



Matthew B. Fisher



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Regenerative Medicine of Musculoskeletal Soft Tissues

Research emphasis:

Dr. Fisher's research focuses on musculoskeletal soft tissues, which play a central role in guiding and stabilizing our joints during movement. Unfortunately, they are often injured, leading to altered structure, loss of function, and pain. The focus of Dr. Fisher's research is to develop tissue engineering and regenerative medicine solutions for these injured tissues.

Areas of interest include bioscaffold fabrication, prediction of outcomes following implantation, and assessment of function. Dr. Fisher's lab is also developing models of diarthrodial joint growth.

Application:

- Regenerative medicine
- Tissue engineering
- Bioscaffolds
- Biomechanical evaluation

Collaboration potential:

- Bioscaffold development
- Animal models for musculoskeletal tissue injuries
- Evaluation of novel regenerative medicine strategies

Selected publications:

Qu, F., Pintauro, M.P., Haughan, J., Henning, E.A., Esterhai, J.L., Schaer, T.P., Mauck, R.L., **Fisher, M.B.** Repair of Dense Connective Tissues via Biomaterial-Mediated Matrix Reprogramming of the Wound Interface. *Biomaterials*, 39: 85-94, 2015. doi: 10.1016/j.biomaterials.2014.10.067.

Fisher M.B., Henning E.A, Söegaard N.B., Dodge G.R., Steinberg D.R., Mauck R.L. Maximizing Cartilage Formation and Integration via a Novel Trajectory-based Tissue Engineering Approach. *Biomaterials*, 35: 2140-2148, 2014. doi: 10.1016/j.biomaterials.2013.11.031.

Fisher, M.B., Woo, S.L-Y., Zamarra, G., Jung, H-J., Almarza, A.J., Liang, R., and McMahon, P.J. Potential of Healing a Transected Anterior Cruciate Ligament with Genetically-Modified Extracellular Matrix Bioscaffolds in a Goat Model. *Knee Surgery, Sports Traumatology, Arthroscopy*, 20(7): 1357-1365, 2012. doi: 10.1007/s00167-011-1800-x.