

Wearable and Implantable Sensors for Monitoring of Arthritis Patients

Affecting more than 30 million people in the US, arthritis is the leading cause of disability in the developed world. Despite this great demand, on average only 1 new drug for arthritis treatment begins clinical trials each year. A major challenge in performing clinical trial on osteoarthritis is that the main outcome measures used to assess treatment efficacy rely on subjective assessments of pain and activity levels. More reliable and quantitative assessments of patient activity before and after treatment has the potential to greatly accelerate the development of arthritis treatments. The Bonassar Lab (BME/MAE) in collaboration with Drs. Lisa Fortier (College of Veterinary Medicine) and Scott Rodeo (Chief of Sports Medicine, Hospital for Special Surgery) are interested in developing wearable and implantable sensors for continuous monitoring of activity levels of patients in pre-clinical and clinical trials.

Students who join the team will be tasked with: surveying the landscape of existing sensor technology; designing devices capable of transmitting data to mobile and central logging stations; building and testing prototype sensors. Depending on the students' interest and background, additional opportunities may exist to deploy and assess this device during in vivo studies.



This project is well suited for 3-4 students who have a background in electronics, instrumentation, and mechanical design, including CAD and machining. Interested students should forward a copy of a resume and unofficial transcript to:

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