

# **CURRICULUM VITAE**



Dr. Muhammad Azim bin Azizi Department of Mechanical and Manufacturing Engineering Faculty of Engineering Universiti Putra Malaysia 43400, UPM Serdang, Selangor, Malaysia.

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#### Education

- 1. Ph.D in Mechanical Engineering, 2017, Department of Mechanical and Material Engineering, Universiti Kebangsaan Malaysia, Malaysia. Thesis title: Peridynamic Approach For Viscoelastic Creep And Fracture Behaviours.
- 2. Master of Engineering (MEng) in Mechanical Engineering, 2010, University of Nottingham, UK.

#### **Areas of Interest**

- 1. Stress Analysis
- 2. Peridynamic
- 3. Fracture Mechanics
- 4. Crashworthiness
- 5. Viscoelasticity
- 6. Electric Micromobility

#### Professional Qualification/ Membership/ Affiliation

1. Graduate Member, Board of Engineers Malaysia (BEM)

Appointments			
Position	Duration		
<ol> <li>Senior Lecturer, Department of Mechanical and Manufacturing Engineering, Faculty of Engineering, UPM</li> </ol>	2017 until now		
<ol><li>Tutor, Department of Mechanical and Manufacturing Engineering, Faculty of Engineering, UPM</li></ol>	2011 to 2017		



#### **Publications**

## Journals

- 1. **Azizi, M.A.,** Zahari, M. Z. M., Rahim, S. A., Azman, M. A., 2022, Fracture analysis for viscoelastic creep using peridynamic formulation Journal of Theoretical and Applied Mechanics, 579-591.
- 2. Rahim, S. A., Manson, G., **Azizi, M. A.**, 2021, Data Clustering based on Gaussian Mixture Model and Expectation-Maximization Algorithm for Data-driven Structural Health Monitoring System, International Journal of Integrated Engineering 13 (7), 167-175.
- 3. Azizi, M. A., Ashaari, R., As' arry, A., Hafiz, M. R., 2020, Design and Development of Stabiliser for Electric Unicycle, Journal of the Society of Automotive Engineers Malaysia 4 (3), 288-306.
- 4. **Azizi, M. A.**, Fahad, A. A., Rahim, S. A., 2020, Peridynamic Method for Behaviour of Polycarbonate Specimen in Impact Test, Symposium on Damage Mechanism in Materials and Structures, 29-43.
- 5. **Azizi, M. A.**, Ariffin, A. K., 2019, Peridynamic model for nonlinear viscoelastic creep and creep rupture of Polypropylene, Journal of Mechanical Engineering and Sciences 13 (4), 5735-5752
- 6. **Azizi, M. A.**, Ariffin, A. K., Nikabdullah, N., 2016, The Peridynamic Model of Viscoelastic Creep and Recovery, Multidiscipline Modeling in Materials and Structures.
- Azizi, M. A., Ariffin, A. K., Nikabdullah, N., 2016, Peridynamic Model of Nonlinear Viscoelastic Creep and Rupture, International Journal of Engineering and Management Research (IJEMR) 6 (2): 52-63.
- Nikabdullah, N., Singh, S. S. K., Alebrahim, R., Azizi, M. A., Noorani, M. S. M., 2014, Reliability analysis and prediction of mixed mode load using Markov Chain Model, AIP Conference Proceedings 1602 (1), 918-924.
- J Mai Nursherida, Sahari B Barkawi, AA Nuraini, Aidy Ali, AA Faieza, Tuan Ismail, Tuan Hafandi, Azizi M. A., M Salleh Salwani, MS Nabilah, SS Aini, M Shahril, MH Norhidayah, 2012, Performance of hood system and head injury criteria subjected to frontal impacts, Applied Mechanics and Materials 165, 270-274.
- Azizi, M. A., Aidy Ali, Sahari B Barkawi, AA Nuraini, AA Faieza, Tuan Hafandi Tuan Ismail, M Salleh Salwani, J Mai Nursherida, MS Nabilah, SS Aini, M Shahril, MH Norhidayah, 2012, Performance of aluminium alloy side door subjected to pole impact test, Applied Mechanics and Materials 165, 280-284.
- 2012, J Mai Nursherida, AA Nuraini, Sahari B Barkawi, Aidy Ali, AA Faieza, Tuan Hafandi Tuan Ismail, Azizi, M. A., M Salleh Salwani, MS Nabilah, SS Aini, M Shahril, MH Norhidayah, Determination of Leg Injury Criteria Subjected to Frontal Impacts, Applied Mechanics and Materials 165, 265-269.
- SS Aini, Sahari B Barkawi, Aidy Ali, AA Nuraini, AA Faieza, Tuan Ismail, Tuan Hafandi, M Shahril, MS Nabilah, M Salleh Salwani, J Mai Nursherida, **Azizi, M. A.**, MH Norhidayah, 2012, Introducing fatigue contour plot in LS-Pre Post LSDYNA finite element crash simulation software, Applied Mechanics and Materials 165, 275-279.
- M Salleh Salwani, Aidy Ali, Sahari B Barkawi, AA Nuraini, AA Faieza, Tuan Hafandi Tuan Ismail, J Mai Nursherida, Azizi, M. A., Nabilah Mohd Safar, Siti Aini Satuan, Shahril Mohamad, Norhidayah Muhamed, 2012, Analysis on Impact Performance of Aluminum Automotive Side Member, Applied Mechanics and Materials 165, 209-213.



### **Conference Proceedings**

- 1. Azizi, M. A., Fahad, A. A., Rahim, S. A., 2021, Development of Peridynamic Model for Impact test of Polypropylene and Polycarbonate, *The 5th Symposium on Damage Mechanisms In Materials And Structures*, Malaysia.
- 2. Rahim, S. A., **Azizi, M. A.**, 2021, Data Clustering Model based on Gaussian Mixture Model and Expectation-Maximization Algorithm for Data-driven Structural Health Monitoring System, *The 5th Symposium on Damage Mechanisms In Materials And Structures*, Malaysia.
- 3. **Azizi, M. A.**, Ashaari, R., As'arry, A., Hafiz, M. R., 2019, Stabilised Design of The Zero-Emission and Energy Efficient Electric Unicycle Using Arduino System, *2nd International Conference on Advances in Mechanical and Manufacturing Engineering*, Malaysia.
- 4. **Azizi, M. A**, Ridhuan, M. F. M., 2019, Peridynamic Method and Finite Element Method Comparison for Tensile Elongation and Fracture Simulations for PMMA, *2nd International Conference on Advances in Mechanical and Manufacturing Engineering*, Malaysia.
- 5. Azizi, M. A., Ariffin, A. K., Nikabdullah, N., Sajuri, Z., 2017, Peridynamic Approach for Viscoelastic Creep Fracture Simulation, *Symposium on Damage Mechanisms In Materials And Structures*, Malaysia.
- Azizi, M. A., Alias, N. A., Ariffin, A. K., Abdullah, S., 2016, Fracture Analysis for Viscoelastic Creep Using Peridynamics Formulation, *Symposium on Damage Mechanisms In Materials And Structures*, Malaysia.
- Nikabdullah, N., Azizi, M. A., Alebrahim, R., Singh, S. S. K., 2014, The application of peridynamic method on prediction of viscoelastic materials behaviour, AIP conference proceedings 1602 (1), 357-363.
- 8. Nikabdullah, N., **Azizi, M. A**., Alebrahim, R., Singh, S.S.K., Elwaleed, A.K., 2013, The Application of Peridynamic Method on Prediction of Viscoelastic Materials Behaviour, *The 3rd International Conference on Mathematical Sciences*, Malaysia.
- 9. Nikabdullah, N., **Azizi, M. A.**, 2013, The Peridynamic Formulation of Viscoelastic Materials Behaviour, *2nd International Conference on Mechanical, Automotive and Aerospace Engineering*, Malaysia.

# Chapter in Books

1. **Azizi, M. A.**, Rahim, S. A., 2020, Development of Peridynamic Model for IMpact Test of Polypropylene and Polycarbonate, Structural Integrity Cases in Mechanical and Civil Engineering, Springer.

# Patent

1. Azizi, M. A., An Improved Electric Powered Unicycle, P12022006552, 2022, Malaysia.



# Research Grants (Project Leader)

No.	Project Title	Amount (RM)	Year	Source of Fund
1.	Inisiatif Putra Muda: Development of Peridynamic	55000	2018	UPM
	Model for Viscoelastic Materials.			

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# Awards/Recognition (Current)

No.	Name of awards	Title	Award Authority	Award Type	Year
1.	Design Realization Program 2021- Top 3 Best Designs	Stabilized Electric Unicycle, Flexi-UC	DreamEdge	Collaboration with UPM	2021
2.	Engineering Innovation & Exhibition - Certificate of Appreciation - Gold	Stabilized and Flexible Electric Unicycle as a Micromobility in Urban and Residential Areas.	Faculty of Engineering, UPM	Faculty of UPM	2023

# Professional Services/Consultation

No	Year	Title	Authority	Amount
1.	2021	KPS Sustainability Challenge (Competition) - Secretary.	Kumpulan Perangsang Selangor	RM100000
2.	2022	Bloomberg Philanthropies Initiative for Global Road Safety - Observation Team from UPM	Bloomberg Philantropies, John Hopkins University.	RM400000
3.	2019	Computational Fluid Dynamic Analysis of Cooling Pipe System in Hydroelectric Power Generator in Kenyir.	Kejuruteraan M & E Wibawa Sdn. Bhd.	RM4000

# Student Supervision

Master (Main Supervisor)				
No.	Name	Title	Status	
1.	Qu Kexin	Improved Design of Flexible Double-Wheel Electric Unicycle As Micro-mobility in Residential and Urban Areas.	On going in 2023	
2.	Ilinadila bt. Mohammad Khalid	Design of Flexible Double-Wheel Electric Unicycle As Micro-mobility in Residential and Urban Areas.	Completed in 2023	
3.	Suresh Muniappan	Vertical Landfill Approach Analysis on Landfills in Malaysia	Completed in 2023	
4.	Alnamer Mohammed Abdulkareem Qasem Abduljalil	Design of Compact and Stable Electric Vehicle as Micro-mobility in Residential and Urban Areas	Completed in 2022	
5.	Aiman Ehsan	Development of Peridynamic Model for Simulation of Compression Test with Fracture of Polymers.	Completed in 2021	
6.	Anas Ahmad Fahad	Development of Peridynamic Model for Impact Tests with Fracture Behavior of Polymers.	Completed in 2020.	



# Bachelor (Main Supervisor)

No.	Name	Title	Status
1.	Pavithren A/L Mailvaganan	Development of Peridynamic Model of Glass-Fibre and Kenaf-Fibre Reinforced Composite Deformation in Tensile Test: Experimental Part.	Completed in 2023
2.	Muhammad Aqil bin Nasarudin	Development of Peridynamic Model of Glass-Fibre and Kenaf-Fibre Reinforced Composite Deformation in Tensile Test: Numerical Part.	Completed in 2023
3.	Dhanevhwaran A/L Seathuraman	Design and Fabrication of Double-Wheeled Electric Unicycle as Micromobility in Urban and Resdiential Areas	Completed in 2023
4.	Aiman Fitri Shahrum	Design and Fabrication of Flexible and Stabilized Electric Unicycle as a Micromobility	Completed in 2022
5.	Muhammad Farhan Aqil bin Norazak	Application of Peridynamic Model on Tensile Test of Glass Fibre Reinforced Polymer	Completed in 2022
6.	Muhammad Awallulhadi bin Mohd Suhaimi	Simulation and Animation of New Design of Stabilized Electric Unicycle	Completed in 2021
7.	Muhammad Zahfiq bin Mohamad Zaihan Pang	Peridynamic Method Application on Impact Test of Composite	Completed in 2021
8.	Syakir Akmal bin Sharif	The Design of Easy to Use Electric Unicycle for Short Distance Journey	Completed in 2020
9.	Muhamad Zakwan bin Mohd Fazli	Development of Peridynamic Model for Tensile and Compression Tests with Fractures of Viscoelastic Material.	Completed in 2020
10.	Mohd Faiz bin Mohd Ridhuan	Tensile Fracture Behaviour Comparison Between Finite Element Method and Peridynamic Method	Completed in 2019
11.	Rafiuddin bin Ashaari	Stabilised Design of Zero-Emission and Energy Efficient Electric Unicycle.	Completed in 2019