PNS/CNS Repair

The adult peripheral and central nervous systems (PNS and CNS) have distinct abilities to regenerate after injury. We are interested in the activity of matrix metalloproteinase (MMP) enzyme family, their tissue inhibitors of metalloproteinases (TIMPs) and substrates (e.g. laminin, fibronectin, cytokines, trophic factors and ion channels) in the function of glia and immune cells during the PNS/CNS reparative processes. Our lab has established a number of signaling events of neurovascular permeability and immune cell function, neuro-glial cross-talk, axonal growth and myelination controlled by the MMP/TIMP axis. The overall goal of this program is to develop new strategies to improve regenerative capacity of the damaged PNS and CNS.

Representative papers: