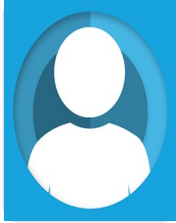




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h-index (Scopus):  
**9**

Citations (Scopus):  
**273**

### Supervised MSc Theses

#	Thesis title	By	Date
1	design and biomechanical analysis of vertebral expandable polymeric cage	Mohammad Alidadi & Hamid Reza Katoozian	October 2021
2	Design, production, and evaluation of a high-speed tensile test instrument for measuring mechanical properties of soft tissues	Haniyeh Altafi & Hamid Reza Katoozian	September 2021
3	Biomechanical analysis of impact to the human mandible using the finite element method	Yasaman Sedghi & Hamid Reza Katoozian	June 2021
4	Analysis of mechanobiological behavior of bone graft in human mandibular defect by finite element method	Omid Ghaderzadeh & Hamid Reza Katoozian	April 2021
5	A comparison of peri-implant bone remodeling among titanium, hydroxyapatite-coated, and functionally graded dental implants using finite element simulation	Bahram Jafari & Hamid Reza Katoozian	March 2021
6	Analysis of Posterior Lumbar Spine Fixation in Osteoporotic Patients using Subject-Specific Finite Element Modeling	Shohreh Shams & Hamid Reza Katoozian	February 2021
7	The Application of Modal Analysis Method To Determine Dental Implant Fixation	Nima Alimoradi & Hamid Reza Katoozian	February 2019
8	fracture toughness evaluation of meniscus	Ahmad Babazadeh & Hamid Reza Katoozian	February 2019
9	Finite element analysis of bone remodeling for adaptation to mechanical environment	Vahid Malbouby & Hamid Reza Katoozian	July 2018

10	Biomechanical investigation of disc degeneration and its design optimization using finite element method	Sheida Vafadar & Hamid Reza Katoozian	July 2018
11	finite element-based design, shape and structural rigidity optimization of hip prosthesis	Mahtab Vafaeefer & Hamid Reza Katoozian	July 2018
12	Mechanical behavior comparison between 3 clinically approved disc implants (SB Charite III, ProDisk II and PDN) to optimum design new disc implant: finite element analysis	Navid Soltani Hafshejani & Hamid Reza Katoozian	October 2015
13	mineral - collagen interfacial debonding analysis during crack growth in bone using probabilistic finite element method	Mina Soleimanifar & Hamid Reza Katoozian	January 2012
14	modelling crack propagation in bone using meshfree method	Haniyeh Hemmatian & Hamid Reza Katoozian	November 2011
15	Nonlinear parameter estimation of human Heel Pad: A Finite element & evolutionary based algorithm	Mohammad Mahdi Khani & Hamid Reza Katoozian	March 2008
16	Modeling Femur Hard Tissue Injuries Due to Automotive Crash for Pedestrian	Sajad Raeisi Nafchi & Hamid Reza Katoozian	March 2008
17	Using Methods of Quantitative Analysis of Trabecular Structure to Model Osteoporosis	Rabee Cheheltani & Hamid Reza Katoozian	March 2008
18	BIOMECHANICAL ANALYSIS OF RESIDUAL STRESS IN INTERVERTEBRAL	Sanaz Namegh & Hamid Reza Katoozian	May 2007
19	BIOMECHANICAL ANALYSIS OF VERTEBRAL COLUMN INJURIES IN REAR-END IMPACTS	Babak Ravaji & Hamid Reza Katoozian	February 2007
20	DESIGN OPTIMIZATION OF HOLLOW STEM OF A HIP PROSTHESES AS A MEANS OF REDUCING REMODELING OF THE FEMUR	Shandiz Zomorodimoghadam & Hamid Reza Katoozian	March 2006

## Journal Papers

### Portal Records

- 1 Seyed Aref Hosseini Faradonbeh, Hamid Reza Katoozian, "Biomechanical evaluations of the long-term stability of dental implant using finite element modeling method: a systematic review", *Journal of Advanced Prosthodontics*, June 2022 Vol. 14, Num. 3, Page 182-202, June 2022,
- 2 Shima Bahramizadeh Sajadi, Hamid Reza Katoozian, Jiri Nohava, Miguel Angel Ariza-Gracia, Philippe Büchler, "Effects of corneal preservation on the mechanical response of porcine corneas measured by nano-indentation", *SOFT MATERIALS*, June 2022 Vol. 20, Num. 2, Page 1-10, June 2022,
- 3 Shima Bahramizadeh Sajadi, Hamid Reza Katoozian, Alireza Baradaran-Rafii, Miguel Angel Ariza-Gracia, Philippe Büchler, "A Comparative Study on Common Scenarios of Single-segment and Double-segment Intracorneal Ring Segments in a Keratoconus Corneal Model", *Iranian Journal of Biomedical Engineering*, March 2022 Vol. 15, Num. 4, Page 341-352, March 2022,
- 4 Bahram Jafari, Hamid Reza Katoozian, Masoudtahani, Nimaashjaee, "A comparative study of bone remodeling around hydroxyapatite-coated and novel radial functionally graded dental implants using finite element simulation", *MEDICAL ENGINEERING & PHYSICS*, February 2022 Vol. 102, Num. 103775, Page 0-0, February 2022,
- 5 Faezeh Eskandari, Shima Bahramizadeh Sajadi, Hamid Reza Katoozian, "A new potential indicator in differentiating patients with lumbar spinal stenosis and lumbar intervertebral disc degeneration", *Journal of Orthopedic and Spine Trauma*, September 2021 Vol. 7, Num. 2, Page 44-47, September 2021,

- 6 Shima Bahramizadeh Sajadi, Hamid Reza Katoozian, Faezeh Eskandari, "Effects of lumbar spinal disorders on the vertical ground reaction force and Spatio-temporal parameters in gait", *CLINICAL BIOMECHANICS*, August 2021 Vol. 89, Num. 1, Page 1-5, August 2021,
- 7 Fateme Badie, Hamid Reza Katoozian, Mostafa Rostami, "Dynamic analysis of varus knee using a subject-specific multibody model of the knee before and after osteotomy", *MEDICAL ENGINEERING & PHYSICS*, February 2019 Vol. 0, Num. 0, Page 1-8, February 2019,
- 8 Fateme Badie, Hamid Reza Katoozian, Mostafa Rostami, "A non-invasive measurement of the knee contact force using a subject-specific musculoskeletal model to investigate osteotomy", *JOURNAL OF MEDICAL ENGINEERING & TECHNOLOGY*, June 2018 Vol. 42, Num. 4, Page 251-258, June 2018,
- 9 Maryam Geramizadeh, Hamid Reza Katoozian, Reza Amid, Mahdi Kadkhodazadeh, "Three-dimensional optimization and sensitivity analysis of dental implant thread parameters using finite element analysis", *Journal of the Korean Association of Oral and Maxillofacial Surgeons*, April 2018 Vol. 44, Num. 2, Page 59-65, April 2018,
- 10 Maryam Geramizadeh, Hamid Reza Katoozian, Reza Amid, Mahdi Kadkhodazadeh, "Comparison of finite element results with photoelastic stress analysis around dental implants with different threads", *Dental and Medical Problems*, January 2018 Vol. 55, Num. 1, Page 17-22, January 2018,
- 11 Amirhossein Salimi, Hamid Reza Katoozian, Paniz Naraghi-Bagherpour, Mohammad-Mehdi Khani, "Coupled boundary element-finite element model to estimate human heel-pad elasticity modulus", *BIOMEDICAL ENGINEERING-APPLICATIONS BASIS COMMUNICATIONS*, July 2017 Vol. 29, Num. 3, Page 1-6, July 2017,
- 12 Maryam Geramizadeh, Hamid Reza Katoozian, Reza Amid, Mahdi Kadkhodazadeh, "Finite element analysis of dental implants with and without microthreads under static and dynamic loading", *Journal of Long-term effects of Medical Implant*, January 2017 Vol. 27, Num. 1, Page 25-33, January 2017,
- 13 Maryam Geramizadeh, Hamid Reza Katoozian, Reza Amid, Mahdi Kadkhodazadeh, "Static, Dynamic, and Fatigue Finite Element Analysis of Dental Implants with Different Thread Designs", *JOURNAL OF LONG-TERM EFFECTS OF MEDICAL IMPLANTS*, November 2016 Vol. 26, Num. 4, Page 347-355, November 2016,
- 14 Mir Hossein Mousavi, Nasser Fatouraee, Hamid Reza Katoozian, Ali Pashae, Alejandro F. Frangi, "USING ATLAS OF HEART SHAPES FOR SIMULATION OF BLOOD FLOW IN LEFT VENTRICLE", *BIOMEDICAL ENGINEERING-APPLICATIONS BASIS COMMUNICATIONS*, December 2013 Vol. 25, Num. 6, Page 1-8, December 2013,
- 15 Mina Soleimanifar, Hamid Reza Katoozian, "Energy based simulation of trabecular bone fracture healing using finite element and fuzzy logic", *JOURNAL OF APPLIED MATHEMATICS*, May 2013 Vol. 4, Num. 5, Page 49-55, May 2013,
- 16 Mir Hossein Mousavi, Nasser Fatouraee, Hamid Reza Katoozian, Ali Pashae, Oscar Camara, Alejandro F. Frangi, "Numerical simulation of blood flow in the left ventricle and aortic sinus using magnetic resonance imaging and computational fluid dynamics", *COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING*, September 2012 Vol. 1, Num. 1, Page 1-1, September 2012,
- 17 Amir Hossein Saveh, Ali Reza Zali, Seyyed Morteza Kazemi, Sohrab Keyhani, Hanafiah Yussof, Hamid Reza Katoozian, Qureish Vanat, Mahmoud Chizari, "Knee dynamic analysis based on 2D-to-3D registration of fluoroscopic and angiographic images", *STROJNISKI VESTNIK-JOURNAL OF MECHANICAL ENGINEERING*, July 2012 Vol. 9, Num. 1, Page 79-97, July 2012,
- 18 Mohammad-Mehdi Khani, Hamid Reza Katoozian, Kamran Azma, Iman Naseh, Amir Hossein Salimi, "Hyper-elastic parameter estimation of human heel-pad: A finite element and evolutionary based algorithm", *JOURNAL OF MECHANICS IN MEDICINE AND BIOLOGY*, April 2012 Vol. 12, Num. 3, Page 1-6, April 2012,
- 19 Azadeh Ghouchani, Hamid Reza Katoozian, Mohammad Ravari, "Design of an Elastic Arthroplastic Disc Optimized under Different Loads", *Iranian Journal of Medical Physics*, July 2011 Vol. 8, Num. 2, Page 65-74, July 2011,
- 20 Ahmad Raeisi Najafi, Kaveh Pourakbar Saffar, Ahmadreza Arshi, Erfan Mallakin, Hamid Reza Katoozian, Mohammad Reza Eslami, Manssour H. Moeinzadeha, "Propagation of Microcracks in Bovine Osteonal Cortical Bone", *Akademia*, March 2011 Vol. 1, Num. 1, Page 1-7, March 2011,
- 21 Soroush Nobari, Hamid Reza Katoozian, Shandiz Zomorodimoghadam, "Three-dimensional design optimisation of patient-specific femoral plates as a means of bone remodelling reduction", *COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING*, December 2010 Vol. 13, Num. 6, Page 819-827, December 2010,

- 22 Amirhossein Saveh, Hamid Reza Katoozian, Mahmoud Chizari, "Measurement of an intact knee kinematics using gait and fluoroscopic analysis", *KNEE SURGERY SPORTS TRAUMATOLOGY ARTHROSCOPY*, June 2010 Vol. 19, Num. 2, Page 267-272, June 2010,
- 23 Amirhossein Saveh, Hamid Reza Katoozian, Mahmoud Chizari, "B-14 Measurement of an Intact Knee Kinematics Using Gait and Fluoroscopic Analysis; Experimental and Numerical Studies", *JOURNAL OF BIOMECHANICS*, June 2010 Vol. 43, Num. 1, Page 0-0, June 2010,
- 24 Seyyed Amir Hooshidar Ahmadi, Gholamreza Rouhi, Hamid Reza Katoozian, Seyyed Ali Hooshidar Ahmadi, "Simultaneous presence of growth and remodeling in the bone adaptation theory", *American Journal of Applied Sciences*, May 2009 Vol. 6, Num. 1, Page 1816-1824, May 2009,
- 25 Mir Hossein Mousavi, Nasser Fatouraee, Hamid Reza Katoozian, "Finite element analysis of blood flow characteristics in a Ventricular Assist Device (VAD)", , March 2009 Vol. , Num. 17, Page 0-0, March 2009,
- 26 Ahmad Raesi Najafi, Erfan Mallakin, [en-name N/A], Hamid Reza Katoozian, Ahmadreza Arshi, Mohammad Reza Eslami, "Fracture Test of Bovine Contrical Bone ,Evaluation of Bone Toughness Properties and Consideration of Bone Microstructure Effect on Fracture Behavior", *amirkabir*, July 2008 Vol. 0, Num. 0, Page 0-0, July 2008,
- 27 Daniel P.Nicolella, Ben H.Thacker, Hamid Reza Katoozian, Dwight T.Davy, "The effect of three-dimensional shape optimization on the probabilistic response of a cemented femoral hip prosthesis", *JOURNAL OF BIOMECHANICS*, September 2006 Vol. 39, Num. 7, Page 1265-1278, September 2006,
- 28 Yaghoob Dabiri, Nasser Fatouraee, Hamid Reza Katoozian, "A computer simulation of blood flow in arterial networks, including blood non-newtonian models and arterial stenosis", *IEEE ENGINEERING IN MEDICINE AND BIOLOGY MAGAZINE*, April 2006 Vol. 3, Num. 1, Page 2312-2315, April 2006,
- 29 Zohreh Barani, Mohammad Haghpanahi, Hamid Reza Katoozian, "Three dimensional stress analysis of diabetic insole: A finite element approach", *TECHNOLOGY AND HEALTH CARE*, February 2005 Vol. 13, Num. 3, Page 185-192, February 2005,
- 30 Zohreh Barani, Mohammad Haghpanahi, Hamid Reza Katoozian, Hassan Saeidi, "A Three Dimensional Stress Analysis Of Diabetic Insole And Evaluation Of Silicone Gel Material Using Finite Element Approach", *Iranian Journal of Biomedical Engineering*, February 2005 Vol. 1, Num. 2, Page 111-116, February 2005,
- 31 Hamid Reza Katoozian, Zohreh Barani, Dwight T. Davy, "Adaptive Bone Remodeling Criteria Applied to Design Optimization of Femoral Component of Hip Prostheses", *JOURNAL OF MECHANICS IN MEDICINE AND BIOLOGY*, February 2005 Vol. 5, Num. 1, Page 1-12, February 2005,
- 32 Hamid Reza Katoozian, Dwight T.Davy, "Three-dimensional shape optimization of femoral component of hip prostheses with nonlinear frictional interface", , June 2004 Vol. , Num. 2, Page 0-0, June 2004,
- 33 Hamid Reza Katoozian, Ahmadreza Arshi, "Material optimization of femoral component of total hip prosthesis using fiber reinforced polymeric composites", , September 2001 Vol. , Num. 23, Page 0-0, September 2001,
- 34 [en-name N/A], [en-name N/A], Ali Fallah, Hamid Reza Katoozian, "Blood biochemical change following external force application in guinea pig:Early detection of pressure sore", , October 2000 Vol. , Num. , Page 0-0, October 2000,
- 35 Hamid Reza Katoozian, Dwight T.Davy, "Effects of loading conditions and objective function on three-dimensional shape optimization of femoral components of hip endoprostheses", *MEDICAL ENGINEERING & PHYSICS*, September 2000 Vol. 22, Num. 4, Page 243-251, September 2000,

## Conference Papers

### Portal Records

- 1 Shima Bahramizadeh Sajadi, Hamid Reza Katoozian, Miguel Angel Ariza-Gracia, Jiri Nohava, Philippe Büchler, "EFFECTS OF CORNEAL PRESERVATION ON THE MECHANICAL PROPERTIES OF PORCINE CORNEAS ", 27th Congress of the European Society of Biomechanics (ESB2022), June 2022

- 2 Mohammad Hosseinalizadeh, Hamid Reza Katoozian, Setareh Khorshidparast, "Finite Element Analysis of an FGM Dental Implant Under Static and Dynamic Loading ", 28th National & 6th International Iranian Conference on Biomedical Engineering, November 2021
- 3 Shima Bahramizadeh Sajadi, Hamid Reza Katoozian, Philippe Büchler, "A Finite Element Study on the Biomechanics of Intracorneal Implants in Keratoconus Corneal Models ", Bern Data Science Day 2021, April 2021
- 4 Hamid Reza Katoozian, Shima Bahramizadeh Sajadi, Mehdi Khanlari, Morteza Gholami, "Effects of Different Corneal Ring Segments with Identical Total Arc Length on Keratoconic Eyes: A Finite Element Study ", 26th National and 4th International Conference of Biomedical Engineering, November 2019
- 5 Vahid Malbouby, Hamid Reza Katoozian, Sheida Vafadar, "Distinguishing between the effect of load magnitude and number of cycles in Nijmegen trabecular bone remodeling model ", American Society of Biomechanics (ASB) East Coast Meeting, April 2019
- 6 Hamid Reza Katoozian, Shima Bahramizadeh Sajadi, Faezeh Eskandari, "A study of vertical ground reaction force in gaits of patients with some anatomical spinal disorders ", American Society of Biomechanics (ASB) East Coast Meeting, April 2019
- 7 Hamid Reza Katoozian, Mehdi Khanlari, Shima Bahramizadeh Sajadi, Morteza Gholami, Faezeh Eskandari, " A finite element comparative study on the effects of corneal ring segments on keratoconic eyes ", American Society of Biomechanics (ASB) East Coast Meeting, April 2019
- 8 Haniyeh Hemmatian, Hamid Reza Katoozian, "Meshless modeling of microcrack growth in cortical bone ", 10th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering (CMBBE), April 2012
- 9 Seyyed Amir Hooshar Ahmedi, Ahmadreza Arshi, Gholamreza Rouhi, Ahmad Raeisi Najafi, Hamid Reza Katoozian, "An Investigation on the effects of low-amplitude, high frequency (LAHF) Mechanical Stimuli on Matrix-Extracellular Fluid-Osteocyte Complex ", 56th Annual Meeting of the Orthopaedic Research Society, March 2010
- 10 Mohammad Mehdi Khani, Hamid Reza Katoozian, Abolhasan Salimi, "Nonlinear hyperelastic parameter estimation of human heel-pad: A finite element and evolutionary based algorithm ", , February 2008
- 11 A. Raeisi Najafi, Ahmadreza Arshi, Mohammad Reza Eslami, Hamid Reza Katoozian, Saeed Maleknia, "Propagation of Microcracks in Osteonal Cortical Bone ", 15th Annual (International) Conference on Mechanical Engineering ISME2007, May 2007
- 12 Nasser Zakeri, Farzam Farahmand, Hamid Reza Katoozian, "Optimal Design of a Hip Joint Implant With Hollow Stem Using Finite Element Method ", ASME 8th Biennial Conference on Engineering Systems Design and Analysis- American Society of Mechanical Engineers, July 2006
- 13 Yaghoob Dabiri, Nasser Fatouraee, Hamid Reza Katoozian, "A computer model of blood flow in arterial network ", 12th Iranian Conference on Biomedical Engineering, November 2005
- 14 Yaghoob Dabiri, Nasser Fatouraee, Hamid Reza Katoozian, "A Non \_ Newtonian Finite Element Analysis of Blood Flow in the Arterial Networks ", , November 2005
- 15 Yaghoob Dabiri, Nasser Fatouraee, Hamid Reza Katoozian, "A Computer simulation of Blood flow in Arterial Networks, Including Blood Non - Newtonian Models and Arterial stenosis ", , September 2005
- 16 Yaghoob Dabiri, Nasser Fatouraee, Hamid Reza Katoozian, "Finite element simulation of blood flow in arteries ", , September 2005
- 17 [en-name N/A], [en-name N/A], Ali Fallah, Hamid Reza Katoozian, [en-name N/A], "Biomechanical histological studies of experimental pressure sores in guinea pig ", 10th Iranian conference on Biomedical Engineering, December 2000

## Taught Courses

#	Course title	Description	Headlines	Date
1	Mechanical Design in Biomechanics	Design of machine elements using principles of mechanics, with applications in biomechanical design (and orthopaedic)		Spring 2022

2	Orthopedic Biomechanics	,Analysis and Design of engineering systems in Orthopaedic Biomechanics	Spring 2022
3	Automatic Control	Fundamental of Analysis and Design of Classical linear Automatic Control systems	Fall 2021
4	Orthopedic Biomechanics	,Analysis and Design in Orthopaedic Biomechanics	Spring 2021
5	Mechanical Design in Biomechanics	Design of machine elements using principles of mechanics, An introduction to biomechanical design	Spring 2021

