

**Matt Thompson, Class 2025**

**Campus:** CHI-St Joseph Health Regional Hospital, Bryan, TX

**Research Area:** Protective Role of Indole Against Inflammatory Response in the Gut Following Spinal Cord Injury

**Mentors:** Cédric Geoffroy, Ph.D.

Matt Thompson, a medical student at Texas A&M School of Medicine, is investigating the role of the tryptophan metabolite indole in inflammation of the gut after spinal cord injury (SCI) under the guidance of [Cédric Geoffroy, Ph.D.](#) Up to 60% of SCI patients are known to suffer from neurogenic bowel dysfunction (NBD). The mechanism of the induction of NBD following SCI is largely unknown. The purpose of this MSE project is to understand the relationship between the cytokine IL-17A, which induces neuroinflammation and impedes recovery of function after SCI, and indole, which has been shown to be reduced in the colon after SCI, and to prevent gut dysbiosis in mouse models of colitis via the reduction of inflammation and IL-17A in particular. Using both genetic (IL-17 Receptor-A KO mice) and pharmacological (indole injections) approaches, this project aims to determine the therapeutic potential of administering indole after SCI in reducing colonic and systemic inflammation, and inducing functional recovery after SCI.