

SEMINAR SERIES

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DEVELOPING MODELS AND TARGETED THERAPIES FOR LOW BACK PAIN

Featuring Dr. Rebecca Wachs

University of Nebraska at Omaha

March 5th, 2021 | 12:00 - 1:00 pm

Zoom Link: <https://unomaha.zoom.us/j/95325932316>

ABOUT DR. WACHS

Becky Wachs, PhD is an Assistant Professor in the Biological Systems Engineering Department at University of Nebraska-Lincoln. Her research focuses on developing in vitro and in vivo models of orthopedic pain and developing immunomodulatory and neuromodulatory approaches to treat pain. She did her undergraduate degree in Mechanical Engineering at WPI and her MS and PhD in Biomedical Engineering at RPI. Prior to joining UNL Dr. Wachs also worked in industry positions at Carl Zeiss Microimaging and RTI Surgical, Inc.

ABSTRACT

The majority of the population will experience low back pain in their lifetime. Degeneration of the intervertebral disc is highly correlated with low back pain, however, not all disc degeneration is painful. One of the most common forms of low back pain is disc-associated low back pain in which pain originates from intervertebral disc. In disc-associated low back pain, nerve fibers penetrate the previously aneural disc, where they are then thought to be stimulated by the harsh catabolic environment. Repetitive stimulation of these nerve fibers can cause sensitization and chronic pain. The overarching goal of our work is to engineer biomaterials that target these two key areas of disc-associated low back pain: nerve growth and stimulation. Current clinical treatments for chronic low back pain have limited efficacy or are highly invasive. The majority of research to date focuses on regenerating a young healthy disc. We believe our approach to target nerve growth and stimulation independent of disc regeneration has the potential shift the paradigm in the treatment of low back pain.

more info at cobre.unomaha.edu

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