

Postdoctoral Fellow - Physiology and Pharmacology of Human Skeletal Muscle

Microtissues. A postdoctoral position is immediately available in the area of human skeletal muscle tissue engineering and metabolism. We have recently generated human skeletal muscle microtissues that recapitulate key structural and functional aspects of native skeletal muscle including an aligned myofiber architecture with robust cross-striations and the ability to generate spontaneous, electrically stimulated, and chemically stimulated contractions and calcium transients. The goal of the project will be to utilize these microtissues for modeling of human muscle disease, pharmacological, metabolic, and physiological studies. Specifically, electrical stimulation will be applied to simulate different regimes of muscle exercise and resulting changes in muscle fiber type, responsiveness to insulin challenge, calcium handling, contractile, metabolic, and biochemical responses will be studied. The overall goal will be to establish utility of the human engineered muscle tissues as a pre-clinical assay for development of new drug and gene therapies.

Qualifications include PhD in biomedical engineering, cell and developmental biology, or other relevant areas of biomedical sciences. The ideal candidate will be highly self-motivated and possess strong training in the skeletal muscle biology and physiology, and tissue engineering. Experience in molecular biology, biochemical analysis, and culturing and differentiation of human pluripotent stem cells are highly desired. This position is a part of a large interdisciplinary project and will require strong teamwork ability. Our group is a highly diverse and stimulating environment that provides excellent opportunities for scientific growth in the pursuit of both academic and industry careers. Interested candidates should send their resume, statement of research goals, and three letters of recommendation to Dr. Nenad Bursac (nbursac@duke.edu).
Lab website: <http://bursaclab.bme.duke.edu/index.php>