

MASOUMEH BAGHBAN, PhD

Sport Biomechanics | Human Movement | Applied Sport Science | Exercise Rehabilitation

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EDITORIAL & RESEARCH PROFILE

Sport biomechanics researcher and academic with a PhD in Sport Biomechanics and more than 15 years of combined experience across university teaching, human movement assessment, coaching, corrective exercise and applied sport-science research. Current Research Fellow at INTI International University, Malaysia. Research and scholarly activity span sport biomechanics, human movement analysis, lower-limb injury susceptibility, neuromuscular function, athlete monitoring, women's sport health, gait and postural control, and exercise rehabilitation. Active peer reviewer for international sport, rehabilitation and sports-medicine journals, with experience in critical appraisal, quantitative research design, evidence synthesis, manuscript development and research ethics.

PEER REVIEW & SCIENTIFIC SERVICE

- Ad-hoc Reviewer — International Journal of Sports Medicine, 2025–Present
- Ad-hoc Reviewer — Journal of Cardiopulmonary Rehabilitation and Prevention, 2026–Present
- Ad-hoc Reviewer — Sports Health: A Multidisciplinary Approach, 2026–Present
- Scientific Advisory Member — MMSx Authority Institute for Movement Mechanics & Biomechanics Research, USA, 2026–Present

RESEARCH & METHODOLOGICAL EXPERTISE

Research areas: sport biomechanics; human movement analysis; lower-limb biomechanics and injury susceptibility; gait and postural control; neuromuscular function; athlete health monitoring; women's sport health; exercise rehabilitation; cardiovascular and vascular responses to exercise.

Methods and tools: 2D/3D movement analysis; gait and postural assessment; functional movement screening; quantitative research design; MATLAB-based biomechanical data processing; Kinovea; Mokka (foundational); OpenSim (foundational); Python (developing); surface EMG acquisition/analysis (workshop-based); literature review and evidence synthesis; research ethics documentation.

CURRENT ACADEMIC APPOINTMENT

Research Fellow — INTI International University, Malaysia | May 2026–Dec 2028

- Contribute to collaborative research activities, scholarly outputs, academic engagement and postgraduate research activities under the University Research Fellowship programme.
- Institutional support includes collaborative research funding and support for research-output dissemination/publication.

SELECTED PEER-REVIEWED PUBLICATIONS

Baghban, M., March, S., Achouri, I., Pal, S., Spetan, H., Mahajan, G., & Khobey, S. C. (2026). Optimizing seated throwing mechanics: Trunk control as the primary power lever. *Journal of Movement Mechanics & Biomechanics Science*, 2(2). <https://doi.org/10.66078/jmmbms.v2i2.003>

Mehta, N., Hamdini, I., Baghban, M., Jain, K., Smith, J., Pal, S., & M., P. (2026). Shoulder preservation in elite wheelchair court sports: A kinetic chain and load-transfer analysis. *Journal of Movement Mechanics & Biomechanics Science*, 2(2). <https://doi.org/10.66078/jmmbms.v2i2.001>

Baghban Baghdadabad, M., & Mohaghegh, S. (2024). Balance test results in different hormonal statuses of the menstruation cycle. Are females more susceptible to lower extremities injuries on different days of their menstruation cycles? *Physical Therapy in Sport*, 65, 54–58. <https://doi.org/10.1016/j.ptsp.2023.11.003>

Baghban Baghdadabadi, M., Sadeghi, H., Eghbal Behbahani, M., Kassaian, S. E., Nejatian, M., & Shirani, S. (2024). The effect of concurrent training on the selected variables of blood and vascular biomechanics in patients after coronary artery angioplasty with an emphasis on gender. *Science & Sports*, 39(3), 274–283. <https://doi.org/10.1016/j.scispo.2023.08.003>

Saki, F., Sedaghati, P., & Baghban, M. (2017). Correlation between the cardiorespiratory endurance, dynamic postural control and thoracic kyphosis angle among the students. *Feyz*, 21(2), 149–156.

Saki, F., & Baghban, M. (2015). Relationship between trunk-stability muscle endurance and static/dynamic balance in basketball players. *Journal of Sport Biomechanics*, 1(3).

Sadeghi, H., Hemati Nezhad, M. A., & Baghban, M. (2009). Effect of endurance training on selected kinematic parameters in the gait of inactive older adults. *Iranian Journal of Ageing (Salmand)*, 4(11), 62–69.

Additional peer-reviewed publications include research on aerobic/concurrent training, cardiovascular function and blood/vascular biomechanics after coronary angioplasty.

MANUSCRIPTS IN PRESS / SUBMITTED

Nematabadi, E. E., Darzabi, T., Baghban, M., & Svygina, N. (in press). Massage-based interventions as adjuncts to standard rehabilitation following ACL reconstruction: A systematic review.

Sadeghi, H., Baghban, M., & Razaghi, A. (2026). Cardiovascular and heart-rate-related responses to aerobic versus concurrent training in men with coronary artery disease: An exploratory age-stratified randomized controlled trial. Submitted to *European Journal of Applied Physiology*.

EDUCATION

PhD, Sport Biomechanics — Islamic Azad University, Tehran, Iran | 2017–2021

- GPA 17.56/20; defense grade 19.45/20 (Excellent). Research on aerobic and concurrent exercise training, blood/vascular biomechanics, and hemodynamic and cardiac responses after coronary angioplasty.

MSc, Physical Education — Shomal University, Amol, Iran | 2006–2008

- Thesis: Effects of endurance training on gait kinematics in inactive older adults.

BSc, Physical Education — University of Guilan, Rasht, Iran | 2002–2006

ACADEMIC & TEACHING EXPERIENCE

University Lecturer — Sport Biomechanics, Kinesiology, Corrective Exercise & Functional Anatomy | 2008–Present

- Universities of Qom, Yazd and Payam Noor, Iran; theory and laboratory teaching in sport biomechanics, kinesiology, functional anatomy, corrective exercise, posture screening, sports health and general physics.
- Integrate movement-analysis tools, including Kinovea and MATLAB-based data handling, into teaching and student projects.

Master's Thesis Advisor — Sports Injury / Corrective Exercise, Toloue Mehr University | 2026–Present

- Advise on research design, evidence interpretation and preparation of the research project.

University Lecturer — Corrective Exercise Programme Planning, Toloue Mehr University | 2023–2024

Physical Education Teacher — Ministry of Education, Qom and Yazd, Iran | 2008–2023

RESEARCH DEVELOPMENT & SCHOLARLY PRACTICE

- Develop research manuscripts, abstracts, literature-based arguments, methods sections, tables, figures and journal-ready academic documents.
- Contribute to evidence synthesis, systematic-review development, research proposals, research-gap conceptualisation and quantitatively grounded study designs.
- Support students and early-career researchers with proposals, thesis documents, manuscript preparation, critical appraisal, referencing and response-to-reviewer revisions.
- Experienced with informed consent, participant safety, data confidentiality, research ethics documentation and responsible reporting of human-subject research.

INVITED ACADEMIC ENGAGEMENT

Invited Speaker — International Webinar, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, India | 18 Sep 2026

- “One Muscle, Multiple Force Directions: How Fiber Architecture Shapes Joint Torque and Human Movement.”

APPLIED SPORT & PROFESSIONAL ACTIVITY

Track & Field Coach / Federation Instructor — Iran Athletics Federation | 2009–Present

- Coach sprints, hurdles, jumps and throws; Federation Instructor since 2018; apply biomechanical movement assessment, conditioning principles and injury-prevention strategies in coaching practice.
- Judge/Official, 8th Asian Indoor Athletics Championships (Tehran, 2018); National Masters Silver Medal, High Jump (2021).

SELECTED PROFESSIONAL DEVELOPMENT

- EMG Data Acquisition & Analysis Workshop — Surface EMG, MATLAB Data Processing and Mokka Motion Analysis (Aug 2026)
- Motion Analysis Workshop; Motion Analysis and OpenSim Workshop; MATLAB for Biomechanics — Sana BioMed Company (2023)
- IAAF Level 1 Coaches Course and CECS U16 Coach certification — International Association of Athletics Federations (2018)

LANGUAGES

Persian: Native | **English:** Upper-intermediate/advanced; academic reading, writing and research communication | **German:** Beginner | **Arabic:** Beginner