

Project Opportunities

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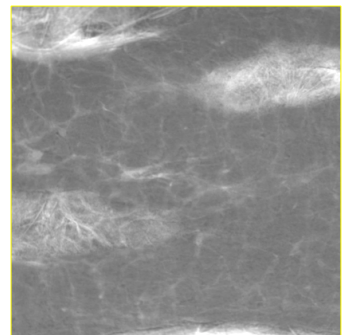
Stresses in the Femur with Geometrical Variation

- Develop finite element models from computed tomography scans to examine the role of femoral geometry on stresses developed in the femur with loading.
- Involve image processing, geometric modeling, finite element analysis, a variety of software packages, and stress analysis
- Coursework/background: solid mechanics, MAE 4700



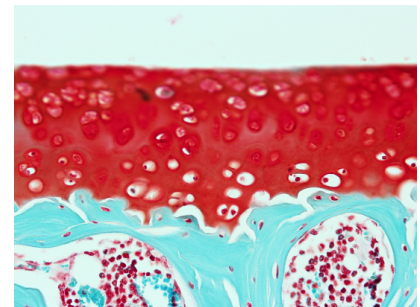
Fatigue of Bone Tissue

- Determine the fatigue strength of cortical bone for normal and treated tissue and examine the damage mechanisms
- Involves specimen preparation, mechanical testing and data analysis; high resolution imaging of bone damage may also be part of this work
- Coursework/background: solid mechanics, MAE 3272, Matlab



Protein Expression with In Vivo Loading

- Examine histological and immunohistochemical changes in musculoskeletal tissues as a result of in vivo loading
- Involves specimen preparation, histological staining, immunostaining, imaging and in vivo models
- Coursework/background: basic biology, chemistry



Additional opportunities may be available. Please contact me.