



# Duke University

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**Postdoctoral Position: In Vitro Modeling of Human Skeletal Muscle Disease.** Two postdoctoral positions are immediately available in the Bursac lab (<http://bursaclab.pratt.duke.edu/>) with focus on the use of human induced pluripotent stem cells (hiPSCs) for studies of skeletal muscle biology and disease. Specifically, miniature human skeletal muscle tissues (“myobundles”) will be made using myogenic progenitors differentiated from patients' hiPSCs. These skeletal muscle organoids will be designed to contain robust contractile myofibers and a pool of functional satellite cells and will be further combined with hiPSC-derived endothelial and immune system cells from the same patients to develop more realistic, high-fidelity tissue-engineered models of skeletal muscle. The initial focus will be on modeling of dysferlinopathy, Duchenne Muscular Dystrophy, and Pompe disease (glucogen storage disease type II). Genome engineering techniques (CRISPR/Cas9) will be utilized to improve our understanding of pathological genotype-phenotype relationships in isogenic backgrounds. Furthermore, small molecule genomic and pharmacological screens will be applied to discover new therapeutic targets leading to improved skeletal muscle function. Most promising therapeutic candidates will be eventually validated in animal models of muscle disease and injury *in vivo*.

Qualifications include PhD in cell and molecular biology, biomedical engineering, or other relevant areas of biomedical sciences. The ideal candidate will be highly self-motivated and possess strong training in cell and molecular biology, tissue engineering, biochemical and histological techniques. Candidates with experience in culturing and differentiation of human iPS cells, genome engineering, skeletal muscle biology, and *in vivo* models of muscle disease will be given priority. Our group is a diverse and stimulating environment that provides excellent opportunities for scientific growth and pursuit of a variety of careers. Interested candidates should send their resume, statement of research goals, and at least three reference names for recommendation letters to Dr. Nenad Bursac ([nbursac@duke.edu](mailto:nbursac@duke.edu)).