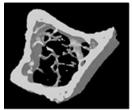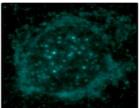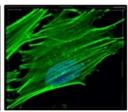**FUNDED PHD POSITION(S) IN BIOMEDICAL ENGINEERING – CELL MECHANOBIOLOGY – BOISE STATE UNIVERSITY**
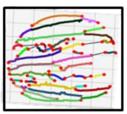
NIH funded PhD position is available to study mechanobiology of cell nucleus

Project description:

We are looking for aspiring future leaders in regenerative medicine and cell mechanobiolgy. Project will focus on understanding how mechanical signals affect nuclear structure and direct cell differentiation in mesenchymal stem cells. These findings will ultimately help improving clinical outcomes related to unloading related bone-loss and fatty infiltration in astronauts, aged individuals with osteoporosis and impaired bone healing seen under extended bedrest such as injured service personnel.

For this project, the student will gain expertise in state-of-the-art technology, including Atomic Force Microscopy, Confocal Microscopy, Bioreactor technology and molecular biology techniques such as RNA sequencing, Chromatin immunoprecipitation, immunostaining and qPCR. PhD students will have a chance to work with an excellent multidisciplinary team of scientists as well as engineers to answer fundamental questions about bone cell health and tackle cutting edge engineering problems to prepare experiments to quantify cellular deformations.

Research position is fully funded, including graduate assistant salary, benefits and full tuition waiver.

Lab Website: https://www.boisestate.edu/coen-mal/

Biomedical Engineering PhD Website: https://www.boisestate.edu/bme/

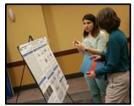## The ideal profile for this position would include:

- B.S. or M.S. degree in Mechanical Engineering, Biomedical Engineering, Biology or Physics
- Interest towards cell culture experiments and molecular biolgy.
- Programming skills languages such as MATLAB, Python and R
- Interest in image analysis using Image J
- Interest in genomics and proteomics analysis
- Demonstrable effectiveness in disseminating scientific results (e.g. publications/talks in conferences) for extra brownie points.

To apply:

1) Position will start on Fall 2021 or Spring 2022

2) Please submit a detailed CV (max 4 pages), publication list (or other supporting material), details of two referees, and a 1-page motivation letter to gunesuzer@boisestate.edu

3) Shortlisted candidates will be interviewed remotely via Zoom.

About Mechanical Adaptations Laboratory:
Our goal is to establish causative relationships of how mechanical signals are transduced and sensed at cellular level with the motivation to provide non-pharmacologic solutions to musculoskeletal decline through careful study of mechanobiology. Current studies in MAL are directed towards establishing models to quantify how mechanical environment of bone in relation to exercise, injury, aging and disuse regulate structural adaptations at tissues and differentiation of stem cells. Research at MAL is actively funded by NIH, NSF and NASA for technology development, translational and basic science projects. Our research partners include, Mayo Clinic, University of Texas, Rensselaer Polytechnic Institute, University of Colorado Boulder and University of North Carolina Chapel Hill.

About Boise:
Boise State University is the largest university in Idaho, with enrollment of more than 22,000 students. The University is located in Idaho's capital city and largest metropolitan area, which serves as the government, business, high-tech, economic, and cultural center of the state. Boise has a vibrant downtown, and great outdoor recreation including skiing, rafting, camping, fishing, and biking. Forbes ranked Boise #2 in 2018 for best cities to raise a family, U.S. News & World Report ranked Boise in the top 10 for best places to live in 2016, and USA Today ranked Meridian (Boise suburb) as the #1 city to live in America in 2015.