

## Sam Hamner

Software Engineer for the Human Performance Lab

Wu Tsai Human Performance Alliance

### Bio

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#### ACADEMIC APPOINTMENTS

- Research Engineer, Wu Tsai Human Performance Alliance

#### LINKS

- LinkedIn Profile: <https://www.linkedin.com/in/samner>
- Google Scholar: [https://scholar.google.com/citations?hl=en&view\\_op=list\\_works&gmla=AOV7GLNM32vrp34oiYesS3B48yFqxXU3I2klCpi-ebZx\\_2RCDUCGKMbQ0-bmVus6cdaOQavJAEK1bH58EXZwHw&user=xjFZT\\_8AAAAJ](https://scholar.google.com/citations?hl=en&view_op=list_works&gmla=AOV7GLNM32vrp34oiYesS3B48yFqxXU3I2klCpi-ebZx_2RCDUCGKMbQ0-bmVus6cdaOQavJAEK1bH58EXZwHw&user=xjFZT_8AAAAJ)

### Publications

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#### PUBLICATIONS

- **Quantifying Anterior Cruciate Ligament Injury Resilience: A Screening and Composite Score Framework.** *Orthopaedic journal of sports medicine*  
Seagers, K., Swaminathan, K., Kolesar, J., Hamner, S., Muccini, J., Hicks, J., Myer, G., Hastie, T., Delp, S.  
2026; 14 (5): 23259671261433009
- **OpenSim: Simulating musculoskeletal dynamics and neuromuscular control to study human and animal movement** *PLOS COMPUTATIONAL BIOLOGY*  
Seth, A., Hicks, J. L., Uchida, T. K., Habib, A., Dembia, C. L., Dunne, J. J., Ong, C. F., DeMers, M. S., Rajagopal, A., Millard, M., Hamner, S. R., Arnold, E. M., Yong, et al  
2018; 14 (7)
- **Optimizing Locomotion Controllers Using Biologically-Based Actuators and Objectives** *ACM TRANSACTIONS ON GRAPHICS*  
Wang, J. M., Hamner, S. R., Delp, S. L., Koltun, V.  
2012; 31 (4)
- **Muscle contributions to propulsion and support during running** *JOURNAL OF BIOMECHANICS*  
Hamner, S. R., Seth, A., Delp, S. L.  
2010; 43 (14): 2709-2716
- **An Acute Randomized Controlled Trial of Noninvasive Peripheral Nerve Stimulation in Essential Tremor** *NEUROMODULATION*  
Pahwa, R., Dhall, R., Ostrem, J., Gwinn, R., Lyons, K., Ro, S., Dietiker, C., Luthra, N., Chidester, P., Hamner, S., Ross, E., Delp, S.  
2019; 22 (5): 537-45
- **Noninvasive Neuromodulation in Essential Tremor Demonstrates Relief in a Sham-Controlled Pilot Trial** *MOVEMENT DISORDERS*  
Lin, P. T., Ross, E. K., Chidester, P., Rosenbluth, K. H., Hamner, S. R., Wong, S. H., Sanger, T. D., Hallett, M., Delp, S. L.  
2018; 33 (7): 1182-83
- **A rolling constraint reproduces ground reaction forces and moments in dynamic simulations of walking, running, and crouch gait** *JOURNAL OF BIOMECHANICS*  
Hamner, S. R., Seth, A., Steele, K. M., Delp, S. L.  
2013; 46 (10): 1772-1776

- **How muscle fiber lengths and velocities affect muscle force generation as humans walk and run at different speeds.** *journal of experimental biology*  
Arnold, E. M., Hamner, S. R., Seth, A., Millard, M., Delp, S. L.  
2013; 216: 2150-2160
- **Muscle contributions to fore-aft and vertical body mass center accelerations over a range of running speeds** *JOURNAL OF BIOMECHANICS*  
Hamner, S. R., Delp, S. L.  
2013; 46 (4): 780-787
- **Passive and Dynamic Shoulder Rotation Range in Uninjured and Previously Injured Overhead Throwing Athletes and the Effect of Shoulder Taping** *PM&R*  
McConnell, J., Donnelly, C., Hamner, S., Dunne, J., Besier, T.  
2012; 4 (2): 111-116
- **Effect of Shoulder Taping on Maximum Shoulder External and Internal Rotation Range in Uninjured and Previously Injured Overhead Athletes during a Seated Throw** *JOURNAL OF ORTHOPAEDIC RESEARCH*  
McConnell, J., Donnelly, C., Hamner, S., Dunne, J., Besier, T.  
2011; 29 (9): 1406-1411

## PRESENTATIONS

- EMBL-EBI: Wearable Technologies and Digital Sensors in the Clinic - Takeda Pharmaceuticals (2019)
- Wearable Electronics Seminar: Wearable Therapeutics - Stanford Wearable Electronics Initiative and the Stanford Center for Digital Health, Stanford University (November 13, 2018)
- ReMotion Knee: Scaling of an affordable prosthetic knee for developing countries - UNESCO Technologies for Development International Conference (June 4, 2014 - June 6, 2014)
- 1000 Knees: D-Rev's ReMotion Knee Project - TEDxSF 7 Billion Well Conference (November 2012)