Vahid Arbabi

Assistant Professor

Faculty: Engineering

Department: Mechanical Engineering

Education

Degree	Graduated in	Major	University
BSc	2003	Mechanical Engineering - Solid Design	University of Sistan & Baluchestan
MSc	2006	Mechanical Engineering - Applied Design	Yazd University
Ph.D	2016	Biomechanical Engineering	Delft University of technology
Post Doctoral	2018	Orthopaedic-Biomechanics	University Medical Centre Utrecht

Work Experience

Head of Orthopaedic-Biomechanics Research Group

Actual member of the University Academic Diplomacy Council

Awards

Runner-up prize for the Best Doctoral Thesis Award in Biomechanics by the European Society of Biomechanics (ESB).

Subjects Taught

Selected topics in Orthopaedic-Biomechanics

Biomechanics

Course Topics

Vibrations

Dynamic of Machinery

Papers in Journals

1. Vahid Arbabi,Saeed Arbabi,Wouter Foppen,Willem Paul Gielis,Marijn van Stralen,Myl□ne Jansen,Pim A. de Jong,Harrie Weinans,Peter Seevinck,MRI-based synthetic CT in the detection of knee osteoarthritis: Comparison with CT,JOURNAL OF ORTHOPAEDIC RESEARCH,Vol. 11,No. 41,pp. 2530-2539,2023,ISI،JCR،Scopus.
2. Seyed Yousef Ahmadi Brooghani,Vahid Arbabi,Hassan Rayegan,H. Weinans,H.C. Nguyen,W.P. Gielis,R.J.H. Custers,N. van Egmond,C. Lindner,Automated Radiographic Measurements of Knee Osteoarthritis,Cartilage,Vol. 4,No. 14,pp. 413-423,2023,ISI،JCR،Scopus.
3. Vahid Arbabi,Joost HJ van Erp,Willem ,& Paul Gielis,Arthur de Gast,Harrie Weinans,Laurens Kaas,Ren□ M Castelein,Tom PC Schl□sser,Unravelling the hip-spine dilemma from the CHECK-cohort: is sagittal pelvic morphology linked to radiographic signs of femoroacetabular impingement?,HIP International,Vol. 6,No. 33,pp. 1079-1085,2022,JCR،Scopus.
4. S. Alireza Zolfaghari,Elham Mohammadi,Mohammadreza Jarkeh,Vahid Arbabi,Effect of resilient architecture in an ancient windmill in the Sistan region on natural ventilation enhancement,Scientific Reports,Vol. 18240,No. 12,pp. 1-19,2022,JCR،Scopus.
5. سیدیوسف احمدی بروغنی,هادی نیک بخت,وحید اربابی،تحلیل اجزای محدود و مقایسه توزیع تنش در یک نمونه‌ی مفصل زانوی پرانتزی قبل و بعد از انجام عمل مجازی استئوتومی،پژوهش در توانبخشی ورزشی،مجلد ۲۰،شماره ۱۰،شماره صفحات ۷۳-۸۴،۲۰۲۳،isc.
6. سیدیوسف احمدی بروغنی,حسن رایگان,وحید اربابی،بررسی توزیع تنش در مفصل سالم و دارای آرتروز زانو بعد از انطباق فایل‌های سه‌بعدی با تصاویر رادیوگرافی،مکانیک سازه ها و شاره ها-Journal of Solid and Fluid Mechanics،۱۵۶،۲۰۲۳-۱۴۷،شماره صفحات ۱۳،شماره ۱،مجلد isc.
7. سیدیوسف احمدی بروغنی,هادی نیک بخت,وحید اربابی،تحلیل اجزای محدود و مقایسه توزیع تنش در غضروف ها و منیسک‌های دو نمونه‌ی مفصل زانوی سالم و پرانتزی،مهندسی پزشکی زیستی،مجلد ۲،شماره ۱۶،شماره صفحات ۱۵۱-۱۶۰،۲۰۲۲،isc.
8. Vahid Arbabi,Behdad Pouran,Amir Raoof,D.A. Matthijs de Winter,Ronald L.A.W. Bleys,Frederik J. Beekman,Amir. A. Zadpoor,Jos Malda,Harrie Weinans,Topographic features of nano-pores within the osteochondral interface and their effects on transport properties–a 3D imaging and modeling study,Journal of Biomechanics,Vol. 110504,No. 123,pp. 1-8,2021,JCR،Scopus.
9. Vahid Arbabi,Joost H. J. van Er,Willem Paul Gielis,Arthur de Gast,Harrie Weinans,Saeed Arbabi,F. Cumhur □ner,Rene Casletien,Tom P. C. Schl□sser,Unravelling the knee-hip-spine trilemma from the CHECK study,Bone & Joint Journal,Vol. 91,No. 102,pp. 1261-1267,2020,JCR،Scopus.
10. Vahid Arbabi,Hassan Rayegan,Willem Paul GIELIS,Seyed Yousef Ahmadi Brooghani,Claudia Linder,Tim F Cootes,Pim A de Jong,Harrie Weinans,Roel J H Custers,Predicting the mechanical hip–knee–ankle angle accurately from standard knee radiographs: a cross-validation experiment in 100 patients,Acta Orthopaedica,Vol. 91,pp. 1-6,2020,ISI،JCR،Scopus.
11. Vahid Arbabi,J. Hirvasniemi,W.P. Gielis,S. Arbabi,R. Agricola,W.E. van Spil,H. Weinans,Bone texture analysis for prediction of incident radiographic hip osteoarthritis using machine learning: data from the Cohort Hip and Cohort Knee (CHECK) study,OSTEOARTHRITIS AND CARTILAGE,Vol. 6,No. 27,pp. 906-914,2019,JCR،isc،Scopus.
12. Vahid Arbabi,Everts V.,Fazaeli S.,Koolstra J.H.,Lobbezoo F.,Mirahmadi F.,Snabel J.,Stoop R.,van Lenthe G.H.,Weinans H.,Aging does not change the compressive stiffness of mandibular condylar cartilage in horses,OSTEOARTHRITIS AND CARTILAGE,Vol. 26,pp. 1744-1752,2018,JCR،isc،Scopus.
13. Vahid Arbabi,Bajpayee Ambika G.,Jurvelin Jukka S.,Malda Jos,Pouran Behdad,T?yr?s Juha,van Tiel

Jasper,Weinans Harrie,Zadpoor Amir A.,Multi-scale imaging techniques to investigate solute transport across articular cartilage,Journal of Biomechanics,Vol. 78,pp. 10-20,2018,JCR،Scopus.
14. Vahid Arbabi,Malda Jos,Moshtagh Parisa R.,Pouran Behdad,Ruberti Jeffrey,Snabel Jessica,Stoop Reinout,Weinans Harrie,Zadpoor Amir A.,Non-enzymatic cross-linking of collagen type II fibrils is tuned via osmolality switch,JOURNAL OF ORTHOPAEDIC RESEARCH,Vol. 36,pp. 1929-1936,2018,JCR.
15. Vahid Arbabi,de Jong Pim A.,Gielis Willem Paul,Tuijthof Gabrielle J. M.,T□mer Nazl?,Weinans Harrie,Zadpoor Amir A.,Three dimensional analysis of shape variations and symmetry of the fibula, tibia, calcaneus and talus,JOURNAL OF ANATOMY,Vol. 234,pp. 132-144,2017,JCR.
16. Vahid Arbabi,Bleys Ronald LAW,Pouran Behdad,Ren□ van Weeren P.,Weinans Harrie,Zadpoor Amir A.,Solute transport at the interface of cartilage and subchondral bone plate: Effect of micro-architecture,Journal of Biomechanics,Vol. 52,pp. 148-154,2017,JCR،Scopus.
17. Vahid Arbabi,Pouran Behdad,Weinans Harrie,Zadpoor Amir. A.,An Experimental and Finite Element Protocol to Investigate the Transport of Neutral and Charged Solutes across Articular Cartilage,Jove-Journal of Visualized Experiments,Vol. 122,No. 122,pp. 1-5,2017,JCR،Scopus.
18. Vahid Arbabi,Campoli Gianni,Pouran Behdad,Weinans Harrie,Zadpoor Amir A.,Determination of the mechanical and physical properties of cartilage by coupling poroelastic-based finite element models of indentation with artificial neural networks,Journal of Biomechanics,Vol. 49,pp. 631-637,2016,JCR،Scopus.
19. Vahid Arbabi,Pouran Behdad,Weinans Harrie,Zadpoor Amir A.,Multiphasic modeling of charged solute transport across articular cartilage: Application of multi-zone finite-bath model,Journal of Biomechanics,Vol. 49,pp. 1510-1517,2016,JCR،Scopus.
20. Vahid Arbabi,Korthagen N.M.,Moshtagh P.R.,Pouran B.,Rauker J.,van Tiel J.,Weinans H.,Zadpoor A.A.,Zuiddam M.R.,Micro- and nano-mechanics of osteoarthritic cartilage: The effects of tonicity and disease severity,Journal of the Mechanical Behavior of Biomedical Materials,Vol. 59,pp. 561-571,2016,JCR،Scopus.
21. Vahid Arbabi,Pouran Behdad,Weinans Harrie,Zadpoor Amir A.,Combined inverse-forward artificial neural networks for fast and accurate estimation of the diffusion coefficients of cartilage based on multi-physics models,Journal of Biomechanics,Vol. 49,pp. 2799-2805,2016,JCR،Scopus.
22. Vahid Arbabi,Pouran Behdad,Weinans Harrie,Zadpoor Amir A.,Isolated effects of external bath osmolality, solute concentration, and electrical charge on solute transport across articular cartilage,MEDICAL ENGINEERING & PHYSICS,Vol. 38,pp. 1399-1407,2016,JCR،Scopus.
23. Vahid Arbabi,Pouran Behdad,Weinans Harrie,Zadpoor Amir A.,Application of multiphysics models to efficient design of experiments of solute transport across articular cartilage,Computers in Biology and Medicine,Vol. 78,pp. 91-96,2016,JCR،Scopus.
24. Vahid Arbabi,Pouran Behdad,Weinans Harrie,Zadpoor Amir A.,Neutral solute transport across osteochondral interface: A finite element approach,Journal of Biomechanics,Vol. 49,pp. 3833-3839,2016,JCR،Scopus.
25. Vahid Arbabi,Pouran B.,Weinans H.,Zadpoor A. A.,Transport of Neutral Solute Across Articular Cartilage: The Role of Zonal Diffusivities,JOURNAL OF BIOMECHANICAL ENGINEERING-TRANSACTIONS OF THE ASME,Vol. 137,pp. 71001-71009,2015,JCR.
26. Vahid Arbabi,Ebrahimzadeh I.,Effects of wall thickness on microstructures and properties of brasses pipes produced by horizontal continuous casting,INTERNATIONAL JOURNAL OF CAST METALS RESEARCH,Vol. 23,pp. 150-157,2013,JCR،Scopus.
27. Vahid Arbabi,Heisiattalab S,Keikha M M,Safari M,An investigation into the effect of die temperature and heat treatment on A360 properties produced by the semi-solid forming and cooling slope method,Proceedings of the Institution of Mechanical Engineers - Part B,Vol. 225,pp. 377-383,2011,JCR،Scopus.