**Description:**

Applications are invited for Ph.D. positions to study the mechanism of tissue regeneration/re-modeling properties of mesenchymal stem cells (MSCs) and T cell development/function using molecular, cellular and biochemical techniques at the Center for Research Hopital Maisonneuve-Rosemont (CRHMR).

Using rat model of open angle glaucoma, we previously showed that MSCs grown under specific conditions accelerate tissue repair and corrects glaucoma like conditions (Manuguerra-Gagnon R etal Stem Cell 2013). We wish to extend these studies and aim to identify critical molecules and immune cell population involved in mediating wound healing capacity of MSCs.

For the T cell development/function project we use gene knockout and transgenic mouse model to study CD4/CD8 lineage choice. We recently showed that Thpok transcription factor differentially influences CD4 choice of MHCII- and MHCI-specific thymocytes (Zeidan N etal J. Immunology 2019). These models will be employed to further dissect T cell development/function with particular emphasis translating research into clinically relevant immune disorders or developing cancer immunotherapy.

Third project involves isolation and functional characterization of minor histocompatibility antigen specific T cells for improving immunotherapy for hematologic cancers.

**Qualification:**

Applicants should have Master degree with a solid GPA and strong background in molecular, cellular biology and biochemical techniques. For T cell development solid background in immunology is desired. You are expected to have strong work ethics, motivation and organizational skill and be a team player. Successful candidates will have opportunities to present their work in national and international meetings, and are required to participate in institutional student and invited speaker seminars.

**How to apply:**

Interested applicants should send CV describing GPA, academic/research achievements and names of three references to vibhuti.dave@umontreal.ca