. **Jakarni, FM**, Muniandy, R & Hassim, S 2019 **Keynote Address** entitled 'Moisture Damage Performance of Asphalt Mixtures Based on Fundamental Properties of Aggregates-Bitumen Interaction', in Revathi, V & Senthilkumar, S (eds.), *Proceedings of Second International Conference on Civil, Structural and Environmental Engineering (ICSEE-2019)*, KSR College of Engineering, Tamil Nadu, India, March 15, 2019, KSR College of Engineering, Tamil Nadu: India, pp.14-18. (ISBN: 978-81-935103-0-8)
2. Omar, HA, Yusoff, NIM, Sajuri, Z, Ceylan, H, **Jakarni, FM** & Ismail, A 2015 'Evaluating the Effect of Mixing Process on Nano-clay Modified Binders Using the Pull-off Test Method', in Abdul Aziz H et al. (eds.), *Modern Civil Engineering in Trend of the Sustainable Infrastructure Development: Proceedings of the eco-AWAM International Conference on Civil Engineering 2015 (eco-AICCE'15)*, Kuala Lumpur, Malaysia, September 9-11, 2015, Trans Tech Publications Inc: Switzerland, pp. 357-362. (ISBN: 13 978-3-03835-619-6)
3. Aziz, MMA, Hamad, AW, Maleka, AM & **Jakarni, FM** 2015, 'Effect of Viscoelastic Behaviour of Cellulose Oil Palm Fiber (COPF) Modified 60-70 Asphalt Binder for Deterioration for Roads and Highways', in *World Virtual Conference on Applied Sciences and Engineering Applications*, Universiti Teknologi Malaysia, Johor, Malaysia, March 27-29, 2015, Penerbit Akademia Baru: Johor. (Article Number: WVCASEA2015-ID-052).
4. Muniandy, R, **Jakarni, FM**, Hassim, S & Selim, A 2008, 'Determination of SMA Slab Properties Using a Newly Developed Roller Compactor (Turamesin)', in LF Cohn (ed.), *Transportation and Development Innovative Best Practices 2008: Proceedings of the First International Symposium, Beijing, China, April 24-26, 2008*, American Society of Civil Engineers: Virginia, pp. 505-510

Seminar Papers Presented (Orally)

1. Akraym, HM, Muniandy, R, **Jakarni, FM** & Hassim, S 2023, 'Study influence of gradation limit at interface shear strength between double asphalt layer specimens using a new direct shear device', paper presented to the *13th International Conference on Road and Airfield Pavement Technology (13th ICPT 2023)*, Beijing, China, July 06-08, 2023.
2. Eldeek, MI, ¹**Jakarni, FM**, Muniandy, R & Hassim, S 2022, 'Utilization of waste cooking oil as a sustainable product to improve the physical and rheological properties of asphalt binder: A review', paper presented to the *12th International Conference on Road and Airfield Pavement Technology (12th ICPT 2021)*, Colombo, Sri Lanka, July 14-15, 2021.
3. Ben Zair, MM, ¹**Jakarni, FM**, Muniandy, R, Hassim, S & Ansari, AH 2022, 'A brief review: Application of recycled polyethylene terephthalate as a modifier for asphalt binder', paper presented to the *12th International Conference on Road and Airfield Pavement Technology (12th ICPT 2021)*, Colombo, Sri Lanka, July 14-15, 2021.

4. Ansari, AH, ¹**Jakarni, FM**, Muniandy, R, Hassim, S, Elahi, Z & Ben Zair, MM 2022, 'Physical and rheological properties of cup lump rubber modified bitumen', paper presented to the 12th *International Conference on Road and Airfield Pavement Technology (12th ICPT 2021)*, Colombo, Sri Lanka, July 14-15, 2021.
5. Ansari, AH, ¹**Jakarni, FM**, Muniandy, R & Hassim, S 2019, 'A review on the application of natural rubber as asphalt modifier', paper presented to the 11th *International Conference on Road and Airfield Pavement Technology (11th ICPT 2019) Steering A Global Pavement Sustainability Through Engineering Marvels*, Seri Pacific Hotel, Kuala Lumpur, Malaysia, July 10-12, 2019.
6. Malhas, Y, ¹Muniandy, R, Hassim, S & **Jakarni, FM** 2021, 'Establishing stress boundaries for various loading and pavement configuration', paper presented to the 11th *International Conference on Road and Airfield Pavement Technology (11th ICPT 2019) Steering A Global Pavement Sustainability Through Engineering Marvels*, Seri Pacific Hotel, Kuala Lumpur, Malaysia, July 10-12, 2019.
7. Al-Humairi, SFI, Alias, AH, Haron, NA, Hassim, S & **Jakarni, FM** 2021, 'Sustainable pavement: A review on the usage of pavement as a mitigation strategy for UHI', , paper presented to the 11th *International Conference on Road and Airfield Pavement Technology (11th ICPT 2019) Steering A Global Pavement Sustainability Through Engineering Marvels*, Seri Pacific Hotel, Kuala Lumpur, Malaysia, July 10-12, 2019.
8. ¹**Jakarni, FM**, Muniandy, R & Hassim, S 2019 **Keynote Address** entitled 'Moisture Damage Performance of Asphalt Mixtures Based on Fundamental Properties of Aggregates-Bitumen Interaction', paper presented to the *Proceedings of Second International Conference on Civil, Structural and Environmental Engineering (ICSEE-2019)*, KSR College of Engineering, Tamil Nadu, India, March 15, 2019.
9. ¹Taib, A, ¹**Jakarni, FM**, Rosli, MF, Yusoff, NIM & Aziz, MA 2019, 'Comparative study of moisture damage performance test', paper presented to the 10th *Malaysian Road Conference and Exhibition 2018 and PIARC International Seminar on Asset Management*, Sunway Pyramid Convention Centre: Selangor, Malaysia, October 29-31, 2018.
10. Bi, YC & **Jakarni, FM** 2019, 'Evaluating properties of wood ash modified asphalt mixtures', paper presented to the 10th *Malaysian Road Conference and Exhibition 2018 and PIARC International Seminar on Asset Management*, Sunway Pyramid Convention Centre: Selangor, Malaysia, October 29-31, 2018.
11. Liew, PW, Muniandy, R, **Jakarni, FM** & Hassim, S 2019, 'Capability of chained interlocking plastic beads in enhancing properties of dense bituminous macadam', paper presented to the 10th *Malaysian Road Conference and Exhibition 2018 and PIARC International Seminar on Asset Management*, Sunway Pyramid Convention Centre: Selangor, Malaysia, October 29-31, 2018.
12. Al-ammari, MAS, **Jakarni, FM**, Muniandy, R & Hassim, S 2019, 'The effect of aggregate and compaction method on the physical properties of hot mix asphalt', paper presented to the 10th *Malaysian Road Conference and Exhibition 2018 and PIARC International Seminar on Asset Management*, Sunway Pyramid Convention Centre: Selangor, Malaysia, October 29-31, 2018.
13. Radzi, HM, Muniandy, R, Hassim, S, Law, TH & **Jakarni, FM** 2019, 'An overview of asphalt mix design using various compactors', paper presented to the 10th *Malaysian Road Conference and Exhibition 2018 and PIARC International Seminar on Asset Management*, Sunway Pyramid Convention Centre: Selangor, Malaysia, October 29-31, 2018.
14. Ng, CP, Law, TH, **Jakarni, FM** & Kulanthayan, S 2019, 'Road infrastructure development and economic growth', paper presented to the 10th *Malaysian Road Conference and Exhibition 2018 and PIARC International Seminar on Asset Management*, Sunway Pyramid Convention Centre: Selangor, Malaysia, October 29-31, 2018.



15. **Jakarni, FM**, Safaeldeen, GI, Muniandy, R & Hassim, S 2017 'Effect of compaction on degradation of crushed concrete used as partial aggregate substitute in asphalt mixtures' paper presented to the *Global Civil Engineering Conference (GCEC2017)*, Seri Pacific Hotel, Kuala Lumpur, Malaysia, July 26-27, 2017.
16. Muniandy, R, Yousif, RA, Hassim, S & **Jakarni, FM** 2017 'Influence of polymer and aged binder on the physical and rheological properties' paper presented to the *Global Civil Engineering Conference (GCEC2017)*, Seri Pacific Hotel, Kuala Lumpur, Malaysia, July 26-27, 2017.
17. Tayh, SA, Muniandy, R, Hassim, S & **Jakarni, FM** 2017 'Chemical analysis and consistency characterisation of domestic waste bio-asphalt' paper presented to the *Global Civil Engineering Conference (GCEC2017)*, Seri Pacific Hotel, Kuala Lumpur, Malaysia, July 26-27, 2017.
18. Rosli, MF, **Jakarni, FM**, Yusoff, NIM & Aziz, MMA 2015 'Moisture damage performance tests of asphalt mixtures: A review', in *National Postgraduate Conference on Engineering and Technology, Kuala Lumpur, Malaysia, September 11-12, 2015*, Malaysian Postgraduate Conference Network: Selangor, 2015.
19. Omar, HA, Yusoff, NIM, Sajuri, Z, Ceylan, H, **Jakarni, FM** & Ismail, A 2015, 'Evaluation of Bonding Strength of Unmodified and Modified Binders Using the Pull-off Test Method', paper presented to the *9th International Conference on Road and Airfield*, Dalian, China, August 9-13, 2015.

Note: ¹As corresponding author

Other Presentation (Poster/Product/Exhibition/Showcase)

1. ¹**Jakarni, FM**, Elahi, Z, Muniandy, R, Hassim, S, Ansari, AH & Ab Razak, MS 2023, 'Waste Cooking Oil Granulate AS Asphalt Binder Additive (WCOG)', product exhibited at *IENA International Trade Fair, Ideas, Inventions and New Products*, Nuremberg Exhibition Centre, Nuremberg, Germany, October 28-30, 2023.
2. ¹**Jakarni, FM**, Elahi, Z, Muniandy, R, Hassim, S, Ansari, AH & Ab Razak, MS 2023, 'Waste Cooking Oil Granulate AS Asphalt Binder Additive (WCOG)', product exhibited at *Engineering Innovation and Exhibition (EIE 2023)*, Faculty of Engineering, Universiti Putra Malaysia, Malaysia, July 25, 2023.
3. ¹**Jakarni, FM**, Ben Zair, MM, Muniandy, R & Hassim, S 2022, 'Fractionalised Polyethylene Terephthalate (PET) as Aggregate to Reinforce Interlocking of Asphalt Pavement', product exhibited at *11th Malaysian Road Conference and Exhibition 2022*, World Trade Centre, Kuala Lumpur, Malaysia, October 11-13, 2022.
4. ¹**Jakarni, FM**, Ansari, AH, Muniandy R & Hassim, S 2022, 'Cuplump Rubber Gel (CRG) as Additive for Bitumen', product exhibited at *11th Malaysian Road Conference and Exhibition 2022*, World Trade Centre, Kuala Lumpur, Malaysia, October 11-13, 2022.
5. ¹**Jakarni, FM**, Elahi, Z, Muniandy, R & Hassim, S 2022, 'Waste Cooking Oil Granulate as Aphalt Binder Additive', product exhibited at *11th Malaysian Road Conference and Exhibition 2022*, World Trade Centre, Kuala Lumpur, Malaysia, October 11-13, 2022.
6. ¹**Jakarni, FM**, Embah, DHL, Muniandy, R & Hassim, S 2022, 'A Novel Asphalt Mixture Pull Out Test Device', product exhibited at *11th Malaysian Road Conference and Exhibition 2022*, World Trade Centre, Kuala Lumpur, Malaysia, October 11-13, 2022.
7. ¹**Jakarni, FM**, Embah, DHL, Muniandy, R, Hassim, S & Yusoff, NIM 2018, 'Laboratory Adhesion Test Method for Asphalt Mixtures Using INSTRON Servo Hydraulic Frame', product exhibited at *10th Malaysian Road Conference and Exhibition 2018 - Invention and Innovation Exhibition (MRC-IIE 2018)*, Sunway Pyramid Convention Centre, Selangor, Malaysia, October 29-31, 2018.
8. Daud, NNN, **Jakarni, FM** & Jalil, FNA 2018, 'Natural Fiber Soil Filler', product exhibited at *10th Malaysian Road Conference and Exhibition 2018 - Invention and Innovation Exhibition (MRC-IIE 2018)*, Sunway Pyramid Convention Centre, Selangor, Malaysia, October 29-31, 2018.



9. ¹**Jakarni, FM**, Muniandy, R & Hassim, S 2014, 'Dynamic Beam Compactor for Asphalt Mixtures and Soils', product exhibited at *Malaysian Road Conference Invention and Innovation Exhibition (MRC-IIE) 2014*, Sunway Pyramid Convention Centre, Selangor, Malaysia, November 10-12, 2014.
10. ¹**Jakarni, FM**, Airey, GD, Grenfell, JRA & Collop, AC 2008, 'Evaluation of adhesion properties of asphalt mixtures', poster presented to the *Young European Arena of Research (YEAR) 2008*, *Transport Research Arena (TRA) Conference*, Ljubljana, Slovenia, April 21-24, 2008.

Note: ¹As corresponding author

Research Grants

No	Year Start	Year End	Description	Funding Body
1	2023	2024	Research Title: Insentif Pemerkasaan Penerbitan Jurnal 2023 (Bagi Penerbitan Tahun 2022) Role: Project Leader Major Output: Research Reports and Journal Articles	Geran Putra Inisiatif (GPI) Universiti Putra Malaysia RM10,000
2	2021	2023	Research Title: Formulation of Fiber Mastic Asphalt using Lembaga Getah Malaysia (LGM) Cuplump Asphalt Binder Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy) Major Output: Research/Consultation Reports	Lembaga Getah Malaysia (LGM) RM50,000
3	2021	Date	Research Title: Use of Non-Segregated Plastic Waste as a Binder for Road Pavement Mixture Role: Project Leader Major Output: MOA/MOU, Research/Consultation Reports and Journal Articles	Shell Research Limited UK RM132,360
4	2021	2023	Research Title: Deterioration Model Development for UPM's Fiber Mastic Asphalt for Ethiopian Roads (Project Leader: Professor Ir Dr Ratnasamy Muniandy) Major Output: MOA/MOU, Research/Consultation Reports and Journal Articles	HVT-UK & University of Birmingham RM220,780
5	2020	Date	Research Title: Development of Waste Plastic Modified Bitumen for Road Application Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy) Major Output: MOA/MOU, Research/Consultation Reports and Journal Articles	Petronas RM1,216,853.50
6	2019	2020	Research Title: Characterisation of Natural Rubber Modified Asphalt Binders and Emulsion to Match Skeletal Aggregate Matrix for Use on Heavily Tracked Roads Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy) Major Output: Research Reports and Journal Articles	Jabatan Pengajian Tinggi, Kementerian Pendidikan Malaysia Skim Geran Penyelidikan Fundamental (FRGS) Fasa 1/2018 FRGS/1/2018/TK08/UP M/01/1 RM82,000

7	2017	2020	<p>Research Title: Evaluation of Moisture Damage Performance of Asphalt Mixtures in Thin Films Based on Fundamental Properties of Aggregates-Bitumen Interaction</p> <p>Role: Project Leader</p> <p>Major Output: Research Reports and Journal Articles</p>	<p>Jabatan Pengajian Tinggi, Kementerian Pendidikan Malaysia</p> <p>Skim Geran Penyelidikan Fundamental (FRGS) Fasa 1/2017</p> <p>FRGS/1/2017/TK06/UP M/02/1</p> <p>RM78,200</p>
8	2015	2017	<p>Research Title: Determination of Resilient Modulus of Road Pavement Overlays Using Miniature Core Specimens</p> <p>Role: Research Member</p> <p>(Project Leader: Professor Ir Dr Ratnasamy Muniandy)</p> <p>Major Output: Research Reports and Journal Articles</p>	<p>Jabatan Pengajian Tinggi, Kementerian Pendidikan Malaysia</p> <p>Skim Geran Penyelidikan Fundamental (FRGS) Fasa 1/2015</p> <p>FRGS/1/2015/TK08/UP M/01/1</p> <p>RM91,200</p>
9	2015	2015	<p>Research Title: Program Amal Membina dan Membaiki Rumah: 24 Jam 1 Rumah 2015</p> <p>Role: Research Member</p> <p>(Project Leader: Dr Syazwani Idrus)</p> <p>Major Output: Knowledge Transfer</p>	<p>Pusat Transformasi Komuniti Universiti (UCTC) Universiti Putra Malaysia</p> <p>Skim Dana UCTC NBOS Bil 1 Tahun 2015</p> <p>UCTCF-05-15-006</p> <p>RM86,000</p>
10	2014	2016	<p>Research Title: Determination of Adhesive Behaviour and Failure Characteristics of Asphalt Mixtures</p> <p>Role: Project Leader</p> <p>Major Output: Research Reports and Journal Articles</p>	<p>Jabatan Pengajian Tinggi, Kementerian Pendidikan Malaysia</p> <p>Skim Geran Penyelidikan Fundamental (FRGS) Fasa 1/2014</p> <p>FRGS/1/2014/TK02/UP M/02/1</p> <p>RM89,700</p>
11	2013	2016	<p>Research Title: Adhesive Failure Characteristics of Unmodified and Polymer-Modified Bitumen Due to Moisture Damage and Ageing Problems</p> <p>Role: Research Member</p> <p>(Project Leader: Ir Dr Nur Izzi Mohd Yusoff)</p>	<p>Jabatan Pengajian Tinggi, Kementerian Pendidikan Malaysia</p> <p>Skim Geran Penyelidikan Fundamental (FRGS) Pindaan 1/2012</p> <p>FRGS/2/2013/SG06/UK M/02/8</p> <p>RM108,000</p>
12	2013	2018	<p>Research Title: Development of Axle Load Spectra to Enhance Pavement Design and Performance for Malaysian Expressway</p> <p>Role: Research Member</p> <p>(Project Leader: Professor Ir Dr Ratnasamy Muniandy)</p>	<p>Lembaga Lebuhraya Malaysia (LLM)</p> <p>RM173,000</p>

13	2013	2015	Research Title: Pilot Scale Production and Road Field Trial of the Newly Developed Interlocking Plastic Bead Chains Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy)	Jabatan Pengajian Tinggi, Kementerian Pendidikan Malaysia Skim Geran Penyelidikan Pembangunan Prototaip (PRGS) Fasa 1/2013 PRGS/1/2013/TK08/UP M/01/1 RM275,000
14	2013	2015	Research Title: Establishing a New Protocol for the Determination of Asphalt Binder Complex Shear Modulus Through the Use of Microwave Principle Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy)	Jabatan Pengajian Tinggi, Kementerian Pendidikan Malaysia Skim Geran Penyelidikan Fundamental (FRGS) Fasa 1/2013 FRGS/1/2012/TK03/UP M/01/2 RM82,000
15	2012	2014	Research Title: Potential Use of Wave Forms in the Determination of the Rheological Properties of Asphalt Binder and Cement Materials Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy)	Jabatan Pengajian Tinggi, Kementerian Pendidikan Malaysia Skim Geran Penyelidikan Fundamental (FRGS) Pindaan 1/2012 RM136,000
16	2009	2012	Research Title: Predicting and Enhancing the Moisture Damage Performance of Asphalt Mixtures Role: Research Assistant	Engineering and Physical Sciences Research Council (EPSRC) United Kingdom

Awards / Recognition

No	Award/Recognition	Organisation Awarded	Date
1	Gold Medal for innovative 'Waste Cooking Oil Granulate AS Asphalt Binder Additive (WCOG)' at the <i>IENA International Trade Fair, Ideas, Inventions and New Products</i> , Nuremberg Exhibition Centre, Nuremberg, Germany	IENA International Trade Fair, Ideas, Inventions and New Products	2023
2	Gold Medal for innovative 'Waste Cooking Oil Granulate AS Asphalt Binder Additive (WCOG)' at the <i>Engineering Innovation and Exhibition (EIE 2023)</i> , Faculty of Engineering, Universiti Putra Malaysia, Malaysia	Faculty of Engineering, Universiti Putra Malaysia,	2023
3	Anugerah Perkhidmatan Cemerlang (Kuota Pentadbir Akademik (Ketua Jabatan)) Sempena Majlis Gemilang Putra (MGP) 2023	Universiti Putra Malaysia	2023

4	Gold Medal for innovative 'Fractionalised Polyethylene Terephthalate (PET) as Aggregate to Reinforce Interlocking of Asphalt Pavement' at the <i>11th Malaysian Road Conference and Exhibition 2022</i> , World Trade Centre, Kuala Lumpur, Malaysia	11 th Malaysian Road Conference and Exhibition 2022	2022
5	Gold Medal for innovative 'Cuplump Rubber Gel (CRG) as Additive for Bitumen' at the <i>11th Malaysian Road Conference and Exhibition 2022</i> , World Trade Centre, Kuala Lumpur, Malaysia	11 th Malaysian Road Conference and Exhibition 2022	2022
6	Silver Medal for innovative 'Waste Cooking Oil Granulate as Asphalt Binder Additive' at the <i>11th Malaysian Road Conference and Exhibition 2022</i> , World Trade Centre, Kuala Lumpur, Malaysia	11 th Malaysian Road Conference and Exhibition 2022	2022
7	Silver Medal for innovative 'A Novel Asphalt Mixture Pull Out Test Device' at the <i>11th Malaysian Road Conference and Exhibition 2022</i> , World Trade Centre, Kuala Lumpur, Malaysia	11 th Malaysian Road Conference and Exhibition 2022	2022
8	Projek Jaringan Industri dan Komuniti Berimpak Tinggi Tahun 2022 – Makmal UPM-Bentley BIM (Civil Design: Openroads Software) bersama Bentley Advancing Infrastructure	Universiti Putra Malaysia	2022
9	Projek Jaringan Industri dan Komuniti Berimpak Tinggi Tahun 2021 – Makmal UPM-Bentley BIM (Civil Design: Openroads Software) bersama Bentley Advancing Infrastructure	Universiti Putra Malaysia	2021
10	Projek Jaringan Industri dan Komuniti Berimpak Tinggi Tahun 2020 – Makmal UPM-Bentley BIM (Civil Design: Openroads Software) bersama Bentley Advancing Infrastructure	Universiti Putra Malaysia	2020
11	Top 10% Journal Publications March 2020	Universiti Putra Malaysia	2020
12	Anugerah Jaringan Industri dan Komuniti Berimpak Tinggi 2019: Projek Komuniti Berimpak Tinggi 2018 – Program Pengukuhan STEM (Kejuruteraan) Murid Sekolah Orang Asli (STEM-MOA) Bersama Islamic Relief	Universiti Putra Malaysia	2019
13	Road Ecology: Transportation Infrastructure and Wildlife Conservation, The Sheraton Petaling Jaya, Malaysia	Association of Consulting Engineers Malaysia (ACEM), Malaysia	April 9-10, 2019
14	Jemputan Sesi Pembentangan Bagi Ringkasan Teknologi dan Inovasi Yang Diketengahkan dari 10 th Malaysian Road Conference (MRC) & PIARC Seminar	Bahagian Dasar dan Antarabangsa, Kementerian Kerja Raya	February 18, 2019
15	Chief Guest Address and Keynote Speaker for Second International Conference on Civil, Structural and Environmental Engineering (ICSEE 19), Department of Civil Engineering, KSR College of Engineering, Tiruchengode, Tamil Nadu, India	Department of Civil Engineering, KSR College of Engineering, Tiruchengode, Tamil Nadu, India	Mac 15, 2019
16	Anugerah Kecemerlangan Dalam Pengajaran (Pra Siswazah) Semester I 2018/2019 Sempena Program Inovasi dan Apresiasi 2018	Faculty of Engineering, Universiti Putra Malaysia, Malaysia	2018



17	Anugerah Kecemerlangan Dalam Pengajaran (Pasca Siswazah) Semester II 2017/2018 Sempena Program Inovasi dan Apresiasi 2018	Faculty of Engineering, Universiti Putra Malaysia, Malaysia	2018
18	Anugerah Kecemerlangan Dalam Pengajaran (Pra Siswazah) Semester II 2017/2018 Sempena Program Inovasi dan Apresiasi 2018	Faculty of Engineering, Universiti Putra Malaysia, Malaysia	2018
19	External Examiner – Doctor of Philosophy (Kamaraj C) entitled 'Studies on Performance Characteristics of Bituminous Mix using Leather Industry Solid Wastes'	Anna University, Chennai, India	2018
20	Member of the Technical Committee for the 11 th International Conference on Road and Airfield Pavement Technology 2019 (11 th ICPT 2019)	Steering Committee Members of the International Committee on Pavement Technology (ICPT)	2018-2019
21	Certificate of Attendances of 10 th Malaysian Road Conference and Exhibition 2018 and PIARC International Seminar on Asset Management, Sunway Pyramid Convention Centre, Selangor, Malaysia	10 th Malaysian Road Conference and Exhibition 2018 and PIARC International Seminar on Asset Management	October 29-31, 2018
22	Certificate of Appreciation Towards the Success of 10 th Malaysian Road Conference and Exhibition 2018 and PIARC International Seminar on Asset Management, Sunway Pyramid Convention Centre, Selangor, Malaysia	10 th Malaysian Road Conference and Exhibition 2018 and PIARC International Seminar on Asset Management	October 29-31, 2018
23	Bronze Award MRC-IIE 2018 for innovative entitled 'Natural Fiber Soil Filler' at the <i>Malaysian Road Conference Invention and Innovation Exhibition (MRC-IIE) 2018</i> , Sunway Pyramid Convention Centre, Selangor, Malaysia	10 th Malaysian Road Conference and Exhibition 2018	October 29-31, 2018
24	Certificate of Participation for MRC-IIE 2018 for innovative entitled 'Laboratory Adhesion Test Method for Asphalt Mixtures Using INSTRON Servo Hydraulic Frame' at the <i>Malaysian Road Conference Invention and Innovation Exhibition (MRC-IIE) 2018</i> , Sunway Pyramid Convention Centre, Selangor, Malaysia	10 th Malaysian Road Conference and Exhibition 2018	October 29-31, 2018
25	Fasilitator dan Sukarelawan Program Pengukuhan STEM (Kejuruteraan) Murid Sekolah Orang Asli (STEM-MOA) Modul 4: Keselamatan dan Kesihatan, Sekolah Kebangsaan Buluh Nipis, Muadzam Shah, Pahang	Islamic Relief Malaysia (IRM), Malaysia <i>Collaboration with Faculty of Engineering, Universiti Putra Malaysia, Malaysia</i>	July 5-7, 2018
26	Seminar on Klang Valley Mass Rapid Transit (MRT) Project: Knowledge Sharing, Dewan CREaTE, Alor Gajah, Melaka	Pusat Kecemerlangan Kejuruteraan dan Teknologi JKR (CREaTE), Jabatan Kerja Raya Malaysia (JKR), Malaysia	Mac 14-15, 2018
27	Anugerah Perkhidmatan Cemerlang Tahun 2017	Universiti Putra Malaysia, Malaysia	2017
28	Anugerah Kecemerlangan Dalam Pengajaran Sempena Program Inovasi dan Apresiasi 2017	Faculty of Engineering, Universiti Putra Malaysia, Malaysia	2017

29	Member of Technical Programme Committee for 10 th Malaysian Road Conference (MRC) and Exhibition 2018 / PIARC International Seminar on Asset Management, 2018	Road Engineering Association of Malaysia (REAM)	2017-2019
30	Certificate of Appreciation – Support towards Nature Conservation in Malaysia	WWF Malaysia	2017
31	Third Place (Role: Supervisor & Name of Student: Nurfazira Abdul Aziz) for student's poster presentation entitled 'Evaluation of Hot Mix Asphalt (HMA) Performance with Waste Polyethylene Terephthalate (PET) Plastic Bottle as Reinforcement' at the <i>Final Year Project Competition – Exhibition and Carnival</i>	Faculty of Engineering, Universiti Putra Malaysia, Malaysia	2017
32	Program Gotong Royong dan Penyerahan Barang Keperluan Asas Kepada Masyarakat Orang Asli Bersempena Rakaman Video Penutup Projek Amal Pembinaan 2 Unit Rumah Orang Asli (Projek University Community Transformation Centre NBOS KPT: UCTCF-05-15-006)	Department of Civil Engineering, Faculty of Engineering, Universiti Putra Malaysia, Malaysia <i>Collaboration with Jabatan Kemajuan Orang Asli</i>	2017
33	External Examiner – Master of Philosophy (Rezaul Karim Bhuiya) entitled 'Modification of Bitumen Binder by Using Animal Fat Oil'	Universiti Teknologi Malaysia, Malaysia	2017
34	Committee Member of REAM Research and Development Committee for the Term 2017-2019	Road Engineering Association of Malaysia (REAM)	2017-2019
35	Conference Participant of Global Civil Engineering Conference (GCEC2017), Seri Pacific Hotel, Kuala Lumpur, Malaysia, July 26-27, 2017	Global Civil Engineering Conference (GCEC2017), Department of Civil Engineering, Faculty of Engineering, Universiti Putra Malaysia, Malaysia	July 26-27, 2017
36	Executive Committee of Global Civil Engineering Conference (GCEC2017), Seri Pacific Hotel, Kuala Lumpur, Malaysia, July 26-27, 2017	Global Civil Engineering Conference (GCEC2017), Department of Civil Engineering, Faculty of Engineering, Universiti Putra Malaysia, Malaysia	July 26-27, 2017
37	Session Chairperson for Parallel Session 2.5 (THE) in Global Civil Engineering Conference (GCEC2017), Seri Pacific Hotel, Kuala Lumpur, Malaysia, July 26-27, 2017	Global Civil Engineering Conference (GCEC2017), Department of Civil Engineering, Faculty of Engineering, Universiti Putra Malaysia, Malaysia	July 26-27, 2017
38	External Judge for Final Year Project Competition 2017 by College of Engineering, Universiti Tenaga Nasional (UNITEN)	College of Engineering, Universiti Tenaga Nasional (UNITEN)	February 24, 2017
39	Anugerah Perkhidmatan Cemerlang Tahun 2016	Universiti Putra Malaysia, Malaysia	2016
40	Anugerah Jaringan Industri dan Komuniti Berimpak Tinggi 2016 – Projek Industri Lima Bintang entitled 'Memorandum Perjanjian (MoA) Development of Axle Load Spectrum to Enhance Pavement Design and	Universiti Putra Malaysia, Malaysia	2016

	Performance for Malaysian Expressway bersama Lembaga Lebuhraya Malaysia		
41	Panel Penilai Jurnal Kejuruteraan Universiti Kebangsaan Malaysia (UKM) – ‘The Effects of Moisture Damage on Asphalt Mixture Modified with Various Additives’	Department of Civil and Structural Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia, Malaysia	2016
42	Third Place (Role: Supervisor & Name of Student: Jasmin Izzaty Mohamad Naraj) for student’s poster presentation entitled ‘Influence of Natural Rubber Latex as Modifier on Physical Properties of Bitumen’ at the <i>Final Year Project Competition – Exhibition and Carnival</i>	Faculty of Engineering, Universiti Putra Malaysia, Malaysia	2016
43	Ahli Jawatankuasa Penganjuran Majlis Penyerahan Kunci 2 Unit Rumah Orang Asli (Projek University Community Transformation Centre NBOS KPT: UCTCF-05-15-006) Bersempena Majlis Hari Raya Aidilfitri Jabatan Kemajuan Orang Asli Peringkat Negeri Selangor dan Wilayah Persekutuan	Department of Civil Engineering, Faculty of Engineering, Universiti Putra Malaysia, Malaysia <i>Collaboration with Ahmad Zaki Resources Berhad and Jabatan Kemajuan Orang Asli</i>	2016
44	Anugerah Kecemerlangan Dalam Pengajaran Sempena Program Inovasi dan Apresiasi 2016	Faculty of Engineering, Universiti Putra Malaysia, Malaysia	2016
45	Ahli Jawatankuasa Majlis Bersama Alumni Sempena 30 Tahun Jabatan Kejuruteraan Awam	Department of Civil Engineering, Faculty of Engineering, Universiti Putra Malaysia, Malaysia	2016
46	Pembentangan Hasil Kajian dan Perbincangan dengan Pihak Berkepakaran (Expert Discussion) – Kajian ‘Development of Axle Load Spectra to Enhance Pavement Design and Performance for Malaysian Expressway’, A’ Famosa Resort, Melaka, Malaysia	Lembaga Lebuhraya Malaysia	2016
47	Program Amal Pembinaan Rumah Orang Asli (Projek University Community Transformation Centre NBOS KPT: UCTCF-05-15-006) Bertempat di Kampung Kachau Luar, Semenyih, Selangor	Department of Civil Engineering, Faculty of Engineering, Universiti Putra Malaysia, Malaysia <i>Collaboration with Ahmad Zaki Resources Berhad and Jabatan Kemajuan Orang Asli</i>	2016
48	Anugerah Perkhidmatan Cemerlang Tahun 2015	Universiti Putra Malaysia, Malaysia	2015
49	Letter of Appreciation as Reviewer for <i>International Conference on Advance Science, Engineering and Technology (ICASET) 2015: Advanced Science, Technology and Engineering: Lighting the Way Towards Sustainable Future</i> , Penang, Malaysia	International Conference on Advance Science, Engineering and Technology (ICASET) 2015	2015

50	Student's Final Year Project Award 2015 (Role: Supervisor & Name of Student: Nur Syafira Nasarudin) – Highway and Transportation for project entitled 'Software Development of Marshall Mix Design' at <i>Majlis Kecemerlangan Graduan Fakulti Kejuruteraan Sesi 2014/2015</i>	Faculty of Engineering, Universiti Putra Malaysia, Malaysia	2015
51	Subcommittee for reviewing and updating Arahan Teknik Jalan (ATJ) 2D/85: Manual on Traffic Control Devices: Road Marking and Delineation by Public Works Department of Malaysia (Road Branch)	Public Works Department of Malaysia (Road Branch)	2015
52	Expert Panel for China Press for newspaper article entitled ' <i>Menggunakan Getah Asli Untuk Pembinaan Jalanraya</i> '	China Press, Malaysia	2014
53	Expert Panel for Projek Lebuhraya Usahasama Berhad (PLUS Berhad) and AUFA Intelligence Sdn. Bhd. For survey entitled ' <i>Kutipan Tol Secara Elektronik Kendalian Projek Lebuhraya Usahasama Berhad (PLUS Berhad)</i> '	Projek Lebuhraya Usahasama Berhad (PLUS Berhad) and AUFA Intelligence Sdn Bhd	2014
54	Expert Panel for Board of Engineers Malaysia (BEM) for survey entitled 'Survey on Implementation of Eurocodes (MS EN) in Malaysia'	Publication Unit, Board of Engineers Malaysia	2014
55	Second Place (Role: Supervisor & Name of Student: Nur Syafiqah Binti Ismail) for student's poster presentation entitled 'A Review on Literature and Research on Perceptions Relating to Utilization of Recycled and Waste Materials in Malaysian Pavement Construction' at <i>Final Year Project Competition – Exhibition and Carnival</i>	Faculty of Engineering, Universiti Putra Malaysia, Malaysia	2014
56	External Examiner – Thesis for Master of Civil Engineering (Charles Begyina Kodjo Nketsiah – 111907129) entitled 'Using Coal Bottom Ash as A Flexible Pavement Material for Road Construction in Malaysia'	Infrastructure University Kuala Lumpur, Malaysia	2014
57	Silver Award for product exhibition entitled 'Dynamic Beam Compactor for Asphalt Mixtures and Soils' at the <i>Malaysian Road Conference Invention and Innovation Exhibition (MRC-IIE) 2014</i> , Sunway Pyramid Convention Centre, Selangor, Malaysia	9 th Malaysian Road Conference 2014 / MRC-IIE 2014	November 10-12, 2014
58	Student's Final Year Project Award 2014 (Role: Supervisor & Name of Student: Nabilah Najihah Binti Khalidbiniwalid) – Highway and Transportation for project entitled 'Recycled Crushed Concrete Aggregates as Aggregates Substitutes in Stone Mastic Asphalt' at <i>Majlis Kecemerlangan Graduan Fakulti Kejuruteraan Sesi 2013/2014</i>	Faculty of Engineering, Universiti Putra Malaysia, Malaysia	October 31, 2014
59	Silver Medal under the pillar of Infrastructure, Design and Production for poster presentation entitled 'Evaluation of adhesion properties of asphalt mixtures' at the <i>Young European Arena of Research (YEAR) 2008, Transport Research Arena (TRA) Conference</i> , Ljubljana, Slovenia	Transport Research Arena	April 21-24, 2008



60	Perunding Bersatu Prize for the Best Overall Academic Performance for the Graduating Student in Bachelor of Engineering (BEng) in Civil Session 2003/2004	Faculty of Engineering, Universiti Putra Malaysia, Malaysia	April 13, 2005
61	Bronze Medal for Invention / Innovation of Product entitled 'Dynamic beam compactor for asphalt and soil' at the <i>Pameran Reka Cipta, Penyelidikan dan Inovasi UPM 2005</i>	Universiti Putra Malaysia, Malaysia	March 2005
62	Certificate of Academic Excellence Semester 2002/2003	Universiti Putra Malaysia, Malaysia	2003

Professional Services / Consultation

No	Year Start	Year End	Description	Organisation
1	2022	2023	Research Title: SUKE - Independent Assessment on Completed ACWC @ CB3 and CB4 Regarding Presence of White Blemishes Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy) Major Output: Research/Consultation Reports	HSS Integrated Sdn Bhd & Cantilever Bumi Sdn Bhd RM30,000
2	2021	2022	Research Title: Development of Limestone Asphalt Mixture Design (Project Leader: Professor Ir Dr Ratnasamy Muniandy) Major Output: Research/Consultation Reports	Seri Barat Mixed Sdn Bhd RM50,000
3	2019	Date	Research Title: Memorandum of Understanding (MoU) and Research Working Groups with Kajang Rock (M) Sdn Bhd Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy) Major Output: Knowledge Transfer and Research Reports	<i>Working Collaboration</i> with Kajang Rock (M) Sdn Bhd
4	2018	2018	Research Title: Program Pengukuhan STEM (Kejuruteraan) Murid Sekolah Orang Asli (STEM-MOA): Modul 4 Keselamatan dan Kesihatan Role: Research Member (Project Leader: Dr Aidi Hizami Ales @ Alias) Major Output: Knowledge Transfer and Community Engagement	Kementerian Pendidikan Malaysia, Universiti Putra Malaysia, Islamic Relief, Sekolah Kebangsaan Buluh Nipis and Pusat Pengurusan Wakaf, Zakat dan Endowmen (WAZAN) UPM
5	2015	2016	Research Title: Aplikasi Teknologi Fiber Mastic Asphalt (FMA) Bagi Kerja Menaiktaraf Jalan Alpha dan Jalan Ladang Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy) Major Output: Knowledge Transfer and Research Reports	Putra Science Park (PSP) Deputy of Vice Chancellor (Research and Innovation) Universiti Putra Malaysia

6	2015	2015	<p>Research Title: Laboratory Test on Polymer Modified Asphalt Binders (PG76) – Report Number 2</p> <p>Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy)</p> <p>Major Output: Research Reports</p>	Blacktop Industries Sdn Bhd
7	2015	2018	<p>Research Title: Usahasama Lembaga Lebuhraya Malaysia (LLM) dan Universiti Putra Malaysia (UPM) Dalam Bidang Pendidikan, Penyelidikan/Kajian dan Latihan Asphalt Binders</p> <p>Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy)</p> <p>Major Output: Research Reports</p>	Lembaga Lebuhraya Malaysia (LLM)
8	2015	2015	<p>Research Title: Laboratory Tests on Polymer Modified Asphalt Binders</p> <p>Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy)</p> <p>Major Output: Research Reports</p>	AG Resources Sdn Bhd
9	2013	2015	<p>Research Title: Axle Load Spectrum Study for Malaysian Expressway</p> <p>Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy)</p> <p>Major Output: Research Reports and Journal Articles</p>	Lembaga Lebuhraya Malaysia (LLM) RM100,000
10	2013	2013	<p>Research Title: Polishing Stone Value</p> <p>Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy)</p>	Sing Sen Ann Quarry Sdn Bhd (Malaysia) RM5,000
11	2013	2013	<p>Research Title: Laboratory Testing of Premix Design Properties</p> <p>Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy)</p>	Grand Chemical Sdn Bhd (Malaysia) RM18,540
12	2013	2013	<p>Research Title: Polymer Modified Binder PG76 Material Test</p> <p>Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy)</p>	Swee Construction Sdn Bhd (Malaysia) RM5,000
13	2013	2013	<p>Research Title: Lab Testing for Premix Properties</p> <p>Role: Research Member (Project Leader: Professor Ir Dr Ratnasamy Muniandy)</p>	Swee Construction Sdn Bhd (Malaysia) RM19,700
14	2012	2012	<p>Research Title: Desk Study Based on the Technical Report Entitled An Overview of the Issues Related to Road Pavement Quality and Defects for the Felda Sahabat Complex, Lahad Datu and Related Documents</p> <p>Role: Research Assistant (Project Leader: Professor Ir Dr Ratnasamy Muniandy)</p>	JTK Consult Sdn. Bhd. (Malaysia)

15	2006	2006	Research Title: Pavement Evaluation and Rehabilitation in Universiti Putra Malaysia Role: Research Assistant (Project Leader: Professor Ir Dr Ratnasamy Muniandy)	Universiti Putra Malaysia (Malaysia)
16	2004	2005	Research Title: Research on High Performance Asphalt Surfacing Materials in Malaysia Role: Research Assistant (Project Leader: Professor Ir Dr Ratnasamy Muniandy)	Scott Wilson (M) Pavement Engineering (Malaysia)

Student Supervision

Student Supervision in Universiti Putra Malaysia

1. Main Supervisor for Doctor of Philosophy (PhD) in Highway and Transportation Engineering

Year	Description	Status
2022	GS64715 Mehmood Raza Title: Performance Evaluation of Waste Engine Oil Modified Asphalt Binder Incorporating With Additional Additives	On Going
2021	GS61855 Khafaja Deya' Al-Den Hayel Hussein Title: Improvement of Asphalt Binder Rheology Using Composite systems of Nano Modifiers	Incomplete
2020	GS59784 Elahi Zafreen Title: Effect of Processing Conditions on the Properties of Modified and Rejuvenated Asphalt Binder Incorporating Waste Cooking Oil	Thesis Submitted
2019	GS55651 Eldeek Mahmoud Ibrahim Mahmoud Title: Waste Cooking Oil Modified Bitumen for Hot Mix Asphalt Incorporating Crushed Glass	Incomplete
2019	GS54753 Ahmed Adnan Hussain Title: Establishing Criteria of Non-Exclusive Motorcycle Lane Along Two-Lane Roads In Malaysia	Incomplete
2018	GS52443 Ben Zair Mohamed Meftah Hasan Title: Utilization of Plastic Waste Materials as Modifiers for Asphalt Mixtures	Completed
2018	GS52876 Anwaar Hazoor Ansari Title: Rural Pavement Construction Design	Completed
2018	GS53002 Diana Humaira Luke Embah Title: Effect of Moisture and Temperature on the Adhesive and Cohesive Bond Strength of Asphalt Mixture	On Going
2017	GS51133 Adaweiah Taib Title: Evaluation of Physical and Rheological Properties of Rubberised Modified Porous Asphalt in Ageing and Moisture-Conditioned	On Going
2017	GS50622 Yazeed Mohammad K Malhas Title: Design and Construction of Asphalt Mixtures using Natural Rubber Latex	On Going
2014	GS40021 Gailan Ismat Safaeldeen Title: Evaluation of Recycled Crushed Concrete As Aggregate Substitute in Asphalt Mixtures	Completed

2. Main Supervisor for Master with Thesis of Master of Science (MSc) in Highway and Transportation Engineering

Year	Description	Status
2021	GS60591 Najua Emelda Hakimi Taib Title: Viscoelastic Behavior of Non Segregated Plastic Waste Modified Binder	On-Going
2017	GS49056 Mohammad Ziad Araksusy Title: Utilization of Waste Plastic Bottles in Asphalt Mixtures	Incomplete
2015	GS42703 Muhammad Fudhail Bin Rosli Title: Comparative Study of Moisture Damage Performance Tests Based on Various Asphalt Mixture Materials	Incomplete

3. Main Supervisor for Master without Thesis of Master of Highway and Transportation Engineering

Year	Description	Status
2023	GS63416 Azman Amir Title: Light Rail Transit (LRT) System Performance in Terms of Service Quality in Klang Valley, Malaysia	Completed
2023	GS60962 Umar Kabiru Dangoma Title: Performance Evaluation of Biomass (Wood Saw Dust Ash) as Partial Replacement of Filler in Stone Mastic Asphalt	Completed
2023	GS60956 Mohammed Iliyasu Title: The Use of Carbonized Rice Husk Modification of Bitumen as Sustainable Technology for Maximum Performance of Flexible Pavement	Completed
2022	GS57710 Gunaletchumi A/P Chandran Title: The Feasibility Study of Bamboo Reinforced Concrete Pavement for Low Volume Traffic	Completed
2022	GS59212 Azrena Suria Binti Abdul Wahid Title: Flexible Pavement Distresses Detection by Using Drone	Completed
2022	GS57381 Alzubady Ahmad Kadem Kareem Title: Performance Evaluation of Waste Styrofoam as A Replacement of Aggregate in Asphalt Mixture	Completed
2022	GS57490 Syed Sarmad Murtaza Title: Use of Coir Geotextile in Unpaved Roads	Completed
2022	GS58389 Muhamad Akram Abd Kadir Title: Comparative-Based Analysis in Geometric Design Modelling for Optimum Traffic Safety	Completed
2022	GS59018 Syamimi Nadira Mohd Nor Title: The Performance of Asphaltic Concrete Properties by Using Fine Recycle Concrete Aggregates	Completed
2021	GS57382 Amir Ashraf Abd Razak Title: The Practice of Building Information Modeling (BIM) for Highway Projects in Malaysia	Completed
2021	GS57840 Osman Abdi Kulane	Completed

	Title: Performance Study of Hot-Applied Sealant or Filler for Asphalt Pavement Cracks	
2021	GS55547 Rafidah Mazlan Title: Comparative Study of Skid Resistance Measurement Using British Pendulum Tester and Dynamic Friction Tester for Various Conditions of Asphalt Mixtures	Completed
2021	GS53970 Raymond Ngu Title: A Review: Crumb Rubber Modified Asphalt	Completed
2020	GS53995 Nur Atiqah Halim Title: Potential Application of Styrofoam in Asphalt Mixture	Completed
2020	GS52601 Bagadeen Abdullah Title: Improving Asphalt Mixes by Using Glass Waste Powder as Filler Mineral	Completed
2020	GS54465 Zafreen Elahi Title: Calculating Physical and Rheological Properties of Different Types of Filler in HMA	Completed
2019	GS51014 Anas Idris Title: A Case Study - Pavement Performance Monitoring And Deterioration Under Traffic Loading At KM P 0.0 Until Km P 2.50 (East Bound) At Jambatan Sultan Abdul Halim Mu'adzam Shah	Completed
2018	GS49648 Norliza Abdullah Title: Effect of Traffic Characteristics and Topological Condition on Pavement Performance and Maintenance Cost: A Comparative Study	Completed
2018	GS48450 Siti Norashikin Yusoff Title: Comparative Analysis of Stormwater Management for Various Surface of Asphalt Mixtures	Completed
2018	GS49547 Bi Yongchao Title: Utilization of Sawdust as Additional Materials in Asphalt Mixtures	Completed
2017	GS47568 Nor Azizah Mohd Zaili Title: Implementation of Building Information Modelling (BIM) Concept in Infrastructure and Construction	Completed
2017	GS46557 Mimie Fazira Mohd Daud Title: Review of the Procedures for Selecting Suitable Treatment for Pavement Maintenance and Rehabilitation	Completed
2017	GS46785 Mutahar Abdulsalam Al-Ammari Title: Effect of Aggregate Type, Gradation and Compaction Method on Physical Properties of Asphalt Mixtures	Completed
2017	GS46762 Nor Haniza Mustafar Kamar Title: Influence of Traffic Flow Rate on the Occurrences of Pavement Distress on Malaysian Highway	Completed
2015	GS39429 Zaid Saad Hadi Title: Evaluation of UPM Roads Using PCI Methods	Completed

4. Main Supervisor for Final Year Project of Bachelor of Engineering (BEng) in Civil

Year	Description	Status
2022/2023	<p>202654 Pravishnu A/L Mahathevan Title: Performance Evaluation of Hot-Mix Asphalt (HMA) by Using Fiber Glass as A Partial Replacement of Fine Aggregate</p> <p>203686 Ailin Irdina Izzati Mishadi Title: Saw Dust Ash as Mineral Filler in Asphalt Mixture</p> <p>200667 Siti Nur Izzah Razman Title: Fly Ash as An Additive to Asphalt Mixture</p>	Completed
2021/2022	<p>198669 Nur Aina Nazirah Noor Azim Title: Study on the Conceptual model of Porous Asphalt Pavement as an Urban Road Rainwater Harvesting System</p> <p>197276 Muhammad Nazri Waehama Title: Understanding Integrated Fare Payment Modes Preference in Developing Context: A Case Study at Klang Valley Integrated Rail Transit</p>	Completed
2020/2021	<p>195300 Nur'izzah Sahirah Samat Title: Study of the Impaction Force of New Guardrails Device</p> <p>193198 Muhammad Noor Hafizi Mohammad Fudzi Title: Pavement Preservation: Application of Recycled Asphalt Pavement using Cold in-Place Recycling (CIR) Method</p> <p>191376 Moaaz Ahmed Hanaa Ahmed Elrayes Title: Comparative Study of Skid Resistance Measurement Based on British Pendulum Method and Dynamic Friction Analyser for Development of Improved Procedures</p> <p>193957 Angela Chieng Chui Fei Title: Comprehensive Review on the Performance Evaluation of Red Mud As Filler in Asphalt Mixture</p>	Completed
2019/2020	<p>187888 Aneesa Mhd Jalil Title: Review study of recycled polyethylene terephthalate (plastic waste) in pavement construction</p> <p>186878 Nur Syamimi Binti Abd Rahman Title: Review study on Effect of Different Filler on Physical Properties of Asphalt Mixtures</p> <p>194994 Farah Syasya Zukrina Ahmad Nazmi Title: Comprehensive Review of Physical Properties and Performance Evaluation of Cement Modified Bitumen Emulsion Mixture</p>	Completed
2018/2019	<p>183710 Raja Nur Nashrah Raja Norma Salim Title: Optimisation of the Use of Reclaimed Concrete Material (RCM) as Aggregate for Low to Medium Traffic Intensity</p> <p>185742 Nurul Farahlisa Bagdad Title: Application of Natural Rubber Latex as Modifier on Physical Properties of Bitumen and Gap-graded Mixture</p>	Completed
2017/2018	<p>178822 Izzat Syazwan Bin Sahudin Title: Utilisation Of Natural Rubber Latex In Modified Porous Asphalt Mixtures</p> <p>177725 Noor Azreen Binti Mohd Noh Title: Development Of Portable Pull-Off Adhesion Test Method For Asphalt Mixtures</p>	Completed

	176800 Nurul Najwa Binti Mohd Rastam Title: Use Of Recycled Plastic Bags In Asphalt Mixtures	
2016/2017	167378 Mohamad Azam Shamsuddin Title: Use of Recycled Plastic Bag in Asphalt Mixtures 173259 Nurfazira Abdul Aziz Title: Evaluation of Hot Mix Asphalt (HMA) Performance with Waste Polyethylene Terephthalate (PET) Plastic Bottle as Reinforcement 172358 Wan Nurhayah Wan Ramlan Title: Utilization of Coconut Shell Fibre as Modifier in Asphalt Mixtures	Completed
2015/2016	168743 Hanaan Mohamad Hassan Title: Utilisation of Natural Rubber Latex in Modified Stone Mastic Asphalt Mixtures 169256 Jasmin Izzaty Mohamad Naraj Title: Influence of Natural Rubber Latex as Modifier on Physical Properties of Bitumen	Completed
2014/2015	165227 Mohd Rabien Bin Mat Husin Title: Measured Effects on Physical Properties of Subgrade Using Waste Material as Stabilizer 164387 Nur Syafira Binti Nasarudin Title: Software Development of Marshall Mix Design 162340 Chia Chen Yang Title: Evaluation of Asphalt Mixtures with Different Proportions of Recycled Crushed Concrete	Completed
2013/2014	159193 Nor Akmar Binti Alias Title: A Review of Physical Testing of Aggregates and Bitumen Used for Asphalt Mixtures 159119 Nabilah Najihah Binti Khalidbiniwalid Title: Recycled Crushed Concrete as Aggregates Substitute in Asphalt Mixtures 157193 Amirul'haj Bin Mohd Yusoff Title: Effect of Additive on Physical Properties of Bitumen 156275 Nur Syafiqah Binti Ismail Title: Case Study: Utilization of Recycled and Waste Materials in Malaysian Pavement Construction	Completed
2012/2013	154144 Mohammad Afiq Bin Mohd Ariffin Title: Influence of Moisture on Physical Properties of Asphalt Mixtures 153166 David Lim Chin Seng Title: Influence of Moisture on Physical Properties of Asphalt Mixtures 151925 Noor Munirah Binti Raja Ahmad Title: Evaluation of the Flexible Pavement Performance in Malaysia	Completed

5. Co-Supervisor for Doctor of Philosophy (PhD) in Highway and Transportation Engineering

Year	Description	Status
2022	GS63897 Sathiaseelan A/L Perumal Title: Effectiveness in the Current Public Transport Logistics in the Incorporation of Autonomous Vehicles in Malaysia	On Going
2021	GS63167 Qi Yaojun Title: Examining the Effects of Urbanization, Road Mobility and Accessibility on the Relationship Between	On Going

	Road Deaths to Road Injuries Ratio and Economic Performance	
2021	GS60607 Nur Atiqah Halim Title: FMA Performance Modelling for Various Environmental Condition	On Going
2021	GS60197 Thevathas A/L Rajagopal Title: Effect of Ceramic Filler Thermal Conductivity on Binder Properties and Filler Mastic Permanent Deformation	On Going
2021	GS59981 Zheng Qingyuan Title: To Be Determined	On Going
2020	GS59636 Jeyan A/L Vasudevan Title: Non Segregate Plastic Waste Including E-Waste As Binder for Road Pavement	On Going
2020	GS59455 Sakina Tamassoki Title: Behavior of Fiber-Reinforced Soil for Highway Subgrade Under Earthquake (Seismic) Loading	On Going
2020	GS58902 Mohd Ekhwan Razali Title: Implementation of RFID Towards to Intelligent Traffic Management in Control Traffic Congestion in Malaysia	Incomplete
2020	GS58429 Ganesh A/L Pillaiyan Title: Effect Of Filler Micro-Angularity On Asphalt Binder Rheology And Filler-Mastic Fatigue Performance	On Going
2019	GS50313 Mohamed Ashraf Abdelfatah Aly Title: Modeling Likelihood of Motorcyclist Transfer to Other Safer Modes of Transportation in Egypt	On Going
2018	GS52370 Akraym Hatim Mohammed Abd Allateef Title: Study of Relationship Between Shear Strength and Gradation Limits for HMA And SMA Asphalt Mixture	On Going
2018	GS51839 Ali Hamoud Mssoud Al-Sarafi Title: Building Information Modelling (BIM) Adoption in the Yemeni Construction Industry	Completed
2018	GS49348 Nasimeh Yoosefi Title: Analyse and Establish Suitable Heat Induction Process in Mixture of Asphalt with Recycle Plastic	On Going
2018	GS51939 Kimberly anak Jayum Title: The Motorcycle Vehicle Crash Deaths to Injuries Ratio and Economic Growth: A Panel Data Analysis	Incomplete
2018	GS49305 Liew Pei Wen Title: Flexural Toughness Index of Chained Interlocking Plastic Beads (CIPB) Reinforced Asphalt Concrete	On Going
2018	GS30097 Ng Choy Peng Title: Relative Improvement in Road Mobility as Compared to Improvements in Road Accessibility, Urbanization and Economic Growth	Completed
2018	GS342877 Alvin Poi Wan Hoong Title: Development of Risk Assessment Model for Non-Exclusive and Exclusive Motorcycle Lane in Malaysia	Completed

2014	GS38371 Larry anak Silas Tirau Title: Pilot Scale Production of Interlocking Plastic Beads	On Going
2013	GS37509 Fariba Fahimi Title: Determination of Rheological Properties of Asphalt Binder Using Microwave Techniques	Incomplete
2013	GS37414 Rana Amir Yousif Title: Quantification of Fatigue Resistance of Asphalt Mixture Using Pre-Aged Binder	Completed
2013	GS37138 Fauzuhana Binti Anas Title: A Study to Investigate Truck Drivers' Attitude Toward Motorcyclists and Vice Versa: A Survey	Completed
2013	GS37074 Sady Abd Tayh Title: Utilization of Bio-Asphalt in Flexible Pavement Construction	Completed

6. Co-Supervisor for Master with Thesis of Master of Science (MSc) in Highway and Transportation Engineering

Year	Description	Status
2021	GS60592 Ainul Ashikin Rosdi Title: Rheological Properties of Plastic Modified Binder	On Going
2021	GS60574 Farah Syasya Zukrina Ahmad Nazmi Title: Phase Separation Assessment of Low-Density Polyethylene (LDPE) Plastic Waste: A Modified Binder	On Going
2021	GS60364 Nur Alya Qistina Mohd Zaidi Title: Elastic Recovery of Non-Segregated Plastic Waste Modified Binder	On Going
2020	GS57362 Katherine Chuo Sheau Ning Title: Enhancing The Properties Of 80/100 Penetration Grade Bitumen By Using Carbon Fiber	On Going
2018	GS43688 Falil Nisa Abdul Jalil Title: Influence of Agricultural Waste in Subgrade Soil for Road Works	Completed
2017	GS48395 Mohd Shaifuudin Mohd Natzri Title: Various Soil Strength on Studies by Incorporating Eco-Friendly Material from Palm Oil Waste with Asphalt Pavement for Practical Road Purposes	Completed
2013	GS33055 Dhieyatul Husna Binti Ismail Title: Effect of Ceramic Thermal Conductivity Into Short and Long Term Aging of Asphalt Mixture	Completed

Student Supervision Outside Universiti Putra Malaysia

1. Co-Supervisor for Doctor of Philosophy (PhD) in Highway and Transportation Engineering

Year	Description	Status
2013	P65737 Hend Ali Omar Main Supervisor: Dr Nur Izzi Mohd Yusoff Universiti Kebangsaan Malaysia Title: Effect of Added Polymer as A Binding Agent and Tire Rubber	Completed