

# Mohammad Mohammadi-Aghdam

**Professor (BSc. MSc. PhD.)**

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## EDUCATION

1. **Ph.D** Mechanical Eng. , [University of Bristol](#), 1999.
2. **M.Sc.** Mechanical Eng. , [Amirkabir University of Technology](#) , 1992
3. **B.Sc.** Mechanical Eng. , [Sharif University of Technology](#) , 1989

## ADMINISTRATION

Director of Research Department, Amirkabir University of Tech., Sept. 2014- August 2019

Head: Department of Mechanical Engineering, July 2010 – Sept. 2014

Deputy: National Organization for Educational Testing (NOET), April 2006- July 2010

Director: Office of International and Scientific Cooperation (OISC), Dec. 2002- April 2006

Deputy Dean (educational affairs): Mechanical Engineering Department, Aug. 2001-Nov. 2002

Director: Office of industrial affairs, Mechanical Engineering Department, Oct. 2000-Nov. 2001

## ACADEMIC INTERESTS

**Teaching:** Statics, Dynamics; Strength of Materials; Finite element analysis;  
Advanced Composite Materials; Advanced Numerical Methods

**Research:** Computational mechanics; Composite and Smart Materials (Micro and Macro-mechanics); Plates and shells; Finite element, Porous materials.

**Teaching (in English):** Statics and Dynamics; Modelling Concepts and Tools (in collaboration with **Birmingham University**)

## **AWARDS and ACHIEMNETS**

1. Top 1% highly cited authors since 2017 in [ESI](#) list, updated every two months.
2. Top 2% highly [cited scientists](#) based on Scopus data, Elsevier since 2019.
3. Best researcher of the year, 2018, Amirkabir University of Technology (AUT).
4. Best researcher of the year, 2016, Mechanical Engineering Dept. AUT.
5. Best book of the season by Ministry of Culture for “Mechanical Structures: Beams, Plates and Shells”, 2007.
6. Full scholarship for PhD study at University of Bristol, UK.
7. Full scholarship for MSc study at Amirkabir University of tech., Tehran, Iran.

## **THESES UNDER SUPERVISION**

### **A: PhD**

1. A hybrid NURBS-DQ approach for phase field analysis of single variant steel phase transformation.
2. Homogenization methods for structural analysis of auxetic folds and origami/kirigami structures.
3. Multi-scale modeling of nonlinear magnetostrictive composites.

### **B: Master**

1. Analysis of the flexible metamaterial structures subjected to harmonic loads
2. Bending analysis of composite anisogrid lattice parallelogram plates using Extended Kantorovich Method (EKM)
3. Co-simulation methods: Improving numerical stability and convergence behavior

4. A comparative study of the mechanical behavior of pentamode like structures under static loading
5. Viscoelastic behavior of porous biomaterials.
6. Investigation of thermo-mechanical behavior of regular porous materials under multi-axial loading.
7. Viscoelastic analysis of porous biomaterials using bioinspired unit cells
8. Fabrication, characterization and simulation of PMMA/HA biocomposite reinforced with graphene nano particles for biomedical engineering application.

### **C: Under graduate**

1. In plane vibration of plates with single and periodic holes.
2. Finite element analysis of lattice plates with different unit cells.
3. Vibration analysis of rectangular plates partially rest on circular elastic foundation.

## **ALUMNI**

### **A: PhDs**

1. Dr M. J. [Mahmoodi](#), Assistant Prof., Shahid Beheshti University, Tehran, Iran.
2. Dr. I. [Ahmadi](#), Associate Prof., Zanzan University, Zanzan, Iran.
3. Dr. Y. [Heydarpour](#), Assistant Prof., Persian Gulf University, Boushehr, Iran.
4. Dr. M. [Bodaghi](#), Assistant Prof., Nottingham Trent University, Nottingham, UK.
5. Dr. A. R. [Daman Pack](#), Assistant Prof., Monash University, Malaysia Branch, Malaysia.
6. Dr. R. [Hedayati](#), Post Doctorate researcher, TU Delft, The Netherlands.
7. Dr. S. R. [Falihatgar](#), Assistant Professor, University of Guilan, Rasht, Iran. (Advisor)
8. Dr. S. [Sahmani](#), Assistant Professor, Niroo Research Institute (NRI), Tehran, Iran.
9. Dr. F. [Mousazadegan](#), Assistant Prof., Amirkabir University of Technology, Tehran, Iran. (Advisor)
10. Dr. S. M. [Hosseini](#), Assistant Prof., Amirkabir University of Technology, Tehran, Iran. (Advisor)
11. Dr. A. [Fallah](#), Post Doctorate researcher, Sabanci University, Istanbul, Turkey. (Advisor)

### **B: Masters**

1. Dr. F. [Alijani](#), Associate Prof., TU Delft, The Netherlands.
2. A. [Sarafraz](#), Junior Research Staff, PhD student, TU Delft, The Netherlands.

3. Dr. M. [Gorji](#), Research Scientist, MIT, USA.
4. S. M. A. [Hosseini](#), Postdoctoral Research Associate, TU Delft, The Netherlands.
5. Dr. J. [Jamali](#), Assistant Prof., American University of the Middle East, Kuwait.
6. Dr. S. [Maleki](#), Assistant Prof., Ghochan University, Iran.
7. Dr. A. [Andakhshideh](#), Assistant Prof., Ghochan University, Iran.
8. Dr. S. R. [Morsali](#), Postdoctoral Research Associate, University of Texas at Dallas, USA.
9. Dr. H. [Asadi](#), Research Associate, University of Alberta, Alberta, Canada.
10. H. [Ravanbakhsh](#), PhD Candidate, Mc-Gill University, Montreal, Canada.
11. H. [Niknam Jahromi](#), PhD Candidate, Mc-Gill University, Montreal, Canada.
12. H. [Soleimani](#), PhD candidate, DTU, Denmark.
13. R. [Ghavidel Nia](#), PhD student, ETH Zurich, Switzerland.

## C: Undergrads

1. Dr. S. V. [Mortazavian](#), Ascend Performance Materials, USA.
2. Dr. M. [Sadeh del](#), Assistant Prof., Tarbiat Modarres University, Tehran, Iran.
3. Dr. M. [Jalali](#), Controls Development Engineer at GM, Canada.
4. Dr. A. [Fallah](#), Post Doctorate researcher, Sabanci University, Istanbul, Turkey.
5. Dr. S. [Nobakhti](#), Adjunct Teaching Professor at Bunker Hill CC, Boston, USA.
6. Dr. M. [Golkaram](#), Bioinformatics Data Scientist, Illumina Inc., USA.
7. S. [Aghajani](#) PhD candidate, TUDelft, The Netherlands.
8. M. [Amereh](#), PhD candidate, University of Victoria, Canada.
9. S. [Mozaffari](#), PhD candidate, DTU, Denmark.
10. A. [Rahmat talabi](#), PhD candidate at University of Southern California, USA.
11. P. [Forotan](#), PhD Student, Concordia University, Montreal, Canada.
12. H. [Mirkarimi](#), MSc student, École de technologie supérieure, Montreal, Canada.

## REVIEWS

13. International Journal of Solids and Structures
14. Journal of Sound and Vibration
15. Composite Structures
16. Materials Science and Engineering: A
17. Mechanics of Advanced Materials and Structures
18. Computer Methods in Applied Mechanics and Engineering
19. Journal of Mechanical Engineering Science (IMECHE, Part C)
20. Applied Mathematical Modelling
21. Applied Acoustics
22. Computer Methods in Applied Mechanics and Engineering
23. Computational Materials Science
24. European Journal of Mechanics - A/Solids

## 25. International Journal of Applied Mechanics

### Conference activities

- The 8<sup>th</sup> Asian Conference on Mechanics of Functional Materials & Structures, ([ACMFMS](#)), Dec., 2022, IIT Guwahati, Assam, India.
- The 8<sup>th</sup> Int. Conf. on Composites: Characterization, Fabrication and Application ([CCFA-8](#)), Dec., 2022, Tehran, Iran.
- The 7<sup>th</sup> Int. Conf. on Composites: Characterization, Fabrication and Application ([CCFA-7](#)), Dec., 2020, Tehran, Iran.
- The 6<sup>th</sup> Int. Conf. on Composites: Characterization, Fabrication and Application ([CCFA-6](#)), Dec., 2018, Tehran, Iran.
- Int. Conf. on [Mechatronics, Automation and Intelligent Materials](#), Nov., 2017 Paris, France.
- The 5<sup>th</sup> Int. Conf. on Composites: Characterization, Fabrication and Application ([CCFA-5](#)), Dec., 2016, Tehran, Iran.
- The 4<sup>th</sup> Int. Conf. on Composites: Characterization, Fabrication and Application ([CCFA-4](#)), Dec., 2014, Tehran, Iran.
- 17th International Conference on Composite Structures ([ICCS17](#)), June 2013, Porto, Portugal.
- 2<sup>nd</sup> International scientific Conference on engineering ([Mat 2012](#)), Nov. 2012, Antalya, Turkey.
- The 3<sup>rd</sup> Int. Conf. on Composites: Characterization, Fabrication and Application ([CCFA-3](#)), Dec., 2012, Tehran, Iran.
- 16th International Conference on Composite Structures ([ICCS16](#)), June 2011, Porto, Portugal.
- The 2<sup>nd</sup> Int. Conf. on Composites: Characterization, Fabrication and Application ([CCFA-2](#)), Dec., 2010, Kish Island, Iran.
- The 2<sup>nd</sup> Int. Conf. on Management Science and Artificial Intelligence ([MSAI](#)), Aug., 2011, Deng Feng, China

### Industry

1. Failure study of connecting shafts of a plug screw feeder (PSF) in Mazandaran paper production plant. (2002)
2. Failure study of Digester Dosing Screws (DDS) of the MWPI complex. (2003)

### PUBLICATION

#### A- Book and book chapters

1. A Fallah, MM Aghdam, 2024,” [Physics-Informed Neural Network for Solution of Nonlinear Differential Equations](#)”, in Nonlinear Approaches in Engineering Application: Automotive Engineering, New York, USA.
2. R Nopour, MM Aghdam, A Taghvaeipour, 2024,” [Nonlinear Analysis of Flexible Parallel Mechanisms Through Bézier-Based Integration](#)”, in Nonlinear Approaches in Engineering Application: Automotive Engineering, New York, USA.
3. M Bameri, V Mirzaei, P Moradweysi, MM Aghdam, 2024, “ [A Hybrid Numerical Study of the Nonlinear Instability of Nano-switches](#) ”, in Nonlinear Approaches in Engineering Application: Automotive Engineering, New York, USA.
4. Kalkhorani V.A., Aghdam M.M., 2022, “[Novel Predictor-Corrector Formulations for Solving Nonlinear Initial Value Problems](#)”, in Nonlinear Approaches in Engineering Applications, Springer, New York, USA.
5. Aghdam M. M. and Morsali S. R., 2021, “Residual stresses in metal matrix composites”, in Residual stresses in composite materials, *Elsevier*, Cambridge, UK.
6. S Sahmani, MM Aghdam, 2019, [Size-dependent nonlinear mechanics of biological nanoporous microbeams](#), in Nanomaterials for advanced biological applications, 181-207, Springer, New York, USA.
7. Sahmani S., Aghdam M.M., 2018, Chapter 5: “[Nonlinear Size-Dependent Instability of Hybrid FGM Nanoshells](#)”, in Nonlinear Approaches in Engineering Applications 5, Springer, New York, USA.
8. Sheikholeslami S.A. and Aghdam M.M., 2018, Chapter 11: “[A Semi-analytical Solution for Bending of Nonlinear Magnetostrictive Beams](#)”, in Nonlinear Approaches in Engineering Applications 5, Springer, New York, USA.
9. Aghdam M. M. and Niknam H. 2016, Chapter 7: “[Nonlinear Forced Vibration of Nanobeams](#)”, in Nonlinear Approaches in Engineering Applications 4, Springer, New York, USA.
10. Aghdam M. M. and Fallah A. 2016, Chapter 8: “[Analytical Solutions for Generalized Duffing Equation](#)”, in Nonlinear Approaches in Engineering Applications 4, Springer, New York, USA.
11. Aghdam M. M., Fallah A. and Haghi P., 2015, Chapter 5: “Nonlinear Initial Value Ordinary Differential Equations”, in Nonlinear Approaches in Engineering Applications 3, Springer, New York, USA.
12. Aghdam M. M. and Morsali S. R., 2013, Chapter 9: “Understanding residual stresses in metal matrix composites”, in Residual stresses in composite materials, *Woodhead Publishing Limited- Elsevier*, Cambridge, UK.
13. Shakeri M., Alibigloo A., Aghdam M. M., 2007, “Mechanical Structures: Beams, Plates and Shells”, *Amirkabir University Press*, Tehran, Iran. (In Persian).

## B- Journals –

<p><a href="#">Modelling and analysis of large periodic origami structures for local vibrations</a>  P Moradweysi, T Goudarzi, MM Aghdam  International Journal of Mechanical Sciences, 109463</p>	<p>2024</p>
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<p><b>Thermomechanical behavior of auxetic lattices</b>  R Hedayati, EE Hesari, MM Aghdam, M Sadighi  Journal of Thermal Stresses, 1-22</p>	2024
<p><b>A molecular dynamics study on the size effects of Fe<sub>3</sub>O<sub>4</sub> nanoparticles on the mechanical characteristics of polypyrrole/Fe<sub>3</sub>O<sub>4</sub> nanocomposite</b>  H Kabir, MM Aghdam, SS Samandari, M Moeini  Molecular Simulation 50 (7-9), 493-505</p>	2024
<p><b>A supervised learning-assisted multi-scale study for thermal and mechanical behavior of porous Silica</b>  A Khalvandi, S Saber-Samandari, MM Aghdam  Heliyon 10 (7)</p>	2024
<p><b>On the free vibration characteristics of multiscale hybrid conical panels utilizing Chebyshev–Ritz route</b>  A Salmanizadeh, R Nopour, MM Aghdam, Y Kiani, MR Eslami  Mechanics Based Design of Structures and Machines, 1-20</p>	2024
<p><b>Design and analysis of a thick Miura-ori folded structure with large negative Poisson’s ratio</b>  P Moradweysi, PM Santucci, G Carta, T Goudarzi, MM Aghdam, A Baldi, ...  Mechanics of Advanced Materials and Structures 31 (4), 908-926</p>	2024
<p><b>Physics-informed neural network for bending and free vibration analysis of three-dimensional functionally graded porous beam resting on elastic foundation</b>  A Fallah, MM Aghdam  Engineering with Computers 40 (1), 437-454</p>	2024
<p><b>On the soft tissue ultrasound elastography using FEM based inversion approach</b>  SS Eshaghinia, A Taghvaeipour, MM Aghdam, H Rivaz  Proceedings of the Institution of Mechanical Engineers, Part H: Journal of ...</p>	2024
<p><b>Application of the Bezier integration technique with enhanced stability in forward dynamics of constrained multibody systems with Baumgarte stabilization method</b>  M Khoshnazar, M Dastranj, A Azimi, MM Aghdam, P Flores  Engineering with Computers, 1-15</p>	2023
<p><b>On the generalized Bézier-based integration approach for co-simulation applications</b>  R Nopour, A Taghvaeipour, MM Aghdam, F González  Mechanics Based Design of Structures and Machines, 1-32</p>	2023
<p><b>Vibrational behavior of temperature-dependent imperfect functionally graded plate lying on an elastic substrate</b>  A Seyfi, MM Aghdam  Mechanics Based Design of Structures and Machines 51 (7), 3868-3889</p>	2023
<p><b>The effect of auxeticity on the vibration of conical sandwich shells with ring support under various boundary conditions</b>  M Alinia, R Nopour, MM Aghdam, R Hedayati  Engineering Analysis with Boundary Elements 152, 130-147</p>	2023

<p><b>Thermomechanical behavior of lattice structures: An analytical, numerical, and experimental study</b>  B Abedini, R Hedayati, M Mohammadi Aghdam, M Sadighi  Mechanics Based Design of Structures and Machines, 1-24</p>	2023
<p><b>Nonlinear forced vibrations of three-phase nanocomposite shells considering matrix rheological behavior and nano-fiber waviness</b>  R Nopour, F Ebrahimi, A Dabbagh, MM Aghdam  Engineering with Computers 39 (1), 557-574</p>	2023
<p><b>Morphological changes in glial cells arrangement under mechanical loading: A quantitative study</b>  F Eskandari, M Shafieian, MM Aghdam, K Laksari, Injury 53 (11), 3617-3623</p>	2022
<p><b>Large-amplitude vibration and buckling analysis of foam beams on nonlinear elastic foundations</b>  HA Zamani, SS Nourazar, MM Aghdam, Mechanics of Time-Dependent Materials, 1-18</p>	2022
<p><b>Application of artificial neural networks to predict Young's moduli of cartilage scaffolds: an in-vitro and micromechanical study</b>  A Khalvandi, S Saber-Samandari, MM Aghdam, Biomaterials Advances, 212768</p>	2022
<p><b>Editorial to the Special Issue on Advanced Micro/Nanoscale Porous Materials for Novel Applications: Answering to Future Needs</b>  R Hedayati, Y Sheikhejad, MM Aghdam, Transport in Porous Media 142 (1), 1-4</p>	2022
<p><b>Nonlinear forced vibrations of three-phase nanocomposite shells considering matrix rheological behavior and nano-fiber waviness</b>  R Nopour, F Ebrahimi, A Dabbagh, MM Aghdam, Engineering with Computers, 1-18</p>	2022
<p><b>Microstructural properties of novel nanocomposite material based on hydroxyapatite and carbon nanotubes: fabrication and nonlinear instability simulation</b>  S Sahmani, S Saber-Samandari, MM Aghdam, A Khandan, Journal of Nanostructure in Chemistry 12 (1), 1-22</p>	2022
<p><b>Influence of the distribution pattern of porosity on the free vibration of functionally graded plates</b>  L Hadji, A Fallah, MM Aghdam, Structural Engineering and Mechanics 82 (2), 151-161</p>	2022
<p><b>Novel Predictor-Corrector Formulations for Solving Nonlinear Initial Value Problems</b>  VA Kalkhorani, MM Aghdam, Nonlinear Approaches in Engineering Application, 55-67</p>	2022
<p><b>Fabrication, experimental study, and 2-D finite element computational homogenization of bone scaffolds under uniaxial and biaxial compressive loadings</b>  A Khalvandi, M Mohammadi Aghdam, S Saber-Samandari, Proceedings of the Institution of Mechanical Engineers, Part N: Journal of ...</p>	2022
<p><b>A generalized 2D Bézier-based solution for stress analysis of notched epoxy resin plates reinforced with graphene nanoplatelets</b>  H Kabir, MM Aghdam, Thin-Walled Structures 169, 108484</p>	2021



<p><b>Semi-analytical solutions for buckling and free vibration of composite anisogrid lattice cylindrical panels</b></p> <p>MMM Zafarabadi, MM Aghdam, Composite Structures 275, 114422</p>	2021
<p><b>Vibrational behavior of temperature-dependent imperfect functionally graded plate lying on an elastic substrate</b></p> <p>A Seyfi, MM Aghdam, Mechanics Based Design of Structures and Machines, 1-22</p>	2021
<p><b>Fabrication and resonance simulation of 3D-printed biocomposite mesoporous implants with different periodic cellular topologies</b></p> <p>S Sahmani, A Khandan, S Saber-Samandari, S Esmacili, MM Aghdam, Bioprinting 22, e00138</p>	2021
<p><b>The importance of axonal directions in the brainstem injury during neurosurgical interventions</b></p> <p>F Eskandari, M Shafieian, MM Aghdam, K Laksari, Injury 52 (6), 1271-1276</p>	2021
<p><b>Advanced structural modeling of a fold in Origami/Kirigami inspired structures</b></p> <p>H Soleimani, T Goudarzi, MM Aghdam, Thin-Walled Structures 161, 107406</p>	2021
<p><b>Mind the gap: A mechanobiological hypothesis for the role of gap junctions in the mechanical properties of injured brain tissue</b></p> <p>F Eskandari, M Shafieian, MM Aghdam, K Laksari, Journal of the mechanical behavior of biomedical materials 115, 104240</p>	2021
<p><b>Structural anisotropy vs. mechanical anisotropy: the contribution of axonal fibers to the material properties of brain white matter</b></p> <p>F Eskandari, M Shafieian, MM Aghdam, K Laksari, Annals of Biomedical Engineering 49 (3), 991-999</p>	2021
<p><b>Macro-and micromechanical modelling of HA-Elastin scaffold fabricated using freeze drying technique</b></p> <p>M Mohammadzadeh Rad, S Saber-Samandari, M Sadighi, L Tayebi, ..., Journal of Nanoanalysis 8 (1), 17-31</p>	2021
<p><b>A comparative study of 1D nonlocal integral Timoshenko beam and 2D nonlocal integral elasticity theories for bending of nanoscale beams</b></p> <p>H Danesh, M Javanbakht, M Mohammadi Aghdam, Continuum Mechanics and Thermodynamics, 1-23</p>	2021
<p><b>Investigation on modulation of multi-frequency ultrasonic waves in structures with quadratic nonlinearity</b></p> <p>M Shamshirsaz, H Salehi, MM Aghdam, Smart Structures and Systems, An International Journal 28 (1), 43-53</p>	2021
<p><b>Tension strain-softening and compression strain-stiffening behavior of brain white matter</b></p> <p>F Eskandari, M Shafieian, MM Aghdam, K Laksari, Annals of Biomedical Engineering 49 (1), 276-286</p>	2021
<p><b>Experimental and Numerical Studies on the Effect of Hollow Glass Fiber Presence and Orientation on the Tensile Behavior of Epoxy/Glass Fiber Composite</b></p> <p>A Adli, K Shelesh-Nezhad, MR Khoshnavan Azar, M Mohammadi-Aghdam, Journal of Science and Technology of Composites 7 (2), 881-890</p>	2020

<p><b>Development of porous implants with non-uniform mechanical properties distribution based on CT images</b>  N Ghavidelnia, R Hedayati, M Sadighi, M Mohammadi-Aghdam, Applied Mathematical Modelling 83, 801-823</p>	2020
<p><b>Effect of magnetite nanoparticles on the biological and mechanical properties of hydroxyapatite porous scaffolds coated with ibuprofen drug</b>  S Sahmani, A Khandan, S Saber-Samandari, MM Aghdam, Materials Science and Engineering: C 111, 110835</p>	2020
<p><b>The Effect of Vascular Self-Healing Orientation on Healing Efficiency of Epoxy/Glass Fiber Composite</b>  A Adli, K Shelesh-Nezhad, MR Khoshnavan Azar, M Mohammadi-Aghdam, Journal of Science and Technology of Composites 7 (1), 723-730</p>	2020
<p><b>A knowledge map analysis of brain biomechanics: current evidence and future directions</b>  F Eskandari, M Shafieian, MM Aghdam, K Laksari, Clinical Biomechanics 75, 105000</p>	2020
<p><b>Molecular dynamics simulations of the effect of temperature and strain rate on mechanical properties of graphene–epoxy nanocomposites</b>  M Moeini, R Barbaz Isfahani, S Saber-Samandari, MM Aghdam, Molecular Simulation 46 (6), 476-486</p>	2020
<p><b>Microstructural characterization of YSZ-CoNiCrAlY two-layered thermal barrier coating formed on <math>\gamma</math>-TiAl intermetallic alloy via APS process</b>  S Nouri, S Sahmani, M Asayesh, MM Aghdam, Intermetallics 118, 106704</p>	2020
<p><b>Nonlinear primary resonance analysis of nanoshells including vibrational mode interactions based on the surface elasticity theory</b>  A Sarafraz, S Sahmani, MM Aghdam, Applied Mathematics and Mechanics 41 (2), 233-260</p>	2020
<p><b>Calcium phosphate-PLA scaffolds fabricated by fused deposition modeling technique for bone tissue applications: fabrication, characterization and simulation</b>  S Sahmani, A Khandan, S Esmacili, S Saber-Samandari, MG Nejad, ..., Ceramics International 46 (2), 2447-2456</p>	2020
<p><b>The effect of vascular self-healing pattern on mechanical behaviour and healing performance of epoxy/glass composite</b>  A Adli, K Shelesh-Nezhad, M Khoshnavan Azar, M Mohammadi-Aghdam, Plastics, Rubber and Composites 49 (2), 79-90</p>	2020
<p><b>Improvement of high-temperature oxidation resistance of <math>\gamma</math>-TiAl intermetallic alloy by YSZ-NiCoCrAlY coating using APS process</b>  S Nouri, S Sahmani, M Asayesh, MM Aghdam, Materials Research Express 6 (12), 126541</p>	2019
<p><b>A novel magnetic bifunctional nanocomposite scaffold for photothermal therapy and tissue engineering</b>  S Saber-Samandari, M Mohammadi-Aghdam, S Saber-Samandari, International journal of biological macromolecules 138, 810-818</p>	2019
<p><b>Study on the oxidation resistance of <math>\gamma</math>-TiAl intermetallic alloy coated via different diffusion coating processes</b></p>	2019

S Nouri, S Sahmani, M Asayesh, MM Aghdam, <i>Materials Research Express</i> 6 (10), 106522	
<b>An efficient solver for fully coupled solution of interaction between incompressible fluid flow and nanocomposite truncated conical shells</b> N Mohammadi, H Asadi, MM Aghdam, <i>Computer Methods in Applied Mechanics and Engineering</i> 351, 478-500	2019
<b>Influence of MgO nanoparticles on the mechanical properties of coated hydroxyapatite nanocomposite scaffolds produced via space holder technique: fabrication, characterization ...</b> S Sahmani, S Saber-Samandari, A Khandan, MM Aghdam, <i>Journal of the mechanical behavior of biomedical materials</i> 95, 76-88	2019
<b>Nonlocal electrothermomechanical instability of temperature-dependent FGM nanopanels with piezoelectric facesheets</b> S Sahmani, MM Aghdam, <i>Iranian Journal of Science and Technology, Transactions of Mechanical ...</i>	2019
<b>A new multistep technique based on the nonuniform rational basis spline curves for nonlinear transient heat transfer analysis of functionally graded truncated cone</b> Y Heydarpour, M Mohammadi-Aghdam, <i>Heat Transfer Engineering</i> 40 (7), 588-603	2019
<b>A robust Bézier based solution for nonlinear vibration and post-buckling of random checkerboard graphene nano-platelets reinforced composite beams</b> H Kabir, MM Aghdam, <i>Composite Structures</i> 212, 184-198	2019
<b>Size-dependent nonlinear secondary resonance of micro-/nano-beams made of nanoporous biomaterials including truncated cube cells</b> S Sahmani, M Fotouhi, MM Aghdam, <i>Acta Mechanica</i> 230 (3), 1077-1103	2019
<b>Nonlinear bending analysis of FG-CNTRC annular plates with variable thickness on elastic foundation</b> MM Keleshteri, H Asadi, MM Aghdam, <i>Thin-Walled Structures</i> 135, 453-462	2019
<b>Numerical and experimental analysis of the closed-cell aluminium foam under low velocity impact using computerized tomography technique</b> S Talebi, M Sadighi, MM Aghdam, <i>Acta Mechanica Sinica</i> 35 (1), 144-155	2019
<b>Nonlinear secondary resonance of nanobeams under subharmonic and superharmonic excitations including surface free energy effects</b> A Sarafraz, S Sahmani, MM Aghdam, <i>Applied Mathematical Modelling</i> 66, 195-226	2019
<b>Nonlinear resonance investigation of nanoclay based bio-nanocomposite scaffolds with enhanced properties for bone substitute applications</b> S Sahmani, S Saber-Samandari, A Khandan, MM Aghdam, <i>Journal of Alloys and Compounds</i> 773, 636-653	2019
<b>Size-dependent nonlinear mechanics of biological nanoporous microbeams</b> S Sahmani, MM Aghdam, <i>Nanomaterials for advanced biological applications</i> , 181-207	2019
<b>Effect of copper oxide nanoparticles on electrical conductivity and cell viability of calcium phosphate scaffolds with improved mechanical strength for bone tissue engineering</b>	2019

S Sahmani, M Shahali, M Ghadiri Nejad, A Khandan, MM Aghdam, ..., The European Physical Journal Plus 134 (1), 1-11	
<b>Surface stress effect on nonlinear instability of imperfect piezoelectric nanoshells under combination of hydrostatic pressure and lateral electric field</b> S Sahmani, M Mohammadi Aghdam, A Akbarzadeh, AUT Journal of Mechanical Engineering 2 (2), 177-190	2018
<b>Mechanical and biological performance of axially loaded novel bio-nanocomposite sandwich plate-type implant coated by biological polymer thin film</b> S Sahmani, S Saber-Samandari, M Shahali, HJ Yekta, F Aghadavoudi, ..., Journal of the mechanical behavior of biomedical materials 88, 238-250	2018
<b>Analytical and experimental analyses for mechanical and biological characteristics of novel nanoclay bio-nanocomposite scaffolds fabricated via space holder technique</b> S Sahmani, M Shahali, A Khandan, S Saber-Samandari, MM Aghdam, Applied Clay Science 165, 112-123	2018
<b>Nonlinear resonance response of porous beam-type implants corresponding to various morphology shapes for bone tissue engineering applications</b> S Sahmani, S Saber-Samandari, MM Aghdam, A Khandan, Journal of Materials Engineering and Performance 27 (10), 5370-5383	2018
<b>Boundary layer modeling of nonlinear axial buckling behavior of functionally graded cylindrical nanoshells based on the surface elasticity theory</b> S Sahmani, MM Aghdam, Iranian Journal of Science and Technology, Transactions of Mechanical ...	2018
<b>Nonlocal strain gradient plate model for nonlinear large-amplitude vibrations of functionally graded porous micro/nano-plates reinforced with GPLs</b> S Sahmani, MM Aghdam, T Rabczuk, Composite Structures 198, 51-62	2018
<b>Small scale effects on the large amplitude nonlinear vibrations of multilayer functionally graded composite nanobeams reinforced with graphene-nanoplatelets</b> S Sahmani, M Mohammadi Aghdam, International Journal of Nanoscience and Nanotechnology 14 (3), 207-227	2018
<b>Multiscale modeling of fatigue crack propagation in additively manufactured porous biomaterials</b> R Hedayati, H Hosseini-Toudeshky, M Sadighi, M Mohammadi-Aghdam, ..., International Journal of Fatigue 113, 416-427	2018
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