

Curriculum Vitae

Mohammadreza Vafaei (PhD, P. Eng.)



Contact Detail

Postal Address:

School of Civil Engineering, Faculty of Engineering, Universiti Teknologi Malaysia, 81310, Johor Bahru, Johor, Malaysia.

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Personal Information

Date of Birth: March, 1978

Nationality: Iranian

Professional Engineer License Number (Iran): 0-10-300-53526

Professional Background

Senior Lecturer

Department of Structure and Materials, School of Civil Engineering.

Institution: *Universiti Teknologi Malaysia, UTM*

Date: Feb 2015 - Present

Post-Doctoral Researcher

Department of Structure and Materials, Faculty of Civil Engineering.

Institution: *Universiti Teknologi Malaysia, UTM*

Date: 1st November 2013- 1st November 2014

Head of Structural Department

Institution: *Imenrah Consulting Engineers Co., Tehran, Iran.*

Date: March 2003- January 2010.

Academic Qualifications

Post-Doctoral:

Title of research: New Seismic Map for Malaysian National Annex in Euro code.
Institution: Universiti Teknologi Malaysia (UTM), Malaysia
Started: 1st November 2013
Duration: 1 Year

PhD degree:

Major: Earthquake Engineering
Institution: Universiti Teknologi Malaysia (UTM), Malaysia
Date of Graduation: June 2013
Title of Thesis: *Seismic Damage Identification based on Integrated Artificial Neural Networks and Wavelet Transforms.*

Master Degree:

Major: Structural Engineering
Institution: Mazandaran University of Science and Technology, Iran
CGPA: 18.01 out of 20.
Date of Graduation: Feb. 2004, (Full time program)
Title of Dissertation: *Seismic Amplification Factor for 4-Legged Self-supporting Telecommunication Towers.*

Bachelor's Degree:

Major: Civil Engineering
Institution: Urmia University, Iran
CGPA: CGPA 16.12 out of 20.
Date of Graduation: Nov. 2000, (Full time program)

Diploma:

Institution: Chamran High School, Iran
Major: Mathematic
CGPA: 16.21 out of 20.
Date of Graduation: May 1996

Publications

Journals

ISI-indexed (Web of Science)

- [1] **Vafaei, M.**, Azlan, A., Ahamd Baharuddin, A.R., (2012). Real-time Seismic Damage Detection of Concrete Shear Wall Buildings Using Artificial Neural Networks. *Journal of earthquake engineering*. 17(1), 137-154.
- [2] Behnia, A., Kueh A.B.H., Shahbazi, M.M., Ranjbar, N., Behnia, N., **Vafaei, M.**, (2013). Finite Element Analysis of High Modal Dynamic Responses of A Composite Floor Subjected to Human Motion Under Passive Live Load. *Latin American Journal of Solids and Structure*. 10 (3), 601-630.
- [3] **Vafaei, M.**, Azlan, A., (2014). Seismic Damage Detection of Tall Airport Traffic Control Towers Using Wavelet Analysis. *Journal of structure and infrastructure engineering*. 10(1), 106-127
- [4] **Vafaei, M.**, Azlan, A., Ahamd Baharuddin, A.R. (2014). A Neuro-Wavelet Technique for Seismic Damage Identification of Cantilever Structures. *Journal of structure and infrastructure engineering*. 10(12), 1666-1684.
- [5] **Vafaei, M.**, Azlan, A., Ahamd Baharuddin, A.R., (2014). Seismic Performance Evaluation of an Airport Traffic Control Tower through Linear and Nonlinear Analysis. *Journal of Structure and Infrastructure Engineering*. 10(8), 963-975.
- [6] **Vafaei, M.**, Azlan, A., Alih S., Ahamd Baharuddin, A.R. (2015) A Wavelet-based Technique for Damage Quantification via Mode Shape Decomposition. *Journal of structure and infrastructure engineering*. 11(7), 869-883.
- [7] **Vafaei, M.**, C. Alih, Sophia (2015) Ideal Strain Gage Placement for Seismic Health Monitoring of Structures. *Earthquake and Structures*. 8(3), 541-553.
- [8] **Vafaei, M.**, C. Alih, Sophia. (2015) Influence of Higher Order Modes and Mass Configuration on the Damage Detection via Wavelet Analysis. *Earthquake and Structures*. 9(6) 1221-1232.
- [9] **Vafaei, M.**, C. Alih, Sophia. (2015). Assessment of Seismic Design Response Factors of Air Traffic Control Towers. *Bulletin of Earthquake Engineering*. 14(12), 3441-3461.

- [10] Moravej, H., **Vafaei, M.**, Abu Bakar, S. (2016). Seismic Performance of a Wall-Frame Air Traffic Control Tower. *Earthquake and Structures*. 10(2).
- [11] Shad, H., Adnan, A., Behbahani, H., **Vafaei, M.**, (2016) Efficiency of TLDs with Bottom-Mounted Baffles in Suppression of Structural Responses. *Structural Engineering and Mechanics, an International Journal*. 60 (1), 131-148.
- [12] Behbahani, H., Adnan, A., **Vafaei, M.**, Ong Peng P., Shad, H. (2016). Effects of TLCD with maneuverable flaps on vibration control of a SDOF structure. *Meccanica*. 52 (6), 1247-2156.
- [13] Behbahani, H., Adnan, A., **Vafaei, M.**, Ong Peng P., Shad, H. (2016). Vibration Mitigation of Structures through TLCD with Embedded Baffles. *Experimental Techniques*. DOI: 10.1007/s40799-016-0163-0.
- [14] **Vafaei, M.**, C. Alih, Sophia (2017). Adequacy of First Mode Shape Differences for Damage Identification Using Neural Networks. *Neural Computing and Application*. DOI: 10.1007/s00521-017-2846-6
- [15] FR Mansour, SA Bakar, **M Vafaei**, SC Alih (2017) Effect of substrate surface roughness on the flexural performance of concrete slabs strengthened with a steel-fiber-reinforced concrete layer. *PCI Journal*. 62 (1) 78-89.
- [16] Soltanzadeh R., Osman, H., **Vafaei, M.**, Wahedy, Y. (2018) Seismic Retrofit of Masonry Wall Infilled RC Frames through External Post-Tensioning. *Bulletin of Earthquake Engineering*. 16:1487–1510
- [17] **Vafaei, M.**, C. Alih, S. (2018). Seismic vulnerability of air traffic control towers. *Natural Hazard*. 90, 803-822.
- [18] Shad,H., Adnan,A., Behbahani,H., Oladimeji, A. M., **Vafaei, M.**, (2018). Suppression of Dynamic Response of Structures through an Improved Tuned Liquid Damper. *Smart structures and materials*. 21(1)37-51.
- [19] Moravej, H., **Vafaei, M.**, (2018) Seismic Performance Evaluation of an ATC Tower through Pushover Analysis. *Structural Engineering International*. Accepted. In Press.
- [20] **Vafaei, M.**, C. Alih, S. Ismail, N., Pabarja, A. (2018). Experimental Study on a New Damping Device for Mitigation of Structural Vibrations. *Earthquake and Structures*. 14(6), 567-576.
- [21] Pabarja, A., **Vafaei,M.**, C. Alih, S., Yatim, M., Osman, S. (2019) Experimental study on the efficiency of tuned liquid dampers for vibration mitigation of a vertically irregular structure. *Mechanical System and Signal Processing*. 114, 84-105.

- [22] Muyideen A., Bakhary N., **Vafaei M.**, Md Noor N., Khairul P. (2018). a Non-probabilistic wavelet method to consider uncertainties in structural damage detection. *Journal of Sound and Vibration*. 433, 77-98.

SCOPUS-indexed Journals

- [1] **Vafaei, M.**, Azlan, A. (2011). Seismic Damage Detection Using Pushover Analysis. *Advanced Materials Research*. 255-260, 2496-2499.
- [2] Yadollahi, M., Rossli, M., **Vafaei, M.** (2012). A Model for Seismic Vulnerability Score Assignment of Road Infrastructure Using Linear Regression Technique. *Applied Mechanics and Materials*. 147, 266-269.
- [3] **Vafaei, M.**, Alih, C. S., Abdul Rahman, Q. (2015). Drift Demands of Low-Ductile Moment Resistance Frames (MRF) Under Far Field Earthquake Excitations Considering Soft-Story Phenomenon. *Journal Teknologi*. 78(6), 83-92.
- [4] M. Abdulkareem 1, N. Bakhary, **M. Vafaei**, N. M. Noor (2016). Wavelet-based Damage Detection Technique via Operational Deflection Shape Decomposition. *Indian Journal of science and technology*.9 (48). 1-7.
- [5] Alih S.C., Khelil A., **Vafaei M.**, Halim N.H.F.A., (2017), Analytical Tension Stiffening Model for Concrete Beam Reinforced with Inoxydable Steel, *International Journal of Applied Engineering Research*, **12** (15), 5280-5288.
- [6] Muyideen, A., Bakhary, N., **Vafaei, M.**, Noor,N. (2017). Mode Shape and Mode Shape Difference Evaluation to Damage Location in Plate Structures. *International Journal of Applied Engineering Research*.12(24), 14620-14627.
- [7] Halim, N. H. F. A., Alih, S. C., **Vafaei, M.**, Baniahmadi, M., & Fallah, A. (2017). Durability of Fibre Reinforced Polymer under Aggressive Environment and Severe Loading: A Review. *International Journal of Applied Engineering Research*, 12(22), 12519-12533.
- [8] Halim, N. H. F. A., Alih, S. C., & **Vafaei, M.** (2018) Structural Behavior Of RC Columns Transversely Reinforced With FRP Strips. *International Journal of Civil Engineering and Technology* 9(4), 1572–1583.
- [9] **Vafaei, M.**, Alih S.C., Fallah., A., Shad., H., Falahi Abdul Halim., N. H. (2018) Prediction of Strain Values in Reinforcements and Concrete of a RC Frame Using Neural Networks. *International Journal of Advanced Structural Engineering*. In press.

International Indexed Journals

- [1] Amiri, G. G., Barkhordari, M. A., Massah, S. R., & Vafaei, M. (2007). Earthquake Amplification Factors for Self-supporting 4-legged Telecommunication Towers. *World Applied Sciences Journal*. 2(6), 635-643.
- [2] **Vafaei, M.**, Azlan, A., (2012). Seismic Health Monitoring Of Foundations Using Artificial Neural Networks. *Journal of Civil Engineering and Architecture*. 6(6), 730-737.
- [3] Arham Abdullah, **Vafaei, M.**, Azlan, A., (2012). Seismic Behavior of 4-Legged Self-Supporting Telecommunication Towers Considering Earthquake Effects In Malaysia. *Malaysian Journal Of Civil Engineering*. 24 (2), 118-147
- [4] Soltanzadeh, G., Shad, H., **Vafaei, M.**, Adnan, A., (2014). Seismic performance of 4-legged Self-supporting Telecommunication Towers. *Int. Journal of Applied Sciences and Engineering Research*. 3(2), 319-332.
- [5] Sophia C. Alih, **Mohammadreza Vafaei**, Farnoud Rahimi Mansour, Nur Hajarul Falahi Abdul Halim, (2017), A Numerical Study on the Seismic Performance of Built-Up Battened Columns, *International Journal of Civil, Environmental, Structural, Construction and Architectural Engineering*, 11 (5), 609-612.
- [6] **Mohammadreza Vafaei**, Amirali Moradi, Sophia C. Alih, (2017), Seismic Vulnerability of Structures Designed in Accordance with the Allowable Stress Design and Load Resistant Factor Design Methods, *International Journal of Civil, Environmental, Structural, Construction and Architectural Engineering*, 11 (5), 613-619.

International Conferences

- [1] **Vafaei, M.**, Azlan, A. (2011) Sensors Placement in Airport Traffic Control Towers for Seismic health monitoring. *First Middle East International Conference on Smart Monitoring Assessment and Rehabilitation of Civil Structures*. 8-10 Feb 2011, Dubai.
- [2] Azlan, A, **Vafaei, M.** (2012) Linear and Nonlinear Seismic Analysis of a Tall Air Traffic Control (ATC) Tower. *15th World Conference on Earthquake Engineering*. 24-28 September. Lisbon, Portugal.
- [3] Sadeghi, F., Kueh, A., & **Vafaei, M.** (2013). Dynamic response of composite footbridges under running pedestrian load. In *Business Engineering and Industrial Applications Colloquium (BEIAC), 2013 IEEE* (pp. 273-278). IEEE.

- [4] **Vafaei, M.**, C. Alih, Sophia. (2015). Seismic Vulnerability Study of an Air Traffic Control Tower. *Collaborative Conference on Earthquake Science and Engineering (CCESE 2015)*. 15 to 18 September, Chengdu, China.
- [5] **Vafaei, M.**, C. Alih, Sophia, (2015). Seismic Detailing, a Compromised Principal for Seismic Design in Malaysia. *9th Asia Pacific Structural Engineering and Construction Conference (APSEC 2015)*. 3-5 November, Kuala Lumpur, Malaysia.
- [6] Bakhry, N., Muiyeddin, A.k., **Vafaei, M.** (2015) Application of Wavelet Transform to Damage Detection in Plates using Response-only Measurements, *The 16th Asian Pacific Vibration Conference, APVC2015*, 24-26 November, Hanoi, Vietnam.
- [7] **Mohammadreza Vafaei**, Sophia C Alih, Ali Fallah (2016) Seismic Performance of an Innovative Beam-To-Column Connection for Precast Structures. CCESE 2016, September 4-8, Budapest, Hungary.
- [8] Sophia C. Alih, **Mohammadreza Vafaei**, Nufail Bin Ismail (2016). A Novel Hybrid Damper for Suppression of Structural Responses. CCESE 2016, September 4-8, Budapest, Hungary.
- [9] Sophia C. Alih, **Mohammadreza Vafaei**, Or Tan Teng, Farnoud Rahimi Mansour, (2016) Production Of Rubber-Based Damper For Construction Industry In Malaysia. *3rd National Conference on Knowledge Transfer, NCKT 2016*, November 30-December 1, Pulau Pinang, Malaysia.
- [10] **Vafaei, M.**, C. Alih, S., Moradi, A., Soltanzadeh, R. (2018). Estimation of Design Base Shear in Concrete Wall Air Traffic Control Towers. 16th European Conference on Earthquake Engineering. 18-21 June , Thessaloniki, Greece.
- [11] Ghazali, A., Al-Haris A. H., C. Alih, S. and **Vafaei, M.** (2018) Seismic fragility of concrete box girder bridges in Malaysia. 10th Asia Pacific Structural Engineering and Construction Conference, 13-15 November, Langkawi, Malaysia.

Book Chapters

- [1] Amir Mahdiyari, Arham Abdullah, **Vafaei, M.**, Sanaz Tabatabaee, (2016). Green Roof Installation Based On Government, Developers and Owners, *Economic Perspectives, Advances in Environmental Research*. Volume 5, Nova Science Publishers, New York.
- [2] **Mohammadreza Vafaei**, Sophia C Alih, (2017). Seismic Vulnerability of Air Traffic Control Towers, *Aviation and Airport Security*. Nova Science Publishers, New York.
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Awards

November 2018	Research Advisor for Nan Yang Academy of Science (Singapore)
October 2018	Silver Medal for Earthquake resistance Smart Column from INATEX
June 2017	Best Paper Award in the 19 th International Conference on Urban Earthquake Engineering and Seismology, Spain for “Seismic Vulnerability of Structures Designed in Accordance with the Allowable Stress Design and Load Resistant Factor Design Methods
February 2017	Silver Medal in Malaysia Technology Expo 2017, MTE Kuala Lumpur for “EASE Connector for Industrialized Building System”
October 2016	Silver Medal in 18 th Industrial Arts and Technology Exhibition, INATEX, Johor Bahru, Malaysia for “Hybrid Damper”
May 2016	Silver Medal in 27 th International Invention, Innovation & Technology Exhibition 2016, ITEX, Kuala Lumpur, for “Innovative Sliding Beam to Column Connector for Industrialized Building System”.
November 2015	Silver Medal in 17 th Industrial Arts and Technology Exhibition, INATEX, Johor Bahru, Malaysia for “Innovative Sliding Beam to Column Connector for Industrialized Building System”.
November 2015	Bronze Medal in 17 th Industrial Arts and Technology Exhibition, INATEX, Johor Bahru, Malaysia for “Dumb-bell Link Element for Increase in Columns’ Energy Dissipation Capacity”.
April 2015	Gold Medal in Invention, Innovation & Design Exposition, IIDEX 2015, Kuala Lumpur for “Innovative Sliding Beam to Column Connection”
April 2015	Silver Medal in Invention, Innovation & Design Exposition, IIDEX 2015, Kuala Lumpur for “SR-Hybrid Damper”
April 2013	Excellent Award for Journal Publication, Post-graduate Student Society 2013, Faculty of Civil Engineering, Universiti Teknologi Malaysia
July 2012	Silver Medal in the Hari Inovasi Nuklear Malaysia 2012 for “SEER-SAG Seismo-Accelerograph
December 2010	Merit Winner in the Business Plan Competition 2010 MSC Malaysia-IHL (National Level)
October 2015	3rd Place Business Plan Competition 2010 Universiti Teknologi Malaysia

April 2013

Excellent Award for Journal Publication, Post-graduate Student Society
2013, Faculty of Civil Engineering, Universiti Teknologi Malaysia

Editor for Journals

- 1) Editorial Board for the Open Civil Engineering Journal (Scopus Index)
- 2) Editorial Board for the International Journal of Civil Engineering and Building Materials.
- 3) Editorial Board for Journal of Structural Engineering and Management.
- 4) Editorial Board for Recent Trends in Civil Engineering and Technology.
- 5) Editorial Board for Journal of Building Material and Structural Engineering.
- 6) Editorial Board for Journal of Architectural Environment and Structural Engineering Research

Reviewer for Journals and Conferences

- 1) Reviewer for the Journal of Structure and Infrastructure Engineering.
- 2) Reviewer for Bulletin of Earthquake Engineering Journal.
- 3) Reviewer for Construction and Building Materials Journal.
- 4) Reviewer for Journal Teknologi.
- 5) Reviewer for Malaysian Journal of Civil Engineering.
- 6) Reviewer for the International Journal of Electrical Power and Energy Systems.
- 7) Reviewer for 2011 International Conference on Civil Engineering and Building Materials (2011 CEBM) Kunming, China, July 29-31, 2011.
- 8) Reviewer for International Conference on Advanced Science, Engineering and Technology (ICASET) 2015, Pulau Pinang, Malaysia.
- 9) Reviewer for Structural Engineering and Mechanics, an International Journal.

Scientific Committee of International Conferences

- 1) Editorial Board for the “The Fourth International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering”. Prague, Czech Republic, 1-4 September 2015.
- 2) Technical Committee of International Conference on Design and Manufacturing Engineering (ICDME2016), Auckland, New Zealand during July 4-6, 2016.
- 3) International Scientific Committee of Advances in Civil Engineering and Building Materials, Peer Reviewed papers from 2th International Conference on Civil Engineering and Building Materials (CEBM 2012), 17-18 November, Hong Kong.
- 4) International Scientific Committee of Advances in Civil Engineering and Building Materials, Peer Reviewed papers from 3rd International Conference on Civil Engineering and Building Materials (CEBM 2013), 7-8 December, Hong Kong.
- 5) International Scientific Committee of Advances in Civil Engineering and Building Materials IV, Peer Reviewed papers from 4th International Conference on Civil Engineering and Building Materials (CEBM 2014), 15-17 November, Hong Kong.
- 6) Technical Committee of 2016 International Conference on Frontiers of Composite Materials (ICFCM2016), 19-21 November, Auckland, New Zealand.
- 7) Technical Committee of International Conference on Mechanics, Civil Engineering and Building Material [MCEBM2017], 21-23 April 2017, Nanjing, China.
- 8) Technical Committee of International Conference on Geological and Civil Engineering (ICGCE 2018) Phuket, Thailand, January 10-12, 2018.
- 9) Technical Committee of International Conference on Civil, Architectural and Environmental Engineering (ICCAEE 2018), Dec 21-23, Cairo, Egypt.
- 10) Technical Committee of 3rd International Conference on Frontiers of Composite Materials (ICFCM2018), Sydney, Australia, November 16-18, 2018.
- 11) Technical Committee for 2018 International Conference on Civil, Architecture and Disaster Prevention, Hefei, China, November 2-4, 2018
- 12) International Scientific Committee of 5th International Conference on Civil Engineering, Nanchang, China, Dec. 20-21, 2018.

Invited Speaker (International)

- 1) Invited Speaker for Collaborative Conference on Earthquake Science and Engineering (CCESE 2015), 15-18 September, Chengdu, China.
- 2) Invited Speaker for International Conference on Design and Manufacturing Engineering (ICDME2016), 4-6 July, Auckland, New Zealand.
- 3) Invited Speaker for Collaborative Conference on Earthquake Science and Engineering (CCESE 2016), 4-8 September, Budapest, Hungary.

Invited Speaker (National)

- 1) Seismic Vulnerability and Rehabilitation Strategies for Structures and Infrastructures in Sabah, Workshop given at Public Works Department, PWD of Sabah, 27-28 April 2017, PWD Headquarter Kota Kinabalu, Sabah
- 2) Tall Buildings and Their Design Challenges, 8th August 2016, Johor Bahru. –Organized by The Institution of Engineers Malaysia, IEM, Southern Branch.
- 3) Seismic Design of Bridge in Accordance with Eurocode, 8th October 2016, Johor Bahru. –Organized by The Institution of Engineers Malaysia, IEM, Southern Branch.
- 4) Geotechnical Earthquake Engineering in Malaysia, 1-2 March 2016, Kuala Lumpur. – Organized by Ministry of Works Malaysia.
- 5) Tall Buildings and Their Design Challenges, 23rd February 2016. Johor Bahru. - Organized by Center for Forensic Engineering.
- 6) Seismic Design of Structures in Accordance with Eurocode 8, 6-7 November, 2015, Johor Bahru. –Organized by The Institution of Engineers Malaysia, IEM, Southern Branch.
- 7) Structural Investigations on Damaged Buildings due to Sabah Earthquake and Available Retrofit Strategies, 1st August, 2015, Johor Bahru. –Organized by The Institution of Engineers Malaysia (IEM) Southern Branch.
- 8) 2015 Sabah Earthquake; Structural Forensic Investigations and Retrofit Strategies, 9th July 2015, Kuala Lumpur. –Organized by Public Works Department, PWD.

- 9) Health Monitoring of Civil Structures. 3rd October 2015. Johor Bahru, Universiti Teknologi Malaysia. –Organized by Center for Forensic Engineering.
- 10) Seismic Design of Structures, Eurocode, Performance Based Design and Fragility Curves. 5-6 March 2014, Kuala Lumpur. –Organized by Malaysian Structural Steel Association.
- 11) Performance Based Seismic Design. 21-22 January 2014, Johor Bahru. –Organized by UTM Engineering Seismology and Earthquake Engineering Research Group.
- 12) ANSYS Training Workshop & IT Application in Civil Engineering. 7-8 March 2014, Johor Bahru. –Organized by Universiti Teknologi Malaysia.

Keynote Speaker (International)

- 1) International Conference on Mechanics, Civil Engineering and Building Material. 21-23 April, 2017, Nanjing, China.
- 2) 2nd Global Conference and Expo on Applied Science, Engineering and Technology, October 15-17, 2018, Amsterdam, Netherlands.

Administrative Experiences

October 2018	Task Force Member for Research Grant (Faculty of Engineering) until present
August 2018	Task Force Member for Innovation and Commercialization (School of Civil Engineering) until present
July 2017	Coordinator for MyRA Section B: Quantity and Quality of Researchers (Faculty of Civil Engineering) until present
September 2016	Course Coordinator for Structural Failure Investigation and Analysis – Post Graduate Level until present
September 2016	Analyses Panel of the Faculty of Civil Engineering until present
October 2016	Networking Officer of Universiti Teknologi Malaysia in the Pameran Pendidikan Matrikulasi 2016/2017, Pusat Matrikulasi Labuan.

July 2016	Networking Officer for the Memorandum of Understanding between Universiti Teknologi Malaysia and Shakesh Pajouh Research Institute, Iran.
May 2016	Networking Officer of Universiti Teknologi Malaysia in Post-Graduate Studies and Research Collaboration Meeting with Shakesh Pajouh Research Institute, University of Isfahan Iran
March 2016	Task Force Member - “Research Proposal Writing”, Faculty of Civil Engineering, Universiti Teknologi Malaysia, until December 2016
September 2015	Academic Evaluator for PhD Research Progress Presentation (PhD in Civil Engineering Program) until present
September 2015	Academic Evaluator for Master Degree (Structure) Final Presentation (Dissertation) until present
June 2015	Academic Evaluator of Final Year Project Presentation (Bachelor Degree in Civil Engineering Program) until present
September 2015	Academic Evaluator for Pre-Project of Bachelor Degree Program until present
March 2015	Task Force Leader - “To promote involvement in international advisory panel”, Faculty of Civil Engineering, Universiti Teknologi Malaysia, until December 2015
April 2015	Reviewer for the Research Seminar Civil Engineering, SEPKA 2014

Teaching Experiences (89 Total Credits)

Post-Graduate Level

Academic Session	Sem	Subject Code	Subject	Credit Hour
20182019	1	MKAE 1123	Structural Seismic and Maintenance	3
		MKAR1053	Structural Failure Investigation and Analysis	3
20172018	2	MKAE 1113	Structural Wind and Earthquake Engineering	3
		1	MKAE 1123	Structural Seismic and Maintenance
	MKAR1053		Structural Failure Investigation and Analysis	3

20162017	2	MKAE 1113	Structural Wind and Earthquake Engineering	3
	1	MKAE 1123	Structural Seismic and Maintenance	3
		MKAR1053	Structural Failure Investigation and Analysis	3
20152016	2	MKAE 1113	Structural Wind and Earthquake Engineering	3
	1	MKAE 1123	Structural Seismic and Maintenance	3
20142015	2	MKAE 1113	Structural Wind and Earthquake Engineering	3
Total Credit Hours				33

Under-Graduate Level

Academic Session	Sem	Subject Code	Subject	Credit Hour
20182019	1	SKAA 4263	Wind and Earthquake Engineering	3
		SKAA3243	Theory of Structures	3
20172018	2	SKAA 4263	Wind and Earthquake Engineering	3
		SKAA 2012	Civil Engineering Laboratory 1	2
		SKAA3243	Theory of Structures	3
	1	SKAA3243	Theory of Structures	3
		SKAA 3012	Civil Engineering Laboratory 2	2
20162017	2	SKAA 4263	Wind and Earthquake Engineering	3
		SKAA 2012	Civil Engineering Laboratory 1	2
		SKAA3243	Theory of Structures	3
	1	SKAA 4263	Wind and Earthquake Engineering	3
		SKAA3243	Theory of Structures	3
20152016	2	SKAA 4263	Wind and Earthquake Engineering	3
		SKAA3243	Theory of Structures	3
		SKAA 2012	Civil Engineering Laboratory 1	2
	1	SKAA 4263	Wind and Earthquake Engineering	3
		SKAA3243	Theory of Structures	3
		SKAA 2012	Civil Engineering Laboratory 1	2
20142015	2	SKAA 4263	Wind and Earthquake Engineering	3
		SKAA 2012	Civil Engineering Laboratory 1	2
		SKAA 3012	Civil Engineering Laboratory 2	2
Total Credit Hours				56

Supervision/Co-supervision

Doctor of Philosophy, PhD Students

No.	Year (Since)	Name	Status	Title
1	2015	Yousef Karimi Vahed	Graduated (2017)	Seismic Retrofit of Non-Ductile Columns through Concrete Jacketing using Inoxydable Reinforcement
2	2015	Gholamreza Soltanzadeh	Graduated (2017)	Seismic Retrofit of Brick Wall Infill Panels through Post-Tensioning
3	2015	Amir Mahdiyari	Graduated (2017)	Decision Support System to Obtain the Ideal Design of Green Roof in Malaysia
4	2015	Farnoud Rahimi Mansour	Graduated (2017)	Seismic Retrofit of Steel Moment Resisting Frames Using Viscoelastic Damper
5	2015	Abdulkareem Muyideen Oladimeji	Graduated (2018)	Vibration-Based Damage Detection Using Artificial Neural Network
6	2015	Mahmoud Bani Ahmadi	Graduated (2018)	Seismic Performance of Partially Infilled RC Frames Strengthen with CFRP
7	2015	Ali Pabarja	Graduated (2018)	Suppression in the dynamic response of Irregular structures using modified TLD
8	2015	Ali Fallah	Final Semester	Innovative Sliding Beam to Column Connection for Industrialized Building System
9	2017	Nur Hajarul Falahi Binti Abdul Halim	On-going	Behavior of Internally Wrapped Reinforced Concrete Columns with Fiber Reinforced Polymer
10	2018	Abdul Wahid	On-going	Seismic Performance Of Built-Up Battened Column
11	2018	Sarehati binti Omar	On-going	Structural Damage Detection Using Nonlinear Autoregressive With Exogenous Inputs Neural Network

Master Students: Course-Work Program (Supervision of Dissertation)

No.	Year (Since)	Name	Status	Title
1	2015	Elahe Esmaeli	Graduated (2016)	Seismic performance of concrete shear walls reinforced by inoxydable reinforcements
2	2015	Mohammad Darvish	Graduated (2016)	Effects of different steel design methods on the seismic vulnerability of a tall building with moment resistant frame and concentric brace
3	2015	Amir Shams	Graduated (2016)	Effects of different steel design methods on the seismic vulnerability of a tall building with moment resistant frame and Eccentric brace
4	2015	Skandar Deylam	Graduated (2016)	Displacement amplification factor for dual lateral load resisting systems composed of RC MRF and shear walls
5	2015	Saleh Nafaspour	Graduated (2016)	Displacement amplification factor for dual lateral load resisting systems composed of steel MRF and shear walls
6	2015	Reza Kordjazi	Graduated (2016)	Displacement amplification factor for dual lateral load resisting systems composed of steel MRF and Special concentric brace
7	2015	Saeid Mehraein	Graduated (2016)	Damage identification in the slabs of airport apron through artificial neural networks
8	2016	Nurul Nabila Binti Fazilan	Graduated (2017)	Seismic Fragility of Low Ductile Bare Reinforced Concrete Frame in Malaysia
9	2016	Nur Amalina	Graduated	Seismic Fragility of Low Ductile

		Binti Anuar	(2017)	Partially Infilled Reinforced Concrete Frame in Malaysia
10	2016	Nurul Amiera Binti Rosman	Graduated (2017)	Seismic Fragility of Low Ductile Fully Infilled Reinforced Concrete Frame in Malaysia
11	2017	Aqilah Ghazali	Graduated (2018)	Seismic Fragility Curve for Bridges in Malaysia subjected to Near Field Earthquake
12	2017	Hasan Al Haris Alaydrus	Graduated (2018)	Seismic Fragility Curve for Bridges in Malaysia subjected to Far Field Earthquake
13	2017	Abdirehman Mursel	Graduated (2018)	Performance of Non-Ductile Reinforced Concrete Frame Retrofitted with Damper
14	2017	Mahmoud Albhaisi	Graduated (2018)	Performance of Ductile Reinforced Concrete Frame Retrofitted with Damper
15	2018	Kotaiba Soliman Aljwim	Final semester	Seismic fragility curves for tall wall concrete building in Malaysia under near-field earthquakes
16	2018	Siti Aisyah Bt Fathol Karib	Final semester	Seismic fragility of tall concrete wall structures in malaysia under far-field earthquake
17	2018	Teh Kun Jie	Final semester	Efficiency of tuned liquid dampers in mitigating vibration of a plan-irregular structure
18	2018	Mas Iliani Rosli	Final semester	Influence of Consideing Malaysia National Annex in Seismic Design on The Increase in Size and Reinforcement of RC Building
19	2018	Issa Ghanim Hussein	On-going	Seismic performance of low-ductile Reinforced Concrete frames Designed

				for different intensity of live load
20	2018	Mohammad Jamal Al Hariri	On-going	Seismic Performance of High Ductile Reinforced Concrete Frames Design For Different Intensity of Live Load
21	2018	Abdul Qaher Yousufzai	On-going	Seismic performance of low-ductile Steel frames Designed for different intensity of live load
22	2018	Mohamad Ammar Zineddin	On-going	Seismic performance of high-ductile Steel frames Designed for different intensity of live load

Bachelor Degree Students (Final Year Project)

No.	Year	Name	Status	Title
1	2015	Nur Hajarul Falahi Binti Abdul Halim	Graduated (2016)	Seismic Mitigation Plan through Increase in Public Preparedness
2	2015	Nufail Bin Ismail	Graduated (2016)	Performance of Novel Hybrid Damper for Structural Dynamic Response Reduction
3	2015	Muhammad Nidzam Bin Hasnan	Graduated (2016)	Behaviour of Innovative Sliding Beam to Column Connection Under Cyclic Load
4	2016	Gerry Brandon Stanley	Graduated (2017)	Seismic Performance Of Conventional Built-Up Battened Column Under Quasi-Static Cyclic Loading
5	2016	Mohd. Luqman Bin Akhrir	Graduated (2017)	Seismic Performance Of Modified Built-Up Battened Column Under Quasi-Static Cyclic Loading
6	2017	Tang Wei Jian	Graduated (2018)	Visco-Elastic Damper for Vibration Control of Slender Structures
7	2018	Adam Afiq Bin Azenan	Final semester	Determination of seismic design factor of high ductility reinforced concrete frame with different span length

8	2018	Nurul Afifah Sharul Azman	Final semester	Determination of seismic design factor of medium ductility reinforced concrete frame with different span length
9	2018	Christine Nerisha Anak Stephen Liat	Final semester	Determination of seismic design factor of medium ductility steel frame with different span length
10	2018	Nadhirah Bt Borhan	Final semester	Determination of seismic design factor of high ductility steel frame with different span length

Patent Filed

PI 2015 01336

SR. Column Ductilizer

Seismic retrofit of column to increase their energy dissipation capacity when subjected to dynamic loads (wind and earthquake)

Inventors: Mohammadreza Vafaei, Sophia C. Alih

PI 2015 04630

SR. Hybrid Damper

An effective cost competitive hybrid damper which combines a Tuned Liquid Damper with a Mass Damper.

Inventors: Mohammadreza Vafaei, Sophia C. Alih

PI 2015 704364

Tuned Liquid Column Damper With Maneuverable Slats

A damper device for stabilizing structures against vibration.

Inventors: Mohammadreza Vafaei, Azlan Adnan, Hamid Behbahani

PI 2015 02533

SR. Hybrid Piston Damper

A novel damper for vibration-controlled structure.

Inventors: Mohammadreza Vafaei, Sophia C. Alih

PI 2016 00755

SR. Innovative Sliding Beam to Column Connector

An innovative connector for beam-to-column connection in industrialized building system.

Inventors: Mohammadreza Vafaei, Sophia C. Alih

PI 2017 700571

SR. Innovative Sandwich Visco-elastic Damper

An innovative connector for beam-to-column connection in industrialized building system.

Inventors: Mohammadreza Vafaei, Sophia C. Alih, Or Tan Teng, Farnoud Rahimi Mansour

Research Grants

a) Principal Investigator

No	Fund	Fund Provider	Project Title	Amount (RM)	Duration	Project status
1	Science Fund	Ministry of Science, Technology and Innovation.	Development of an Innovative Sliding Beam to Column Connection	139,200	2015-2017	Completed
2	Fundamental Research Grant Scheme	Ministry of Higher Education.	Damage Identification of Bolted Structures Using Wavelet Transforms and Artificial Neural Networks	124,000	2015-2017	Completed
3	Research University Grant Tier 1	Ministry of Higher Education.	Development of A Visco-Elastic Damper for Vibration Control of Slender Structures	46,100	2016-2018	Completed
4	Potential Academic Staff	Universiti Teknologi Malaysia	Increase in Energy Dissipation Capacity of Columns through Dumbbell-Link Elements	20,000	2015-2017	Completed
5	Product Development Grant	Innovation and Commercialization Center, UTM	SR Hybrid Damper	23,000	2015-2016	Completed
6	Research University Grant Tier 1	Ministry of Higher Education.	Development of seismic fragility curve and optimal retrofit strategies for RC buildings in Sabah, Malaysia	49,500	2018-2020	On-going
7	Prototype Development Fund	Innovation and Commercialization Center, UTM	Ease Connector For IBS Construction	20,000	2018-2019	On-going

b) Research Member

No	Fund	Fund Provider	Project Title	Amount (RM)	Duration	Project status
1	Science Fund	Ministry of Science, Technology and Innovation, MOSTI	Novel Hybrid Damper for Vibration Control of Structures and Infrastructures	139,400	2015-2017	Completed
2	Fundamental Research Grant Scheme	Ministry of Higher Education, MoHE	Dynamic Behavior of Retrofitted Column with Reinforced Concrete Jacketing using Inoxydable Steel	106,000	2015-2017	Completed
3	Knowledge Transfer Program	Ministry of Higher Education, MoHE	Production of Rubber-Based Damper for Construction Industry in Malaysia	153,000	2015-2017	Completed
4	Fundamental Research Grant Scheme	Universiti Teknologi Malaysia	Behavior and Seismic Performance of Inoxydable Steel in Reinforced Concrete Structural Elements	79,800	2013-2015	Completed
5	Research University Grant Tier 1	Ministry of Higher Education, MoHE	New Link-Element Design For Increase In Ductility Of Battened-Up Columns For Earthquake Resistant Structures	39,800	2017-2019	On-going

Consultancy Projects:

a) National Level

- 1) Pemantauan Cerun Dan Pemasangan Peralatan Pemantauan Gegaran Di Logi Rawatan Air Gunung Pulai, Client: Syarikat Air Johor Berhad, November 2017 – December 2018
- 2) Development of Rubber-based Damper for Vibration Controlled Structures and Infrastructures in Malaysia, Client: Doshin Rubber (M) Sdn. Bhd. Sept. 2015- July 2017
- 3) Projek Membina Jambatan dari Semporna ke Pulau Bum-Bum, Sabah (Semporna Bridge Feasibility Study), Client: SRS Consulting Engineer. January 2014 – December 2014.
- 4) KLIA Tower Sway Problem, Client: KLIA Airport Berhad. November 2011 – January 2013
- 5) Proposed Development of KLIA2 and Associated Works at KL International Airport, Sepang Selangor, Client: Perkasa Jauhari Sdn. Bhd. November 2011 – January 2013

b) International Level

1) Persian Gulf Airport, Iran

Design and supervision of construction of all buildings located inside the airport including Air Traffic Control (ATC) Tower, VIP building, Water Reservoirs, Fire stations, electrical power stations and the meteorology building.

2) Keram International Airport, Iran

Design of Air Traffic Control (ATC) tower and technical block of Kerman International Airport, Iran.

3) Rasht International Airport, Iran

Design of Air Traffic Control (ATC) tower, technical block and main terminal of Rasht Int. airport, Iran.

4) Tabriz International Airport, Iran

Design of Air Traffic Control (ATC) tower and technical block of Tabriz Int. airport, Iran.

5) Orumye International Airport, Iran

Design of Air Traffic Control (ATC) tower and technical block of Orumye airport, Iran.

6) Hamedan Airport, Iran

Design of main terminal building of Hamedan airport, Iran.

7) Kalaleh Airport, Iran

Design of Air Traffic Control (ATC) tower and technical block of Kalaleh Airport, Iran.

8) Abadan International Airport, Iran

Seismic evaluation and rehabilitation of the technical block of Abadan airport, Iran.

9) Mashhad International Airport, Iran

Design of extension of Mashhad airports' main terminal, Iran.

10) Eilam Airport, Iran

Design of Eilam airport's main terminal, Iran.

11) Bojnord Airport, Iran

Design of Bojnord airports' main terminal, Iran.

12) Qeshm International Airport, Iran.

Design of Airport Traffic Control (ATC) tower and technical block of Qeshm Airport, Iran.

13) Other Consultancy projects:

Design of following projects:

- Rangin Kaman complex building in Khoram Abad, Iran.
- Mosque of Bonab Islamic Azad University, Iran.
- Zanjan complex swimming championship, Iran.
- Waste water refinery building of Homa Airline, Iran.
- Seismic rehabilitation of Javad- ol-aeme Hotel in Mashad , Iran.

Qualification in Codes of Practice

Completely familiar with the latest version of different international codes and provisions including:

Eurocode 8, IBC, AISC 7-2010, ACI 318, FEMA 356, ATC 40, EIA-222-F, ASCE 41

Institution Memberships/ Fellowship

- 1- Earthquake Engineering Research Institute (EERI), USA
- 2- American Society of Civil Engineering (ASCE), USA
- 3- Seismological Society of America (SSA), USA.
- 4- International Society for Structural Health Monitoring of Intelligent Infrastructure.
- 5- Iranian Construction Engineer Organization. (Membership No.: 10-3-0-48999)
- 6- Iranian Earthquake Engineering Association.
- 7- Centre of Forensic Engineering, Universiti Teknologi Malaysia
- 8- Institute of Noise and Vibration, Universiti Teknologi Malaysia

Software Qualifications

1- Professional in working with "**Perform 3D**". This software is used to analyze nonlinear behavior of structures with more emphasize on the performance-based design of structures.

2- Professional in working with "**SAP2000, Ver.19**". This is one of the famous software in structural engineering which is used to analyze linear and nonlinear behavior of structures .This software is capable of designing concrete and steel structures.

3- Professional in working with "**ETABS, Ver. 2016**". This is one of the famous software in structural engineering which is used to analyze linear and nonlinear behavior of structures. This software is capable of designing concrete and steel structures with more emphasize on buildings.

4- Professional in working with "**SAFE**". This is one of the famous software in structural engineering which is used to analyze behavior of foundations& slabs. This software is capable of designing concrete foundations and slabs.

5- Professional in working with software like "*Windows, Microsoft office, Auto Cad 2015*".

Language

English: Very good

Persian: Mother tongue

Turkish: Good

Kurdish: Good

Field of Specialty and Interest

- Seismic rehabilitation of structures
- Performance-based seismic design
- Seismic damage identification
- Non-linear behavior of structures against seismic loads
- Structural health monitoring
- Neural networks and Wavelet Transforms