

Name of RIG/Centre :

**TRACK and RAILWAY
INFRASTRUCTURE GROUP (TRAIN)**





CoRe :

**FRONTIER MATERIALS AND
INDUSTRIAL APPLICATION**





Faculty :

Fakulti Kejuruteraan Awam
Universiti Teknologi MARA
Pulau Pinang

Background of Members

	Name of Leader & Members	Faculty & Staff No.	Qualification	Area of Expertise
	<i>Mohd Ikmal Fazlan bin Rozli@Rosli</i>	Fakulti Kejuruteraan Awam	MSc in Civil Engineering (Structure)	Railway Engineering, Prestressed Concrete, Dynamic
	<i>Dr. Kay Dora Bt. Abd Ghani</i>	Fakulti Kejuruteraan Awam	PhD Civil Engineering	Dynamic
	<i>Dr. Norliyati Bt Hj. Mohd Amin</i>	Fakulti Kejuruteraan Awam	PhD Civil Engineering	Dynamic
	<i>Assoc. Prof. Ir. Dr. Yee Hooi Min</i>	Fakulti Kejuruteraan Awam	PhD Civil Engineering	Steel, Non-linear analysis

Background of Members

	Name of Leader & Members	Faculty & Staff No.	Qualification	Area of Expertise
	<i>Anas bin Ibrahim</i>	Fakulti Kejuruteraan Awam	MSc in Civil Engineering (Geotechnic)	Soil Dynamic and Soil Improvement
	<i>Azura Ahmad</i>	Fakulti Kejuruteraan Awam	MSc in Civil Engineering (Geotechnic)	Railway substructure Engineering
	<i>Juhaizad bin Ahmad</i>	Fakulti Kejuruteraan Awam	MSc in Civil Engineering (Geotechnic)	Geotechnical/Rail ballast engineering
	<i>Normariah Bt Che Maideen</i>	Fakulti Kejuruteraan Mekanikal	MSc in Mechanical Engineering	Advanced Manufacturing Technology, Rail

Research grants

BIL	NAMA PENYELIDIK UTAMA	NAMA PROJEK	JENIS	AGENSI PEMBIAYA	STATUS	TARIKH MULA	TARIKH TAMAT	JUMLAH PEMBIAYAAN (RM)
1	Mohd Ikmal Fazlan Rozli @Rosli	Formulation of Soil Structure Interaction of Prestressed Concrete Sleeper (SSi-PCS) Subjected to Harmonic Functions	FRGS	KPT	AKTIF	15/8/17	14/8/19	89,700.00
2	Mohd Ikmal Fazlan Rozli @Rosli	Formulation of Rail Sleepers Harmonic Functions	FRGS	KPT	TAMAT	15/11/13	6/5/16	55,622.50
3	Norliyati Bt Hj. Mohd Amin	EFFECTS OF ORGANIC COATING AS ANODE FOR IMPRESSED CURRENT CATHODIC PROTECTION IN REPAIRING RC STRUCTURES	GIP	UiTM	AKTIF	1/7/17	30/6/18	25,000.00
4	Norliyati Bt Hj. Mohd Amin	PARTICLE BONDING THEORY OF LIQUID SLUDGE THROUGH ELECTROSTATIC INTERACTION BY WASTE PAPER SLUDGE ASH (WPSA)	FRGS	KPT	AKTIF	1/8/16	31/7/18	98,000.00
5	Norliyati Bt Hj. Mohd Amin	INNOVATIVE LOW COST LAMINATED RECYCLED RUBBER BEARING FOR STRUCTURE EARTHQUAKE MITIGATION	DANA	UiTM	TAMAT	1/7/12	30/6/14	11,247.00

Research grants

BIL	NAMA PENYELIDIK UTAMA	NAMA PROJEK	JENIS	AGENSI PEMBIAYA	STATUS	TARIKH MULA	TARIKH TAMAT	JUMLAH PEMBIAYAAN (RM)
6	Norliyati Bt Hj. Mohd Amin	FAST NON-LINEAR DYNAMIC FEM SOFTWARE FOR THE RATIONAL DESIGN OF SEISMIC ISOLATED BRIDGE	ERGS	KPT	TAMAT	1/7/12	30/6/15	50,000.00
7	Yee Hooi Min	Sustainable Development of Green Technology Tensioned Fabric Structures", Research Acculturation Grant Scheme	RAGS	KPT	TAMAT	1/12/14	30/11/16	80,000.00
TOTAL								<u>409,569.50</u>

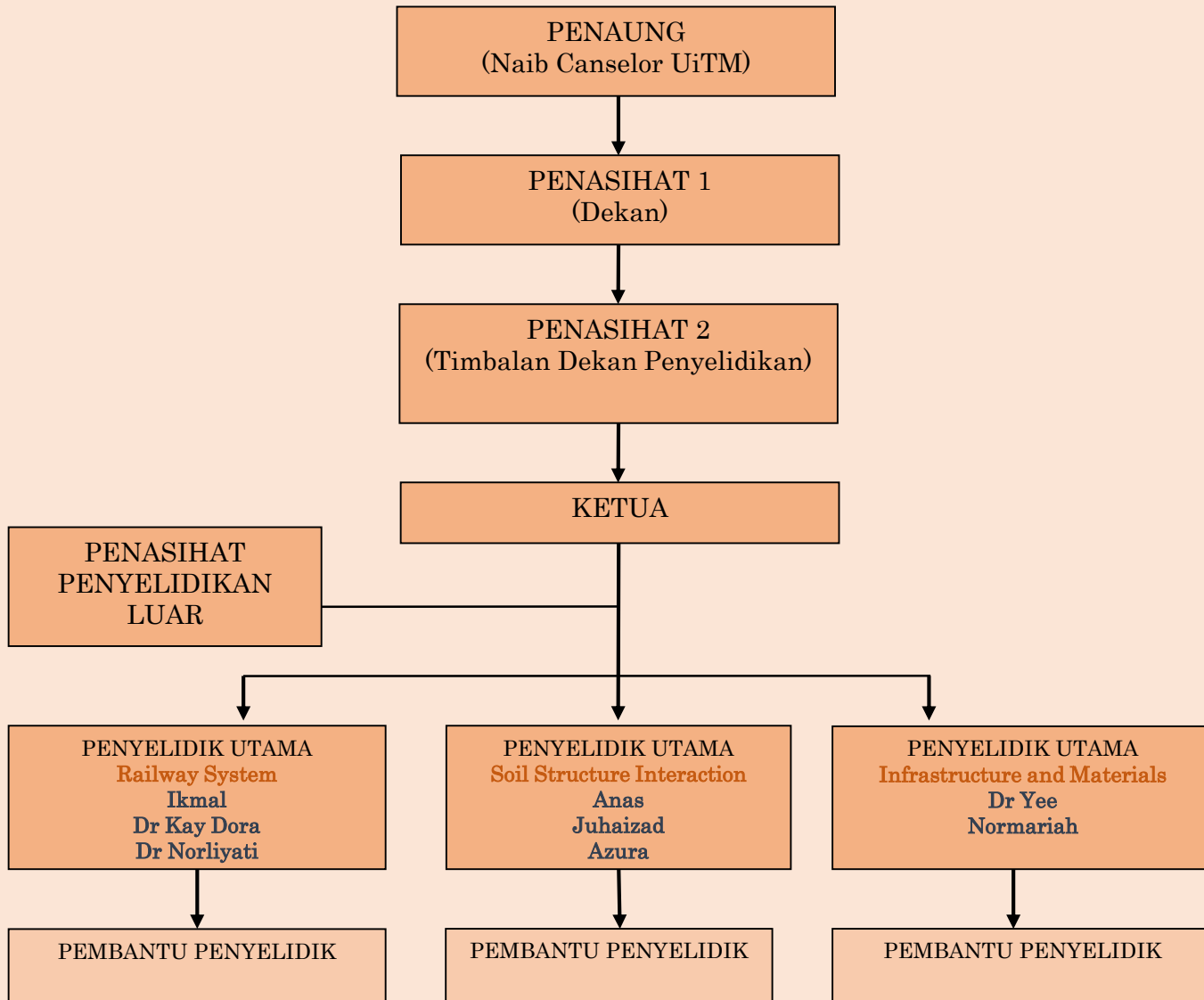
Postgraduates (Research)

BIL	NAMA	FAKULTI	TAHUN KEMASUKAN	TAHUN TAMAT PENGAJIAN	PERINGKAT PENGAJIAN
1	Mohd Ikmal Fazlan B Rozli	FKA	2016	Dijangka 2020	PhD
2	NUR INSYIRAH MOHD NADZRI	FKA	2015	Dijangka 2019	PhD
3	IZZUL SYAZWAN ISHAK	FKA	2016	Dijangka 2019	PhD
4	AHMAD IDZWAN BIN YUSUF	FKA	2017	Dijangka 2020	PhD
5	Mohd Nasir bin Abdul Hadi	FKA	2015	Dijangka 2018	MsC
6	Nurul Afiqah Abd Malek	FKA	2017	Dijangka 2019	MsC
7	Muhammad Rizqan Mohd Nasir	FKA	2017	Dijangka 2020	MsC
8	Nur Ashikin binti Marzuki	FKA	2015	Dijangka 2018	PhD

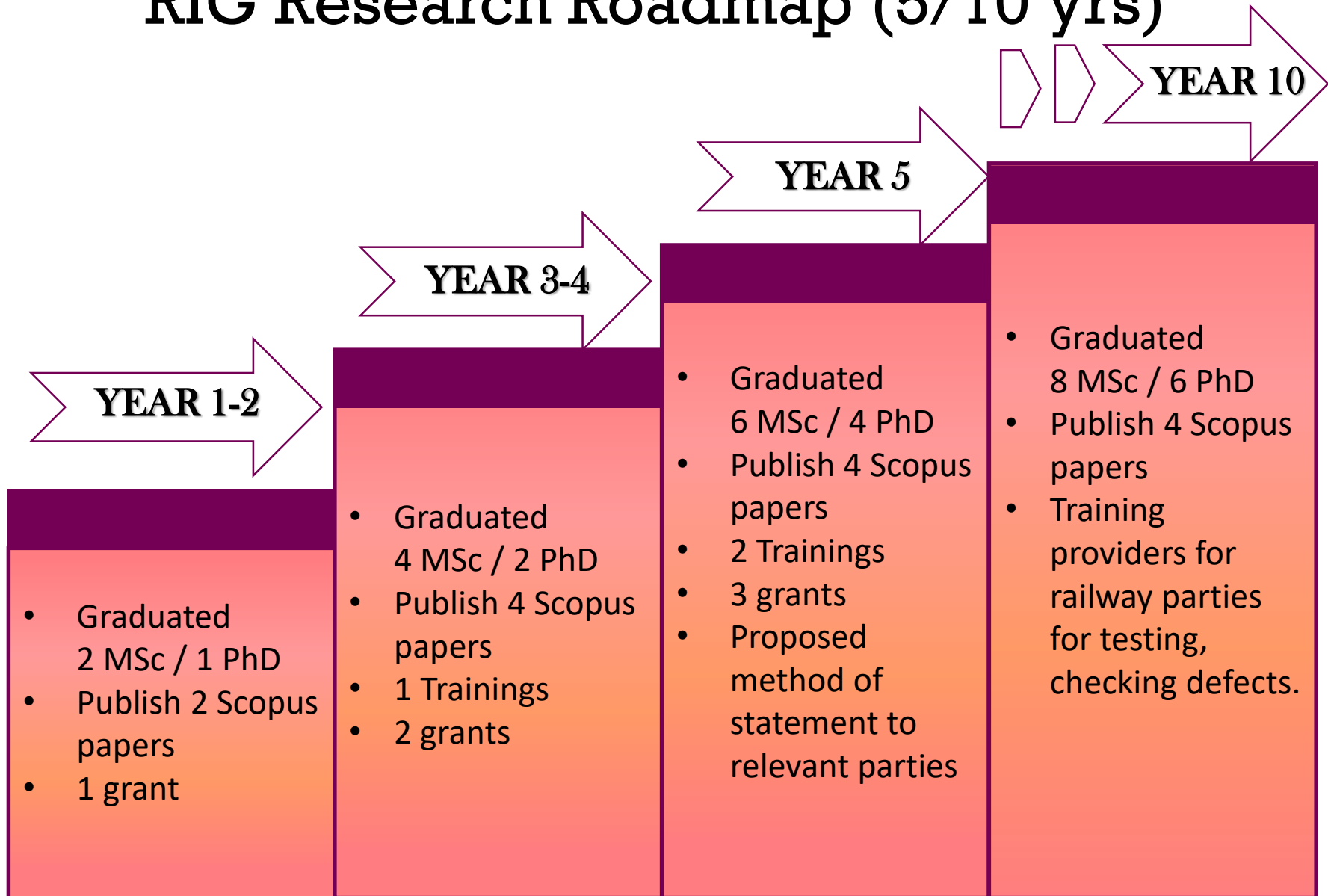
Niche Area and Relevance of RIG

- To enhance the knowledge of track and railway infrastructure.
- To provide training in the area of track and railway infrastructure.
- To enhance awareness of the importance of safety track and railway infrastructure.
- To propose a systematic method in conducting maintenance and laboratory work for contractors/consultant/authorities/government.
- To help UiTM to become an expert for things related with track and railway infrastructure.
- To help the Prime Minister of Malaysia to achieve his target for the nation in RMK-11 and Budget 2018.

Organizational Chart



RIG Research Roadmap (5/10 yrs)



Paper Published

Rozli, M.I.F., Abu Bakar, A., Amin, N.M., Ghani, K.D.A., (2017) *Structural Behaviour of PCS Subjected to Static Loading*, 1st International Conference Engineering Proceeding, Politeknik Port Dickson. International Journal of Integrated Engineering ISSN:2229-838X. (SCOPUS INDEXED)

Harmonic Formulation Of Prestressed Concrete Sleeper Subjected To Freight Train

Mohd Ikmal Fazlan Bin Rozli @ Rosli, Juhaizad Bin Ahmad, Kay Dora Binti Abd Ghani,, harmonic formulation of prestressed concrete sleeper subjected to freight train, Regional Conference on Science, Technology and Social Sciences (RCSTSS 2016), Springer Nature Singapore Pte Ltd. 2018,pageno : 361

The Effect Of Fly Ash And Bottom Ash Pile In Problematic Soil Due To Liquefaction

Mohd Ikmal Fazlan Bin Rozli @ Rosli, Abdul Samad Bin Abdul Rahman, Juhaizad Bin Ahmad, Mohd Asha'ari Bin Masrom, Syahrul Fithry Bin Senin,, the effect of fly ash and bottom ash pile in problematic soil due to liquefaction, Proceedings of the Second International Conference on the Future of ASEAN (ICoFA) 2017 ??? Volume 2, Springer Nature Singapore Pte Ltd.,pageno : 807

The Effect Of Rice Husk Ash (rha) Mixtures On Geotechnical Properties Of Soil

Juhaizad Bin Ahmad, **Mohd Ikmal Fazlan Bin Rozli @ Rosli**, Abdul Samad Bin Abdul Rahman,, the effect of rice husk ash (rha) mixtures on geotechnical properties of soil, REGIONAL CONFERENCE ON SCIENCE, TECHNOLOGY AND SOCIAL SCIENCES (RCSTSS 2016), SPRINGER NATURE SINGAPORE,pageno : 345

Shear Strength Behavior for Unsoaked And Soaked Multistage Triaxial Drained Test

Abdul Samad Bin Abdul Rahman, Norbaya Binti Haji Sidek, Juhaizad Bin Ahmad, Nor Hazwani Binti Md Zain, **Mohd Ikmal Fazlan Bin Rozli @ Rosli**, Shear Strength Behaviorfor Unsoaked And Soaked Multistage Triaxial Drained Test, Advanced In Civil Engineering &technology, Crimson Publishers, pageno : 1/6, vol : 1,issues : 4 (SCOPUS INDEXED)

S.F. Senin, R.Rohim, A. Yusuff, **M.I.F. Rozli**, J. Ahmad (2017), '*Non-Destructive Method For Detecting And Estimating Air Void Content Defects In Concrete Structure: A Preliminary Study On Monitoring Air Void Defects In Reinforced Concrete Bridge Deck Structure*', Engineering, Science and Technology Colloquium 2017 (ESTEC17), UiTM Pulau Pinang.

S.F. Senin, R.Rohim, A. Yusuff, **M.I.F. Rozli**, J. Ahmad (2017), Monitoring The Vertical Displacement Of Reinforced Concrete Beam Caused By Pre-Induced Corrosion-Damage: Integration Of Digital Signal Processing Technology In Civil Engineering Monitoring Work. Colloquium on Multidisciplinary Research 2017 (ICOMR17), UiTM Negeri Sembilan. Journal of Academia eISSN:1936-6612

Paper Published

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Mohd Ikmal Fazlan, R., Sharul, N. I., Dozier, E., Afidah, A., & Siti Hawa, H., (2015). Constant Amplitude of Prestressed Concrete Sleeper (PCS) Subjected to Three Coaches Train. *Applied Mechanics and Materials*, 773-774 (2015), 58-62. doi: doi:10.4028/www.scientific.net/AMM.773-774.58

Sharul Nizam, I., Afidah, A. B., Siti Hawa, H., & **Mohd Ikmal Fazlan, R.** (2015). Converting constant amplitude loading of prestressed concrete sleeper (PCS) from variable amplitude. *Jurnal Teknologi*, 76(11), 53-56. doi: 10.11113/jt.v76.5910 (Scopus Indexed)

Constant Amplitude Spectrum Of Three Coaches Train And Cyclic Counting On Prestressed Concrete Sleepers (pcs)

Mohd Ikmal Fazlan Bin Rozli @ Rosli, Afidah Binti Abu Bakar (dr),, Siti Hawa Bte Hamzah (ir) (prof. Dr),, Constant Amplitude Spectrum Of Three Coaches Train And Cyclic Counting On Prestressed Concrete Sleepers (pcs), Jurnal Teknologi, Penerbit UTM Press, pageno : 1-5, vol : 76, issues : 11 (SCOPUS INDEXED)

Loading Capacity Of Prestressed Concrete Sleeper Under Harmonic Function

Mohd Ikmal Fazlan Bin Rozli @ Rosli, Afidah Binti Abu Bakar (dr), Siti Hawa Bte Hamzah (ir) (prof. Dr),, Loading Capacity Of Prestressed Concrete Sleeper Under Harmonic Function, Applied Mechanics And Materials, Trans Tech Publications Ltd, pageno : 118-122, vol : 661, issues : 0

Comparison Of Seismic Performance Between Interior Beam-column Joint Designed Using Bs8110 And Eurocode 8 (2016)

Kay Dora Binti Abd Ghani (dr.), Nor Hayati Bt Abdul Hamid @ Zulkurnail (dr), N.d Hadi, comparison of seismic performance between interior beam-column joint designed using bs8110 and eurocode 8, INCIEC2015, Springer, pageno : 209, ISBN 978-981-10-0154-3,

A.G. Kay Dora, T. Mohd Azuan, and N. H. Hamid (2017), Modeling of Structural Deformation of Staff Quarters Hospital Ranau Subjected to the 2015 Ranau Earthquake using Ruaumoko 2D, International Journal of Civil Engineering and Geo-Environmental, ISSN: 21802742, <http://ijceg.ump.edu.my>.

T. Mohd Azuan, **A. G. Kay Dora**, and R. Norazila (2017), Seismic Assessment of Staff Quarters Hospital Ranau Subjected to the 2015 Ranau Earthquake using Fragility Curve, International Journal of Civil Engineering and Geo-Environmental, ISSN: 21802742, <http://ijceg.ump.edu.my>.

Paper Published

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- Husni, H., Nazari, M.R., **Yee, H.M.**, Rohim, R., Yusuff, A., Mohd Azahar Mohd Ariff, Ahmad, N.N.R., Leo, C.P. and Junaidi, M.U.M. (2017) Superhydrophobic rice husk ash coating on concrete, *Construction and Building Materials*, Vols. 144, pp. 385-391. [**IMPACT FACTOR**]
- Masrom, M.A., **YEE, H.M.**, Mohamed, M.E. and Hamid, N.H.A. (2017) Seismic Performance on Stiffness and Hysteresis Loop of Interior Wall-Slab Joint for Tunnel Form Building Designs to British Standard, *Journal of Fundamental and Applied Sciences*, Vols. 9(5S), pp. 75-87. {**ISI**}
- **Yee, H.M.** and Choong, K.K. (2016) A Computational Mechanics using Nonlinear Analysis Method in Tensioned Fabric Structure, *International Journal of Mechanics*, Vols. 10, pp. 261-265. {**IEEE/SCOPUS/ISI**}
- Hadi, M.N., **Yee, H.M.**, K.A. Ghani and N.H.A. Hamid (2016) Architectural Tensioned Fabric Structure in Monkey Saddle Form, *International Journal of Control Theory and Applications*, Vols. 9, Issue 6, pp. 2753-2758. {**IEEE/SCOPUS/ISI**}
- **Yee, H.M.** and Samsudin, M.A. (2014) Mathematical and Computational Analysis of Moebius Strip, *International Journal of Mathematics and Computers in Simulation*, Vols. 8, pp. 197-201. {**IEEE/SCOPUS/ISI**}
- Jamalludin, D., N. Syazana, M., M Zain, H., Ahmad A., M Mustaqim M. N. & **Ibrahim, A.** (2017) *Effective shear strength parameters of soil samples taken from slope failure along the kulim - baling road* ESTEEM Academic Journal 2017, pp 30-38
- Abdullah, N. H. H., Kuan, W. K., **Ibrahim, A.**, A Majid M. R., Ramli, R., Mansor, S. & M Tahir, M. A. (2017), *Effect Of Probe Parameters for Determination of Soil Water Content by Using Time Domain Reflectometry*, *International Journal Of Modern Engineering Research (IJMER)* 2017, pp 51-55.
- **Ibrahim, A.**, Orense, R. P., Pender, M. J., Tai, A., & Kikkawa N. 'Laboratory determination of small strain shear modulus of Auckland residual soil', *5th International Symposium on Deformation Characteristics of Geomaterials (IS-Seoul 2011), September 1~3, 2011, Seoul, Korea*. Pp. (232-239)
- Energy Consumption Of Insulated Material Using Thermal Effect Analysis
Mohd Fadzil Bin Arshad, **Norliyati Binti Haji Mohd Amin**, Ahmad Ruslan Bin Mohd Ridzuan, Assrul Reedza Bin Zulkifli,,
Energy Consumption Of Insulated Material Using Thermal Effect Analysis, *Matec Web Of Conferences*, EDP Sciences, pageno : 1, vol : 103, issues : 0
- Condition Rating System Of Bridges In Malaysia: A Case Study
Adiza Binti Jamadin, **Norliyati Binti Haji Mohd Amin**, Condition Rating System Of Bridges In Malaysia: A Case Study, *Journal Of Engineering And Applied Sciences*, Medwell Journals, pageno : 787, vol : 12, issues : 4
- Dynamic Properties Of Elastomeric Bearing via Finite Element And Experimental Modal analysis
Ahmad Idzwan Yusuf, Mohd Azmi Bin Yunus, Muhamad Norhisham Bin Abdul Rani, **Norliyati Binti Haji Mohd Amin**,
Dynamic Properties Of Elastomeric Bearing via Finite Element And Experimental Modal analysis, *Malaysian Construction Research Journal*, Construction Research Institute of Malaysia (CREAM), pageno : 39, vol : 19, issues : 2