

Alireza Hashemi Oskouei

**Associate Professor in Biomechanics
Faculty of Biomedical Engineering**

**Sahand University of Technology
Tabriz -Iran**

Tell: +984133458418

E-mail: ali.hashemi@sut.ac.ir

Personal Profile:

I am an associate professor in the biomechanics group in the faculty of Biomedical Engineering at Sahand University of Technology in Iran. My qualifications and experience are mostly in Biomechanics and Medical Physics. I am married and have three children.

Education and Qualifications:

PhD in Biomechanics: The University of Otago, New Zealand; 2012

The title of thesis: "Hand grip force, forearm surface EMG, and forearm surface dimensional changes; their reliability and predictive relationships" Supported by **the University of Otago Postgraduate Scholarship**.

Master of Science in Medical Physics: Mashhad University of Medical Sciences, Iran; 1999

Courses: I have passed 21 courses including 10 compensatory courses for the master degree. The most important topics were: Physics of the diagnosis radiology and radiotherapy, Nuclear medicine, principles of radiation dosimetry, principles of radiobiology and radiation therapy, radio oncology, the physics of medical laboratory devices, the physics of sonography, bioelectricity, and some fundamental courses in biology including anatomy, physiology, and Genetics.

Thesis topic: The effect of low power lasers on wound healing in mice

Bachelor of Science in Applied Physics: Isfahan University of Technology, Iran; 1995

Courses: Basic and advanced courses in physics of mechanics, electricity and electromagnetic, thermodynamics, quantum mechanics, and mathematics. General courses in electronic, and computer programming.

Work Experience:

**March 2022 - now
Associate Professor; Faculty of Biomedical Engineering,
Sahand University of Technology, Iran**

March 2012- February 2022
Assistant Professor; Faculty of Biomedical Engineering,
Sahand University of Technology, Iran

Vice-President of the university for Student Affairs December 2018 - December 2022

Head of the Cultural Department of the University April 2013- December 2018

Courses Taught:

1. Radiology and Radiotherapy (BSc)
2. Medical Physics (BSc)
3. Technical Language (BSc)
4. Biophysics (BSc)
5. Biological Signals (BSc)
6. Gait Biomechanics (Higher Education)
7. Human Movement Analysis (Higher Education)
8. Record and Analysis of Biological Signals (Higher Education)
9. Advanced Mathematics for Engineering (Higher Education)

Higher Education Supervising: I have supervised 1 PhD candidate and 15 MSc students. I am currently supervising 3 PhD candidates and 8 MSc students. Their thesis topics have been mostly in gait analysis, sports biomechanics, and the application of electromyography in biomechanics. Please see the publications.

2007-2011 PhD Candidate, University of Otago, New Zealand

As a PhD student, my main responsibility was my research; however as a part time job, I was working as a tutor and demonstrator for some papers in physics and biomechanics in the department of Physics and Physical Education at the University of Otago. I was also part time research assistant at the school of physiotherapy.

2001-2005 Lecturer in Bioengineering; Sahand University of Technology, Tabriz, Iran

I was a lecturer in the Bioengineering Department at Sahand University of Technology in Iran for 4 years. I taught the following courses for bioelectric undergraduate students: Physics of Radiology and Radiotherapy Systems, Medical Physics, Ultrasound, and Biostatistics. I have also supervised some students in their honors research projects.

I was also the Director of Cultural Services of the university.

1999-2001 Lecturer; Medical University of Kermanshah, Tabriz, Iran

I taught the following courses for medicine and radiology students:
Medical Physics, physics of the diagnosis radiology and radiotherapy, Nuclear medicine, fundamental of medical devices, and protection of radiation.

Skills:

Languages: English (Fluent), Farsi (native), Turkish (native)

Other relevant skills: I am experienced in electromyography (EMG) analysis and Motion Analysis. I have also done some research in sonography and laser therapy. I have also conducted the reliability of measures in EMG and human movement parameters during variety of movements.

Research Interests:

1. Human Movement Analysis
2. Sports Biomechanics
3. The application of Electromyography in Biomechanics.
4. Application of Radiation
5. Laser-therapy
6. Reliability of measurements in Biomechanics and Medical Physics

Journal Publications:

2023 Reisi, A, **Hashemi Oskouei, A.**, Najafi,M, Bahrpeyma, F., Role of sensory feedback in postural control of the patients with diabetic neuropathy, International journal of diabetes in developing countries, May 2023: 44(1), Pages 77-83

2022 Emamian Shirazi, S. A., **Hashemi Oskouei, A.**, Hejazi Dinan, P., Correlation of vertical jump height with ground reaction force and anthropometric parameters of male athletes, Thrita. 2022 December; 11(2):e131432.

2022 Emamian Shirazi, S. A., **Hashemi Oskouei, A.**, Azrah, R., Caroll, K. Effects of task constraints on countermovement jump kinematics following a short term training, Journal of Motor Learning and Development, 2022: 10(2), Pages 257-272

2021 **Hashemi Oskouei, A.**, Emamian Shirazi, S. A., Carman, A. Reliability of forearm medial-anterior surface dimensional changes at different isometric hand grip forces. Journal of bodywork and movement therapy, Volume 28 October 2021, Pages:92-97

2021 Ayati, S.M., **Hashemi Oskouei, A.**, Rafiayi, S.M. Using changes in the center of mass to measure the balance in people with different leg lengths when climbing stairs. Iranian Journal of Biomedical Engineering. Volume 15, Issue 2, Summer 2021, Pages: 141 - 150, DOI: 10.22041/IJBME.2021.529960.1689

2021 Ayati, S.M., **Hashemi Oskouei, A.**, Rafiayi, S.M. Kinematics of lower limb joint in people with leg length discrepancy during stair ascending with and without using compensating insole. Iranian Journal of Biomedical Engineering. Volume 15, Issue 1, Spring 2021, Pages: 73 - 85, DOI: 10.22041/IJBME.2021.141814.1647

2021 Farhadi, M., **Hashemi Oskouei, A.**, Emamian Shirazi, S.A, & Karimi, M.T. Reliability of kinematic parameters of the lower limb joints during walking on the ground and treadmill. Sports Medicine Studies, 2021: 12 (27): 53-66

2020 Azrah, R., **Hashemi Oskouei, A.**, Emamian Shirazi, S.A. Effects of Short-term Plyometric Training on Countermovement Vertical Jump Height and Kinematics of Take-Off. Thrita, 2020, 9(2): e108054
DOI : [10.5812/thrita.108054](https://doi.org/10.5812/thrita.108054)

2018 Sadat Khorasani, S.M., **Hashemi Oskouei, A.**, Ghader, F. Effect of normalization methods on the reliability of EMG during stair negotiation and ramp walking. Journal of Rehabilitation Medicine, 2018: 6(4): 201-209

2017 Naser Berenj Abad, S., **Hashemi Oskouei, A.**, Niroomand Oskuii, H., Emamian Shirazi, S.A., & Eteraf Oskoei, S.A. The reliability of EMG parameters during walking on the stairs and an inclined surface. Jundishapur Scientific Medical Journal, 2017, 16(3): 307-316

2017 Hajizadeh, M., **Hashemi Oskouei, A.**, Ghalichi, F. The reliability of knee kinematics and ground reaction force during stair negotiation. Iranian Journal of Biomedical Engineering. 2017: 11(3) 201-210

2017 Riahi, H., **Hashemi Oskouei, A.**, & Eteraf Oskoei, S.A. [Activity of Quadriceps muscle among people with knee osteoarthritis during stair ascending and descending with different heights](#). Med Journal of Tabriz University of Medical Sciences and Health Services. 2017: [39\(6\)](#): 29-34.

2017 Hajizadeh, M., **Hashemi Oskouei, A.**, Ghalichi, F., & Sole G. Intra-session reliability and repeatability of knee kinematics in subjects with ACL deficiency during stair ascent. Journal of Mechanics in Medicine and Biology, 17(6)

2016 [Hajizadeh M.](#), [Hashemi Oskouei A.](#), [Ghalichi F.](#), & Sole G. Knee Kinematics and Joint Moments During Stair Negotiation in Participants With Anterior Cruciate Ligament Deficiency and Reconstruction: A Systematic Review and Meta-Analysis. PM&R, June 2016; 8(6): 563-579

2015 Hajizadeh M., [Hashemi Oskouei A.](#), [Ghalichi F.](#), Tabatabai Ghomshe, F., Razi, M. & Sole G. [Kinematic differences in participants with ACL-deficient knees during stair ascending with different height](#). Iranian Journal of Biomedical Engineering, 2015, 9(1): 17-31

2013 **Hashemi Oskouei A.**, Carman A., & Paulin M. Intra-session and inter-day reliability of forearm surface EMG during varying hand grip forces. Journal of Electromyography and Kinesiology, 2013 Feb;23(1):216-22

2000 Bahreyni Toosi M.H., Tabatabaee A., & **Hashemi Oskouei A.** An investigation on the effects of Low Power He-Ne laser on wound healing in mice. Journal of Mashhad University of Medical Sciences, 2000, Vol. 43, No. 69, P.P: 8-19

Conferences (peer-reviewed):

Mohammadreza Karimi Bokti, **Alireza Hashemi Oskouei**, "Using electromyography of five muscles and joint angle to predict knee joint moment." 36th Conference of the International Society of Biomechanics in Sports, Auckland, New Zealand, September 10-14, 2018

Zahra Bahramgoor, **Alireza Hashemi Oskouei**, Fariba ghaderi, Reliability of four normalization methods in electromyography of quadriceps muscle during stair ascending, The first National Congress on Electrophysiology, 2015, Tehran, Iran.

Roghaye Arvanaghi, **Alireza Hashemi Oskouei**, Atta Abbasi, Reliability of power frequency of electromyography of quadriceps muscle during stair ascending with different stair height, The first National Congress on Electrophysiology, 2015, Tehran, Iran.

Alireza Hashemi Oskouei, Allan Carman, "Prediction of hand grip force using forearm surface displacement" 18th congress of the European Society of Biomechanics, 2012, Portugal. Journal of Biomechanics, 2012, 45: S513

Alireza Hashemi Oskouei, Allan Carman, "Hand grip force and forearm surface EMG, the relationship and reliability" 18th congress of the European Society of Biomechanics, 2012, Portugal. Journal of Biomechanics, 2012, 45: S482

Alireza Hashemi Oskouei, Allan Carman, Mike Paulin, David Baxter, "Relationship between hand grip force and forearm EMG, a reliability study." 4th Asian –Pacific conference on Biomechanics, University of Canterbury, Christchurch, April 2009

Alireza Hashemi Oskouei, Allan Carman, Mike Paulin, David Baxter. The relationship between hand grip force, forearm surface shape changes, and forearm surface EMG. 7th Australasian conference on Biomechanics. November 2009, Gold Coast, Australia.

A. Hashemi Oskouei, M.H. Bahreyni Toosi, A. Tabatabaee "Bio-stimulation of wound healing in mice by low power He-Ne laser and role of exposure time on it", International Conference on radiation and its role in diagnosis and treatment, October 18-20 2000, Shahid Beheshty Medical University, Iran, P.P: 40

A. Hashemi Oskouei, M.H. Bahreyni Toosi, A. Tabatabaee, “ Effects of dividing of exposure time in bio-stimulation effect of Low Power Laser on wound healing in mice”, First Iranian international student congress of Physiotherapy, 11-12 Jun. 2001, Tehran Medical University, Iran, P.P:7