

# JILLIAN E. BEVERIDGE, Ph.D.

Rhode Island Hospital / Warren Alpert Medical School of Brown University  
1 Hoppin Street, Coro West Suite 404  
Providence, RI 02916  
Tel: (401) 450-1137  
Email: [jillian\\_beveridge@brown.edu](mailto:jillian_beveridge@brown.edu) Website ([Brown University](#))  
LinkedIn [Profile](#) ORCID ID: [0000-0002-2821](#)  
Research Gate [Profile](#)

## BIOGRAPHICAL DATA

Current Position: Associate Professor  
Citizenship: Canadian  
Visa Status: H1-B Visa (Brown University)

## EDUCATION

<u>Institution</u>	<u>Field</u>	<u>Degree</u>	<u>Period</u>
Acadia University	Sport Rehabilitation	B.Kin	1998-2002
University of Calgary	Biomedical Engineering	(transferred to Ph.D.)	2004-2006
University of Calgary	Biomedical Engineering	Ph.D.	2006-2012

## ACADEMIC APPOINTMENTS

<u>Title</u>	<u>Organization</u>	<u>Period</u>
Associate Professor	RIH/Warren Alpert Medical School of Brown University Department of Orthopaedic Surgery, Bioengineering Lab	2025-Present
Assistant Professor	RIH/Warren Alpert Medical School of Brown University Department of Orthopaedic Surgery, Bioengineering Lab	2022-2025
Assistant Staff	Cleveland Clinic Lerner Research Institute Department of Biomedical Engineering	2019-2022
Assistant Professor	Case Western Reserve University Department of Biomedical Engineering	2020-2022
Postdoctoral Fellow	RIH/Warren Alpert Medical School of Brown University Department of Orthopaedic Surgery, Bioengineering Lab	2015-2019
Postdoctoral Fellow	University of Calgary Department of Mechanical and Manufacturing Engineering	2012-2015
Research Assistant	University of Calgary Department of Surgery (Orthopaedics)	2004-2012

## ADDITIONAL WORK EXPERIENCE

<u>Title</u>	<u>Organization</u>	<u>Period</u>
Clinical Kinesiologist	The Physioclinic, Halifax, NS Rehabilitation, functional assessment, ergonomics	2002-2004

## OTHER APPOINTMENTS

<u>Title</u>	<u>Organization</u>	<u>Period</u>
Standing Member	NIH; MRS Review Panel	07/2025-06/2029
Ad hoc Reviewer	NIH; AMS Special Grants Study Section Review Panel	04/2025
Editorial Board	Journal of Biomechanics	2024-Present
Editorial Board	American Journal of Sports Medicine	2023-Present
Ad hoc Reviewer	NIH; Member Conflict Special Emphasis Panel	11/2024
Ad hoc Reviewer	NIH; MRS Review Panel	06/2024
Ad hoc Reviewer	NIH; MRS Review Panel	02/2024
Ad hoc Reviewer	NIH; MRS Review Panel	06/2023
Ad hoc Reviewer	NIH; AMS Special Grants Study Section Review Panel	10/2022
Ad hoc Reviewer	NIH; Small Business and Innovation Review Panel	06/2022

## PERSONAL STATEMENT

My research interests focus on knee joint injuries and the structural and functional changes that may contribute to early onset osteoarthritis. I have expertise in translational and clinical research using advanced imaging modalities that include video- and biplane videoradiography motion analyses, electromyography, quantitative magnetic resonance (MR) imaging, and soft tissue mechanical testing. These approaches have been applied interchangeably between preclinical large animal models and clinical patients and across different musculoskeletal scales (tissue, to joint, to joint series). I have co-authored 29 peer-reviewed manuscripts and presented 59 abstracts – the majority as first or senior author. I have held extramural funding through local, provincial, and national funding agencies throughout my training, and received national and international awards in recognition of my scientific contributions. ***My vision is to lead a team of translational biomedical research trainees, scientists, and clinicians to reveal mechanistic relationships between form and function that inform novel solutions to reduce the risk and severity of post-traumatic osteoarthritis.***

## HONOURS AND AWARDS (*“\*” indicates national or international recognition*)

2025	*Orthopaedic Research Society Collaborative Exchange Award
2025	*American Society of Biomechanics Faculty Scholar Award
2020	*Journal of Orthopaedic Research Early Career Award
2010-2014	University of Calgary, AIHS Team Grant in OA Travel Award (3 Awards)
2010-2014	University of Calgary, CREATE Travel Award (3 Awards)
2013	*Arthritis Alliance of Canada, Best Research Proposal Poster
2013	AIHS Alberta OA Team Meeting, Best Poster
2007-2011	University of Calgary, Biomedical Engineering Bursary
2009	*Canadian Institutes of Health Research (CIHR), Travel Award (1 of 40)
2008	*International Symposium on Ligaments & Tendons (ISL&T) Meeting, Best Poster
2007	University of Calgary, Medical Science Travel Award
2007	*Canadian Arthritis Network (CAN) Annual Scientific Meeting Travel Award (1 of 7)
2006	CIHR Bone & Joint Training Program Meeting, Best Poster
2005	Government of Alberta, Continuing Education Scholarship
2004	University of Calgary, Faculty of Graduate Studies Scholarship
2004	University of Calgary, Dean's Entrance Scholarship

## SCHOLARLY ACTIVITIES

### Active Research Support

2024-2028 NIH R01 Clinical Trial Ancillary Grant (PI; \$1,154,230 Direct costs). **Beveridge, JE**,

Fleming, BC, Molino, J, Owens, B, Zandiyyeh, P. "Neuromuscular response to competing ACL surgeries." **Role: Principal Investigator** (35% Effort).

2022-2026 NIH R01 Bioengineering Research Grant (Co-Investigator, \$154,470 Sub-award direct costs). Crisco, JJ, **Beveridge, JE**, Zhao, K, Rainbow, MJ, Paniagua, B, Fillion-Robin, JC, Venkata, A. "Multi-modal Tracking of In Vivo Skeletal Structures and Implants." **Role: Co-Investigator** (10% Effort) (No Cost Extension)

2025-2028 NIH R01 Administrative Supplement (PI; \$71,100 Direct costs). **Beveridge, JE**, Ellingson, A. "Neuromuscular response to competing ACL surgeries." **Role: Principal Investigator** (5% Effort).

2025-2026 Brown University Women's Health Fund (PI; \$38,000 Direct costs). "Research site addition to determine sex-specific responses to ACL surgery." **Role: Principal Investigator** (5% Effort).

### Submitted/Pending Research Support

TBD NIH R21 (\$275,000 Direct costs). MPIs: Fleming, BC & Proffen, BL. "ACL Mechanoreceptor Structure and Function Following ACL surgery". **Role: Co-Investigator** (5% Effort).

### Past Research Support

2023-2026 NIH P20 Injury COBRE Research Project Leader (PI; \$300,000 Direct costs). **Beveridge, JE**, Fleming, BCF. "New Potential to Restore Neuromuscular and Joint Function after ACL Injury." **Role: Principal Investigator** (50% Effort). Graduated from program when awarded R01.

2019-2023 NIH R00 Pathway to Independence (PI; \$453,555 Direct costs). **Beveridge, JE**. "The Effects of Reduced ACL Stiffness on Dynamic In Vivo Joint Function." **Role: Principal Investigator** (75% Effort)

2019-2022 Department of Defense (Collaborator; \$445,340 Direct costs). PI: Wei, Lei. "Intra-articular Injection of a2-Macroglobulin Prevents Post-Traumatic Osteoarthritis." **Role: Co-Investigator** (5% Effort)

2022-2024 NIH T32 Training Program in MSK Research (Mentor; \$136,000 Direct trainee support). PI: Zaylor, W. "Computational Assessment of ACL Function and Quantitative MR Imaging." **Role: Mentor** (No Effort)

2020-2021 MSRC Pilot Program Grant (Principal Investigator, \$25,000 Direct costs). **Beveridge, JE**, Erdemir, A. "Computational Modeling of In Vivo ACL Function". **Role: Principal Investigator** (No Effort)

2016-2018 NIH K99 Pathway to Independence (PI; \$181,980 Direct costs). **Beveridge, JE**; Fleming, BC (Mentor). "The Effects of Reduced ACL Stiffness on Dynamic In Vivo Joint Function." **Role: Principal Investigator** (100% Effort)

2016-2021 CIHR Foundations Grant (Collaborator; \$596,311 Direct costs). PI: Ronsky, Janet. University of Calgary. "A novel in-vivo mechanical marker of early changes in post-traumatic osteoarthritis." **Role: Collaborator** (No Effort)

2015-2016 Alberta Spine Foundation (Co-Investigator; \$20,000 Direct costs). Swamy, G, Salo, P, **Beveridge, JE**, Kuntze, G, Ronsky, J. "Dual fluoroscopy for in-vivo analysis of the 3D kinematics of cervical and lumbar degeneration." **Role: Co-Investigator** (No Effort)

## Research Support as a Trainee

2015-2018 AIHS Postgraduate Fellowship (\$50,000 with \$5,000 research allowance p.a.; completed 2015)  
2013-2016 The Arthritis Society Post-Doctoral Fellowship (\$20,000 p.a.; completed 2015)  
2013-2015 NSERC CREATE Post-Doctoral Fellowship (\$20,000 p.a.)  
2012-2013 McCaig Professorship Scholarship (\$36,000 p.a.)  
2006-2009 Bone & Joint Training Program (\$3,000 with \$2,000 travel allowance p.a.)  
2006-2011 AHFMR – Full-time Studentship (\$20,000 with \$1,500 research allowance p.a.)

## Refereed Journal Publications ([published, in press](#)) (30)

1. **Beveridge, JE**, Hague, M, Costa, MQ, Parola, LR, Molino, J and Fleming, BC. (2025). Passive laxity with functional stability reveals potential bilateral dynamic compensatory mechanisms in ACL-reconstructed patients at long-term follow-up. *OJSM, In Press*.
2. Morton, AM, Holtgrewe, JD, **Beveridge, JE**, Yoon, D, Rainbow, MJ, Lopez, C, Zhao, KD, Paniagua, B, Fillion-Robin, JC, Lombardi, AJ, Moore, DC and Crisco, JJ. (2025). An accuracy assessment of SlicerAutoscoper<sup>M</sup> - software for tracking skeletal structures in multi-plane videoradiography datasets. *J Biomech*, 189: 112810. PMID: 40516372
3. Holtgrewe, JD, Murray, CJ, Barnes, DA, Fleming, BC and **Beveridge, JE**. (2025). Accuracy and precision of model-based tracking of a dynamic hop landing activity. *Bioengineering*, 12: 1168. PMID: 41301124
4. Barnes, DA, Murray, CJ, Molino, J, **Beveridge, JE**, Kiapour, AM, Murray, MM and Fleming, BC. (2025). Advancement of an automatic segmentation pipeline for metallic artifact removal in post-surgical ACL MRI. *Magn Reson Imaging*, 121: 110417. PMID: 40348296
5. Sun, C, Chang, K, Fleming, BC, Owens, BD, **Beveridge, JE**, Zhao, Y, Peng, G and Wei, L. (2024). Alpha-2-Macroglobulin attenuates posttraumatic osteoarthritis cartilage damage by inhibiting inflammatory pathways with modified intra-articular drilling in a yucatan minipig model. *Am J Sports Med*, 52: 2882-2892. PMID: 39214071
6. **Beveridge, JE**, Zandiyyeh, P, Owens, BD, Kiapour, AM and Fleming, BC. (2024). Structure and function are not the same: the case for restoring mechanoreceptor continuity following anterior cruciate ligament injury. *R I Med J* (2013), 107: 12-17. PMID: 39058984
7. Zandiyyeh, P, Parola, LR, Costa, MQ, Hague, MJ, Molino, J, Fleming, BC and **Beveridge, JE**. (2023). Long-term bilateral neuromuscular function and knee osteoarthritis after anterior cruciate ligament reconstruction. *Bioengineering (Basel)*, 10. PMID: 37508839 \*Featured on journal issue cover page
8. Wu, Z, Zaylor, W, Sommer, S, Xie, D, Zhong, X, Liu, K, Kim, J, **Beveridge, JE**, Zhang, X and Li, X. (2023). Assessment of ultrashort echo time (UTE) T<sub>2</sub>\* mapping at 3T for the whole knee: repeatability, the effects of fat suppression, and knee position. *Quantitative Imaging in Medicine and Surgery*, 13: 7893-7909. PMID: 38106304
9. Sun, C, Chang, K, Fleming, BC, Owens, BD, **Beveridge, JE**, Gage, A, Talley-Bruns, RC, McAllister, S, Costa, MQ, Pinette, MP, Hague, M, Molino, J, Xiao, Y, Lu, S and Wei, L. (2023). A novel large animal model of posttraumatic osteoarthritis induced by inflammation with mechanical stability. *Am J Transl Res*, 15: 4573-4586. PMID: 37560216

10. Flannery, SW, **Beveridge, JE**, Proffen, BL, Walsh, EG, Team, BT, Kramer, DE, Murray, MM, Kiapour, AM and Fleming, BC. (2023). Predicting anterior cruciate ligament failure load with  $T_2^*$  relaxometry and machine learning as a prospective imaging biomarker for revision surgery. *Sci Rep*, 13: 3524. PMID: 36864112
11. Zandiyyeh, P, Parola, LR, Fleming, BC and **Beveridge, JE**. (2022). Wavelet analysis reveals differential lower limb muscle activity patterns long after anterior cruciate ligament reconstruction. *J Biomech*, 133: 110957. PMID: 35114581
12. Sun, C, Cao, C, Zhao, T, Guo, H, Fleming, BC, Owens, B, **Beveridge, JE**, McAllister, S and Wei, L. (2022). A2M inhibits inflammatory mediators of chondrocytes by blocking IL-1beta/NF-kappaB pathway. *J Orthop Res*. PMID: 35451533
13. Flannery, SW, Kiapour, AM, Edgar, DJ, Murray, MM, **Beveridge, JE** and Fleming, BC. (2022). A transfer learning approach for automatic segmentation of the surgically treated anterior cruciate ligament. *J Orthop Res*, 40: 277-284. PMID: 33458865
14. Behnke, AL, Parola, LR, Karamchedu, NP, Badger, GJ, Fleming, BC and **Beveridge, JE**. (2021). Neuromuscular function in anterior cruciate ligament reconstructed patients at long-term follow-up. *Clin Biomech (Bristol, Avon)*, 81: 105231. PMID: 33246796
15. Shekarforoush, M, Barton, KI, **Beveridge, JE**, Scott, M, Martin, CR, Muench, G, Heard, BJ, Sevick, JL, Hart, DA, Frank, CB and Shrive, NG. (2019). Alterations in joint angular velocity following traumatic knee injury in ovine models. *Ann Biomed Eng*, 47: 790-801. PMID: 30656532
16. **Beveridge, JE**, Proffen, BL, Karamchedu, NP, Chin, KE, Sieker, JT, Badger, GJ, Kiapour, AM, Murray, MM and Fleming, BC. (2019). Cartilage damage is related to ACL stiffness in a porcine model of ACL repair. *J Orthop Res*. PMID: 31125133 \*JOR Early Career Award
17. Shekarforoush, M, **Beveridge, JE**, Hart, DA, Frank, CB and Shrive, NG. (2018). Correlation between translational and rotational kinematic abnormalities and osteoarthritis-like damage in two in vivo sheep injury models. *J Biomech*, 75: 67-76. PMID: 29778418
18. Heard, BJ\*, **Beveridge, JE\***, Atarod, M, O'Brien, EJ, Rolian, C, Frank, CB, Hart, DA and Shrive, NG. (2017). Analysis of change in gait in the ovine stifle: normal, injured, and anterior cruciate ligament reconstructed. *BMC musculoskeletal disorders*, 18: 212. PMID: 28535749 \*Co-first authors
19. **Beveridge, JE**, Walsh, EG, Murray, MM and Fleming, BC. (2017). Sensitivity of ACL volume and  $T_2^*$  relaxation time to magnetic resonance imaging scan conditions. *J Biomech*, 56: 117-121. PMID: 28359570
20. **Beveridge, JE**, Machan, JT, Walsh, EG, Kiapour, AM, Karamchedu, NP, Chin, KE, Proffen, BL, Sieker, JT, Murray, MM and Fleming, BC. (2017). Magnetic resonance measurements of tissue quantity and quality using  $T_2^*$  relaxometry predict temporal changes in the biomechanical properties of the healing ACL. *J Orthop Res*, 36: 1701-1709. PMID: 29227559
21. **Beveridge, JE**, Atarod, M, Heard, BJ, O'Brien, EEJ, Frank, CB and Shrive, NG. (2016). Relationship between increased in vivo meniscal loads and abnormal tibiofemoral surface alignment in ACL deficient sheep is varied. *J Biomech*, 49: 3824-3832. PMID: 28573971

22. Lichti, DD, Sharma, GB, Kuntze, G, Mund, B, **Beveridge, JE** and Ronsky, JL. (2014). Rigorous geometric self-calibrating bundle adjustment for a dual fluoroscopic imaging system. *IEEE Trans Med Imaging*. PMID: 25330483
23. **Beveridge, JE**, Shrive, NG and Frank, CB. (2014). Repeatability and precision of a weighted centroid method for estimating dynamic in vivo tibiofemoral surface interactions in sheep. *Comput Methods Biomed Engin*, 17: 1853-1863. PMID: 23742689
24. **Beveridge, JE**, Heard, BJ, Brown, JJ, Shrive, NG and Frank, CB. (2014). A new measure of tibiofemoral subchondral bone interactions that correlates with early cartilage damage in injured sheep. *J Orthop Res*, 32: 1371-1380. doi: 1310.1002/jor.22685. Epub 2014 Jul 22611. PMID: 25042631
25. O'Brien, EJ, **Beveridge, JE**, Huebner, KD, Heard, BJ, Tapper, JE, Shrive, NG and Frank, CB. (2013). Osteoarthritis develops in the operated joint of an ovine model following ACL reconstruction with immediate anatomic reattachment of the native ACL. *J Orthop Res*, 31: 35-43. PMID: 22807114
26. **Beveridge, JE**, Heard, BJ, Shrive, NG and Frank, CB. (2013). Tibiofemoral centroid velocity correlates more consistently with models of stifle injury cartilage damage than does contact path length in two ovine models of stile injury. *J Orthop Res*, 31: 1745-1756. PMID: 23832294
27. Frank, CB, **Beveridge, JE**, Huebner, KD, Heard, BJ, Tapper, JE, O'Brien, EJ and Shrive, NG. (2012). Complete ACL/MCL deficiency induces variable degrees of instability in sheep with specific kinematic abnormalities correlating with degrees of early osteoarthritis. *J Orthop Res*, 30: 384-392. PMID: 21919045
28. **Beveridge, JE**, Shrive, NG and Frank, CB. (2011). Meniscectomy causes significant in vivo kinematic changes and mechanically induced focal chondral lesions in a sheep model. *J Orthop Res*, 29: 1397-1405. PMID: 21432896
29. Darcy, SP, Rosvold, JM, **Beveridge, JE**, Corr, DT, Brown, JJ, Sutherland, CA, Marchuk, LL, Frank, CB and Shrive, NG. (2008). A comparison of passive flexion-extension to normal gait in the ovine stifle joint. *J Biomech*, 41: 854-860. PMID: 18093599
30. Howard, RA, Rosvold, JM, Darcy, SP, Corr, DT, Shrive, NG, Tapper, JE, Ronsky, JL, **Beveridge, JE**, Marchuk, LL and Frank, CB. (2007). Reproduction of in vivo motion using a parallel robot. *J Biomech Eng*, 129: 743-749. PMID: 17887900

#### Published Refereed Abstracts / Papers in Conference Proceedings (59)

1. Thompson, HN, Thomas, Nicholas T., Del Valle, L, Al Jundi, S, Castro, A, **Beveridge, JE**, Proffen, BL and Fry, CS. *Porcine ACL transection injury induces clinically-relevant deficits in quadriceps quality and fiber size*. Trans ORS 50: 2114. Phoenix, AZ, 2025.
2. Murray, CJ, Molino, J, Holtgrewe, JD, Barnes, DA, Zandiyyeh, P, Fleming, BC and **Beveridge, JE**. *Muscle activity patterns during a single-leg hop landing in healthy males and females*. Trans ORS 50: 922. Phoenix, AZ, 2025.
3. Holtgrewe, JD, Murray, CJ, Barnes, DA, Molino, J, Fleming, BC and **Beveridge, JE**. *Effect of hop distance on single-leg hop landing kinematics in healthy persons*. ASB: 487. Pittsburgh, PA, 2025.

4. Holtgrewe, JD, Murray, CJ, Barnes, DA, Molino, J, Fleming, BC and **Beveridge, JE**. *Robustness and bilateral symmetry of hop landing kinematics in healthy persons*. Trans ORS 50: 2425. Phoenix, AZ, 2025.
5. Crisco, JJ, Morton, AM, Zhao, KD, Lopez, C, Moore, Douglas C., Holtgrewe, JD, **Beveridge, JE**, Fillion-Robin, J-C, Lombardi, AJ, Paniagua, B, Yoon, D and Rainbow, MJ. *SlicerAutoscoper<sup>M</sup> – A software environment for tracking skeletal structures in videoradiography datasets*. Trans ORS 50: 611. Phoenix, AZ, 2025.
6. Barnes, DA, Kiapour, AM, **Beveridge, JE**, Murray, CJ, Murray, MM and Fleming, BC. *Precision imaging: Automated metal artifact segmentation in ACL MRIs using K-means clustering*. Trans ORS 50: 916. Phoenix, AZ, 2025.
7. Barnes, DA, Kiapour, AM, **Beveridge, JE**, Movahhedi, M, Murray, CJ, Murray, MM and Fleming, BC. *Sex differences in meniscal cross-sectional area profile*. Trans ORS 50: 1836. Phoenix, AZ, 2025.
8. Sun, C, Chang, K, Fleming, BC, Owens, BD, **Beveridge, JE** and Wei, L. *A2M attenuates cartilage degeneration by binding to and blocking the IL-1R1 cascade in a large preclinical pig model*. Trans ORS 49: 400. Long Beach, CA, 2024.
9. Murray, CJ, Molino, J, Costa, MQ, Fleming, BC and **Beveridge, JE**. *Approach to evaluate femoral cartilage thickness based on patient geometry*. Trans ORS 49: 1054. Long Beach, CA, 2024.
10. Holtgrewe, J, Fleming, BC and **Beveridge, JE**. *Accuracy and precision of model-based bone tracking for a dynamic hop landing activity*. Trans ORS 49: 1064. Long Beach, CA, 2024.
11. **Beveridge, JE**, Hague, M, Parola, L, R., Costa, M, Q., Molino, J and Fleming, BC. *Static and dynamic constraint in ACL-reconstructed patients at 10-15 year follow-up*. Trans ORS 49: 342. Long Beach, CA, 2024.
12. Barnes, DA, Kiapour, AM, **Beveridge, JE** and Fleming, BC. *ACL specific signal intensity normalization across MRI sequences*. Trans ORS 49: 1927. Long Beach, CA, 2024.
13. Zaylor, W, Tien, R, Chokhandre, SK, Klonowski, EM, Erdemir, A and **Beveridge, JE**. *The effects of organized collagen distribution on ACL strain*. Trans ORS 48: 107. Dallas, TX, 2023.
14. Sun, C, Chang, K, Fleming, BC, Owens, BD, Bruns, R, **Beveridge, JE**, Mcallister, S, Costa, MQ, Pinette, MP, Xiao, Y and Wei, L. *A2M reduces synovial inflammation in a yucatan mini-pig PTOA model*. Trans ORS 48: 334. Dallas, TX, 2023.
15. Peters, JR, Zaylor, W, Chokhandre, SK, Klonowski, EM, Erdemir, A, **Beveridge, JE** and Li, X. *An automated approach to define femoral and tibial coordinate systems with limited diaphysis length*. Trans ORS 48: 1786. Dallas, TX, 2023.
16. Chang, K, Sun, C, Fleming, BC, Owens, BD, **Beveridge, JE**, McAllister, S, Costa, MQ, Pinette, MP, Molino, J and Wei, L. *A2-Macroglobulin reduces post-traumatic osteoarthritis cartilage degeneration by inhibiting catabolic pathways*. Trans ORS 48: 1429. Dallas, TX, 2023.
17. Zaylor, W, Malby, KM, Byram, NA, Yalcin, S, Spindler, KP, Li, X and **Beveridge, JE**. *Intra-articular drilling elicits elevation in cartilage T<sub>2</sub> relaxation time*. Trans ORS 47: 2210. Tampa, FL, 2022.

18. Zaylor, W, Malby, K, Byram, N, Li, X and Beveridge, J. *ACL  $T_2^*$  relaxation time sensitivity to extra-articular bone surgery*. Trans ORS 47: 1773. Tampa, FL, 2022.
19. Sun, C, Chang, K, Fleming, BC, Owens, BD, Gage, A, **Beveridge, JE**, Costa, MQ, Pinette, MP, Xiao, Y and Wei, L. *Cartilage damage is associated with synovium inflammation: a novel porcine model of post-traumatic osteoarthritis*. Trans ORS 47: 596. Tampa, FL, 2022.
20. Rahman, RI, Brandt, A, Byram, NA, Malby, KM, Yalcin, S, Spindler, KP and **Beveridge, JE**. *Intra-articular drilling elicits hind limb loading variability in a porcine model of ACL surgery*. Trans ORS 47: 0999. Tampa, FL, 2022.
21. Chang, K, Sun, C, Fleming, BC, Owens, BD, Gage, A, **Beveridge, JE**, Mcallister, S, Costa, MQ, Pinette, MP, Xiao, Y and Wei, L. *A novel mechanically stable PTOA model of inflammation: swine pilot study of drilling adjacent ACL attachment*. Trans ORS 47: 593. Tampa, FL, 2022.
22. Zaylor, W, Chokhandre, SK, Klonowski, EM, Malby, K, Erdemir, A and **Beveridge, JE**. *Sensitivity of ACL force and stress to kinematic error*. ASB. Cleveland, OH, 2021.
23. Zandiye, P, Parola, LR, Fleming, BC and **Beveridge, JE**. *Muscle activation patterns are chronically altered after anterior cruciate ligament reconstruction*. Trans ORS 46: 1231. Virtual, 2021.
24. Wu, Z, Sommer, S, Zhong, X, Liu, K, Kim, J, **Beveridge, JE**, Zhang, X and Li, X. *Repeatability and orientation dependence on ultrashort echo time (UTE)  $T_2^*$  mapping at 3T for the whole knee*. Proc Intl Soc Mag Reson Med 29: 4226. Virtual, 2021.
25. Sun, C, Cao, C, Fleming, BC, Owens, BD, **Beveridge, JE**, Mcallister, S and Wei, L. *A2M inhibits catabolism by blocking IL-1 $\beta$ /NF- $\kappa$ B pathway*. Trans ORS 46: 0670. Virtual, 2021.
26. **Beveridge, JE**, Chokhandre, SK, Klonowski, EM, Malby, KM, Baron, EI and Erdemir, A. *Spatial distribution of material properties influences gross and regional ACL load bearing function*. ISB: 107. Virtual, 2021.
27. Flannery, SW, **Beveridge, JE**, Kiapour, AM, Karamchedu, NP, Behnke, AL, Proffen, BL, Sieker, JT, Murray, MM and Fleming, BC. *An improved  $T_2^*$ -based prediction model for ACL failure load*. Trans ORS 45: 1911. Phoenix, AZ, 2020.
28. **Beveridge, JE**, Behnke, AL, Maldonado Rodas, C, Karamchedu, NP, Flannery, SW and Fleming, BC. *Relationship between predicted ACL graft stiffness and kinematics at 12-year Follow-Up*. Trans ORS 45: 0734. Phoenix, AZ, 2020.
29. Flannery, SW, **Beveridge, JE**, Fleming, EN, Costa, MQ, Karamchedu, NP, Behnke, AL, Proffen, BL, Sieker, JT, Murray, MM and Fleming, BC. *Longitudinal assessment of meniscus post-ACL repair with MRI  $T_2^*$  relaxometry*. Trans ORS 44: 0509. Austin, TX, 2019.
30. Flannery, SW, **Beveridge, JE**, Fleming, EN, Costa, MQ, Karamchedu, NP, Behnke, AL, Proffen, BL, Sieker, JT, Murray, MM and Fleming, BC. *Machine learning model for predicting ACL failure load*. ISB: 1768. Calgary, AB, 2019.
31. **Beveridge, JE**, Behnke, AL, Karamchedu, NP, Maldonado Rodas, C and Fleming, BC. *Predicted ACL graft stiffness explains variation in increased anterior tibial alignment in ACL-reconstructed subjects at 10-12 year follow-up*. ISB: 1772. Calgary, AB, 2019.

32. Behnke, AL, Karamchedu, NP, Fleming, BC and **Beveridge, JE**. *Muscle co-contraction indices of the lower limb are greater in ACL reconstructed patients compared to uninjured controls at 10-12 year follow-up*. Trans ORS 44: 0254. Austin, TX, 2019.

33. Shekarforoush, M, **Beveridge, JE**, Barton, KI, Heard, BJ, Sevick, JL, Martin, R, Hart, DA, Frank, CB and Shrive, NG. *The magnitude of change in joint angular velocity after injury correlates with osteoarthritis development: a longitudinal in vivo study in two sheep models*. Trans ORS 43: 1400. New Orleans, LA, 2018.

34. Küpper, JC, Sharma, GB, Ritchie, BL, Zandiyeh, P, Kuntze, G, **Beveridge, JE** and Ronsky, JL. *Reliability of dual fluoroscopic manual 2D-3D registration for knee cartilage contact mechanics during walking*. Trans ORS 43: 0869. New Orleans, LA, 2018.

35. Flannery, SW, Fleming, EN, Karamchedu, NP, Behnke, AL, **Beveridge, JE**, Proffen, BL, Sieker, JT, Murray, MM and Fleming, BC. *Assessing meniscus integrity post-ACL repair with MRI  $T_2^*$  relaxometry*. Trans ORS 43: 2157. New Orleans, LA, 2018.

36. **Beveridge, JE**, Proffen, BL, Karamchedu, NP, Chin, KE, Sieker, JT, Murray, MM and Fleming, BC. *Cartilage damage is related to ACL stiffness in a porcine model of ACL repair*. Trans ORS 43: 1447. New Orleans, LA, 2018.

37. **Beveridge, JE**, Machan, JT, E., W, Kiapour, AM, Karamchedu, NP, Chin, KE, Proffen, BL, Sieker, JT, Costa, MQ, Murray, MM and Fleming, BC. *Structural properties of healing ACL predicted from MR  $T_2^*$ , signal intensity, and ligament volume*. Trans ORS 43: 2233. New Orleans, LA, 2018.

38. Sharma, GB, Kuntze, G, **Beveridge, JE** and Ronsky, JL. *In-vivo structure-function characterization of tibiofemoral cartilage during walking: A dual fluoroscopy and magnetic resonance imaging approach*. Trans ORS 42: 0423. San Diego, CA, 2017.

39. **Beveridge, JE**, Walsh, EG, Murray, MM and Fleming, BC. *Sensitivity of ACL volume and MR  $T_2^*$  characteristics to MR scan parameters*. Orthopaedic Research Society Trans ORS 42: 1915. San Diego, CA, 2017.

40. **Beveridge, JE**, Machan, J, Walsh, E, Kiapour, A, Karamchedu, NP, Chin, K, Proffen, B, Sieker, J, Murray, M and Fleming, B. *The combination of tissue collagen quantity and quality estimated from MR  $T_2^*$  relaxometry predicts time-specific structural properties of healing ACL following ACL repair*. ASB 41. Boulder, CO, 2017.

41. **Beveridge, JE**, Walsh, EG, Murray, MM and Fleming, BC. *Sensitivity of ACL volume and MR  $T_2^*$  characteristics to MR scan parameters*. GRC. Andover, NH, 2016.

42. Sharma, GB, Kuntze, G, **Beveridge, JE**, Bhatla, C, Shank, J and Ronsky, JL. *Characterization of tibiofemoral cartilage  $T_2$  mapping in the contact and non-contact regions during walking using dual fluoroscopy and magnetic resonance imaging*. Osteoarthritis & Cartilage 23. Seattle, WA, 2015.

43. Sharma, GB, Kuntze, G, **Beveridge, JE**, Bhatla, C, Frayne, R and Ronsky, JL. *Subject-specific 3D  $T_2$  relaxation mapping of the tibiofemoral cartilage contact regions during walking: a dual fluoroscopy and magnetic resonance imaging approach*. Trans ORS 40: 0355. Las Vegas, NV, 2015.

44. **Beveridge, JE**, Bhatla, C, Sharma, GB, Kuntze, G, Shrive, NG, Frank, CB and Ronsky, JL. *Preliminary evidence supporting shared mechanical abnormalities in ACL-deficient human and ovine knees*. Trans ORS 40: 1650. Las Vegas, NV, 2015.

45. **Beveridge, JE**, Sharma, GB, Kuntze, G, Jaremko, JL, Koles, S, Wiley, JP and Ronsky, JL. *A preliminary study of contralateral knee structure and function associations in persons with unilateral knee osteoarthritis*. Osteoarthritis & Cartilage 23. Seattle, WA, 2015.

46. **Beveridge, JE**, Atarod, M, Heard, BJ, Frank, CB and Shrive, NG. *Abnormal tibiofemoral surface alignment is associated with increased meniscal loads in vivo*. Trans ORS 40: 0792. New Orleans, LA, 2014.

47. **Beveridge, JE**, Anderson, BL, Ronsky, JL, Shrive, NG and Frank, CB. *Tibiofemoral cartilage thickness becomes more homogeneous following stifle injury in sheep*. Osteoarthritis and Cartilage 22: 584. Paris, FR, 2014.

48. **Beveridge, JE**, Shrive, NG and Frank, CB. *Evidence that individual mechanical mechanisms work synergistically in the initiation and progression of early cartilage damage in injured sheep*. Trans ORS 39. San Antonio, TX, 2013.

49. **Beveridge, JE**, Shrive, NG and Frank, CB. *A new measure of tibiofemoral surface interactions that correlates with early cartilage damage in injured sheep*. Trans ORS 38. San Antonio, TX, 2013.

50. O'Brien, EE, **Beveridge, JE**, Huebner, KD, Heard, BJ, Tapper, JE, Shrive, NG and Frank, CB. *ACL Reconstruction with immediate anatomic re-attachment of the native ACL in an ovine model results in minimal kinematic differences and greater evidence of early OA compared with sham controls*. Trans ORS 37: 0072. San Francisco, CA, 2012.

51. **Beveridge, JE**, Anderson, BL, Habib, AF, Ronsky, JL, Shrive, NG and Frank, CB. *A new 3-D method for mapping joint surface split-line orientation*. Trans ORS 35: 1371. 2010.

52. **Beveridge, JE**, Moody, HR, Shrive, NG and Frank, CB. *Degenerative articular cartilage alterations are related to specific joint injuries in an ovine model of osteoarthritis*. OARSI 17: S48. Seattle, WA, 2009.

53. Chin, JWS, Huebner, KD, Chung, M, **Beveridge, JE**, Heard, BJ, Marchuk, LL, Shrive, NG, Frank, CB and Hart, DA. *ACL reimplantation in an ovine model leads to prolonged intra-articular inflammation dependent in part on graft tensioning*. ISL&T VIII. Stanford, CA, 2008.

54. **Beveridge, JE**, Heard, BJ, Darcy, SP, MacDonald, L, Sutherland, CA, Shrive, NG and Frank, CB. *A new model to explore the effects of ACL graft tension and twist on in vivo stifle biomechanics*. ISL&T VIII. Stanford, CA, 2008. \*Received Best Poster Award.

55. Darcy, SP, Rosvold, JM, **Beveridge, JE**, Corr, DT, Sutherland, CA, Brown, JJ, Marchuk, LL, Frank, CB and Shrive, NG. *A comparison of passive flexion-extension to gait in the ovine stifle*. ISL&T VII. San Diego, CA, 2007.

56. Darcy, SP, Rosvold, JM, **Beveridge, JE**, Corr, DT, Sutherland, CA, Brown, JJ, Marchuk, LL, Frank, CB and Shrive, NG. *Estimation of in-vivo forces during gait in an ovine stifle joint requires motion reproduction to an accuracy of less than 0.5 mm*. ISL&T VII. San Diego, CA, 2007.

57. **Beveridge, JE**, Moody, HR, Brown, JJY, Darcy, SP, Sutherland, CS, Ronsky, JL, Shrive, NG and Frank, CB. *Evidence of injury-specific mechanical mechanisms of articular cartilage degeneration in ovine models of secondary osteoarthritis*. CORS: 0042. Honolulu, HI, 2007.
58. **Beveridge, JE**, Brown, JJY, Darcy, SP, Sutherland, CA, Ronsky, JL, Shrive, NG and Frank, CB. *Lateral meniscectomy affects in vivo ovine stifle joint biomechanics*. ISL&T VII. San Diego, CA, 2007.
59. **Beveridge, JE**, Brown, JJY, Darcy, SP, Hay, KD, Ronsky, JL, Shrive, NG and Frank, CB. *Early subchondral bone changes are not related to load location alone*. Trans ORS 32: 0826. San Diego, CA, 2007.

### Other Works

**Beveridge, JE.** [Surface interactions and cartilage damage in two ovine models of stifle injury](#). Ph.D. Thesis supervised by Professor Cyril B. Frank, University of Calgary, Calgary, AB, Canada, 2012.

### Conference Podium Presentations

Orthopaedic Research Society, 2020, 2023-2024.

Midwest American Society of Biomechanics, 2021, Cleveland, OH, 2021.

American Society of Biomechanics, 2017\*      \*Thematic Poster with oral presentation

McCaig Meeting on Osteoarthritis and Musculoskeletal Diseases, Calgary, AB, 2014, 2015.

Alberta Biomedical Engineering Conference, Banff, AB, 2010-2011.

Canadian Connective Tissue Conference, Calgary, AB, 2009.

Combined Meeting of the Orthopaedic Research Societies, Honolulu, HI, 2007.

### Conference Poster Presentations

Orthopaedic Research Society Annual Meeting, 2007, 2010, 2013-2015, 2017-2025.

American Society of Biomechanics, 2025.

International Society of Biomechanics Meeting, 2019, 2021.

Gordon Research Conference on Musculoskeletal Biology and Bioengineering, 2016-2024.

Arthritis Alliance of Canada Annual Meeting, 2013.

AIHS Alberta OA Team Meeting, 2013.

Segal North American Osteoarthritis Workshop, 2009.

Osteoarthritis and Cartilage Research International (OARSI) Congress, 2009, 2014, 2015.

CIHR Student Health Research Forum, 2009.

International Symposium on Ligaments & Tendons, 2007, 2008.

Canadian Arthritis Network Annual Meeting, 2007.

Annual Meeting of the Alberta Provincial CIHR Training Program in Bone & Joint Health, 2006-2008.

Alberta Biomedical Engineering Conference, 2006.

### Journal Reviewer

American Journal of Sports Medicine

Journal of Orthopaedic Research

Journal of Biomechanics  
Osteoarthritis and Cartilage  
Clinical Biomechanics  
The Knee  
Computer Methods in Biomechanics and Biomedical Engineering  
Journal of Engineering in Medicine  
Biorheology  
Journal of Applied Biomechanics  
Exercise and Sports Sciences Reviews  
BMC Musculoskeletal Disorders

## EDUCATIONAL ACTIVITIES

### Keynote Speaker

American Society of Bio-Mechanics Midwest, 2021      "The Impact of ACL Function on Knee Biomechanics and PTOA Risk"

### Invited Speaker (15)

University of Minnesota Visiting lecturer, 2025	"Risky business: Which responses to ACL surgery might promote PTOA risk?"
University of Calgary The Frank Talks, 2025	"Innovating the ACL: Continuing Cy's Vision for a "Better Way"
Brown Medical School Annual BioMed Retreat, 2024	"A Multi-Scale Approach to Determine PTOA Risk After Joint Injury"
Brown University/Rhode Island Hospital COBRE Seminar, 2022	"A Holistic, Multi-Scale, Approach to Determine PTOA Risk After Joint Injury"
University of Calgary McCaig Institute Seminar, 2022	The Impact of ACL Function on Knee Biomechanics and PTOA Risk"
University of Calgary HPL Seminar, 2022	The Impact of ACL Function on Knee Biomechanics and PTOA Risk"
Brown University/Rhode Island Hospital COBRE Seminar, 2021	"The Impact of ACL Function on Knee Biomechanics and PTOA Risk"
Duke University L. DeFrate Lab Meeting, 2021	"The Impact of ACL Function on Knee Biomechanics and PTOA Risk"
Washington University at St. Louis MSK Seminar Series, 2021	"The Impact of ACL Function on Knee Biomechanics and PTOA Risk"
Orthopaedic Research Society Meniscus Section Meeting, 2020	"Models and Approaches Used in the Preclinical Testing of Meniscal Solutions: An Engineer's Perspective"

Program of Advanced Musculoskeletal Imaging, 2020	“Multimodal Imaging to Quantify ACL Function”
Washington University at St. Louis MSK Seminar Series, 2018	“The Impact of ACL Function on Knee Biomechanics and PTOA Risk”
Queen’s University Biomechanics Research Seminar, 2018	“Moving Towards Multimodal Imaging for Studying ACL and Joint Biomechanics”
The Cleveland Clinic, BME Research Meeting, 2017	“Kinematic Insights into PTOA Pathogenesis and Progression”
Brown University Orthopaedic Research Meeting, 2013	“The ‘Subject Factor’ in Abnormal Contact Mechanics of ACL-Deficient Sheep”

### **Educational Lectures (7)**

XROMM User Group Meeting, 2024	“Rotoscoping using Slicer-Autoscoper <sup>M</sup> as an alternative to bead-based tracking”
CWRU EMAE307 Lecture, 2022	“A Holistic, Multi-scale, Approach to Determine PTOA Risk after Joint Injury”
CWRU/CCF BME Alliance Fireside chat, 2020, 2021	“Mechanobiology of ACL Injury”
Providence College Engineering Guest Lecture, 2017, 2018	“Biomedical Engineering”
Joint Injury & OA Research KNES 503-02 Lecture, 2015	“Sheep Models of Joint Injury: Orthopaedic Biomechanics”
Bone and Joint Health Course MDSC 751.30 Lecture, 2014	“Joint Biomechanics”
Human Growth and Development KNES 355 Lecture, 2014	“Osteoarthritis”

### **Other Seminars Given (18)**

Brown University Orthopaedic Research Meeting, 2024	“Risky Business: Identifying Neuromuscular and Mechanobiological Factors that Promote PTOA Risk”
Brown BME Graduate Program Seminar 2023	“A Holistic, Multi-scale, Approach to Determine PTOA Risk after Joint Injury”
CCF Mid-term Promotion Seminar, 2022	“A Model System to Probe the Mechanobiology of Post-Traumatic Osteoarthritis”
CCF BME Department Seminar, 2020	“Effects of Reduced ACL Stiffness”
Cleveland Clinic MSRC Research Day, 2020	“Joint and Soft Tissue Function in PTOA”

Cleveland Clinic MSRC Research Day, 2019	“ACL Graft Function at 12-year Follow-Up”
Brown University Osteoarthritis Research Workgroup, 2017	“ACL Graft Stiffness and PTOA”
Brown University Orthopaedic Research Meeting, 2017	“MR T <sub>2</sub> * Relaxometry Predicts the Structural Properties of Healing ACLs Over Time”
Brown University MRI Research Facility Meeting, 2017	“MR T <sub>2</sub> * Relaxometry Predicts the Structural Properties of Healing ACLs Over Time”
Brown University Orthopaedic Research Meeting, 2016	“A Proposal to Investigate the Relationship Between Inferior ACL Graft Biomechanical Properties and Abnormal Joint Motion”
Human Performance Lab Seminar Series, 2014	“Abnormal Surface Interactions in Post-Traumatic OA”
McCaig Institute Seminar Series, 2014	“Abnormal Surface Interactions in Post-Traumatic OA”
McCaig Institute Seminar Models of Series, 2012	“Surface Interactions and Cartilage Damage in Two Ovine Stifle Injury”
McCaig Institute Seminar Series, 2011	“A Qualitative Description of Stifle Split-Lines and their Relationship to Joint Function”
Human Performance Lab Seminar Series, 2009	“Exploring Injury-Specific Mechanical Mechanisms of Post-traumatic OA in Sheep”
McCaig Institute Seminar Series, 2009	“Knee Injury and Osteoarthritis: A Hodge-Podge Summary of Experiments”
Joint Injury & Arthritis Research Group Seminar, 2006	“Evidence of Injury-Specific Mechanical Mechanisms of Articular Cartilage Degeneration in Ovine Models of Secondary Osteoarthritis”
Joint Injury & Arthritis Research Group Seminar, 2005	“An Investigation of the Relationship Between Joint Surface Kinematics, Articular Cartilage Structure, and the Manifestation of Secondary Osteoarthritis Following ACL/MCL Injury in an Ovine Model”

## Organized Workshops (7)

American Society of Biomechanics, Pittsburg, 2025	“Kinematic Tracking in Videoradiography using SlicerAutoscoper <sup>M</sup> ”
Orthopaedic Research Society Phoenix, 2024	“Future Faculty Poster Session”
American Society of Biomechanics, Knoxville, 2023	“Introduction to an Open-Source Approach to Bi-Plane Videoradiography and Multi-modal Kinematic Tracking”
Orthopaedic Research Society Dallas, 2023	“Cell, Tissue, and Systemic Crosstalk in Joint Disease”

North American Society of Biomechanics, Ottawa, 2022	“An Open-Source Approach to Multi-Modal Kinematic Imaging”
Orthopaedic Research Society Virtual, 2021	“Measuring Skeletal and Implant Arthrokinematics In Vivo”
Orthopaedic Research Society Virtual, 2021	“Mastering Finances as an Assistant Professor”
International Society of Biomechanics, Calgary, 2019	“Frontiers in X-Ray Reconstruction of Moving Morphology”

### **Supervised Theses (3)**

Veronica Figueroa (MEng): “Computational Modelling of ACL Healing and Function.” *Brown University, Expected May 2026.*

Sam Zalk (MEng): “Effect of Relaxin on Murine ACL Mechanical Properties.” *Brown University, Completed April 2024.*

Visar Berki (PhD), *Cleveland State University Biomedical Engineering PhD student (transferred 2022).*

### **Graduate Thesis Advisory Committees (4)**

Dominique Barnes (PhD): “Advancement and Validation of a Quantitative MRI Pipeline to Predict Risk of Subsequent Injury after ACL Surgery.” *Brown University, Expected May 2026.*

Amulya Kabada (Sc.M): “Quantifying Mechanoreceptors in a Porcine ACL: A Comparative Analysis of Histological Staining Methods”. *Brown University, May 2025.*

Dingyi Yang (Sc.M): “Mechanobiological Effects of Residual Stress on Epithelial Cell Morphology”. *Brown University, May 2025.*

Sean Flannery (PhD): “An End-to-End Pipeline for Quantifying MRI Analysis of Ligament/Graft Healing”. *Brown University, May 2022.*

### **Supervised Postdoctoral Research Projects (2)**

Dr. William Zaylor: “Computational Assessment of ACL Function and Quantitative MR Imaging”. *Cleveland Clinic postdoctoral fellow, 2021-2023. Current position: Data Analyst, Mount Sinai Hospital.*

Dr. Elise Baron: “Influence of Pain on Dynamic Gait”. *Cleveland Clinic postdoctoral fellow, 2019-2021. Current position: Director of Research, Augment Therapy, Inc.*

### **Supervised Undergraduate Projects (15)**

Siddharth Yende: “Integrating Biplane Videoradiography and Magnetic Resonance Imaging for In Vivo ACL Strain Analysis”  
*Brown University SPRINT & Undergraduate Thesis scholar, 2026*

Ryan Tien: “Sensitivity of ACL Mechanics to  $T_2^*$  Mapping”  
*Case Western Reserve University Summer Intern, 2022.*

Diana Jones: “Precision of In Vivo Kinematics in Porcine Models of Joint Injury”  
*John Carroll University, Senior Physics Program Major, 2021.*

Rakin Rhaman: "Intra-articular Drilling Elicits Hind Limb Loading Variability in a Porcine Model of ACL Surgery"  
*Ohio State University Summer Intern, 2021.*

Cristian Maldonado Rodas: "Differences in Dynamic 3D Bone Position from Manual and Automated Post-Processing: Improving the Clinical Application of XROMM Framework"  
*Brown University Undergraduate Teaching and Research Award (UTRA) scholar, 2018; Class of 2020 Senior Prize in Biology.*

Justin Lee: "Comparing Histological Predictors of ACL Healing to MRI Variables in Repaired Ligaments at Early Healing Stages"  
*Brown University UTRA & Senior Undergraduate Thesis scholar, 2017.*

Franklin Tarke: "Sensitivity of Knee Joint Motion Calculated from CT- and MRI-derived Bone Models."  
*Brown University UTRA & Senior Undergraduate Thesis scholar, 2017.*

Heather Charette: "Validation of Three-Dimensional Arthrokinematics Obtained Using Biplanar Videoradiography"  
*University of Calgary Markin Undergraduate Summer Research Program (USRP) scholar, 2015.*

Emily Been: "Within- and Between-Subject Approaches for Quantifying Joint Surface Interactions"  
*\*Natural Sciences and Engineering Research Council of Canada (NSERC) Undergraduate Student Research Awardee, 2015. (\*National Award)*

Christopher Bhatla: "Altered Dynamic Tibiofemoral Contact Path Length in ACL Deficient Knees"  
*\*Alberta Innovates Health Science (AIHS) undergraduate summer research scholar, 2014.  
(\*Provincial Award)*

Andrea Agudelo: "Tibiofemoral Surface Modeling for Joint Mechanics Analysis"  
*NSERC CREATE International and Industrial Imaging Training Program undergraduate research scholar, 2013.*

Nicole Marshall: "Ligament Injuries Alter In Vivo Tibiofemoral Shear Stress Direction in Sheep"  
*University of Calgary Best Undergraduate Biomedical Engineering Honours Thesis, 2011.*

Blair Anderson: "A Novel Technique to Determine 3D Orientation of Articular Cartilage Split-Lines in Ovine Stifle Joints"  
*\*Alberta Heritage Foundation for Medical Research (AHFMR) undergraduate summer research scholar, successful completion of Specialized Training in Research component of University of Alberta MD program, 2010. (\*Provincial Award)*

Lynnette MacDonald: "Kinematic Consequences Observed Using a Novel Surgical Approach to Varying ACL Graft Tensions in An Ovine Model"  
*\*AHFMR undergraduate summer research scholar, USRP scholar, USRP 1st place podium presentation, 2009. (\*Provincial Award)*

Katie Hay: "3D Structure of Articular Cartilage: An MRI Investigation"  
*\*NSERC USRP scholar, 2008. (\*National Award)*

## ACADEMIC SERVICE

Brown University Orthopedics Recruitment & Retention Committee Co-Chair, 2025-Present.  
Brown University Biomedical Engineering Department Graduate Program Committee, 2024-Present.  
Orthopaedic Research Society Career Development Committee Chair, 2025-2026.  
Orthopaedic Research Society Career Development Committee Vice-Chair, 2024-2025.  
Brown University Orthopaedic Resident Research Committee Co-Chair, 2023-Present.

Brown University Biomedical Engineering Department DEI Committee Member, 2023-2024.  
Orthopaedic Research Society Knee Topic Co-Chair, 2022-2025.  
Orthopaedic Research Society Abstract Reviewer, 2019-Present.  
Cleveland Clinic Molecular Device Solutions Scientific Advisory Board, 2021-2022.  
Cleveland Clinic Department of Biomedical Engineering Seminar Committee Member, 2020-2022.  
Cleveland Clinic Lerner Research Institute RETC Awards Committee Member, 2019.  
Alberta Osteoarthritis Team Trainee Leaders' Committee Vice-Chair, 2014-2015.  
NSERC CREATE Communications & KT Committee Chair, 2013-2015.  
McCaig Institute Community Outreach Committee Member, 2012-2015.  
AIHS Interdisciplinary Research Team in OA Trainee Leaders' Committee, 2011-2014.  
Canadian Medical Education Directives for Specialists (CanMEDS) examiner, October 2012-2015.  
University of Calgary Medical Science Graduate Student Council Member, 2004-2006.

## **PROFESSIONAL AFFILIATIONS**

Orthopaedic Research Society, Member  
International Society of Biomechanics, Member  
American Orthopaedic Society for Sports Medicine, Member  
Osteoarthritis Research Society International, Associate Member, Past Member  
Canadian Society of Biomechanics, Past Member  
Ontario Kinesiology Association, Past Member

## **LEADERSHIP IN THE COMMUNITY**

Consultant, Canadian Ski Instructor's Alliance Technical Committee, March 2014-2019.  
Consultant, Canadian Ski Instructor's Alliance Women in Skiing Committee, November 2014-2016.  
Kronos Triathlon Club Board Member 2010-2012; Board Chair 2012-2014.  
United Way Board Chair Training Course attendee, January-February 2013.  
United Way Essentials of Governance Workshop attendee, December 2012.  
McCaig Institute United Way Annual BBQ volunteer, 2011-2012.  
McCaig Institute Jingle Bell Run for Arthritis Corporate Team Lead, November 2009.