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Associate Professor

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PhD, University of California-Davis

Expertise: Biomedical Engineering, Orthopaedic Biomechanics, Finite Elements, Computational and Experimental Mechanics

Research Interests

- FE model of human knee joint
- Microstructural model of meniscus
- Material properties of menisci, tendons, and ligaments
- How musculoskeletal cells respond to mechanical stimulus

Selected Publications

- Zielinska, B., Haut Donahue, T. L., 3D Finite Element Model of Medial Meniscus Meniscectomy - Changes in the Contact Behavior. *Journal of Biomechanical Engineering*.128(1) 115-23,2006.
- Eifler, R. L., Mroz, J. Blough, E. R., Haut Donahue, T. L., Glycosaminoglycan Production in Rabbit Meniscal Cells Due to Fluid Flow, *Journal of Orthopaedic Research*. 24:375-384,2006.
- Haut Donahue,T.L., Donahue, H. J., Jacobs, C.R., Yellowley, C.E., A role for Annexin V in Bone Cell Mechanotransduction; Bone, 35:656-663, 2005.
- Maes, J.A., Haut Donahue, T. L., Time Dependent Properties of Bovine Meniscal Attachments: Stress Relaxation and Creep. In Press *Journal of Biomechanics*.
- Gupta, T., Haut Donahue, T.L., Role of Matrix Material Properties, Cell Location and Morphology on the Mechanical Environment Within Meniscal Tissue and Around the Cell, to Appear Acta Biomaterialia, 2006.
- Haut Donahue, T.L., Weiss, B., Rosenberg, G., Jacobs, C.R., Finite Element Analysis of Stresses Developed in Blood Sacs of a Pusherplate Blood Pump. Computer Methods in Biomechanics and Bioengineering, 6(1): 7-15, 2003.
- Haut Donahue, T.L., Haut, T.R., Yellowley, C.E., Donahue, H.J., Jacobs, C.R., Mechanosensitivity of Bone Cells to Oscillating Fluid Flow (OFF) Induced Shear Stress may be Modulated by Chemotransport. *Journal of Biomechanics*, 36:1363-1371,2003.

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