

Mohammad Reza Karamooz-Ravari

Graduate University of Advanced Technology, Faculty of Mechanical and Materials
Engineering



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Education

Ph.D., Mechanical Engineering, Applied Mechanics

Isfahan University of Technology, Isfahan. GPA: 18.94/20.

Thesis: Constitutive Modeling of Cellular Shape Memory Alloys Using Microplane Theory 2010-2015

Supervisor: Prof. M. Kadkhodaei (kadkhodaei@cc.iut.ac.ir)

Advisor: Prof. A. Ghaei (ghaei@cc.iut.ac.ir)

- *Awarded the outstanding Ph.D. Thesis in Isfahan University of Technology.*

M.Sc., Mechanical Engineering, Applied Mechanics

Isfahan University of Technology, Isfahan, Iran. GPA: 18.10/20.

Thesis: Optimum Geometric Design of GEROTOR Pump Tooth Profile 2008-2010

Supervisor: Prof. M.R. Forouzan (forouzan@cc.iut.ac.ir)

Advisor: Prof. H. Moosavi (moosavi@cc.iut.ac.ir)

B.Sc., Mechanical Engineering, Solid Mechanics

Isfahan University of Technology, Isfahan, Iran. GPA: 17.87/20.

Thesis: Stress Analysis in First MULAR Teeth During Surgery 2004-2008

Supervisor: Prof. H. Moosavi (moosavi@cc.iut.ac.ir)

- *Awarded Top 10% Scholarship*
- *5th Rank in the Department*

Appointments

Assistant Professor Graduate University of Advanced Technology, Kerman	2016-2021
Advisor of the Society of Mechanical and Materials Engineers Graduate University of Advanced Technology, Kerman	Sep. 2017-Sep. 2018
Editorial Board Member Isaac Scientific Publishing, New Horizons in Mechanical Engineering Journal	May 2017- Present
Member of Academic Committee (August 23-24) 3rd National Congress and Workshops on Nanoscience and Nanotechnology, Kerman, Iran	Aug. 2017-Aug. 2017
Head of Design and Manufacturing Group Graduate University of Advanced Technology, Kerman	Dec. 2017- Aug. 2019
Head of Faculty of Mechanical and Materials Engineering Graduate University of Advanced Technology, Kerman	Aug. 2019-Nov. 2021

Associate Professor
Graduate University of Advanced Technology, Kerman

2021- Present

Head of Design and Manufacturing Group
Graduate University of Advanced Technology, Kerman

Jan. 2023- Present

Journal Publications

(*h index = 24, Citations = 1934; According to [Google Scholar](#)*)

1. **Karamooz Ravari M.R.**, Forouzan M.R. (2010) Frequency Equations for the in-Plane Vibration of Orthotropic Circular Annular Plate. *Archive of Applied Mechanics* 81 (9):1307-1322.
2. **Karamooz Ravari M.R.** (2011) Elliptical Lobe Shape Gerotor Pump Design to Minimize Wear. *Frontiers of Mechanical Engineering* 6 (4):429-434.
3. **Karamooz Ravari M.R.**, Forouzan M.R., Moosavi H. (2011) Flow Irregularity and Wear Optimization in Epitrochoidal Gerotor Pumps. *Meccanica* 47 (4):917-928.
4. **Karamooz Ravari M.R.**, Shahidi A.R. (2012) Axisymmetric Buckling of the Circular Annular Nanoplates Using Finite Difference Method. *Meccanica* 48 (1):135-144.
5. **Karamooz Ravari M.R.**, Kadkhodaei M. (2014) A Computationally Efficient Modeling Approach for Predicting Mechanical Behavior of Cellular Lattice Structures. *Journal of Materials Engineering and Performance* 24 (1):245-252.
6. **Karamooz Ravari M.R.**, Kadkhodaei M., Badrossamay M., Rezaei R. (2014) Numerical Investigation on Mechanical Properties of Cellular Lattice Structures Fabricated by Fused Deposition Modeling. *International Journal of Mechanical Sciences* 88:154-161.
7. **Karamooz Ravari M.R.**, Talebi S., Shahidi A.R. (2014) Analysis of the Buckling of Rectangular Nanoplates by Use of Finite-Difference Method. *Meccanica* 49 (6):1443-1455.
8. **Karamooz Ravari M.R.**, Kadkhodaei M., Ghaei A. (2015) A Microplane Constitutive Model for Shape Memory Alloys Considering Tension–Compression Asymmetry. *Smart Materials and Structures* 24 (7)
9. **Karamooz Ravari M.R.**, Kadkhodaei M., Ghaei A. (2015) A Unit Cell Model for Simulating the Stress-Strain Response of Porous Shape Memory Alloys. *Journal of Materials Engineering and Performance* 24 (10):4096-4105.
10. **Karamooz Ravari M.R.**, Kadkhodaei M., Ghaei A. (2015) Effects of Asymmetric Material Response on the Mechanical Behavior of Porous Shape Memory Alloys. *Journal of Intelligent Material Systems and Structures* 27 (12):1687-1701.
11. Mehrabi R., **Karamooz Ravari M.R.** (2015) Simulation of Superelastic SMA Helical Springs. *Smart Structures and Systems* 16 (1):183-194.
12. Shahriari B., **Karamooz Ravari M.R.**, Zeighampour H. (2015) Vibration Analysis of Functionally Graded Carbon Nanotube-Reinforced Composite Nanoplates Using Mindlin’s Strain Gradient Theory. *Composite Structures* 134:1036-1043.
13. **Karamooz Ravari M.R.**, Esfahani S.N., Andani M.T., Kadkhodaei M., Ghaei A., Karaca H., Elahinia M. (2016) On the Effects of Geometry, Defects, and Material Asymmetry on the Mechanical Response of Shape Memory Alloy Cellular Lattice Structures. *Smart Materials and Structures* 25 (2): 025008.
 - *Selected as the front cover page story by "Smart Materials and Structures, Volume 25, Number 2, February 2016"*

14. Naghieh S., **Karamooz Ravari M.R.**, Badrossamay M., Foroozmehr E., Kadkhodaei M. (2016) Numerical Investigation of the Mechanical Properties of the Additive Manufactured Bone Scaffolds Fabricated by FDM: The Effect of Layer Penetration and Post-Heating. *Journal of the Mechanical Behavior of Biomedical Materials* 59:241-250.
15. Rezaei R., **Karamooz Ravari M.R.**, Badrossamay M., Kadkhodaei M. (2016) Mechanical Characterization and Finite Element Modeling of Polylactic Acid BCC-Z Cellular Lattice Structures Fabricated by Fused Deposition Modeling. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science* 231 (11):1995-2004.
16. Shahriari B., **Karamooz Ravari M.R.**, Yousefi S., Tajdari M. (2016) A Heuristic Algorithm Based on Line-up Competition and Generalized Pattern Search for Solving Integer and Mixed Integer Non-Linear Optimization Problems. *Latin American Journal of Solids and Structures* 13 (2):224-242.
17. Taheri Andani M., Haberland C., Walker J.M., **Karamooz M.R.**, Sadi Turabi A., Saedi S., Rahmanian R., Karaca H., Dean D., Kadkhodaei M., Elahinia M. (2016) Achieving Biocompatible Stiffness in NiTi through Additive Manufacturing. *Journal of Intelligent Material Systems and Structures* 27 (19):2661-2671.
18. **Karamooz Ravari M.R.**, Shahriari B., Seyfali E. (2017) Stress and Displacement Analysis of First Molar Hollow Tooth During Dental Filling Operation Using Three-Dimensional Finite Element Method. *International Journal of Advanced Design and Manufacturing Technology* 10 (4):87-92.
19. Shahriari B., Jalali M., **Karamooz Ravari M.R.** (2017) Vibration Analysis of a Rotating Variable Thickness Bladed Disk for Aircraft Gas Turbine Engine Using Generalized Differential Quadrature Method. *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering* 231 (14):2739-2749.
20. Taheri Andani M., Dehghani R., **Karamooz-Ravari M.R.**, Mirzaeifar R., Ni J. (2017) Spatter Formation in Selective Laser Melting Process Using Multi-Laser Technology. *Materials & Design* 131:460-469.
21. Taheri Andani M., Saedi S., Turabi A.S., **Karamooz M.R.**, Haberland C., Karaca H.E., Elahinia M. (2017) Mechanical and Shape Memory Properties of Porous Ni50.1Ti49.9 Alloys Manufactured by Selective Laser Melting. *Journal of the Mechanical Behavior of Biomedical Materials* 68:224-231.
22. **Karamooz-Ravari M.R.**, Dehghani R. (2018) The Effects of Shape Memory Alloys' Tension-Compression Asymmetry on NiTi Endodontic Files' Fatigue Life. *Proceedings of the Institution of Mechanical Engineers Part H: Journal of Engineering in Medicine* 232 (5):437-445.
23. **Karamooz-Ravari M.R.**, Shahriari B. (2018) A Numerical Model Based on Voronoi Tessellation for the Simulation of the Mechanical Response of Porous Shape Memory Alloys. *Meccanica* 53 (13):3383-3397.
24. **Karamooz-Ravari M.R.**, Taheri Andani M., Kadkhodaei M., Saedi S., Karaca H., Elahinia M. (2018) Modeling the Cyclic Shape Memory and Superelasticity of Selective Laser Melting Fabricated NiTi. *International Journal of Mechanical Sciences* 138-139:54-61.
25. Naghieh S., **Karamooz-Ravari M.R.**, Sarker M.D., Karki E., Chen X. (2018) Influence of Crosslinking on the Mechanical Behavior of 3D Printed Alginate Scaffolds: Experimental and Numerical Approaches. *Journal of the Mechanical Behavior of Biomedical Materials* 80:111-118.
26. Naghieh S., Sarker M., **Karamooz-Ravari M.R.**, McInnes A., Chen X. (2018) Modeling of the Mechanical Behavior of 3D Bioplotted Scaffolds Considering the Penetration in Interlocked Strands. *Applied Sciences* 8 (9):1422.
27. Taheri Andani M., Dehghani R., **Karamooz-Ravari M.R.**, Mirzaeifar R., Ni J. (2018) A Study on the Effect of Energy Input on Spatter Particles Creation During Selective Laser Melting Process. *Additive Manufacturing* 20:33-43.

28. Taheri Andani M., **Karamooz-Ravari M.R.**, Mirzaeifar R., Ni J. (2018) Micromechanics Modeling of Metallic Alloys 3D Printed by Selective Laser Melting. *Materials & Design* 137:204-213.
- *Among the top 25 most downloaded papers of the journal in 2018.*
29. Taheri Andani M., Ghodrati M., **Karamooz-Ravari M. R.**, Mirzaeifar R., & Ni, J. (2019) Damage Modeling of Metallic Alloys Made by Additive Manufacturing. *Materials Science and Engineering: A*, 743, 656-664.
30. **Karamooz-Ravari M.R.**, Shahriari B. (2019) Numerical Implementation of the Microplane Constitutive Model for Shape Memory Alloys. *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*, 233 (6): 1117-1133
31. Saleemizadeh Parizi F., Mehrabi R., and **Karamooz-Ravari M.R.** (2019) Finite Element Analysis of NiTi Self-Expandable Heart Valve Stent. *Proceedings of the Institution of Mechanical Engineers. Part H: Journal of Engineering in Medicine*, 233 (10): 1042-1050.
32. Andani M.T., Lakshmanan A., **Karamooz-Ravari M.R.**, Sundararaghavan V., Allison J., and Misra A. (2020) A Quantitative Study of Stress Fields Ahead of a Slip Band Blocked by a Grain Boundary in Unalloyed Magnesium, *Scientific Reports* 10(1): 3084.
33. Keshavarzan M., Kadkhodaei M., Badrossamay M., Karamooz-Ravari M.R. (2020) Investigation on the Failure Mechanism of Triply Periodic Minimal Surface Cellular Structures Fabricated by Vat Photopolymerization Additive Manufacturing Under Compressive Loadings. *Mechanics of Materials*, 140: 103150.
34. **Karamooz-Ravari M.R.**, Saghzadeh-Mahani Z., and Dehghani R. (2019) Investigation of the Effects of Pore Morphology on the Energy Absorption of Cellular Lattice Structures. *Aerospace Knowledge and Technology Journal* 8 (2): 41-53. (In Persian)
35. Keshavarz-Robehagani A.R., **Karamooz-Ravari M.R.**, and Dehghani R. (2020) Fabrication and Characterization of Metallic Cellular Lattice Structures Using Indirect Additive Manufacturing. *Aerospace Knowledge and Technology Journal* 9 (2): 207-220. (In Persian)
36. Soleimani E., **Karamooz-Ravari M.R.**, and Dehghani R. (2022) Investigation of the Effects of Different Parameters on the Performance of a Thermal Motor Fabricated Using Shape Memory Alloy Actuators, *Journal of Mechanical Engineering* 51 (4): 491-496. (In Persian)
37. Tavakoli S., Dehghani R., **Karamooz-Ravari M.R.** (2021) Robust Control of a Driving-Cables Continuum Robot Based on Radial Basis Neural Network and Projection Operator, *Journal of Mechanical Engineering* 51 (3): 17-24 (In Persian)
38. Moslemi N., Dehghani R., **Karamooz-Ravari M.R.** (2021) Dynamic Modeling of a Soft Micro Robot Equipped with SMA Actuator and Investigating the Effect of Electric Current and Fluid Velocity on Its Dynamic Behavior, *Journal of Mechanical Engineering: In press* (In Persian)
39. Mohammadian M., Choobineh A., Razeghi M., Hashemi Nejad N., **Karamooz-Ravari M.R.**, Sheykshoaei M., Kazemi R., Daneshmandi H. (2022) Designing and Usability Testing of a New Prototype Active Footrest for Knee Extension Exercise Among Office Workers, *International Journal of Occupational Safety and Ergonomics* 28 (4): 2492-2500.
40. **Karamooz-Ravari M.R.**, Taheri Andani M. (2022) A Three-dimensional Geometrical Model for the Microstructure of Additively Manufactured Metals, *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications* 236 (12): 2436-2454.
41. Samimi A.H., **Karamooz-Ravari M.R.**, Dehghani R. (2022) Investigation of the Effects of Dimensional Inaccuracies on the First Natural Frequency of Cellular Lattice Structures. *International Journal of Advanced Design & Manufacturing Technology* 15 (3): 109-117.

42. Samimi A.H., **Karamooz-Ravari M.R.**, Dehghani R. (2024) Numerical and Experimental Investigation of Natural Frequency and Damping Coefficient of Flexible Cellular Lattice Structures. International Journal of Advanced Design & Manufacturing Technology, (Accepted for publication).

Conference Proceedings

1. Mashayekhi M., **Karamooz Ravari M.R.**, Babaei H. Investigation of Effective Parameters in Milling of Elastomers. In: Proceedings of ICME2010 the 10th Iranian Conference of Manufacturing Engineering, Babol Noshirvani University of Technology, Iran, March 2010. (In Persian)
2. **Karamooz Ravari M.R.**, Kadkhodaei M. Finite Element Modeling of the Elastic Modulus of Ti6Al4V Scaffold Fabricated by SLM. In: Poromechanics V: Proceedings of the fifth BIOT conference on Poromechanics, Vienna, Austria, 2013. pp 1021-1028.
 - *Awarded the Conference Scholarship.*
3. **Karamooz Ravari M.R.**, Rezaei R., Kadkhodaei M., Badrossamay M. Manufacturability and Mechanical Properties of Lightweight PLA Cellular Lattice Structures Fabricated by FDM. In: International Porous and Powder Materials Symposium and Exhibition (PPM 2013), Cesme-Izmir-Turkey, September 3-6 2013.
4. **Karamooz Ravari M.R.**, Nasr Esfahani S., Taheri Andani M., Kadkhodaei M., Elahinia M. Finite Element Modeling of NiTi Cellular Lattice Structures Considering Microstructural Defects. In: Materials Science & Technology 2015 (MS&T15), Columbus, USA, October 2015.
5. Naghieh S., **Karamooz Ravari M.R.**, Badrossamay M., Foroozmehr E., Kadkhodaei M. Finite Element Analysis for Predicting the Mechanical Properties of Bone Scaffolds Fabricated by Fused Deposition Modeling (FDM). In: Modares Mechanical Engineering, Proceedings of the Advanced Machining and Machine Tools Conference, 2015. vol 13. pp 450-454. (In Persian)
6. **Karamooz-Ravari M.R.**, Taheri-Andani M. Prediction of the Elastic Response of TPMS Cellular Lattice Structures Using Finite Element Method. In: Solid Freeform Fabrication (SFF 2017), Austin, Texas, USA, August 7-9 2017.
7. **Karamooz-Ravari M.R.**, Taheri-Andani M. Generation of TPMS Cellular Lattice Structures to Fill an Arbitrary Boundary. In: Solid Freeform Fabrication (SFF 2017), Austin, Texas, USA, August 7-9 2017.
8. Naghieh S., **Karamooz-Ravari M.R.**, Sarker M.D., McInnes A.D., Chen X. Modeling of the Mechanical Behavior of 3d-Bioplotting Scaffolds. In: 18th Annual Alberta Biomedical Engineering Conference, Banff Park Lodge, Banff, Alberta, November 10-12 2017.
9. Saqzadeh Z., **Karamooz-Ravari M.R.** Analysis of Free Axial Vibration of Clamped Nanobeams Using Finite Difference Method. In: 3rd National Congress and Workshops on Nanoscience and Nanotechnology, Kerman, Iran, August 23-24 2017. (In Persian)
10. Taheri-Andani M., Dehghani R., **Karamooz-Ravari M.R.**, Mirzaeifar R., Ni J. An Investigation into Spatter Creation During Selective Laser Melting. In: Solid Freeform Fabrication (SFF 2017), Austin, Texas, USA, August 7-9 2017.
 - *Presented in the plenary session of the conference.*
11. Zamani H., **Karamooz-Ravari M.R.** Analysis of Free Vibration of Circular Annular Nanoplates Considering Surface Effects. In: 3rd National Congress and Workshops on Nanoscience and Nanotechnology, Kerman, Iran, August 23-24 2017. (In Persian)
12. Zamani H., Dehghani R., and **Karamooz-Ravari M.R.** Investigation of Current Passing through SMA Actuators on the Continuous Robots Response. In 27th Annual International Conference of Iranian Society of Mechanical Engineering. Tehran, Iran, April 30-May 2 2019. (In Persian)

13. Hosein-Zadeh F., Dehghani R., **Karamooz-Ravari M.R.**, and Taheri-Andani M. Investigation of the Number and Size of Spatters During SLM Process Using Image Processing. In 27th Annual International Conference of Iranian Society of Mechanical Engineering. Tehran, Iran, April 30-May 2 2019. (In Persian)
14. Taheri Andani M., **Karamooz-Ravari M.R.**, Ghodrati M., Mirzaeifar R., and Ni J. Development of a Microstructural-Based Computational Model for Predicting the Mechanical Properties of Metals Manufactured by Additive Manufacturing. In 2019 TMS Annual Meeting & Exhibition: Additive Manufacturing and Welding: Physical and Mechanical Metallurgy of Rapidly Solidified Metals. March 2019.
15. Keshavarz- Robehagani A., **Karamooz-Ravari M.R.**, Dehghani R. Investigation of the Microstructure of Polymeric Cellular Lattice Structure Fabricated by Fused Deposition Modeling. In the 5th International and 16th National Conference on Manufacturing Engineering, Tehran, Iran, Dec 25-26 2019. (In Persian)
16. Tavakoli S., Dehghani R., **Karamooz-Ravari M.R.**, Dynamic Modeling and Control of Driving-Cables continuum Manipulators. In 2nd National Conference on Advanced Research in Engineering and Applied Sciences, January 30 2020. (In Persian)
17. Akbarzadeh M., Dehghani R., **Karamooz-Ravari M.R.**, Design and Kinematics Analysis of Body-Power Partial Land Prosthesis. In 5th National Conference on Mechanical and Aerospace Engineering, Tehran, Iran, June 13-14 2020. (In Persian)
18. Moslemi N., Dehghani R., **Karamooz-Ravari M.R.**, Dynamic Modeling of a Soft Micro Robot Equipped by Shape Memory Alloy Actuator. In 6th National Conference on Applied Research in Electrical, Mechanical & Mechatronics Engineering, Tehran, Iran, September 20-21 2020. (In Persian)
19. Akbarzadeh M., Dehghani R., **Karamooz-Ravari M.R.**, Design, Fabrication and Kinematic Analysis of Finger Prosthesis Actuated by Body Force. In 3rd National Conference of Applied Mechanical Engineering, Shahrekord, Iran, October 28-29 2020. (In Persian)
20. Rokni F., Dehghani R., **Karamooz-Ravari M.R.**, Dynamic Analysis of a Wearable Shoulder Rehabilitation Robot. In 6th National Conference on Applied Research in Electrical, Mechanical & Mechatronics Engineering, Tehran, Iran, September 20-21 2020. (In Persian)
21. Samimi A.R., **Karamooz-Ravari M.R.**, Dehghani R. Investigation of the Effects of Geometrical Parameters and Boundary Conditions on the Frequency Response of Cellular Lattices. In 5th National Conference on Application of Novel Technologies in Engineering Sciences, Torbat-e-Heidarieh, Iran, February 23-24 2021. (In Persian)
22. Moslemi N., Dehghani R., **Karamooz-Ravari M.R.**, Investigation of the Effects of Electrical Current on the Dynamic Behavior of Soft Robot Equipped with Shape Memory Alloy Actuators. In 29th Annual International Conference of Iranian Association of Mechanical Engineers and 8th International Conference on Thermal Power Plants Industry, Tehran, Iran, May 25-27 2021. (In Persian)
23. Hosseini-far M., **Karamooz-Ravari M.R.**, Ahmadi A., Shahsavari E., Safety Analysis of 125Q Grade CT5 A and C Grade 283A Steels for Being Used in Roll-over Protective Structures. In 7th International Conference on Reliability and Safety Engineering, Tehran, Iran, May 2-4 2023. (In Persian)

Book Chapters

1. **Karamooz-Ravari M.R.**, Kadkhodaei M., Elahinia M. (2021) Microplane Modeling for Inelastic Responses of Shape Memory Alloys. In: dell'Isola F., Igunnov L. (eds) Dynamics, Strength of Materials and Durability in Multiscale Mechanics. Advanced Structured Materials, vol 137, pp. 303-328. Springer, Cham. https://doi.org/10.1007/978-3-030-53755-5_17

Poster Presentations

1. **Karamooz Ravari M.R.**, Forouzan M.R. (2012) Optimum Geometric Design of Gerotor Pump Tooth Profile. Paper presented at the 1st symposium of Research Day, Isfahan University of Technology, Isfahan, Iran, (In Persian)
2. **Karamooz Ravari M.R.**, Kadkhodaei M. (2013) Finite Element Modeling of Mechanical Properties of Porous Materials. Paper presented at the 2st symposium of Research Day, Isfahan University of Technology, Isfahan, Iran, (In Persian)
3. **Karamooz Ravari M.R.**, Rezaei R., Kadkhodaei M., Badrossamay M. (2013) Manufacturability and Mechanical Properties of Lightweight PLA Cellular Lattice Structures Fabricated by FDM. Paper presented at the International Porous and Powder Materials Symposium and Exhibition (PPM 2013), Cesme-Izmir-Turkey, September 3-6, 2013.

Patents

1. Forouzan M.R., **Karamooz Ravari M.R.**, Foldable Bed for Securing People against Earthquake, Patent Number: 388080711, Iran, 2009
2. Ebrahimi M., Salehi E., Mirzakouchaki P., Shamuli M.J, **Karamooz-Ravari M.R.**, Fabrication of Porous Dental Post Using Vat-Polymerization, Patent Number: 96655, Iran, 2018

Projects and Activities

Foundation of Mathematical Association of Young Scholars Ministry of Education, Ravar, Kerman, Iran	2003
Design of a Towing Tank Structure for Minimizing the Vibration of the Test Samples Aero-Maritime Science & Research Center, Isfahan, Iran	2008
Design and Modeling of Cellular Dental Posts Islamic Azad University of Khorasgan, Isfahan, Iran	2014
Workshop on "Three-dimensional Nanobioprinting for Tissue Regeneration" Presented in 3rd National Congress and Workshops on Nanoscience and Nanotechnology, Kerman, Iran	Aug. 23, 2017
Workshop on "EndNote Reference Management Software Learning" Graduate University of Advanced Technology, Kerman, Iran	Dec. 2017
Workshop on "EndNote Reference Management Software Learning" Graduate University of Advanced Technology, Kerman, Iran	May 2018
Scientific Speech on "The Applications of SMAs in Biomedical Engineering" Graduate University of Advanced Technology, Kerman, Iran	Dec., 2018
Assessment of the Existing Temperature and Humidity Control System in Greenhouses at the Graduate University of Advanced Technology: Identifying Detailed Malfunctions, Required Remediations, and Cost Estimation Institute of Environmental Sciences, Graduate University of Advanced Technology, Kerman, Iran	2021
Feasibility Study on the Use of Additive Manufacturing (AM) Technology for Repairing Equipment in Steel Industry Sirjan Jahan Steel Company, Sirjan, Kerman, Iran	2020-2021

Designing Roll-over Protective Structure for D155A Bulldozer
Negin-e-Gohar-e-Khavar Mianeh Company, Sirjan, Kerman, Iran

2022-2023

Reviewer of Academic Materials

More than 50 Journal papers, Conference papers, Books, and Research Plans

Honors and Awards

4th Rank in the Department Department of Mechanical Engineering, Isfahan University of Technology. Isfahan, Iran	2005
5th Rank in the Department Department of Mechanical Engineering, Isfahan University of Technology. Isfahan, Iran	2006
The Outstanding Researcher Faculty of Mechanical and Materials Engineering, Graduate University of Advanced Technology. Kerman, Iran	2021
Trusted Reviewer IOP Publishing	

Licenses and Certifications

Business Skills Bureau of Labor and Social Affairs. Isfahan, Iran.	2008
Stock Market Entrepreneurship Center of Isfahan University of Technology, Isfahan, Iran.	2008
Modeling of Shape Memory Alloys under Multi Axial and Cyclic Loadings (Workshop) Department of Mechanical Engineering, Isfahan University of Technology, Isfahan, Iran.	2013
Improving the Quality of Research (Workshop) Graduate University of Advanced Technology. Kerman, Iran.	2017
How to Write and Publish a Scientific Writing (Workshop) 3 rd National Congress and Workshops on Nanoscience and Nanotechnology, Kerman, Iran.	2017
Movement Therapy The Higher School of Sport. Kerman, Iran.	2018

Skills

ABAQUS Finite Element Package (Proficient)
Static and Dynamic Analysis, Scripting, Writing User Subroutines

Programming
MATLAB (Proficient), Python (Proficient), Fortran (Competent)

PV Elite (Competent)
Design and Analysis of Pressure Vessels

Microsoft Office

Word (Proficient), PowerPoint (Proficient), Excel (Competent)

Autodesk Inventor (Proficient)

CAD Modeling, FE Analysis, Dynamic Simulations

ANSYS Finite Element Package (Beginner)

Static and Dynamic Modeling

Adobe Photoshop (Beginner)**MAPLE (Beginner)****Rhino (Competent)****Electrical Board Repair (Beginner)****Language Skills**

Persian — Native**Turkish** — Beginner**English** — Proficient**Arabic** — Beginner**French** — Beginner**Teaching Experience**

Additive Manufacturing

Graduate University of Advanced Technology. Kerman, Iran.

2016-2021

Finite Element Method

Graduate University of Advanced Technology. Kerman, Iran.

2023

Finite Element Method

Bahonar University. Kerman, Iran.

2022-2023

Advanced Engineering Design

Graduate University of Advanced Technology. Kerman, Iran.

2017-2022

Advanced Engineering Mathematics I

Graduate University of Advanced Technology. Kerman, Iran.

2016-2023

Advanced Vibration

Graduate University of Advanced Technology. Kerman, Iran.

2016-2023

Mechanics of Smart structures

Graduate University of Advanced Technology, Kerman, Iran.

2017-2018

Mechanic of Materials

Isfahan University of Technology, Isfahan, Iran.

2011

Mechanics of Materials Laboratory

2011

Isfahan University of Technology, Isfahan, Iran.

Teacher Assistant: Statics 2008-2011
Isfahan University of Technology, Isfahan, Iran.

Teacher Assistant: Dynamics 2009-2013
Isfahan University of Technology, Isfahan, Iran.

Teacher Assistant: Machine Design 2012-2014
Isfahan University of Technology, Isfahan, Iran.

Teacher Assistant: Advance Engineering Mathematics (for PhD students) 2012
Isfahan University of Technology, Isfahan, Iran.

Students' Thesis

Supervisor

Numerical Investigation on the Effects of Strain Rate on the Mechanical Response of Cellular Materials 2015-2017
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Implicit Implementation of the 3D constitutive Model of Shape Memory Alloys Based on Microplate Theory 2016-2019
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Fabrication and Characterization of Metallic Cellular Lattice Structures Using Indirect Additive Manufacturing 2017-2019
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Design and Fabrication of Rotating Motors Using Shape Memory Alloys 2018-2020
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Investigation of the Effects of Geometrical Parameters of Cellular Lattice Structures on Their Frequency Response and Damping Coefficient 2019-2021
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Design of Extruder for High-Strength Thermoplastic Polymers 2020-2023
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Design and Fabrication of a Plastering Robot 2020-2023
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Optimization of Cellular Lattice Structures' Struts in order to Control Their Mechanical Response 2021-Present
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Design and Manufacture of Metal Deposition 3D Printer 2022-Present
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Rollover Protective Structures Design for Komatsu D155A Crawler Bulldozer 2022-Present
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Numerical Investigation of the Effects of Microstructural Feathers of Selectively Laser Melted Metal Parts on Their mechanical response 2023-Present

MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Numerical Investigation of the Energy Absorption Capability of the Novel Triply Periodic Minimal Surfaces Cellular Lattice Structures 2023-Present
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Advisor

Investigation of Mechanical Behavior of Artificial Heart Valve and Femoral Artery Stents Made of SMA Based on Microplane Theory 2013-2015
MSc. Thesis, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran

Investigation of Beam-Column Connection Equipped with Shape Memory Alloys 2014-2016
MSc. Thesis, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran

Investigation of Topology and Porosity on the Mechanical Properties of Resin Made Cellular Lattice Structures Fabricated by Three-Dimensional and Four-Dimensional Printing Technology 2016-2018
MSc. Thesis, Isfahan University of Technology, Isfahan, Iran.

Size and Number Distribution Investigation of Spatter During Selective Laser Melting (SLM) Using Images Processing Method 2016-2018
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Dynamic Analysis and Control of Continuum Robots Equipped with Shape Memory Alloy Actuators 2016-2018
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Dynamic Analysis and Control of a Continuum Robot by Magnetic Actuators 2017-2019
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Design and Fabrication of Large Joints and Muscles Rehabilitation Device 2017-2019
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Dynamic Modeling and Control of a Class of Driving - Cables Continuum Manipulators 2017-2019
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Design and Fabrication of Filament Extruder Machine 2018-2020
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Dynamic Modeling of a Soft Micro - Robot Equipped with Shape Memory Alloy Actuator 2018-2020
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Design, Manufacturing and Kinematics Analysis of Body - Power Partial Hand Prosthesis 2018-2020
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Dynamic Analysis of a Wearable Shoulder Rehabilitation Robot 2018-2020
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Designing and Fabrication of a New Active Workstation and Evaluation of Its Usability and Effects of Physiological, Biomechanical, Cognitive, and Functional Skills During Computer Activity in Normal and Obese Office Workers 2018-2022
PhD Thesis, Shiraz University of Medical Sciences

Design and Fabrication of a Robotic Soft Gripper with Shape Memory Alloy Actuator 2020-2022

MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Design and Construction of a Cartesian Platform for Being Used in 3D Printers 2020-2023
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Topology Optimization of a Soft Robotic Gripper 2021-2023
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Design and Construction of an Aircraft Wing Model Using Morphing Technology 2021-2023
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Design to Improve the Efficiency of the Mechanical Slag Skimmer Device 2021-Present
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Investigation of Oxidation Behavior of Crofer 22 APU Steel Coated with Ni-Co-Mn-CeO₂-La₂O₃ Electrochemical Deposition for Solid Oxide Fuel Cells 2022-Present
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Investigation of Oxidation Behavior of Crofer 22 APU Steel at Presence of Co/CeO₂/ZrO₂ Composite Coating for Application of Solid Oxide Fuel Cells 2022-Present
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

Experimental Investigation of Mechanical Properties of Auxetic Lattice Structures 3D Printed by Fused Deposition Modeling 2023-Present
MSc. Thesis, Babol Noshirvani University of Technology, Babol, Iran

References

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