

# PAGE MORTON HUNTER DISTINGUISHED SEMINAR SERIES



## REHAB-INDUCED NEUROIMMUNE MODULATION OF FUNCTIONAL RECOVERY AFTER SCI

Established neural mechanisms of rehabilitation consist of increased descending motor commands and proprioceptive primary afferent input from the periphery converging into the spinal cord to cause plasticity, or intrinsic changes, within spinal motor circuits. However, there are many other subtypes of primary afferent fibers that transmit information to the spinal cord, including nociceptors. The role of nociceptive primary afferent input on functional recovery during rehabilitation following SCI is critically overlooked. This talk will focus on the impact of different rehabilitative modalities on motor recovery, the timing of the initiation of post-SCI rehab on anatomical and physiological nociceptor plasticity and its impact on neuropathic pain development and persistence. In addition, the talk will provide important information on the nociceptor's negative impact on recovery of forelimb motor function as well as delve into potential injury-induced cues like inflammation that may drive nociceptor dysfunction after spinal cord injury.

### Megan Detloff, Ph.D.



*Assistant Professor  
Department of Neurobiology & Anatomy  
at Drexel University College of Medicine*

Dr. Megan Detloff received her B.S. in chemical engineering from the University of Michigan and her PhD in neuroscience from the Ohio State University in the lab of Dr. Michele Basso. She came to Drexel University College of Medicine for a postdoctoral fellowship in the lab of Dr. John Houlé and is currently an Assistant Professor in the Department of Neurobiology and Anatomy and the Marion Murray Spinal Cord Research Center. She focuses on understanding rehabilitation modulates inflammation and nociceptors that contribute to pain and motor dysfunction after spinal cord injury. Her work is funded by the Commonwealth of Pennsylvania, Craig H. Nielsen Foundation, Paralyzed Veterans of America, and the NIH. With colleagues from the Univ. of Kentucky and the SCI research field, Megan was a founding contributor to the International Online SCI Research Seminars (I-OSCIRS) a YouTube channel that broadcasts live research seminars given by faculty and trainees from across the globe.

September 28, 2023 • 3:30 p.m.

*Location:*

111 Rhodes Annex



*Department of*  
**BIOENGINEERING**  
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