



Lauren Watkins

Research Engineer, Rad/Musculoskeletal Imaging

Bio

ACADEMIC APPOINTMENTS

- Member, Wu Tsai Human Performance Alliance

HONORS AND AWARDS

- Summa Cum Laude Merit Award, International Society for Magnetic Resonance in Medicine (2020)
- Top-scoring Abstract Award, International Society for Magnetic Resonance in Medicine Musculoskeletal Study Group (2020)
- Best Poster Award, BIO-X (2019)
- Travel Award, BIO-X (2019)
- Student Travel Award, International Society for Magnetic Resonance in Medicine (2018-2020)
- William K. Bowes, Jr. Graduate Fellow, Stanford Vice Provost for Graduate Education (2016-2019)
- Mark and Pamela Lamp Graduate Scholar, Purdue University (2015-2016)
- Women in Engineering Award, Purdue University (2012-2015)
- Trustees Scholar, Purdue University (2011-2015)

PROFESSIONAL EDUCATION

- Ph.D., Stanford University , Bioengineering (2021)
- M.S., Purdue University , Biomedical Engineering (2016)
- B.S., Purdue University , Biomedical Engineering (2015)

Publications

PUBLICATIONS

- **Comparison of Cartilage Thickness and Curvature Analysis Between Glenoid, Distal Tibial Allograft, and Subtalar Allograft for Anatomic Glenoid Reconstruction: The Magnetic Resonance Imaging-Based Mapping Study.** *The American journal of sports medicine*
Ganokroj, P., Watkins, L., Hollenbeck, J. F., Adriani, M., Whalen, R. J., Garcia, A. R., Dickinson, N. J., McBride, T. J., Rupp, M. C., Yamaura, K., Nishimura, H., Murphy, C. P., Provencher, et al
2025; 53 (14): 3490-3497
- **Physiologic Medial Meniscal Extrusion With Loading and Flexion Detected by Ultrasound.** *Orthopaedic journal of sports medicine*
Dey Hazra, M. E., Dey Hazra, R. O., Kruse, A., Bradshaw, A., Hollenbeck, J., Millett, P. J., Vidal, A., Tashman, S., Watkins, L. E.
2025; 13 (11): 23259671251391777
- **ASYMMETRIES IN PEAK KNEE MOMENTS DURING GAIT ARE STRONGLY RELATED TO MRI T2 RELAXATION IN OSTEOARTHRITIC INDIVIDUALS**
Tashman, S., Smith, C., Watkins, L., Carcia, A., Huard, J.

ELSEVIER SCI LTD.2025

- **PET-MRI: the promise of multi-tissue imaging of early disease mechanisms in osteoarthritis.** *Osteoarthritis and cartilage*
Kogan, F., Watkins, L. E., Goyal, A.
2024
- **Correction to: Multimodal positron emission tomography (PET) imaging in non-oncologic musculoskeletal radiology.** *Skeletal radiology*
Kogan, F., Yoon, D., Teeter, M. G., Chaudhari, A. J., Hales, L., Barbieri, M., Gold, G. E., Vainberg, Y., Goyal, A., Watkins, L.
2024
- **Multimodal positron emission tomography (PET) imaging in non-oncologic musculoskeletal radiology.** *Skeletal radiology*
Kogan, F., Yoon, D., Teeter, M. G., Chaudhari, A. J., Hales, L., Barbieri, M., Gold, G. E., Vainberg, Y., Goyal, A., Watkins, L.
2024
- **Changes in tissue sodium concentration and sodium relaxation times during the maturation of human knee cartilage: Ex vivo ²³Na MRI study at 10.5 T.** *Magnetic resonance in medicine*
Zbýň, Š., Ludwig, K. D., Watkins, L. E., Lagore, R. L., Nowacki, A., Tóth, F., Tompkins, M. A., Zhang, L., Adriany, G., Gold, G. E., Shea, K. G., Nagel, A. M., Carlson, et al
2023
- **[Formula: see text] Field inhomogeneity correction for qDESS [Formula: see text] mapping: application to rapid bilateral knee imaging.** *Magma (New York, N.Y.)*
Barbieri, M., Watkins, L. E., Mazzoli, V., Desai, A. D., Rubin, E., Schmidt, A., Gold, G. E., Hargreaves, B. A., Chaudhari, A. S., Kogan, F.
2023
- **Effects of dynamic [¹⁸F]NaF PET scan duration on kinetic uptake parameters in the knee.** *Frontiers in nuclear medicine (Lausanne, Switzerland)*
Watkins, L. E., Haddock, B., Goyal, A., Kogan, F.
2023; 3: 1194961
- **Generalizability of Deep Learning Segmentation Algorithms for Automated Assessment of Cartilage Morphology and MRI Relaxometry.** *Journal of magnetic resonance imaging : JMRI*
Schmidt, A. M., Desai, A. D., Watkins, L. E., Crowder, H. A., Black, M. S., Mazzoli, V., Rubin, E. B., Lu, Q., MacKay, J. W., Boutin, R. D., Kogan, F., Gold, G. E., Hargreaves, et al
2022
- **Non-contrast MRI of synovitis in the knee using quantitative DESS.** *European radiology*
Thoenen, J., Stevens, K. J., Turmezei, T. D., Chaudhari, A., Watkins, L. E., McWalter, E. J., Hargreaves, B. A., Gold, G. E., MacKay, J. W., Kogan, F.
2021
- **[¹⁸F]NaF PET-MRI provides direct in-vivo evidence of the association between bone metabolic activity and adjacent synovitis in knee osteoarthritis: a cross-sectional study.** *Osteoarthritis and cartilage*
MacKay, J., Watkins, L., Gold, G., Kogan, F.
2021
- **Assessment of Quantitative [¹⁸F]Sodium Fluoride PET Measures of Knee Subchondral Bone Perfusion and Mineralization in Osteoarthritic and Healthy Subjects.** *Osteoarthritis and cartilage*
Watkins, L., MacKay, J., Haddock, B., Mazzoli, V., Uhlrich, S., Gold, G., Kogan, F.
2021
- **Characterizing the transient response of knee cartilage to running: Decreases in cartilage T2 of female recreational runners.** *Journal of orthopaedic research : official publication of the Orthopaedic Research Society*
Crowder, H. A., Mazzoli, V. n., Black, M. S., Watkins, L. E., Kogan, F. n., Hargreaves, B. A., Levenston, M. E., Gold, G. E.
2021
- **Evaluating the Relationship between Dynamic NaF-¹⁸F-Uptake Parameters and MRI Knee Osteoarthritic Findings**
Watkins, L., MacKay, J., Haddock, B., Mazzoli, V., Uhlrich, S., Gold, G., Kogan, F.
SOC NUCLEAR MEDICINE INC.2020
- **Effects of Dynamic NaF-¹⁸F- Duration on Uptake Parameters in the Knee**
Watkins, L., Haddock, B., Kogan, F.

SOC NUCLEAR MEDICINE INC.2020

- **Rapid volumetric gagCEST imaging of knee articular cartilage at 3 T: evaluation of improved dynamic range and an osteoarthritic population.** *NMR in biomedicine*
Watkins, L. E., Rubin, E. B., Mazzoli, V. n., Uhrich, S. D., Desai, A. D., Black, M. n., Ho, G. K., Delp, S. L., Levenston, M. E., Beaupré, G. S., Gold, G. E., Kogan, F. n.
2020: e4310
- **Flexible and efficient optimization of quantitative sequences using automatic differentiation of Bloch simulations.** *Magnetic resonance in medicine*
Lee, P. K., Watkins, L. E., Anderson, T. I., Buonincontri, G., Hargreaves, B. A.
2019
- **Acellular and cellular high-density, collagen-fibril constructs with suprafibrillar organization** *BIOMATERIALS SCIENCE*
Blum, K. M., Novak, T., Watkins, L., Neu, C. P., Wallace, J. M., Bart, Z. R., Voytik-Harbin, S. L.
2016; 4 (4): 711-723