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Postdoctoral Fellow in Immunoengineering for Muscle Regeneration

A postdoctoral position is immediately available in the Bursac lab (<http://bursaclab.pratt.duke.edu/>) to study mechanisms of hetero-cellular interactions between myogenic progenitors and immune system cells in the context of muscle injury and regeneration. Three-dimensional rat and human tissue-engineered organoid cultures of functional skeletal muscle ("myobundles") will be made from myogenic progenitors co-cultured with bone marrow- or blood-derived immune system cells, including macrophages. Roles of immune system cells in skeletal muscle regeneration will be studied after the induction of muscle injury *in vitro* and further validated *in vivo*. Whole transcriptome and epigenetic analyses followed by molecular and pharmacological manipulations will be performed to engineer immune system cells into pro-regenerative or anti-inflammatory cells. Most promising therapeutic approaches inductive of muscle regeneration and neurovascular integration will be validated in animal models of volumetric muscle loss.

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 skeletal muscle biology, cell and molecular biology, tissue engineering, biochemical and histological techniques. Candidates with experience in *in vivo* models of muscle injury and disease, immunology, and genome editing techniques will be given priority. Postdoctoral fellows are expected to publish research findings in peer-reviewed journals, participate in conferences for the intellectual exchange of research ideas, engage in existing and new collaborations within and outside Duke University, and assist with training of undergraduate and graduate students, as needed. The training environment of the Bursac group is highly interdisciplinary and provides ample opportunities for scientific growth and pursuit of both academic and industry careers. Duke University is an equal opportunity employer. Interested candidates should send their resume, statement of research goals, and names of three reference writers to Dr. Nenad Bursac (nbursac@duke.edu).