Curriculum Vitae

I. Personal Particulars

Name: Prof. Dr. Badorul Hisham Bin Abu Bakar

Current Position: Professor

II. A. Academic and Professional Qualifications

Year	Degree	Discipline	University
1982-1984	Cert. Civil Engineering	Civil Construction	Politeknik Ungku Omar
1988-1990	Diploma of Civil Engineering	Civil Engineering	Universiti Teknologi Malaysia
1990-1993	Bachelor of Eng. (Hons)	Civil Engineering	Universiti Sains Malaysia
1993-1994	Master of Science	Con. & Design. Cons.	University of Leeds
1995-1998	Doctor of Philosophy	Masonry Structures	University of Leeds

B. Titles of postgraduate thesis written

Master of Science "Creep and Shrinkage of Masonry Mortars"

Doctor of Philosophy "Influence of Anisotropy and Curing on Deformation of Masonry"

III. Work Experience

Year	Position	Field of Work	Place of Work
1984 - 1988	Technician	Quantity Survey	Public Work Dept.
1995- 1998	Instructor	Civ. Eng. Laboratory	Leeds University
2000- 2001	Part-Time Lecturer	Civ. Eng.	Uni. Tek. Petronas
1998 – 2008	Senior Lecturer	Civil Engineering	Universiti Sains
2008-2011	Associate Professor	Civil Engineering	Malaysia

IV. Main Current Research Areas

1. Investigation properties Fired Clay bricks for Masonry structures
2. Deformation of timber structures for structural application and development of MS 544
3. Use of Rice Husk Ash into Fired Clay bricks
4. Usage of Waste Materials into construction materials

RESEARCH AND PUBLICATION

Publication of Research

Research Book/Monograph

Books:

1. **Badorul Hisham Abu Bakar; Reka Bentuk Struktur Rumah Banglo Dua Tingkat Konkrit Bertetulang; Penerbit Universiti Sains Malaysia, 2007 ; ISBN 978-983-861-319-3, pp 144**
2. **Badorul Hisham et. al. ; Abstrak AWAM 2007 ; Penerbit Pusat Pengajian Kejuruteraan Awam; ISBN 978-983-421-9017, pp152.**
3. **Badorul Hisham Abu Bakar et. al (Editor) ; Kejuruteraan Awam 50 Tahun Kemerdekaan, Pernerbit Pusat Pengajian Kejuruteraan Awam, ISBN 978-983-42190-0-0, pp1200**
4. **Wan Ibrahim M.H., Abu Bakar B.H., Megat Johari M.A., Ramadhan P.J., 2010, Influence of Sulphate Attack on Elasticity of Fired Clay Brick Masonry Wall. In Advanced and Trends in Structural Engineering, Mechanics and Computing, CRC Press, Taylor and Francis Group, London, ISBN : 978-0-415-58472-2.**
5. **Badorul Hisham Abu Bakar, Choong Kok Keong, 2011, Widening of Penang Bridge; Penang Bridge Sdn. Bhd. (PBSB). pp 269.**

Monograph/Standard:

1. **Badorul Hisham Abu Bakar, et. al**. : MS 544: PART 10 ; 2003 ; CODE OF PRACTICE USE OF TIMBER ; Part 10 : Preservative Treatment of Structural Timber, SIRIM BERHAD PUBLISHER.
2. **Badorul Hisham Abu Bakar, et. al.** : MS 544: PART 4 ; SECTION 4 : 2001 ; CODE OF PRACTICE USE OF TIMBER ; Part 4 : Timber Panel Product : Section 4 : Oriented Strand Board, SIRIM BERHAD PUBLISHER.
3. **Badorul Hisham Abu Bakar, et**. **al.** : MS 758: 2001; GLUED LAMINATED TIMBER –PERFORMANCE REQUIREME**N**TS AND MINIMUM PRODUCTION REQUIREMENTS, SIRIM BERHAD PUBLISHER.
4. **Badorul Hisham Abu Bakar, et**. **al.** : MS 544: PART 11 ; SECTION 3 : 2001 ; CODE OF PRACTICE USE OF TIMBER ; Part 11 : Recommended Span Tables and their calculations : Section 3: Ceiling Binders, SIRIM BERHAD PUBLISHER.
5. **Badorul Hisham Abu Bakar, et**. **al.** : MS 544: PART 11 ; SECTION 2 : 2001 ; CODE OF PRACTICE USE OF TIMBER ; Part 11 : Recommended Span Tables and their calculations : Section 2: Ceiling Joists. SIRIM BERHAD PUBLISHER.
6. **Badorul Hisham Abu Bakar, et**. **al.** : MS 544: PART 11 ; SECTION 1 : 2001 ; CODE OF PRACTICE USE OF TIMBER ; Part 11 : Recommended Span Tables and their calculations : Section 1: Domestic Floor Joists. SIRIM BERHAD PUBLISHER.
7. **Badorul Hisham Abu Bakar, et**. **al.** : MS 544: PART 9 ; SECTION 1 : 2001 ; CODE OF PRACTICE USE OF TIMBER ; Part 9 : Fire Resistance of Timber Structures : Section 1: Method of Calculating Fire Resistance of Timber Members. SIRIM BERHAD PUBLISHER.
8. **Badorul Hisham Abu Bakar, et**.. **al. :** MS 544: PART 12; Laminated Veneer Lumber (LVL) For Structural Application, 2002. SIRIM BERHAD PUBLISHER.
9. **Badorul Hisham Abu Bakar, et**. **al.** : MS 544: PART 10: Preservative Treatment of Structural Timber , 2002, SIRIM BERHAD PUBLISHER.
10. **Badorul Hisham Abu Bakar, et**. **al. :** MS 544: PART 11 ; Recommended Span Tables and Their Calculations; Section 4 : Domestic Rafters, 2002. SIRIM BERHAD PUBLISHER.
11. **Badorul Hisham Abu Bakar, et**. **al,** Quality Assurance Scheme For Prefabricated Timber Truss System, 2001. SIRIM BERHAD PUBLISHER.
12. **Badorul Hisham Abu Bakar, et**. **al,** MS 1933: PART 1; Methods of Test of Masonry Units; Part 1: Determination of Compressive Strength; 2007; SIRIM BERHAD

PUBLISHER.

13. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 2; Methods of Test of Masonry Units; Part 2: Determination of Percentage Area of Voids in Masonry Units (By Paper Indentation); 2007; SIRIM BERHAD PUBLISHER.
14. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 3; Methods of Test of Masonry Units; Part 3: Determination of Net Volume and Percentage of Voids of Clay Masonry Units by Hydrostatic Weighing; 2007; SIRIM BERHAD PUBLISHER.
15. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 4; Methods of Test of Masonry Units; Part 4: Determination of Real and Bulk Density and of Total and Open Porosity for natural Stone Masonry Units; 2007; SIRIM BERHAD PUBLISHER.
16. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 5; Methods of Test of Masonry Units; Part 5: Determination of the Active Soluble Salts Content of Clay Masonry Units; 2007; SIRIM BERHAD PUBLISHER.
17. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 6; Methods of Test of Masonry Units; Part 6: Determination of Bending Tensile Strength of Aggregate Concrete Masonry Units; 2007; SIRIM BERHAD PUBLISHER.
18. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 7; Methods of Test of Masonry Units; Part 7: Determination of Water Absorption of Clay Masonry Damp Proof Course Units By Boiling in Water; 2007; SIRIM BERHAD PUBLISHER.
19. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 9; Methods of Test of Masonry Units; Part 9: Determination of Volume of Clay and Calcium Silicate Masonry Units by Sand Filling; 2007; SIRIM BERHAD PUBLISHER.
20. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 10; Methods of Test of Masonry Units; Part 10: Determination of Moisture Content of Calcium Silicate and Autoclaved Aerated Concrete Units; 2007; SIRIM BERHAD PUBLISHER.
21. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 11; Methods of Test of Masonry Units; Part 11: Determination of Water Absorption of Aggregate Concrete, Manufactured Stone and Natural Stone Masonry Units Due to Capillary Action and Initial Rate of Water Absorption of Clay Masonry Units; 2007; SIRIM BERHAD PUBLISHER.
22. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 13; Methods of Test of Masonry Units; Part 13: Determination of Net and Gross Dry Density of Masonry Units (Except for Natural Stone); 2007; SIRIM BERHAD PUBLISHER.
23. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 14; Methods of Test of Masonry Units; Part 14: Determination of Moisture Movement of Aggregate Concrete and Manufactured Stone Masonry Units; 2007; SIRIM BERHAD PUBLISHER.
24. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 15; Methods of Test of Masonry Units; Part 15: Determination of Water Vapour Permeability of Autoclaved Aerated Concrete Masonry Units; 2007; SIRIM BERHAD PUBLISHER.
25. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 16; Methods of Test of Masonry Units; Part 16: Determination of Dimensions; 2007; SIRIM BERHAD PUBLISHER.
26. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 19; Methods of Test of Masonry Units; Part 19: Determination of Moisture Expansion of Large Horizontally Perforated Clay Masonry Units; 2007; SIRIM BERHAD PUBLISHER.
27. **Badorul Hisham Abu Bakar, et. al,** MS 1933: PART 20; Methods of Test of Masonry Units; Part 20: Determination of Flatness of Faces of Masonry Units; 2007; SIRIM BERHAD PUBLISHER.
28. **Badorul Hisham Abu Bakar, et. al,** MS 2281:2010: Clay and Calcium Silicate Bricks of Special Shapes and Sizes -Recommendation; 2010; SIRIM BERHAD PUBLISHER.
29. **Badorul Hisham Abu Bakar, et. al,** MS 2282-3:2010: Masonry Units – Specification –Part 3: Agreegate Concrete Masonry Units (Dense and Light-Weight Aggregates) (Second Revision); 2010; SIRIM BERHAD PUBLISHER.
30. **Badorul Hisham Abu Bakar, et. al,** MS 2280: 2010; Aggregates for Mortar - Specification; 2010; SIRIM BERHAD PUBLISHER.
31. **Badorul Hisham Abu Bakar, et. al,** MS 2282 – 4: 2011; Masonry units – Specification –Part 4: Autoclaved aerated concrete masonry units; 2011; SIRIM BERHAD PUBLISHER.
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33. **Badorul Hisham Abu Bakar, et. al,** MS 2402: 2011; Precast concrete masonry units-Guide for specifying precast concrete masonry units; 2011; SIRIM BERHAD

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34. **Badorul Hisham Abu Bakar, et. al,** MS 2282-6:2013; Masonry Units – Specification- Part 6: Natural Stone masonry units; 2013; SIRIM BERHAD PUBLISHER
35. **Badorul Hisham Abu Bakar, et. al,** MS 2529: 2013; Flexible sheets for waterproofing- Bitumen damp proof course –Definitions and characteristics; 2013; SIRIM BERHAD PUBLISHER

International

Journals

1. Brooks, J.J; **Abu Bakar, BHB**: The Modulus of Elasticity of Masonry; Journal of Masonry International ; Vol. 12; No. 2; 1998.

2. Brooks, J.J; **Abu Bakar, BHB**: Anisotropy of Elasticity and Time-dependent Movement of Masonry; 5th International Masonry Conf.; Stoke-on-Trent ; U.K; No.8 ; Oct. ; 1998

3. Brooks, J.J; **Abu Bakar, BHB**; Shrinkage and Creep of Masonry Mortar ; Materials and Structures; Vol. 37; No. 267 ; pg 177-183; 2003

4. **Bashar S. Mohammed, Badorul Hisham Abu Bakar, K.K. Chong**; The effect of opening on the single leaf cantilever Masonry wall under compressive load; Al Azhar University Engineering Journal; 2006.

5. Bashar S. Mohammed**, Badorul Hisham Abu Bakar,** K.K. Chong; The behaviour of fired-clay masonry panels with opening under compressive axial load; Proceeding of the 4th Jordanian Civil Engineering conference; Aman, Jordan; 28-30 March 2006.

6. **Badorul Hisham Abu Bakar,** Norashikin; Megat Azmi Megat Johari ; Behaviour of moisture movement on hardwood timber under different exposed condition ; Malaysian Concstruction Research Journal; Vol . 2; 2007.

7. **Badorul Hisham Abu Bakar** Shiao Chow Teng, Megat Azmi Megat Johari; Empirical Modelling of the influence of unit water absorption on brickwork strength; Malaysian Concstruction Research Journal, Vol.3, No. 2, 2008

8. Bashar S. Mohammed, **Badorul Hisham Abu Bakar,** K.K. Chong (2009). The effects of opening on the structural behavior of masonry wall subjected to compressive loading- strain variation. The Open Civil Engineering Journal, 2009, 3, pp 62-73.

9. Bashar S. Mohammed, **Badorul Hisham Abu Bakar,** K.K. Chong (2009). Behaviour of axially loaded fired-clay masonry panels with openings. The Indian Concrete Journal. Vol. 83, April 2009. pp 9- 16.

10. **Badorul Hisham Abu Bakar**, Mohd Haziman Wan Ibrahim, Megat Azmi Megat Johari (2009). A review : Sulfate attack on fired clay brick masonry wall. International Journal of Infracstructure and Environment. **(Accepted for publication)**

11. Mashitah, M.D, Kin , C.C, **Abu Bakar, B.H**; Utilization of homogenous ceramic tiles for the production of concrete bock, Journal of Environmental Asia, 2009 **(In press)**
12. Izwan J., **Badorul Hisham A.B,** Zainal Arifin A., (2008) Sintering effect on microstructure of fired-clay brick containing rice husk ash, Malaysian Journal of Microscopy, Vol. 4, pp. 74-79

13. **Abu Bakar B.H.,** Abdul Razak A.A., Haido J.H., (2009) Tensile behavior of steel fiber concrete, International Journal of Civil Engineering, Vol 1 (2), pp111-121

14. Syamsuhaili Said, **Badorul Hisham Abu Bakar,** Megat Azmi Megat Johari,

Izwan Johari, (2009) Influence of unit strength on deformation behavior of fired-clay brickwork**,** Malaysian Concstruction Research Journal; Vol . 5; No. 2, 2009.

15. Mashitah Mat Don, Wan Nuru Liza Meor Abdullah, **Badorul Hisham Abu Bakar,** Mariazura Mohd Zain, (2009) Chemical and Minerological studies of concrete based-waste materials from demolition sites, Malaysian Concstruction Research Journal; Vol . 5; No. 2, 2009.

16. James H. Haido, **B.H. Abu Bakar,** A.A. Adul Razak, J.Jayaprakash, K.K. Choong (2010), Simulation of dynamic response for steel fibrous concrete members using new material modeling, Construction and Building Materials, JCBM 2274, 17 Sept 2010.

17. **Abu Bakar B.H.,** Ramadhansyah Putrajaya, Hamidi Abdul Aziz, Malaysian Rice Husk Ash – Improving Durability and Corrosion Resistance of Concrete-Pre Review, ISSR Journals, Concrete Research, Vol (1) 1, March 2010.

18. Wan Ibrahim M.H., **Abu Bakar B.H.,** Megat Johari M.A., Ramadhansyah P.J., (2010)**,** Influence of Sulphate on the moisture movement of calcium silicate brick masonry wall, Advanced Materials Research, Vols. 133-134, Trans Tech Publications, Switzerland, pp 201-204.

19. Wan Ibrahim M.H., **Abu Bakar B.H.,** Megat Johari M.A., Ramadhansyah P.J., (2010), Elasticity of calcium silicate brick masonry wall due to sulphate attack, Advanced Materials Research, Vols. 133-134, Trans Tech Publications, Switzerland, pp 195-200.

20. James H. Haido, **B.H. Abu Bakar,** A.A. Adul Razak, J.Jayaprakash, (2010), Dynamic Response simulation for reinforced concrete slabs, Journal of Simulation Modelling Practice and Theory, 18, pp 696-711.

21. Wan Ibrahim, M.H., **Abu Bakar, B.H.,** Megat Johari, M.A., Ramadhansyah, P.J., Arshad, M.F., (2010), The effect of Na_2SO_4 and NaCl solution on the moisture movement of fired clay masonry wall. International Journal of Sustainable Construction Engineering Technology, Volume 2, Issue 1, pp. 11-13.

22. Johari I., **Badorul Hisham A.B,** Ahmad Z. A., (2010) Effect of the change of firing temperature on microstructure and physical properties of clay bricks from Beruas (Malysia), Journal of Science Sintering, Vol. 42, pp 245-254

23. **Abu Bakar. B.H.**, Ramadhansyah, P.J., Megat Azmi, M.J., Wan Ibrahin, M.H., (2011), Engineering properties of normal concrete grade 40 containing rice husk ash at different grading times, International Journal of Technology, Vol. 2, pp 37-46.

24. Ramadhansyah Putra Jaya, **Badorul Hisham Abu Bakar,** Megat Azmi Megat Johari, Mohd Haziman Wan Ibrahim (2011), Strength and permeability pproperties of concrete containing rice husk ash with different grinding time, Central European Journal of Engineering, Volume 1, Issue 1, pp. 103-112.

25. Ramadhansyah P. J, **Abu Bakar B. H,** Megat Johari M. A, Wan Ibrahim M. H. (2011) Hardened Properties of Grade-40 Normal Concrete Containing Rice Husk Ash Ground with Different Particle Size. Kuwait Journal of Science and Engineering.

26. Farah Alwani Wan Chik, **Badorul Hisham Abu Bakar,** Megat Azmi Megat Johari, Ramadhansyah Putra Jaya, (2011) Properties of concrete block containing rice husk ash subjected to GIRHA, International Journal of Research and Reviews in Applied Science, Vol. 8, Issue 1, pp. 57-64.

27. Wan Chik, F.A., Ramadhansyah, P.J., **Abu Bakar, B.H.,** Megat Johari, M.A.(2011), Effect of rice husk ash to the performance of concrete block. International Journal of Applied Science and Technology, Vol. 1, Issue 3, pp 53-

61.

28. James H. Haido, **B.H. Abu Bakar,** A.A. Adul Razak, J.Jayaprakash & Choong K.K (2011), Simulation of dynamic response for steel fibrous concrete member using new material modelling, Construction & Building Materials, 25, pp 1407-1418. (ISI Journal, Impact Factor, 1.456).

29. **Abu Bakar, B.H.,** Ramadhansyah, P.J., Megat Johari, M.A.(2011) Effect of rice husk ash fineness on the chemical and physical properties of concrete. Magazine of Concrete Research, Vol. 63, Issue 5, pp. 313-320.

30. **Abu Bakar, B.H.,** Ramadhansyah, P.J., Megat Johari, M.A., Wan Ibrahim, M.H. (2011), Engineering properties of normal concrete grade 40 containing rice husk ash at different grinding times. International Journal of Technology, Vol.2, Issue1, pp. 37-46.

31. Al-Tayeb M.M, **Abu Bakar B.H**, Akil. H.M, and Ismail. H, Performance of rubberized and hybrid rubberized concrete structures under static and impact load conditions, Experimental Mechanics. 53 (3) (2012), pp. 377 384 (Springer, ISI Journal, Impact Factor: 1.522)

32. Al-Tayeb M.M**, Abu Bakar B.H**, Ismail. H, and Akil. H.M, Effect of partial replacement of sand by fine crumb rubber on impact load behavior of concrete beam: experiment and nonlinear dynamic analysis. Materials and Structures, DOI 10.1617/s11527-012-9974-3. (First on Line) (Springer, ISI Journal, Impact Factor: 1.278)

33. Al-Tayeb M.M, **Abu Bakar B.H**, Akil. H.M, and Ismail. H, Experimental and numerical investigations of the influence of reducing cement by adding waste powder rubber on the impact behavior of concrete. Computers and Concrete. 11 (1) (2013), pp. 583-589. (Techno Press, ISI Journal, Impact Factor: 1.015)

34. Al-Tayeb M.M, **Abu Bakar B.H**, Akil. H.M, and Ismail. H, Effect of partial replacements of sand and cement by waste rubber on the fracture characteristics of concrete, Polymer-Plastics Technology and Engineering. 51 (6) (2012), pp. 583-589. (Taylor & Francis, ISI Journal, Impact Factor: 1.279)

35. Al-Tayeb M.M**, Abu Bakar B.H,** Ismail. H, and Akil. H.M, Impact resistance of concrete with partial replacements of sand and cement by waste rubber. Polymer-Plastics Technology and Engineering. 51(12), 1230-1236. (Taylor & Francis, ISI Journal, Impact Factor: 1.279)

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37. Al-Tayeb M.M, **Abu Bakar B.H**, Ismail. H, and Akil. H.M, Experimental and nonlinear dynamic analysis of hybrid powder rubberized-normal concrete under impact load, Caspian Journal of Applied Sciences Research, 1(11) (2012), pp. 23-31.

38. Al-Tayeb M.M, **Abu Bakar B.H**, Ismail. H, and Akil. H.M, Impact Resistance of Concrete with Low Amount of Powder Rubber as Cement Replacements, Caspian Journal of Applied Sciences Research, 1(11) (2012), pp. 23-31.

39. Al-Tayeb M.M, **Abu Bakar B.H**, Akil. H.M, and Ismail. Hanafi, Impact Energy for the First Crack of Reinforced Concrete with Partial Replacements of Sand by Fine Crumb Rubber. Advanced Materials Research.

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rubberized-normal concrete under impact load. Submitted to Mechanics of Materials (under review).

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43. Tayeh, B.A., **Abu Bakar, B.H**., Megat Johari, M.A. & Voo, Y.L. (2012) Mechanical and permeability properties of the interface between normal concrete substrate and ultra high performance fiber concrete overlay. *Construction and Building Materials*, 36, 538-548. *(ISI, Impact Factor 1.834)*

44. Tayeh, B.A., **Abu Bakar, B.H.** & Megat Johari, M.A. (2012) Characterization of the interfacial bond between old concrete substrate and ultra high performance fiber concrete repair composite. *Materials and Structures*, DOI 10.1617/s11527-012-9931-1. *(ISI, Impact Factor 1.278)*

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47. Tayeh, B.A., **Abu Bakar, B.H**. & Megat Johari, M.A. Assessment of short-and long-term adhesion performance between UHPFC overlay and existing concrete substrate using pull-off testing. *Journal of Materials Science. (Under Review) (ISI, Impact Factor 2.015*

48. Tayeh, B.A., **Abu Bakar, B.H.,** Megat Johari, M.A. & Zeyad, A.M. (2013) The role of silica fume in the adhesion of concrete restoration systems *Advanced Materials Research*. Vol. 626. Trans Tech Publication. 626, 265-269.

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53. Ibrahreem, O.F., **Abu Bakar, B.H.,** Johari, I. (2013). Finite element analysis of reinforced concrete spandrel beams under combined loading. Computers and Concrete, Vol. 13, No. 1. pp 99-116
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54. Che Norazman, C.W., Ramadhan, P.J., Jayanti, D.S., **Abu Bakar, B.H**., Arshad, M.F. (2014). Strength of concrete containing rice husk subjected to sodium sulfate solution via wetting and drying cyclic. Applied Mechanics and Materials. Trans Tech Publication. Vol. 534. pp 3-8

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56. Ahmed Tareq Noamana, **B.H. Abu Bakar**, and Hazizan Md. Akil. The effect of combination between crumb rubber and steel fiber on impact energy of concrete beams. The 5th International Conference of Euro Asia Civil Engineering Forum (EACEF-5). Procedia Engineering 125 (2015) pp 825 – 831.

57. Thaer Jasim Mohammed, B.H. Abu Bakar, N. Muhammad Bunnori and Omer Farouk Ibraheem. Finite element analysis of longitudinal reinforcement beams with UHPFRC under torsion. Computers and Concrete, *Vol. 16*, *No. 1 (2015) 1-16*

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Technology; 15 to 18th August 2005; Vol. 2 ; pg 229-238

71. **Badorul Hisham Abu Bakar, Bashar S. Mohammed, K.K. Chong**; Comparison of analytical and experimental strains around opening in masonry panels subjected to uniform vertical compression ; Geospatial Solutions for Managing the Borderless World, ISG ; Penang; 27th to 29 Sptember, 2005.

72. **Fadzil A, Megat Azmi M.J, Hannan R.R, Kairun Azizi M.A , Badorul Hisham A. B**; High strength concrete containing rice husk ash as partially cement replacement material ; South East Asia Conference on the Advancement of Scientific and Social Research 2005; SEA-CASSR 2005; 14th to 15th Dec. 2005; Kangar; Malaysia.

73. **Bashar S. Mohammed, Badorul Hisham Abu Bakar, K.K. Chong**; The effect of load arranggement on the behaviour of masonry wall panel with opening ; South East Asia Conference on the Advancement of Scientific and Social Research 2005; SEA-CASSR 2005; 14th to 15th Dec. 2005; Kangar; Malaysia.

74. **Bashar S. Mohammed, Badorul Hisham Abu Bakar, K.K. Chong**; Factors affecting the compressive strength of brick masonry ; South East Asia Conference on the Advancement of Scientific and Social Research 2005; SEA-CASSR 2005; 14th to 15th Dec. 2005; Kangar; Malaysia.

75. **Bashar S. Mohammed, Badorul Hisham Abu Bakar, K.K. Chong**; The effect of wall aspect ratio on the behaviour of masonry panel with opening ; South East Asia Conference on the Advancement of Scientific and Social Research 2005; SEA-CASSR 2005; 14th to 15th Dec. 2005; Kangar; Malaysia.

76. **Badorul Hisham Abu Bakar, Chow Shiao Teng ;** Effects of moisture movement on the strength of masonry wall; 1st Construction Industry Research Achievement International Conference CIRAIC 2007, 13-14 March 2007.

77. Mohd Fadzil Arshad, Megat Azmi Mj, Khairun Azizi Ma**, Badorul Hisham AB;** Durability of Ternary Blended Cement Containing Silica Fume and Fly Ash as Partial Cement Replacement Material under Sulphate Curing Condition; International Seminar on Civil & Infrastructure Engineering, 2008, ISCIE '08; 11-12 June 2008.

78. Mohd Fadzil Arshad, Megat Azmi Mj, **Badorul Hisham AB,** Khairun Azizi Ma; Engineering Properties of Trenary Blended Cement Containing Rice Husk Ash and Fly Ash as Partial Cement Replacement Materials; International Conference on Construction and Building Technology 2008; Kuala Lumpur, June 16–20, 2008.

79. **Badorul Hisham A. B**. Ramadhansyah P.J and Hamidi A.A (2009). *Sulfate Resistance of Blended Concrete Containing Rice Husk Ash: Pre-Review.* 10th International Conference on Concrete Engineering and Technology (CONCET 2009). Universiti Teknologi MARA, March 2009.

80. **Badorul Hisham A. B**. Ramadhansyah P.J and Hamidi A.A (2009). *Resistance to Chloride Penetration of Blended Concrete Containing Rice Husk Ash: A Review*. 1st International Conference on Rehabilitation and Maintenance in Civil Engineering (ICRMCE), Solo, Indonesia, March 2009.

81. Badorul Hisham A. B. **Ramadhansyah P.J** and Hamidi A.A (2009). *Malaysian Rice Husk Ash : Improving the Durability and Corrosion Resistance of Concrete: Pre-Review.* 7th Asia Pacific Structural Engineering and Construction Conference (APSEC 2009) & 2nd European Asian Civil Engineering Forum (EACEF 2009). Langkawi, Malaysia, August 2009.

82. Ramadhansyah P. J, **Badorul Hisham A. B**, Aziz H. A (2009). *Effects of Rice Husk Ash on Blended Concrete Subjected to Seawater: A Review*, Proceedings of National Postgraduate Conference 2009. Universiti Teknologi Petronas, March, 2009.

83. Mohd Fadzil A, Ramadhansyah P.J, Megat Azmi M.J, **Badorul Hisham A B**, Haziman W.I.M (2009). *Properties of Concrete Containing Calcined Fly Ash*, Proceedings of National Postgraduate Conference 2009. Universiti Teknologi Petronas, March, 2009.

84. Wan Ibrahim M.H, **Abu Bakar B.H**, Megat Johari M.A, Bingel P and Ramadhansyah P.J (2010). *Moisture Movement of Fired Clay Brick Masonry Wall under Sulphate Environment*. Proceedings of the 8th International Masonry Conference, Dresden, Germany, July 2010

85. Wan Ibrahim M.H.**, Abu Bakar B.H.,** Megat Johari M.A., Ramadhansyah P.J., Bingel P., **(2010)** Influence of sulphate attack on elasticity of fired clay brick masonry wall, Proceeding of the fourth International Conference on structural Engineering, Mechanics and Computation, 6-8 Sept. 2010, Cape Town, South

Africa.

86. Wan Ibrahim M.H, Abu Bakar B.H, Megat Johari M.A and **Ramadhansyah P.J** (2010). *Influence of Sulphate on the Moisture Movement of Calcium Silicate Brick Masonry Wall,* 7th International Conference on Structura; Analysis of Historic Constructions: Strengthening & Retrofitting, Shanghai, China.

87. Wan Ibrahim M. H, Abu Bakar B. H, Megat Johari M. A and **Ramadhansyah P. J**. (2010). *Elasticity of Calcium Silicate Brick Masonry Wall due to Sulphate Attack,* 7th International Conference on Structura; Analysis of Historic Constructions: Strengthening & Retrofitting, Shanghai, China.

88. Izwan Johari, **Ramadhansyah Putra Jaya**, Syamsuhaili Said**, Abu Bakar, B.H** and Zainal Arifin Ahmad. (2011). *Chemical and physical properties of fired-clay brick at different type of rice husk ash*. International Conference on Environment Science and Engineering (ICESE 2011), April 2011, Bali Island, Indonesia.

89. Al-Tayeb M.M, **Abu Bakar B.H,** Akil. H.M, and Ismail. Hanafi, Effect of partial replacements of sand by waste rubber on the low impact resistance of concrete. International Conference on Advanced Material Engineering & Technology (ICAMET 2012).

90. Al-Tayeb M.M**, Abu Bakar B.H**, Akil. H.M, and Ismail. H, Impact Resistance of Concrete with Low Amount of Powder Rubber as Cement Replacements. International Conference in Civil Engineering (AICCE'12) and GIZ 2012.

91. Al-Tayeb M.M, **Abu Bakar B.H**, Akil. H.M, and Ismail. H, Effect of powder rubber on the impact resistance of concrete. International Conference on Green Technology & Ecosystems for Global Sustainable Development 2012 (ICGTEC2012)

92. Al-Tayeb M.M, **Abu Bakar B.H,** Ismail. H, and Akil. H.M, Energy for the First Crack of Reinforced Concrete with Partial Replacements of cement by Rubb. International Conference on Global Innovation in Technology and Sciences (ICGITS 2013)

93. Al-Tayeb M.M, **Abu Bakar B.H,** Ismail. H, and Akil. H.M, Impact Energy for the First Crack of Reinforced Concrete with Partial Replacements of Sand by Fine Crumb Rubber. 2013 3rd International Conference on Key Engineering Materials ICKEM 2013

94. Al-Tayeb M.M, **Abu Bakar B.H**, Ismail. H, and Akil. H.M, Impact Energy for First Crack of Reinforced Concrete with Partial Replacements of Sand by Rubber 1 mm Particle Size. 2013 3rd International Conference on Key Engineering Materials ICKEM 2013

95. Tayeh, B.A., **Abu Bakar, B.H.,** Megat Johari, M.A. & Voo, Y.L. (2012) Evaluation of bond strength between normal concrete substrate and ultra high performance fiber concrete as a repair material. *The 2nd International Conference on Rehabilitation and Maintenance in Civil Engineering (ICRMCE-2), 8-10 March 2012* Solo, Indonesia., pp. 561-570.

96. Tayeh, B.A., **Abu Bakar, B.H.,** Megat Johari, M.A. & Voo, Y.L. (2012) Utilization of ultra high performance fibre concrete (UHPFC) for rehabilitation – a review. *The 2nd International Conference on Rehabilitation and Maintenance in Civil Engineering (ICRMCE-2), 8-10 March 2012* Solo, Indonesia, pp. 533-546.

97. Tayeh, B.A., **Abu Bakar, B.H**. & Megat Johari, M.A. (2012) Mechanical properties of old concrete - UHPFC interface. *International Conference on Concrete Repair, Rehabilitation and Retrofitting III (ICCRRR 2012), 02-05 September 2012*, Cape Town, South Africa., pp. 1035-1040.

98. Tayeh, B.A., **Abu Bakar, B.H.** & Megat Johari, M.A. (2012) Durability enhancement of the strengthened structural system joints. *Hong Kong International Conference on Engineering and Applied Science (HKICEAS 2012), 14-16 December 2012*, Hong Kong, pp. 113-120.

99. Thaer Jasim Mohammed, **B.H. Abu Bakar**, N. Muhammad Bunnori. Effect of

wrapping thickness on trosional strength of reinforced concrete beam using ultra high-performance fiber concrete. Awam International Conference Civil Engineering (eco- AICCE'15). 9 to 11th Sept 2015, Putra World Trade Center, Kuala Lumpur.

100. Ahmad Tareq Noaman, B.H. Abu Bakar, Hazizan Md Akil. Influence of crumb rubber on impact energy of steel fiber concrete beams. Awam International Conference Civil Engineering (eco- AICCE'15). 9 to 11th Sept 2015, Putra World Trade Center, Kuala Lumpur.

101. B.H. Abu Bakar et al. UHPFRC as a repair material for fire damaged reinforced concrete structures. Awam International Conference Civil Engineering (eco-AICCE'15). 9 to 11th Sept 2015, Putra World Trade Center, Kuala Lumpur.

National

1. **Abu Bakar, BHB**; Diah, AB; Ismail Mahmud: Pembaziran dan Kesannya Ke atas Projek Binaan Bangunan ; Persidangan Kebangsaan Kejuruteraan Awam 99 ; Lumut, Perak; 24-26 Jan. ; 2000
2. **Abu Bakar, BHB**; Parnam Singh; Penaksiran Struktur Konkrit Sediada; Persidangan Kebangsaan Kejuruteraan Awam 99 ; Lumut, Perak; 24-26 Jan. ; 2000
3. Tang Yu Eng; Mohd Zamin Juma'at; **Abu Bakar, BHB** ; Abdul Rashid Hj. Abdul Malek; Rokiah Hashim ; Wong Ee Ding : Design Stress of Indigenious Species For Structural Glue-Lamnination ; CIDB ; National Construction Week at Mines Exhibition and Convention Centre; Seri Kembangan ; Selangor 12th. September 2001.
4. **Abu Bakar, BHB**; Tan Yu Eng; Chong Kok Khei; Rashid Abd. Malik; Comparison of glue laminated timber and Steel beams in fire; Malaysian Science and Technology Congress 2000; COSTAM ; Symposium C ; Genting Highlands ; 7 –9 Nov. 2000.
5. Tan Yu Eng; **Abu Bakar, BHB**; Chan Te Loon; Rashid Abd. Malik; Zaihan Jalalluddin; Fire performance of glue-laminataed timber beam with and without fire retardant treatment; Malaysian Science and Technology Congress 2000; COSTAM ; Symposium C ; Genting Highlands ; 7 –9 Nov. 2000.
6. **Abu Bakar, BHB** ; Kekuatan mampatan dan modulus Keanjalan Bata Tanah Liat ; Symposium B on Pyhical Sciences and Engineering ; 11-13 Oct. 2001 , Melaka.
7. **Abu Bakar, BHB, et. al.** : Pemajuan Kod Amalan MS 544 Pt. 11 Section 4 untuk Penjadual Jarak Rentang Terizin ; Physical Sciences, Engineering And Technology ; Symposium A ; MSTC 2002 ; Johor Bahru.; 19-21 Sept. ; 2002.
8. **Abu Bakar, BHB, et. al.** : Pengaruh system pembebanan terhadap rasuk utama struktur jambatan disokong mudah ; Physical Sciences, Engineering And Technology ; Symposium A ; MSTC 2002 ; Johor Bahru.; 19-21 Sept. ; 2002.
9. **Abu Bakar, BHB, et. al.** : Hubungan antara modulus Kepecahan dan Modulus keanjalan kayu kempas ; Physical Sciences, Engineering And Technology ; Syimposium A ; MSTC 2002 ; Johor Bahru ; 19-21 Sept. ; 2002

10. **Abu Bakar, BHB, et.al.** : Effects of Water Absorption on Deformation of Masonry; Persidangan Kebangsaan Kejuruteraan Awam 2001 ; 508 Febuari ; 2002.
11. **Abu Bakar, BHB** : Rayapan dan Pengecutan Konkrit ; Kursus Pendek Pengawalan Kualiti Konkrit ; Kampus Cawangan Perak ; 22-23 September ; 1999
12. **Abu Bakar, BHB** ; Ujian Musnah Dan Tanpa Musnah Struktur Konkrit; Kursus Pendek 4th. Short Course on Concrete Durability, Assessment, Maintenance and Repair Techniques, 2003.

13. **Abu Bakar, BHB** ; Ujian Musnah Dan Tanpa Musnah Struktur Konkrit; Seminar Anjuran PERKOM & Kerajaan Negeri Melaka; Pulau Besar, 2003.

14. **Badorul Hisham Abu Bakar,** Concrete Mix Design, Concrete Short Course at KUKTEM 2006.

15. **Badorul Hisham Abu Bakar,** Creep and Shrinkage of concrete structures, Concrete Short Course at KUKTEM 2006.

16. **Mohd Fadzil A.I. Megat Azmi M.J, Kairun Azizi M.A , Badorul Hisham A.B;** Properties of ternary blended cementitious system containing silica fume and fly ash as partial cement replacement materials; National Seminar on Civil Engineering Research; SEPKA 2006; 19-20hb. Dec 2006.

17. **Badorul Hisham Abu Bakar , Permissible Stress Design and Material:** Compression and Tension Member ; Short Course on Structural Use of Timber MS 544:2001 Challenges and Application; Universiti Teknologi Malaysia, 27-28 Febuary 2007.

18. **Badorul Hisham Abu Bakar , Permissible Stress Design and Material:** CONNECTION ; Short Course on Structural Use of Timber MS 544:2001 Challenges and Application; Universiti Teknologi Malaysia, 27-28 Febuary 2007.

19. **Badorul Hisham Abu Bakar,** Ujian-ujian musnah dan tanpa musnah ke atas konkrit, Kursus pendek Bahan Binaan,: Penghasilan Konkrit Bermutu, KUKUM, 15-17 Febuari 2007.

20. **Badorul Hisham Abu Bakar, Farah Alwani**, Potential use of rice husk for concrete blockwork, Kejuruteraan Awam: 50 Tahun Selepas Kemerdekaan, Persidangan Awam 07, Langkawi, 29-30 Mei 2007.

21. **Ilyani Abu Bakar, Badorul Hisham Abu Bakar** , Utilization of Banana Stem Fiber in Fired Clay Brick, Kejuruteraan Awam: 50 Tahun Selepas Kemerdekaan, Persidangan Awam 07, Langkawi, 29-30 Mei 2007.

22. **Bashar S. Mohammed, Badorul Hisham Abu Bakar, K.K. Chong**; The effect of opening size on the behaviour of masonry panel; National Civil Engineering Conference; NACEC 2005; 19-20 Dec. 2005; Batu Pahat; Johor.

23. **Bashar S. Mohammed, Badorul Hisham Abu Bakar, K.K. Chong**; The effect of boundary condition on the behaviour of masonry wall panel; National Civil Engineering Conference; NACEC 2005; 19-20 Dec. 2005; Batu Pahat; Johor.

24. **Farah Alwani Wan Chik, Badorul Hisham Abu Bakar, Megat Azmi Megat Johari;** Properties of Concrete Block Containing Rice Husk Ash (RHA); 4th Civil Engineering Conference, AWAM 07 , Langkawi, 29-31 May 2007.

25. **Badorul Hisham Abu Bakar, Nor Ashikin Muhammad Khairusalleh;** Moisture Movement of timber in strength group six subjected to different exposed conditions ; 4th Civil Engineering Conference, AWAM 07 , Langkawi, 29-31 May 2007.

26. **Badorul Hisham Abu Bakar, Chow Shiao Teng Ahmad Shukri Yahya;** Effects of unit water absorption on the strength of masonry wall ; 4th Civil Engineering Conference, AWAM 07 , Langkawi, 29-31 May 2007.

27. **Mohd Fadzil Arshad, Megat Azmi Mj, Badorul Hisham AB, Khairun Azizi Ma, Mohd Nurhasri MS;** Cementitious properties of ternary blended cement system with metakaolin and fly ash as minerals replacement materials ; 4th Civil Engineering Conference, AWAM 07 , Langkawi, 29-31 May 2007.

28. **Ramadhansyah P. J**, Badorul Hisham A. B, Aziz H. A (2009). *Effects of Rice Husk Ash on Blended Concrete Subjected to Seawater: A Review*, Proceedings of National Postgraduate Conference 2009. Universiti Teknologi Petronas, March 2009.

29. Mohd Fadzil A, **Ramadhansyah P.J**, Megat Azmi M.J, Badorul Hisham A B, Haziman W.I.M (2009). *Properties of Concrete Containing Calcined Fly Ash*, Proceedings of National Postgraduate Conference 2009. Universiti Teknologi Petronas, March 2009.

30. **Ramadhansyah P.J**, Badorul Hisham A. B, Megat Azmi M. J, Izwan Johari and Syamsuhaili Said (2009). *Performance of Rice Husk Ash Blended Concrete in Aggressive Environment: Pre-Review*. Fifth National Conference Civil Engineering (AWAM '09). School of Civil Engineering, Universiti Sains Malaysia, October 2009

31. Syamsuhaili Said, Badorul Hisham A. B, Megat Azmi M. J, Izwan Johari and **Ramadhansyah P.J** (2009). *Influence of Mineralogy Composision on Properties of Malaysia Fired-clay Brickwork*. Fifth National Conference Civil Engineering (AWAM '09). School of Civil Engineering, Universiti Sains Malaysia, October 2009.

32. Izwan Johari, Badorul Hisham A. B, Zainal A. A, Syamsuhaili Said and **Ramadhansyah P.J** (2009). *Effect of Firing Temperature on the Mechanical Properties of Fired-clay Brick*. Fifth National Conference Civil Engineering (AWAM '09). School of Civil Engineering, Universiti Sains Malaysia, October 2009.

33. **Ramadhansyah P. J**, Abu Bakar B. H, Megat Azmi M. J and Wan Ibrahim M. H (2011). *Effect of Rice Husk Ash at Different Particle Size on the Engineering Properties of Normal Concrete*. Proceedings of 2nd Civil Engineering Colloquium (CEC-2011). School of Civil Engineering, Universiti Sains Malaysia, March 2011.

34. Wan Ibrahim M. H, **Ramadhansyah P. J**, Abu Bakar B. H, Megat Azmi M. J and (2011). *Elasticity of Masonry Wall Affected with Sodium Sulphate*. Proceedings of 2nd Civil Engineering Colloquium (CEC-2011). School of Civil Engineering, Universiti Sains Malaysia, March 2011.

35. Tayeh, B.A., Abu Bakar, B.H., Megat Johari, M.A. & Voo, Y.L. (2012) Bonding strength of ultra high performance concrete (UHPFC) as a repair material *11th International Conference on Concrete Engineering and Technology 2012 (CONCET2012), 12th–13th June 2012* Putrajaya, Malaysia, pp. 504-509.

36. Tayeh, B.A., Abu Bakar, B.H., Megat Johari, M.A. & Ibrahim, A. (2012) Compressive stress-strain behaviour of composite ordinary and reactive powder concrete *Awam International Conference on Civil Engineering (AICCE'12) and Geohazard Information Zonation (GIZ'12) , 28th-30th August 2012*, Penang, Malaysia., pp. 41-45

37. Tayeh, B.A., Abu Bakar, B.H., Megat Johari, M.A. & Zeyad, A.M. (2012) The role of silica fume in the adhesion of concrete restoration systems *International Conference on Advanced Material Engineering & Technology (ICAMET 2012), 28-30 November 2012*, Batu Feringhi, Penang Island, Malaysia.

38. Tayeh, B.A., Abu Bakar, B.H. & Megat Johari, M.A. (2013) Flexural Strength Behavior of Composite UHPFC - Existing Concrete *3rd International Conference on Key Engineering Materials, 8-9 March 2013*, Kota Kinabalu, Malaysia. *(Accepted)*

39.

Research Grant

National Level

1. Study of creep and moisture movement of Malaysian Timber for Structural Application (168,000-00) Long-term IRPA. Project No : 03-02-05-3153 EA 011 – **Project Leader**
2. Deformation characteristics of Malaysian Fired Clay-Bricks for Masonry Structures,(RM268,000-00) Project No: LPIPM: UPP02-02-05-01-29 – **Project Leader**
3. Design stresses of indigenous timber species for structural glue-laminated; (RM215,000-00) Project No: 03-04-01-0101 – **Co researcher**
4. Utilization of Waste Materials for the Production of Concrete Pedestrian Block (CPB) , (RM368,000-00) Project No : CREAM/06-02-05-ST5-35 – **Co Researcher**
5. **"**Effects of deformation characteristic of fired-clay single leaf wall on the strength of masonry", FRGS (RM80,000-00)- **Project Leader**
6. **Submitted** "OryBen: Oryza-Based Composite Fired Clay Brick" **– CIDB, Interviewed on Nov 2008 (RM 650,000).**
7. **Submitted** "Utilization of Plam oil waste in making fired-clay bricks" – **Saudi's Goverment;** Project Leader (950,000-00)
8. Performance of Palm Oil Fuel Ash-Compacting Conctere (POFA-SCC) Subjected to Different Curing and Exposure Regimes – 01 Ogos 2010 - 31 Julai 2013, **Co-Researcher,** RU Grant (195,400-00)

9. Performance of Fire Resistance Behaviour of Insulated Fibre-Reinforced-Polymenr-Strengthened Reinforce Concrete Circular and Non-Circular Columns – 01 Ogos 2010 - 31 Julai 2013, **Co-Researcher ,**RU Grant (208,400-00)
10. Origami Inpired Novel Structural form of Folded Shell Structures - 01 Ogos 2010 - 31 Julai 2013, **Co-Researcher ,**RU Grant (159,400-00)
11. Investigation of structural behavior of slected timber species due to moisture changes, FRGS (RM84,000-00) – August 2011 – July 2013- **Project Leader**
12. Biomimetric multi-scale damage immunity for construction materials enhanced with cement replacement materials, International Fund-Newton Ungku Omar Fund/MIGHT : 1 Year 2015 (GBP47,410-00)- **Project Leader**

University Level

1. Pengaruh mortar terhadap kekuatan dan ubahbentuk struktur batu bata (RM14,114-00)- Jangkapendek – **Project Leader**
2. Kajian Analisa Bentuk Struktur Kekerang dan Ruang Ringan (RM14,163-00) – Jangka pendek- **Co Researcher**
3. Kajian ke atas kesesuaian penggunaan metakaolin yang dihasilkan daripada tanah liat jenis kaolin yang terdapat di Malaysia sebagai bahan tambahan mineral untuk konkrit (RM16,519-00)- Jangkapendek – **Co Researcher**
4. Kajian Profail Angin di Seberang Perai untuk Kod Piawaian Beban Angin di Malaysia (RM13,780-00) – Jangkapendek – **Co Researcher**
5. Kajian Sifat-sifat mekanikal batu bata yang diperbuat daripada berbagai jenis bahan-bahan semulajadi (RM8,278-00)- **Project Leader**
6. Deformation characteristics of fired-clay brick single leaf wall (39,000-00) – **Project Leader**
7. Potential use of Ultra High Performance fiber Reinforced Concrete (UHPFRC) as a repair material for fire damaged structures (RUI –RM176,000-00)-**Project Leader**

Graduate Supervision

(a) PhD

1. Bashar S. Mohammed, **2006**, Analytical and Experimental investigation of strength of single leaf clay brick masonry wall with opening subjected to compressive loading**- (Graduated) Main Supervisor**
2. Ahmad Ruslan Mohd Ridzuan, **2003**, Peningkatan Kekuatan dan Kelasakan Konkrit Kitar Semula **– (Graduated) Co-Supervisor**
3. Alik Duju, Structural stress grading of Sarawak Timbers as Construction Materials **– (Graduated) Main Supervisor.**
4. Iskandar Openg, Deformataion of Malaysian Timber – **(Graduated) Main Supervisor**
5. Izwan Johari , Study of fired-clay brick containing agricultural wastes – (**Graduated**) **Main Supervisor**
6. Kevin Christian Nair, Creep and moisture movement of kempas and mengkulang for structural application- (on going) Main Supervisor
7. Mohd Fadzil Arshad, A production of Lightweight High Strength Concrete using Malaysian Metakaolin as cement replacement Minerals – (**Graduated) Co Supervisor**
8. Shwan Jalal Abdullah, Dynamic Space Structures – (On going) Co Supervisor
9. Ramadhan Syah Putra , Durability of Concrete Containing Agriculcutural Waste as Cement Replacement (RHA) – **(Graduated) Main Supervisor**
10. Gadafi Ismail , Comparison of Strength Properties of Sarawak Fast Growing Indigenous Timber Species - **(Graduated) Main Supervisor**
11. Mohd Haziman Wan Ibrahim, Effects of durability on performance of fired-clay bricks- **(Graduated) Main Supervisor**
12. James Haido , Nonlinear Dynamic Analysiss of Steel-Fiber Reinforced Concrete Beams and Slabs **(Graduated) Main Supervisor**
13. Mustafa M.M Al; Tayeb. Modeling of structure response of rubberized concrete subjected to high impact load (**Graduated**) **Main Supervisor**
14. Bassam A.O.Tayeh. Characteristics of Interfacial bonding between normal concrete

substrate and ultra high performance fiber concrete repair material (**Graduated**) **Main Supervisor.**

15. Nor Hazurina Othman , Penilaian Kualiti Konkrit Campuran Berasakan Kulit Kerang Sebagai Aggregat. (**Graduated) Main Supervisor.**
16. Omer Farouk , Influence of steel fibers on structural behaviour of spandrel beams under combined loading. (**Graduated) Main Supervisor.**
17. Thaer Jasim Mohammed, Improving Torsional Behaviour of Reinforced Concrete Beam Strengthened with Ultra High Performance Fibre Reinforced Concrete. (**Graduated) Main Supervisor.**

- 16 PHD Students GRADUATED

(b) Master's Degree

1. Ade Asmi, 2003, Measurement old Gap Acceptance and Delay at Signalized Intersections, **-(Graduated 2001) Co-Supervisor**
2. Mariazura Mohd Zain, Potential use of construction waste-timber for concrete wood,**(Graduated)-Main Supervisor**
3. Farah Alwani, Properties of concrete block containing rice husk ash**, (Graduated)-Main supervisor.**
4. Ana Azrena, Moisture movement of mechanically treated and untreated timber, (on going) Main Supervisor
5. Syamsuhaili said, Effects of deformation characteristic fired-clay brick single-leaf wall on strength of masonry, (**Graduated**) Main Supervisor.
6. Chan Chee Kin, Utilization of ceramic waste as an aggregate repalcement of concrete, **(Graduated) Co- Supervisor**.
7. Wan Nurul liza Mior Abdullah, Development of concrete block/pavement from concrete waste. (on going) Co- Supervisor.
8. Ummi Kalsum Hasanah Mohd Nadzim, Development of concrete block using clay-based construction wastes. **(Graduated) Co- Supervisor**.

- 6 MSc (By research) GRADUATED

(c) Master's Dissertation (Mixed Mode)

1. Suzaini bt. Shamsuddin, 2005, Study on strength characteristics of crumb rubber-added concrete block , **(Graduated) Main Supervisor**
2. Ilyani Akmar bt. Abu Bakar, 2005, Study on strength characteristics of Banana Stem Fiber-added Fired-Clay bricks, **(Graduated) Main Supervisor**
3. Chow Shiao Teng, 2006, Simulation on the effect of water absorption on the strength of masonry, **(Graduated)** , **Main Supervisor**
4. Nor Ashikin bt. Muhammad Khairussaleh, 2006, Development of numerical modelling for moisture movement of timber structure, **(Graduated)** , **Main Supervisor**
5. Izwan Johari, 2005, Rice Husk Added Fired Clay Bricks, **(Graduated)** , **Main Supervisor**
6. Suria, 2007, Development of lightweight fired-clay brick containing Banana Trunk Fibre, **(Graduated)** , **Main Supervisor.**
7. Nurjannah, 2007, Potential use of bottles for shallow foundation**, (Graduated)** , **Main Supervisor.**
8. Md Zain,2007, Deformation of structural timber in bending on kempas and mengkulang subjected to ambient conditions, **(Graduated)** , **Main Supervisor.**

- 8 MSc Students (By mix-mode research) GRADUATED

(d) Master's Dissertation (Coursework)

1. Muhamad Sufian b. Jusoh, April 2000, Kajian Kelakukan dan Kesan Rasuk Glu-lam Semasa Pembakaran dengan nisbah dalam kepada lebar yang berbeza, **(Graduated) Main Supervisor**
2. Iskandar Openg, 2002, Pembangunan Jadual Jarak Rentang Terizin Kasau Untuk Kod Amalan, **(Graduated), Main Supervisor.**

3. Marzuki Abdul Rahman, 2002, Kajian Modulus Keanjalan dan Kepecahan Kayu Kempas, **(Graduated), Main Supervisor**
4. Norazura Bunori, 2002, Pengaruh sistem Pembebanan Terhadap Rasuk Utama Struktur Jambatan Di sokong Mudah, **(Graduated), Main Supervisor**
5. Wan Safizah bt. Wan Salim , 2002, Isotropy and Anisotropy Behaviour of Masonry Units , **(Graduated), Main Supervisor**
6. Cheng Hock Tian, 2002, Comparison of Losses with Different Type of Codes , **(Graduated), Main Supervisor**
7. Nor Azizah bt. Muhammad ,2002 , Development of Span Tables Domestic Rafters, **(Graduated), Main Supervisor**
8. Mohd Zamri bin Abdullah ,2002 , Investigation of Elastic properties of Timber, **(Graduated), Main Supervisor**

ACADEMIC RECOGNITION AND LEADERSHIP

Academic Award

1. Anugerah Perkhidmatan Cemerlang, 2003, National, Universiti Sains Malaysia.
2. Anugerah International Invention Innovation Industrial Design & Technology Exhibition**, ORYBEN** 2005 (ITEX 2005) Silver Medal
3. Anugerah Sanggar Sanjung **2005**, Kategori Produk Penyelidikan Kebangsaan
4. Anugerah International Invention Innovation Industrial Design & Technology Exhibition, **UTILIZATION OF CERAMIC WASTE AS CONCRETE PAVEMENT**, 2009 **(ITEX 2009)** Silver Medal
5. Anugerah Malaysian Association of Research Scientists (MTE 2013) **CRM-Ultra Performance** (MTE 2013) Silver Medal
6. Anugerah International Conference and Exposition on Invention of Institutions of Higher Learning, PENCIPTA'13 Bronze Medal **RETROCRETE- ULTRA HIGH PERFORMANCE CONCRETE REPAIR MATERIAL**.

Assessor/Examiner

External Examniner

M.Eng. in Civil Engineering, **2001**. Behaviour of Floor and Wall Joint in the Interlocking Masonry Structures, Universiti Teknologi Malaysia, UTM.

M. Eng. in Civil Engineering, **2009**. Properties of concrete containing crumb rubber particles as partial replacement of fine aggregate, Universiti Tenaga Nasional, UNITEN.

M. Eng. In Civil Engineering, **2010**. The development of high performance eco-green concrete mixes. Universiti Teknologi Petronas.

PhD in Civil Engineering, **2009**. Structural behaviour of pretensioned inverted T-Beams with circular web openings strengthened with glass fiber reinforced polymer (GFRP). Universiti Tenaga Nasional, UNITEN.

MSc in Civil Engineering, **2011**. Precast Concrete Structures. Universiti Teknologi Melaka, UTEM.

PhD in Civil Engineering, **2012**. A method in performance measurement of concrete practice. UM.

PhD in Civil Engineering, 2014. Optimization of steel fibre reinforced concrete as concrete topping in composite slab construction. UTM.

MSc in Civil Engineering, 2014.

Internal Examiner

1. M.Sc in Civil Engineering, **2001**. A study of Sulphate Attack on Mortar and Concrete, Universiti Sains Malaysia, USM.

2. PhD in Civil Engineering, **2007** . Engineering properties and clogging behaviour of double layer porous asphalt, Universiti Sains Malaysia.

3. PhD in Civil Engineering, **2007.** A computational study on a nature inspired novel folded shell structural form, Universiti Sains Malaysia.

4. M.Sc in Civil Engineering, **2008.** Faktor yang menyumbang kepada kemalangan dalam sektor pembinaan

5. M.Sc in Civil Engineering, **2008**. Steel slag as an aggregate replacement in bituminous asphalt.

6. PhD in House Building and Planing, **2009**. Kekuatan lentur konkrit ferosimen terubahsuai, Universiti Sains Malaysia.

7. M.Sc in Civil Engineering **2009**,. Kesan Keadaan Pendedahan Terhadap Prestasi Kekuatan dan ciri-ciri ketahanlasakan konkrit yang mengandungi metakaolin, Universiti Sains Malaysia.

8. PhD in Civil Engineering, **2013**. Properties and performance of engineered cementitous composites containing palm oil fuel ash. Universiti Sains Malaysia

9. PhD in Civil Engineering, **2013**. Influence of steam curing on engineering and fluid transport properties of high strength green concrete containing palm oil fuel ash. Universiti Sains Malaysia.

10. PhD in Civil Engineering**, 2013**. Water sensitivity of warm mix porous asphalt incorporating sasobit[@]. Universiti Sains Malaysia.

11. M.Sc in Civil Engineering, **2013**. Influence of palm oil fuel ash as a supplementary binder on properties of self-compacting concrete. Universiti Sains Malaysia.

12. PhD in Civil Engineering, **2014**. Analysis of Acoustic Emission Data Parameters on reinforced concrete beams for structural health monitoring applications. Universiti Sains Malaysia.

Visiting Professor/Fellowship

1. Visiting Lecturer, School of Environment, University of Brighton, April 2004, 1 month.
2. Visiting Lecturer, Department of Chemical Process Engineering, University of Canterbury, Chrischurch, New Zealand, (1 month) May 2006.
3. Visiting Professor, Department of Building and Environment, Leeds Metropolitan University, U.K (1 Month) September 2008
4. Visiting Professor, Chungnam University, Daejon, South Korea, December 2012.

Academic Journal Article Assessor/ Working Paper Assessor/ Technical Assessor/Scientific Assessor/Panelist

1. Reviewer Journal of Construction in Developing Countries (JCDC) to date.
2. Reviewer International Journal of Engineering Technology, Iran (IJE) to date.
3. Editor,1999. Engineering Journal, The Journal of the Faculty of Engineering, UKM.
4. Editor, (Material & Structural Engineering), 1999. National Civil Engineering Conference, Awam'99, School of Civil Engineering.
5. Member of Organizing Committee For World Timber Engineering, WCTE, 2002.
6. Editor, 2001. National Civil Engineering Conference, Awam'2001, School of Civil Engineering, USM.
7. Paper Assessor, " Influence of fly ash on strength and deformation characteristics of high-strentgh concrete". National Civil Engineering Conference, Awam' 2004, Copthorne Orchid Hotel, Tanjung Bungah, Pulau Pinang.
8. Paper Assessor, " Assessing concrete quality using impact echomethod". National Civil Engineering Conference, Awam' 2004, Copthorne Orchid Hotel, Tanjung Bungah, Pulau Pinang.
9. Paper Assessor, " Steel frame analysis with semi rigid connections". National Civil Engineering Conference, Awam' 2004, Copthorne Orchid Hotel, Tanjung Bungah, Pulau Pinang.
10. Paper Assessor, " Aluconcrete beams and arches". National Civil Engineering Conference,

Awam' 2004, Copthorne Orchid Hotel, Tanjung Bungah, Pulau Pinang.

11. Paper Assessor, " Cold-Formed Steel: Development and application in local building Industry". National Civil Engineering Conference, Awam' 2004, Copthorne Orchid Hotel, Tanjung Bungah, Pulau Pinang.
12. 'Paper reviewer, Pollution Potentials Associated with Building Service Equipment' CIRAIC '09
13. Paper reviewer. "A Study of the Flexural Behavior and Toughness of Synthetic Polypropylene Fiber Concretes". ESTEEM, Vol. 5, No. 1, 2009 (Engineering)
14. Paper reviewer. "Interfacial Bond Strength Test Of Synthetic Polypropylene Fiber Concrete". ESTEEM, Vol. 5, No. 1, 2009 (Engineering)

SERVICE TO THE UNIVERSITY

Administration

1. Penyelaras Latihan Industri, PPKA, 2003 hingga 2006
2. Pemangku Pengerusi Rancangan Struktur (2 bulan)
3. Pengerusi Rancangan Industri dan Jaringan luar
4. Pemangku Timbalan Dekan Pengajian Siswazah dan Perundingan (1 bulan)
5. Timbalan Dekan Pengajian Siswazah dan Penyelidikan
6. Pemangku Dekan (1 bulan)

University Committee

1. Ahli Mesyuarat Majlis Pusat Pengajian Kejuruteraan Mekanikal, Kampus Kejuruteraan, USM
2. Pengerusi Ahli Jawatankuasa Alumni untuk Kampus Kejuruteraan (2000 hingga kini)
3. Committee Member for the Canselor's Annual Dinner for 31st USM Convocation at Equatorial Hotel, Penang
4. Committee Member for Mentor-Mentee for Engineering Campus. (2002 – present)
5. Committee Member for organizing Maulidur Rasul 1425H, Engineering Campus, 2004.
6. Committee Member for organizing Himpunan Mahabah Pelajar & Staf Muslim Antarabangsa, 1425, 2004.
7. Committee Member for Organizing Keluarga Bestari, 2004.

School Committee

1. Ahli Majlis Mesyuarat Pusat Pengajian Kejuruteraan Awam, Kampus Kejuruteraan, USM
2. Penasihat Persatuan Pelajar Pusat Pengajian Kejuruteraan Awam. (2000 hingga kini)
3. Penasihat Malaysian Structural Steel Association (MSSA) Competition for Bridge Design, 2001
4. Ahli Jawatankuasa untuk AWAM 2001, National Conference at Superstar Gemini Star Cruise, 2002.
5. Ahli Jawatankuasa untuk Amalan Kejuruteraan, Pusat Pengajian Kejuruteraan Awam, USM (2000- present)
6. Ahli Jawatankuasa untuk Aktiviti Ramadhan, Wakil Pusat Pengajian. (2002- hingga kini)
7. Committee Member for Academic Quality Assurance at the School of Civil Engineering. (2002 – present)
8. Organizing Committee for Short-Course " Concrete, Quality & Control" at School of Civil Engineering. 1999
9. Organizing Committee for Short Course "Design, construction & Maintenance of Steel structures" at Harvard Suasana Hotel Gurun, Kedah. 2001
10. Organizing Committee for Short Course " Concrete, Durability, Assessment Maintenance & Repair Technique" at School of Civil Engineering, Pulau Pinang. 2003.
11. Organizing Committee for Short Course " Design of Masonry Structures" at at Harvard Suasana Hotel Gurun, Kedah. 2005

12. Organizing Committee for Short Course " Earthquake Engineering Professional" at JKRHQ, Kuala Lumpur. 2005.
13. Organizing Committee for Short Course " Earthquake Engineering Professional" at USM, Pulau Pinang. 2005.
14. Organizing Committee for Persidangan Awam 07 " Kejuruteraan Awam 50 Kemerdekaan" at Langkawi, Kedah. 2007

SERVICE TO THE COMMUNITY

National Level

1. **Chairman of Technical Committee (TC)** for "Clay bricks/Blocks", SIRIM, **2004 to date**
2. **Chairman of Working Group Committee (WG)** for MS, Part 11 – Recommended Span Tables and Their Calculation, MTIB**, 2008 to date**

3. Committee of Working group on "MS 544: Recommendations For the Calculation Basis for Span Tables SWO/CIDB/SQ/WG7, Construction Industry Development Board Malaysia, (1999 – 2004)

4. Committee of Working group on "MS 544 : Part 8 : Prefabricated Timber Structure for Roof Trusses" SWO/CIDB/TC4/WG5, Construction Industry Development Board Malaysia, (1999 – 2006)

5. Technical Committee for "MS 544 Code of Practices for Structural Use of Timber" SWO/CIDB/TC4, Construction Industry Development Board Malaysia, (1999 – present)

6. Technical Evaluation (Expert Panel Group) for IRPA, Construction Industry Development Board Malaysia, (1999)

7. Technical Evaluation (Expert Panel Group) for IRPA, Construction Industry Development Board Malaysia, (2000)

8. Ad-hoc Committee To Proposed Quality Assurance Scheme For Prefabricated Timber Trusses System, (2001-2003).

9. Senior Councilor For International Graduate School, IGS, Kajang Selangor, (2001 – present)

10. Ahli Jawatankuasa Kecil Pendidikan – Kayu Dalam Pembinaan (UiTM/FRIM), 2003 to date

11. Ahli Kumpulan Fokus 'Construction Ergonomics' (FG10) CIDB, 2003 hingga 2006

12. Ahli Jawatankuasa Kumpulan Kerja "Clay Bricks", SIRIM. 2003 to date

13. Timber Technology and Engineering Information Resources (TTEIR)- Working Committee, 2005 to date

State Level

1. Invited speaker for Talks in Science and Technology, Radio 3, Ipoh RTM. 2000
2. Invited speaker at JKR Negeri Terengganu.
3. Proposal for the Pusat Pengumpulan Hasil Pertanian Kampung to the Perak State Government. 2002
4. Proposal for the development of Perak Construction Technology Center. 2003
5. AHLI MAJLIS DAERAH, Parit Buntar.

District/University/School/Village Level

1. Chairman Protem Committee, Taman Murni, Parit Buntar. 2003
2. Committee for MSSA – Student Cahpter, Won First Prize Award, Bridge Design

Competition, 2002

3. Committee for MSSA – Student Chapter, Won 3rd Prize Award, Building Design, 2004
4. Chairman of Parents & Teachers Association (PIBG) – Sekolah Rendah Permatang Tok Mahat, Seberang Perai Selatan, Pulau Pinang.
5. Jawatakuasa Majlis Pelan Induk Bandar Selamat di Peringkat Pihak Berkuasa Tempatan, Majlis Kerian.