

# Stanford

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## Olivia Bruce

Postdoctoral Scholar, Radiology

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### Bio

#### PROFESSIONAL EDUCATION

- Doctor of Philosophy, University of Calgary (2023)
- Master of Science, University of Calgary (2018)
- Bachelor of Science, Queen's University (2015)

#### STANFORD ADVISORS

- Feliks Kogan, Postdoctoral Faculty Sponsor

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### Publications

#### PUBLICATIONS

- **Femur geometry influences atypical femoral fracture location.** *Osteoporosis international : a journal established as result of cooperation between the European Foundation for Osteoporosis and the National Osteoporosis Foundation of the USA*  
Bruce, O. L., Haider, I. T., Cheung, A. M., Tile, L., Bleakney, R., Scher, J., Edwards, W. B.  
2025
- **Statistical Shape Modeling to Determine Poromechanics of the Human Knee Joint.** *Annals of biomedical engineering*  
Deng, R., Bruce, O. L., Gibbons, K. D., Fitzpatrick, C. K., Li, L.  
2024
- **Tibial acceleration alone is not a valid surrogate measure of tibial load in response to stride length manipulation.** *Journal of sport and health science*  
Tu, J., Bruce, O. L., Edwards, W. B.  
2024: 100978
- **Tibial strains are sensitive to speed, but not grade, perturbations during running.** *The Journal of experimental biology*  
Baggaley, M., Haider, I., Bruce, O., Khassetarash, A., Edwards, W. B.  
2024
- **ECR Spotlight - Michael Baggaley and Olivia Bruce** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Baggaley, M., Bruce, O.  
2024; 227 (10)
- **Dirt Track Surface Preparation and Associated Differences in Speed, Stride Length, and Stride Frequency in Galloping Horses.** *Sensors (Basel, Switzerland)*  
Pfau, T., Bruce, O. L., Sawatsky, A., Leguillette, R., Edwards, W. B.  
2024; 24 (8)
- **Predicting Tibia-Fibula Geometry and Density From Anatomical Landmarks Via Statistical Appearance Model: Influence of Errors on Finite Element-Calculated Bone Strain.** *Journal of biomechanical engineering*

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2024: 1-32

- **Fixed and Relative Positioning of Scans for High Resolution Peripheral Quantitative Computed Tomography.** *Journal of clinical densitometry : the official journal of the International Society for Clinical Densitometry*  
Bugbird, A. R., Klassen, R. E., Bruce, O. L., Burt, L. A., Edwards, W. B., Boyd, S. K.  
2023; 27 (1): 101462
- **A Comparison of Fixed versus Relative Offset Positioning for HR-pQCT**  
Bugbird, A., Klassen, R., Bruce, O., Burt, L., Edwards, W., Boyd, S.  
OXFORD UNIV PRESS.2023: 164
- **Sex disparities in tibia-fibula geometry and density are associated with elevated bone strain in females: A cross-validation study** *BONE*  
Bruce, O. L., Edwards, W.  
2023; 173: 116803
- **Statistical Shape Modelling Discriminates Patients with Complete Subtrochanteric and Midshaft Atypical Femoral Fractures**  
Bruce, O., Haider, I., Cheung, A., Edwards, W.  
WILEY.2023: 110
- **Capturing in Season Change-of-Direction Movement Pattern Change in Youth Soccer Players with Inertial Measurement Units** *Capturing in Season Change-of-Direction Movement Pattern Change in Youth Soccer Players with Inertial Measurement Units*  
Alanen, A., Bruce, O. L., Benson, L. C., Chin, M., van den Berg, C., Jordan, M. J., Ferber, R., Pasanen, K.  
2023; 3 (1): 155-165
- **Stride frequency derived from GPS speed fluctuations in galloping horses.** *Journal of biomechanics*  
Pfau, T., Bruce, O., Brent Edwards, W., Leguillette, R.  
2022; 145: 111364
- **Tibial-fibular geometry and density variations associated with elevated bone strain and sex disparities in young active adults** *BONE*  
Bruce, O. L., Baggaley, M., Khassetarash, A., Haider, I. T., Edwards, W.  
2022; 161: 116443
- **A statistical shape model of the tibia-fibula complex: sexual dimorphism and effects of age on reconstruction accuracy from anatomical landmarks** *COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING*  
Bruce, O. L., Baggaley, M., Welte, L., Rainbow, M. J., Edwards, W.  
2022; 25 (8): 875-886
- **Are subject-specific models necessary to predict patellar tendon fatigue life? A finite element modelling study** *COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING*  
Firminger, C. R., Haider, I. T., Bruce, O. L., Wannop, J. W., Stefanyshyn, D. J., Edwards, W.  
2022; 25 (7): 729-739
- **Lower-limb joint kinetics in jump rope skills performed by competitive athletes** *SPORTS BIOMECHANICS*  
Bruce, O. L., Ramsay, M., Kennedy, G., Edwards, W.  
2020: 1-14
- **Effect of Shoe and Surface Stiffness on Lower Limb Tendon Strain in Jumping** *MEDICINE AND SCIENCE IN SPORTS AND EXERCISE*  
Firminger, C. R., Bruce, O. L., Wannop, J. W., Stefanyshyn, D. J., Edwards, W.  
2019; 51 (9): 1895-1903
- **Effects of basketball court construction and shoe stiffness on countermovement jump landings** *FOOTWEAR SCIENCE*  
Bruce, O. L., Firminger, C. R., Wannop, J. W., Stefanyshyn, D. J., Edwards, W.  
2019; 11 (3): 171-179
- **Principal components analysis to characterise fatigue-related changes in technique: Application to double under jump rope** *JOURNAL OF SPORTS SCIENCES*  
Bruce, O., Moull, K., Fischer, S.  
2017; 35 (13): 1300-1309