

CURRICULUM VITAE

A. PERSONAL INFORMATION

Name : **AZERAI ALI RAHMAN**
Citizenship : Malaysia
Date of Birth : 04 Oktober 1980
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B. ACADEMIC QUALIFICATIONS

2005/2007	MSc. of Computational Mechanics of Materials and	September 2005 – July 2007
Institution	Universitaet Stuttgart , Stuttgart, Germany.	
2001/2004	Bachelor of Science in Civil Engineering	Nov 2001- September
Institution	Universiti Teknologi MARA Shah Alam, Selangor, Malaysia	
Thesis Title	Performance of Carbon reinforced polymer under aggressive alkaline	
1998/2001	Diploma	May 1998- Feb 2001
Institution	Universiti Teknologi MARA Shah Alam, Selangor, Malaysia	
1996/1997	Sijil Pelajaran Malaysia	Jan 1996 - Dec 1997
Institution	Sekolah Menengah Perimbun, Cheras, Kuala Lumpur	
1993/1995	Penilaian Menengah Rendah	Jan 1993 - Dec 1995
Institution	Sekolah Menengah Perimbun, Cheras, Kuala Lumpur	

C. ACADEMIC PROJECT UNDERTAKEN

2005/2007	MSc. of Computational Mechanics of Materials and	September 2005 – July 2007
Institution	Universitaet Stuttgart, Stuttgart, Germany.	
Master Thesis	<p>FLEXIBLE NODES OF ADAPTIVE SPACEFRAME WORKS SYSTEM. Abstract:</p> <p>Recent development of structural engineering pushed the limits of all of these technologies by introducing the usage of adaptive systems in the space frame structures. This adaptation process was the idea to improve their function of technical system and increase their lifespan. All of this process went through some optimization analysis in order to obtain the minimum areas and to define the location of elements together with adaptive structures imposed to the system.</p> <p>This actuation will deform the shape of structures in varying number of load cases. In practical systems of this kind, the flexible nodes need to be introduced, so that end-rotations of the member and variation of stress distribution can also be encountered. The investigation is considering the passive and active system where the main targets are to control the deflections and to keep the stress distribution below its allowable value. Several sets of models were carried out using different combination of joint types and materials. It can be categorized into 5 main tasks. For pinned and fixed joint tasks, there is a huge decreasing change in the displacement from passive to active system. The percentage change of stress value in active system with fixed joint is very high as compare to active system with pinned joint where it is boost to 94.9% of increment. It is failed in the allowable stress of 130 MPa in Aluminum members. For quasi pinned joint task; the variation of polyamide (PA-6) showed that the displacement is increase in passive and active system with the increasing length of polyamide (PA-6) end connection. However, the maximum stress is decrease with respect to this increment. The increments of end connection lengths only satisfy the allowable stress in aluminum but failed in Polyamide (PA-6) allowable stress. By replacing the material of end-connection to only 50 mm polyvinyl chloride (PVC), it shows a decreasing of maximum displacement for both systems. By comparison in quasi-pinned joint, passive system with 50 mm polyvinyl chloride (PVC) end-connection is observed 20.2% improvement of maximum displacement value to the passive system with 50 mm polyamide (PA-6) end-connection. At the stress distribution, it is noticed that both systems are capable to resist the acting stress. Hence, the analysis results based on 50 mm polyvinyl chloride (PVC) end-connection is more plausible to design and construct. The deformation behavior particularly on the rotation angles of the members in passive and active system has been identified and the design of each detail was also completed.</p>	

D. COURSES UNDERTAKEN IN MASTER'S DEGREE LEVEL

1. Continuum Mechanics
2. Computational Mechanics of Materials
3. Computational Mechanics of Structures
4. Discretization Methods and Scientific Programming
5. Optimization of Mechanical Systems
6. Engineering Materials I: Metals, Concrete, Soils
7. Micromechanics of Materials and Homogenization Method
8. Advanced Computational Mechanics of Structures
9. Boundary Element Methods in Statics and Dynamics
10. Numerical Modelling of Soils and Concrete Structure

11. Nonlinear Dynamics
12. Implementation and Algorithms for Finite Elements
13. Smart Structures
14. Modeling of Hydrosystems
15. Selected Topics in the Theories of Plasticity and Viscoelasticity
16. Theoretical and Computer-Oriented Material Theory
17. Numerical Methods for Differential Equations

E. PROFESIONAL MEMBERSHIP

- (a) Member: Board of Engineers Malaysia (BEM)
- (b) Member: Institution of Engineers Malaysia (IEM)
- (c) Member: Malaysian Society for Occupational Safety and Health (MSOSH)
- (d) Member: Concrete Society of Malaysia (CSM)

F. CURRENT POST

Lecturer in Faculty of Civil Engineering, UiTM Shah Alam (2007-now)

G. ADMINISTRATIVE POSTS / EXTENDED RESPONSIBILITIES

Coordinator of ECS468-Structure Analysis (2015-2018)

H. PAST EXPERIENCE

Within UiTM

2007 - now Appointed as Lecturer

2015 - 2018 Coordinator of ECS468 – Structure Analysis

I. TEACHING/SUPERVISION

Teaching

Undergraduate Level, among others

ECS 408 Statics and Dynamics
ECS 478 Reinforced Concrete Design
ECS 458 Basic Structural Design
ECS 555 Numerical methods for Engineers
ECS 468 Indeterminate Structures
ECS 556 Structure Analysis

Supervision: Undergraduates Level

No.	Title	Student	Year
1.	Stimulus properties such as fixation and recovery performance of shape memory composites (SMPC) with a variation of fiber length	Nik Nur Amirah	2016
2.	Thermo-mechanical properties of Shape memory polymer composites (SMPC) with different fibers orientation.	Nurfarahdini binti Abu Bakar	2016
3.	Performance of Semi-Rigid Connection Steel Frame under Low Intensities Earthquake Finite Element	Mohd Nadhirul Bin Anuar	2017
4.	Performance of Polyurethane Shape Polymer Composite (SMPC) at different rate with Variation of Volume Fraction	Desman Janang	2017

J. RESEARCH

Research	Dana Pembudayaan Penyelidikan (RAGS)-KPT (2016-2017) Title: Investigation on Wake-induced Instabilities of Twin Circular Cylinders under Wind Actions. Contribution: Co-Researcher Total Funds: RM55,000.00
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FRGS- Ministry of Science, Technology and Innovation (MOSTI) (2016-2018)

Title: Characteristic of thermomechanical constitutive model of Polyurethane Shape Memory Polymer Composites (SMC).

Contribution: Main Researcher

Total Funds: RM98,750.00

PRGS- Ministry of Science, Technology and Innovation (MOSTI) (2017-Present)

Title: Green Prefabricated Wood-Wool Wall Panel.

Contribution: Co-Researcher

Total Funds RM 180,000.00

Grant Research Entity Initiative (REI)-UiTM (2018-Present)

Title: Developing New Version of Engineered Cementitious Composite towards Integrated Structural and Materials Design.

Contribution: Co-Researcher

Total Funds RM 32,000.00

FRGS- Ministry of Science, Technology and Innovation (MOSTI) (2019-Present)

Title: Actuation Profile Design Model for Active Structural Systems with Flexible Connections.

Contribution: Main Researcher

Total Funds: RM84,000.00

K. CONSULTANCY

- Title: Four-Point Flexural Tests on Precast Concrete Soldier Pile (Post and Panel).
Start Date: 01-12-2018
End Date: 28-02-2019
Client: Rivo Builders (M) Sdn. Bhd.
Type: Professional Services
Consultation Fee: RM 23,000.00
- Title: Plasform Plastic Panel Structural Performance Development and Laboratory Assessment.
Start Date: 01-10-2018
End Date: 31-01-2019
Client: Jet Formwork & Scaffold Sdn Bhd
Type: Contract Research
Consultation Fee: RM 57,000.00
- Title: Thermal Analysis in PPU Cable Cellar.
Start Date: 01-08-2018
End Date: 31-12-2018
Client: TNB Research Sdn Bhd
Type: Contract Research
Consultation Fee: RM 135,000.00
- Title: The Accelerated Life Test Services on Retrofitted LED Street Light.
Start Date: 01-03-2018
End Date: 03-06-2018
Client: TNB Research Sdn Bhd
Type: Services/Evaluation
Consultation Fee: RM 100,400.00
- Title: The Axial Load Test of Tasblock Wall
Start Date: 01-08-2017
End Date: 15-09-2017
Client: Tasblock (M) Sdn Bhd
Type: Testing Maintenance
Consultation Fee: RM 26,500.00
- Title: Load Test on Beam Strengthen with CFRP.
Start Date: 03-10-2016
End Date: 30-11-2016
Client: SCE-Singfa Sdn Bhd
Type: Testing Maintenance
Consultation Fee: RM 27,500.00
- Title: Static Test of Locomotive Underframe and Bogie Frame.
Start Date: 09-05-2016
End Date: 30-06-2018
Client: LMG Locomotive Sdn Bhd
Type: Testing Maintenance
Consultation Fee: RM 125,000.00
- Title: Development of Silica Nano Particles Filled XLPE-Based Electrical Insulation for Medium Voltage Power Cable.
Start Date: 01-05-2016
End Date: 30-04-2018
Client: TNB Research Sdn Bhd
Type: Contract Research
Consultation Fee: RM 476,000.00

- Title: The Engagement of Collaborator to Undertake Corrosion Test on Medium Voltage Bare Overhead Line Pole.
Start Date: 07-12-2015
End Date: 31-12-2017
Client: TNB Research Sdn Bhd
Type: Contract Research
Consultation Fee: RM 237,130.00

L. PUBLICATIONS

Publications of

Journal

No.	Title of paper/article	Name of Publisher/journal	Year
1.	Memory effects performance of polyurethane shape memory polymer composites (SMPC) in the variation of	SPRINGER/Fibers and Polymers Volume 18, Issue 5, pp 979-	May 2017
2.	Fire resistance performance of reinforced concrete column with embedded permanent formwork	SCIENTIFIC/ Applied Mechanics and Materials, Volume 661, pp.	October 2014
3.	Increasing the capacity of concrete column with integrated permanent formwork using woodwool cement board	SCIENTIFIC/ Applied Mechanics and Materials, Volume 325-326, pp. 1305-1309	June 2013

Publications of Papers

No.	Title of paper/article	Name of Publisher/journal	Year
1.	Thermomechanical and microstructure behavior of Shape memory polymer composites (SMPC) under different fiber lengths.	Proceedings of "15 th International Conference on Concrete Engineering and Technology 2016 (CONCET2016).	Feb 2016

M. ACHIEVEMENTS

- Gold medal exhibition of IIDEX 2017 for development of woodwool panel in Kuala Lumpur, Malaysia.
- Silver medal exhibition of SIFF 2017 (Korea invention promotion association) in Seoul, South Korea.