The Khosravi Immunoengineering Lab in the Department of Immunology at the Mayo Clinic Arizona is seeking two Postdoc Research Fellows in the areas of autoimmunity and transplantation. The Immunoengineering Lab research focuses on developing and applying novel ways of inducing immune tolerance using integrated approaches that combine laboratory, clinical, and computational methods. The engineering of immune cells is an integral part of these novel methods. The focuses of current research projects: 1) to develop chimeric antigen receptor (CAR) Tregs with enhanced stability and functionality for inducing immune tolerance in transplantation and xenotransplantation; 2) to study Tregs in autoimmune diseases and apply engineering strategies to develop autologous Treg therapies for these patients. In both studies, in vitro assays and humanized mouse models will be used to test the effectiveness of Treg-based immunotherapies. Engineering approaches such as CRISPR and viral transduction will be implemented to engineer immune cells. Novel discovery methods such as CRISPR screening will be employed to identify new target genes. RNA and TCR sequencing data analysis will be implemented to evaluate immune cells from clinical samples, humanized mice, and in vitro assays. Please contact Dr. Mohsen Khosravi Maharlooei (mk.maharlooei@gmail.com) for more information.