Stanford

Jennifer Hicks

Executive Director, Wu Tsai Human Performance Alliance

Bio

BIO

Jennifer Hicks is Executive Director of the Wu Tsai Human Performance Alliance at Stanford, with a focus on collaborative research projects and programs to advance our understanding of the biological principles underlying human performance. Dr. Hicks also serves as co-Director of the NIH-supported Center for Foundational Artificial Intelligence for Rehabilitation (FAIR) and the Director of Research for the Mobilize Center, an NIH Biomedical Technology Resource Center at Stanford University. Her research is focused on combining biomechanical modeling with statistical and machine learning methods to predict the effects of surgery and other interventions on human movement. She is also using data from mobile phones and other novel sources to understand physical activity and performance. Dr. Hicks also helps run the multi-faceted training and outreach programs of the Human Performance Alliance, the Mobilize Center and the Restore Center. In addition, as the Director of the OpenSim software project, she guides the project's development team and serves as the voice of the software user/researcher.

CURRENT ROLE AT STANFORD

Executive Director, Wu Tsai Human Performance Alliance at Stanford

Co-Director, FAIR Center

Director of Research, Mobilize Center

Director, OpenSim Project

LINKS

- OpenSim Project: http://opensim.stanford.edu
- Mobilize Center: http://mobilize.stanford.edu
- Neuromuscular Biomechanics Lab: http://nmbl.stanford.edu

Publications

PUBLICATIONS

- **The menstrual cycle through the lens of a wearable device: insights into physiology, sleep, and cycle variability.** *NPJ digital medicine*
  Gonzalez, A., O'Day, J. J., Johnson, S. C., Kim, J., Jasinski, S. R., Holmes, K. E., Delp, S. L., Hicks, J. L.
  2026
- **Decoding menstrual health across the lifespan: a scoping review of digital health tools in research.** *npj women's health*
  Johnson, S. C., O'Day, J., Kraus, E., Delp, S. L., Hicks, J. L.
  2026; 4 (1): 27
- **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

- **Simulation-guided design of exotendons to reduce the energetic cost of running.** *bioRxiv : the preprint server for biology*
  Stingel, J., Bianco, N., Ong, C., Collins, S., Delp, S., Hicks, J.
  2026
- **Estimating Magnetic Field at Joint Centers Reduces Kinematic Errors in Inertial Motion Capture.** *Research square*
  Skov, S., Werling, K., O'Day, J., Hicks, J., Liu, C. K., Delp, S.
  2026
- **Hamstrings muscle dynamics during the Nordic hamstring exercise and high-speed running.** *Journal of biomechanics*
  Haralabidis, N., Steudel, K., Gurchiek, R., Hicks, J., Delp, S.
  2026; 202: 113291
- **FROM VIDEO CAMERA TO KNEE CARTILAGE TISSUE MECHANICS: OUT OF THE LAB WITH FOUNDATION MODELS**
  Esrafilian, A., Tan, T., Bianco, N., Gatti, A., Chaudhari, A., Hicks, J., Delp, S. L.
  ELSEVIER SCI LTD.2026: S91
- **Smartphone video-based knee extension moments during chair rise relate to MRI measures of muscle function.** *medRxiv : the preprint server for health sciences*
  Magruder, R. D., Hall, M., Vainberg, Y., Asay, J. L., Kogan, F., Hicks, J. L., Gold, G. E., Delp, S. L., Uhlrich, S. D., Mazzoli, V.
  2026
- **Knee and hip joint dynamics differ between sprinting and Nordic hamstring exercises.** *Journal of biomechanics*
  Steudel, K., Haralabidis, N., Gurchiek, R., Hicks, J., Delp, S.
  2026; 200: 113236
- **Running with an exotendon reduces compressive knee contact force.** *Journal of biomechanics*
  Stingel, J., Haralabidis, N., Hicks, J., Uhlrich, S., Delp, S.
  2026; 199: 113217
- **Decoding menstrual health across the lifespan: a scoping review of digital health tools in research.** *medRxiv : the preprint server for health sciences*
  Johnson, S. C., O'Day, J., Kraus, E., Delp, S., Hicks, J.
  2026
- **GaitDynamics: a generative foundation model for analyzing human walking and running.** *Nature biomedical engineering*
  Tan, T., Van Wouwe, T., Werling, K. F., Liu, C. K., Delp, S. L., Hicks, J. L., Chaudhari, A. S.
  2026
- **AddBiomechanics Dataset: Capturing the Physics of Human Motion at Scale.** *Computer vision - ECCV ... : ... European Conference on Computer Vision : proceedings. European Conference on Computer Vision*
  Werling, K., Kaneda, J., Tan, T., Agarwal, R., Skov, S., Van Wouwe, T., Uhlrich, S., Bianco, N., Ong, C., Falisse, A., Sapkota, S., Chandra, A., Carter, et al
  2025; 15146: 490-508
- **Countrywide natural experiment links built environment to physical activity.** *Nature*
  Althoff, T., Ivanovic, B., King, A. C., Hicks, J. L., Delp, S. L., Leskovec, J.
  2025
- **Simulations Reveal how Touchdown Kinematic Variables affect Top Sprinting Speed: Implications for Coaching.** *Medicine and science in sports and exercise*
  Haralabidis, N., Eaton, A. J., Delp, S. L., Hicks, J. L.
  2025
- **USING OPENCAP TO ASSESS SINGLE-LEG SQUATS IN A COMBINED COHORT WITH ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION RECIPIENTS AND HEALTHY CONTROLS**
  He, J., Zhang, I., Petrucci, M., Hicks, J., Chu, C. R.
  ELSEVIER SCI LTD.2025

- **GaitDynamics: A Generative Foundation Model for Analyzing Human Walking and Running.** *Research square*
  Tan, T., Van Wouwe, T., Werling, K. F., Liu, C. K., Delp, S. L., Hicks, J. L., Chaudhari, A. S.
  2025
- **Marker Data Enhancement for Markerless Motion Capture.** *IEEE transactions on bio-medical engineering*
  Falisse, A., Uhlrich, S. D., Chaudhari, A. S., Hicks, J. L., Delp, S. L.
  2025; PP
- **OpenCapBench: A Benchmark to Bridge Pose Estimation and Biomechanics**
  Gozlan, Y., Falisse, A., Uhlrich, S., Gatti, A., Black, M., Hicks, J., Delp, S., Chaudhari, A., IEEE COMPUTER SOC
  IEEE COMPUTER SOC.2025: 4056-4065
- **Hamstrings are Stretched More and Faster during Accelerative Running Compared to Speed-Matched Constant-Speed Running.** *Medicine and science in sports and exercise*
  Gurchiek, R. D., Teplin, Z., Falisse, A., Hicks, J. L., Delp, S. L.
  2024
- **A randomized clinical trial testing digital mindset intervention for knee osteoarthritis pain and activity improvement.** *NPJ digital medicine*
  Boswell, M. A., Evans, K. M., Ghandwani, D., Hastie, T., Zion, S. R., Moya, P. L., Giori, N. J., Hicks, J. L., Crum, A. J., Delp, S. L.
  2024; 7 (1): 285
- **Marker Data Enhancement For Markerless Motion Capture.** *bioRxiv : the preprint server for biology*
  Falisse, A., Uhlrich, S. D., Chaudhari, A. S., Hicks, J. L., Delp, S. L.
  2024
- **A Neural Network Model for Efficient Musculoskeletal-Driven Skin Deformation** *ACM TRANSACTIONS ON GRAPHICS*
  Han, Y., Chen, Y., Ong, C., Chen, J., Hicks, J., Teran, J.
  2024; 43 (4)
- **NSF DARE-Transforming modeling in neurorehabilitation: Four threads for catalyzing progress.** *Journal of neuroengineering and rehabilitation*
  Valero-Cuevas, F. J., Finley, J., Orsborn, A., Fung, N., Hicks, J. L., Huang, H. H., Reinkensmeyer, D., Schweighofer, N., Weber, D., Steele, K. M.
  2024; 21 (1): 46
- **Hamstrings are stretched more and faster during accelerative running compared to speed-matched constant speed running.** *bioRxiv : the preprint server for biology*
  Gurchiek, R. D., Teplin, Z., Falisse, A., Hicks, J. L., Delp, S. L.
  2024
- **A simulation framework to determine optimal strength training and musculoskeletal geometry for sprinting and distance running.** *PLoS computational biology*
  Van Wouwe, T., Hicks, J., Delp, S., Liu, K. C.
  2024; 20 (2): e1011410
- **Self-Supervised Learning Improves Accuracy and Data Efficiency for IMU-Based Ground Reaction Force Estimation.** *IEEE transactions on bio-medical engineering*
  Tan, T., Shull, P. B., Hicks, J. L., Uhlrich, S. D., Chaudhari, A. S.
  2024; PP
- **OpenCap: Movement Biomechanics from Smartphone Videos**
  Falisse, A., Uhlrich, S. D., Hicks, J. L., Delp, S. L.
  edited by Pons, J. L., Tornero, J., Akay, M.
  SPRINGER INTERNATIONAL PUBLISHING AG.2024: 519-522
- **AddBiomechanics: Automating model scaling, inverse kinematics, and inverse dynamics from human motion data through sequential optimization.** *PloS one*
  Werling, K., Bianco, N. A., Raitor, M., Stingel, J., Hicks, J. L., Collins, S. H., Delp, S. L., Liu, C. K.
  2023; 18 (11): e0295152
- **Simulating Muscle-Level Energetic Cost Savings When Humans Run with a Passive Assistive Device.** *IEEE robotics and automation letters*
  Stingel, J. P., Hicks, J. L., Uhlrich, S. D., Delp, S. L.

2023; 8 (10): 6267-6274

- **OpenCap: Human movement dynamics from smartphone videos.** *PLoS computational biology*
  Uhlrich, S. D., Falisse, A., Kidziński, Ł., Muccini, J., Ko, M., Chaudhari, A. S., Hicks, J. L., Delp, S. L.
  2023; 19 (10): e1011462
- **AddBiomechanics: Automating model scaling, inverse kinematics, and inverse dynamics from human motion data through sequential optimization.** *bioRxiv : the preprint server for biology*
  Werling, K., Bianco, N. A., Raitor, M., Stingel, J., Hicks, J. L., Collins, S. H., Delp, S. L., Liu, C. K.
  2023
- **How Connecting the Legs with a Spring Improves Human Running Economy.** *bioRxiv : the preprint server for biology*
  Stingel, J. P., Hicks, J. L., Uhlrich, S. D., Delp, S. L.
  2023
- **A scoping review of portable sensing for out-of-lab anterior cruciate ligament injury prevention and rehabilitation.** *NPJ digital medicine*
  Tan, T., Gatti, A. A., Fan, B., Shea, K. G., Sherman, S. L., Uhlrich, S. D., Hicks, J. L., Delp, S. L., Shull, P. B., Chaudhari, A. S.
  2023; 6 (1): 46
- **Smartphone videos of the sit-to-stand test predict osteoarthritis and health outcomes in a nationwide study.** *NPJ digital medicine*
  Boswell, M. A., Kidziński, Ł., Hicks, J. L., Uhlrich, S. D., Falisse, A., Delp, S. L.
  2023; 6 (1): 32
- **Leveraging Mobile Technology for Public Health Promotion: A Multidisciplinary Perspective.** *Annual review of public health*
  Hicks, J. L., Boswell, M. A., Althoff, T., Crum, A. J., Ku, J. P., Landay, J. A., Moya, P. M., Murnane, E. L., Snyder, M. P., King, A. C., Delp, S. L.
  2022
- **Independently ambulatory children with spina bifida experience near-typical knee and ankle joint moments and forces during walking.** *Gait & posture*
  Lee, M. R., Hicks, J. L., Wren, T. A., Delp, S. L.
  2022; 99: 1-8
- **Mindset is associated with future physical activity and management strategies in individuals with knee osteoarthritis.** *Annals of physical and rehabilitation medicine*
  Boswell, M. A., Evans, K. M., Zion, S. R., Boles, D. Z., Hicks, J. L., Delp, S. L., Crum, A. J.
  2022; 65 (6): 101634
- **Running in the wild: Energetics explain ecological running speeds.** *Current biology : CB*
  Selinger, J. C., Hicks, J. L., Jackson, R. W., Wall-Scheffler, C. M., Chang, D., Delp, S. L.
  2022
- **OpenSense: An open-source toolbox for inertial-measurement-unit-based measurement of lower extremity kinematics over long durations.** *Journal of neuroengineering and rehabilitation*
  Al Borno, M., O'Day, J., Ibarra, V., Dunne, J., Seth, A., Habib, A., Ong, C., Hicks, J., Uhlrich, S., Delp, S.
  2022; 19 (1): 22
- **Coupled exoskeleton assistance simplifies control and maintains metabolic benefits: A simulation study.** *PloS one*
  Bianco, N. A., Franks, P. W., Hicks, J. L., Delp, S. L.
  1800; 17 (1): e0261318
- **Deep reinforcement learning for modeling human locomotion control in neuromechanical simulation.** *Journal of neuroengineering and rehabilitation*
  Song, S., Kidzinski, L., Peng, X. B., Ong, C., Hicks, J., Levine, S., Atkeson, C. G., Delp, S. L.
  2021; 18 (1): 126
- **An open-source and wearable system for measuring 3D human motion in real-time.** *IEEE transactions on bio-medical engineering*
  Slade, P., Habib, A., Hicks, J. L., Delp, S. L.
  2021; PP
- **An ecosystem service perspective on urban nature, physical activity, and health.** *Proceedings of the National Academy of Sciences of the United States of America*

Remme, R. P., Frumkin, H., Guerry, A. D., King, A. C., Mandle, L., Sarabu, C., Bratman, G. N., Giles-Corti, B., Hamel, P., Han, B., Hicks, J. L., James, P., Lawler, et al
2021; 118 (22)

- **Wearable sensors enable personalized predictions of clinical laboratory measurements.** *Nature medicine*
  Dunn, J., Kidzinski, L., Runge, R., Witt, D., Hicks, J. L., Schussler-Fiorenza Rose, S. M., Li, X., Bahmani, A., Delp, S. L., Hastie, T., Snyder, M. P.
  2021
- **The effects of motor modularity on performance, learning and generalizability in upper-extremity reaching: a computational analysis.** *Journal of the Royal Society, Interface*
  Al Borno, M., Hicks, J. L., Delp, S. L.
  2020; 17 (167): 20200011
- **Pre-operative gastrocnemius lengths in gait predict outcomes following gastrocnemius lengthening surgery in children with cerebral palsy.** *PloS one*
  Rajagopal, A., Kidzinski, L., McGlaughlin, A. S., Hicks, J. L., Delp, S. L., Schwartz, M. H.
  2020; 15 (6): e0233706
- **Testing Simulated Assistance Strategies on a Hip-Knee-Ankle Exoskeleton: a Case Study**
  Franks, P. W., Bianco, N. A., Bryan, G. M., Hicks, J. L., Delp, S. L., Collins, S. H., IEEE
  IEEE.2020: 700-707
- **OpenSim Moco: Musculoskeletal optimal control.** *PLoS computational biology*
  Dembia, C. L., Bianco, N. A., Falisse, A. n., Hicks, J. L., Delp, S. L.
  2020; 16 (12): e1008493
- **Deep neural networks enable quantitative movement analysis using single-camera videos.** *Nature communications*
  Kidziński, Ł. n., Yang, B. n., Hicks, J. L., Rajagopal, A. n., Delp, S. L., Schwartz, M. H.
  2020; 11 (1): 4054
- **Best practices for analyzing large-scale health data from wearables and smartphone apps.** *NPJ digital medicine*
  Hicks, J. L., Althoff, T., Sosic, R., Kuhar, P., Bostjancic, B., King, A. C., Leskovec, J., Delp, S. L.
  2019; 2: 45
- **Predicting gait adaptations due to ankle plantarflexor muscle weakness and contracture using physics-based musculoskeletal simulations.** *PLoS computational biology*
  Ong, C. F., Geijtenbeek, T. n., Hicks, J. L., Delp, S. L.
  2019; 15 (10): e1006993
- **Machine learning in human movement biomechanics: Best practices, common pitfalls, and new opportunities** *JOURNAL OF BIOMECHANICS*
  Halilaj, E., Rajagopal, A., Fiterau, M., Hicks, J. L., Hastie, T. J., Delp, S. L.
  2018; 81: 1–11
- **Estimating the effect size of surgery to improve walking in children with cerebral palsy from retrospective observational clinical data.** *Scientific reports*
  Rajagopal, A., Kidzinski, L., McGlaughlin, A. S., Hicks, J. L., Delp, S. L., Schwartz, M. H.
  2018; 8 (1): 16344
- **Estimating the effect size of surgery to improve walking in children with cerebral palsy from retrospective observational clinical data** *SCIENTIFIC REPORTS*
  Rajagopal, A., Kidzinski, L., McGlaughlin, A. S., Hicks, J. L., Delp, S. L., Schwartz, M. H.
  2018; 8
- **Machine learning in human movement biomechanics: Best practices, common pitfalls, and new opportunities.** *Journal of biomechanics*
  Halilaj, E., Rajagopal, A., Fiterau, M., Hicks, J. L., Hastie, T. J., Delp, S. L.
  2018
- **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)

- **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): e1006223

- **Perspectives on Sharing Models and Related Resources in Computational Biomechanics Research** *JOURNAL OF BIOMECHANICAL ENGINEERING-TRANSACTIONS OF THE ASME*
  Erdemir, A., Hunter, P. J., Holzapfel, G. A., Loew, L. M., Middleton, J., Jacobs, C. R., Nithiarasu, P., Lohner, R., Wei, G., Winkelstein, B. A., Barocas, V. H., Guilak, F., Ku, et al
  2018; 140 (2)

- **Introduction to NIPS 2017 Competition Track** *NIPS'17 COMPETITION: BUILDING INTELLIGENT SYSTEMS*
  Escalera, S., Weimer, M., Burtsev, M., Malykh, V., Logacheva, V., Lowe, R., Serban, I., Bengio, Y., Rudnicky, A., Black, A. W., Prabhumoye, S., Kidzinski, L., Mohanty, et al
  edited by Escalera, S., Weimer, M.
  2018: 1–23

- **Learning to Run Challenge: Synthesizing Physiologically Accurate Motion Using Deep Reinforcement Learning** *NIPS'17 COMPETITION: BUILDING INTELLIGENT SYSTEMS*
  Kidzinski, L., Mohanty, S. P., Ong, C. F., Hicks, J. L., Carroll, S. F., Levine, S., Salathe, M., Delp, S. L.
  edited by Escalera, S., Weimer, M.
  2018: 101–20

- **Learning to Run Challenge Solutions: Adapting Reinforcement Learning Methods for Neuromusculoskeletal Environments** *NIPS'17 COMPETITION: BUILDING INTELLIGENT SYSTEMS*
  Kidzinski, L., Mohanty, S., Ong, C. F., Huang, Z., Zhou, S., Pechenko, A., Stelmaszczyk, A., Jarosik, P., Pavlov, M., Kolesnikov, S., Plis, S., Chen, Z., Zhang, et al
  edited by Escalera, S., Weimer, M.
  2018: 121–53

- **Large-scale physical activity data reveal worldwide activity inequality** *NATURE*
  Althoff, T., Sosic, R., Hicks, J. L., King, A. C., Delp, S. L., Leskovec, J.
  2017; 547 (7663): 336-+

- **Preparatory co-activation of the ankle muscles may prevent ankle inversion injuries.** *Journal of biomechanics*
  Demers, M. S., Hicks, J. L., Delp, S. L.
  2017; 52: 17-23

- **Simulating ideal assistive devices to reduce the metabolic cost of walking with heavy loads.** *PloS one*
  Dembia, C. L., Silder, A. n., Uchida, T. K., Hicks, J. L., Delp, S. L.
  2017; 12 (7): e0180320

- **ShortFuse: Biomedical Time Series Representations in the Presence of Structured Information.** *Proceedings of machine learning research*
  Fiterau, M. n., Bhooshan, S. n., Fries, J. n., Bournhonesque, C. n., Hicks, J. n., Halilaj, E. n., Ré, C. n., Delp, S. n.
  2017; 68: 59–74

- **Gait biomechanics in the era of data science.** *Journal of biomechanics*
  Ferber, R., Osis, S. T., Hicks, J. L., Delp, S. L.
  2016

- **Full-Body Musculoskeletal Model for Muscle-Driven Simulation of Human Gait** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
  Rajagopal, A., Dembia, C. L., Demers, M. S., Delp, D. D., Hicks, J. L., Delp, S. L.
  2016; 63 (10): 2068-2079

- **Simulating Ideal Assistive Devices to Reduce the Metabolic Cost of Running** *PLOS ONE*
  Uchida, T. K., Seth, A., Pouya, S., Dembia, C. L., Hicks, J. L., Delp, S. L.

2016; 11 (9)

- **Simulation-Based Design for Wearable Robotic Systems: An Optimization Framework for Enhancing a Standing Long Jump** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
  Ong, C. F., Hicks, J. L., Delp, S. L.
  2016; 63 (5): 894-903
- **Stretching Your Energetic Budget: How Tendon Compliance Affects the Metabolic Cost of Running.** *PloS one*
  Uchida, T. K., Hicks, J. L., Dembia, C. L., Delp, S. L.
  2016; 11 (3)
- **The mobilize center: an NIH big data to knowledge center to advance human movement research and improve mobility.** *Journal of the American Medical Informatics Association*
  Ku, J. P., Hicks, J. L., Hastie, T., Leskovec, J., Ré, C., Delp, S. L.
  2015; 22 (6): 1120-1125
- **Predictive Simulation Generates Human Adaptations during Loaded and Inclined Walking** *PLOS ONE*
  Dorn, T. W., Wang, J. M., Hicks, J. L., Delp, S. L.
  2015; 10 (4)
- **Is My Model Good Enough? Best Practices for Verification and Validation of Musculoskeletal Models and Simulations of Movement** *JOURNAL OF BIOMECHANICAL ENGINEERING-TRANSACTIONS OF THE ASME*
  Hicks, J. L., Uchida, T. K., Seth, A., Rajagopal, A., Delp, S. L.
  2015; 137 (2)
- **Musculoskeletal modelling deconstructs the paradoxical effects of elastic ankle exoskeletons on plantar-flexor mechanics and energetics during hopping** *JOURNAL OF EXPERIMENTAL BIOLOGY*
  Farris, D. J., Hicks, J. L., Delp, S. L., Sawicki, G. S.
  2014; 217 (22): 4018-4028
- **Muscle contributions to vertical and fore-aft accelerations are altered in subjects with crouch gait.** *Gait & posture*
  Steele, K. M., Seth, A., Hicks, J. L., Schwartz, M. H., Delp, S. L.
  2013; 38 (1): 86-91
- **Can biomechanical variables predict improvement in crouch gait?** *GAIT & POSTURE*
  Hicks, J. L., Delp, S. L., Schwartz, M. H.
  2011; 34 (2): 197-201
- **Muscle contributions to support and progression during single-limb stance in crouch gait** *JOURNAL OF BIOMECHANICS*
  Steele, K. M., Seth, A., Hicks, J. L., Schwartz, M. S., Delp, S. L.
  2010; 43 (11): 2099-2105
- **CROUCH GAIT REPRESENTS A SIMPLIFIED MUSCULAR SUPPORT STRATEGY DURING SINGLE-LIMB STANCE COMPARED TO UNIMPAIRED GAIT** *ASME Summer Bioengineering Conference*
  Steele, K. M., Seth, A., Hicks, J. L., Schwartz, M., Delp, S. L.
  AMER SOC MECHANICAL ENGINEERS.2009: 1093–1094
- **Crouched postures reduce the capacity of muscles to extend the hip and knee during the single-limb stance phase of gait** *JOURNAL OF BIOMECHANICS*
  Hicks, J. L., Schwartz, M. H., Arnold, A. S., Delp, S. L.
  2008; 41 (5): 960-967
- **The effect of excessive tibial torsion on the capacity of muscles to extend the hip and knee during single-limb stance** *GAIT & POSTURE*
  Hicks, J., Arnold, A., Anderson, F., Schwartz, M., Delp, S.
  2007; 26 (4): 546-552
- **Clinical applicability of using spherical fitting to find hip joint centers** *GAIT & POSTURE*
  Hicks, J. L., Richards, J. G.
  2005; 22 (2): 138-145