

CENTER FOR EXCELLENCE in the NEUROSCIENCES



SEMINAR SERIES

Nociceptive Afferents and the Complex Response to Persistent Inflammation

Michael Gold, Ph.D.

Professor

Department of Anesthesiology

University of Pittsburgh School of Medicine

Pittsburgh, PA

Thursday, September 11th 2014

12:00-1:00 p.m.

St. Francis

UNE, Biddeford Campus

Lunch will be provided

Hosted by: Geoff Bove, Ph.D.

Sponsored by: The Center for Excellence in the Neurosciences and the Biomedical Sciences Department



Dr. Michael Gold is a professor at the University of Pittsburgh School of Medicine. He obtained his Ph.D. in Neuroscience from the University of California at Los Angeles.

The clinical features of a number of pain syndromes serve as the organizing focus of research in the Gold laboratory. These observations include the following: 1) many pain syndromes are unique to a particular part of the body such as the head in migraine, the temporomandibular joint in

temporomandibular disorder (TMD), or the colon in inflammatory bowel disease (IBD); 2) many pain syndromes such as migraine, TMD and IBD occur with a greater prevalence, severity and/or duration in women than in men; 3) many pain syndromes are associated with changes in the excitability of primary afferent neurons; 4) there are time dependent changes in the mechanisms underlying pain syndromes; and 5) the type of injury, (i.e., inflammation or nerve injury), are differentially sensitive to therapeutic interventions.

These observations led to specific hypotheses that are tested in ongoing studies in the Gold laboratory. These include 1) characterizing the mechanisms underlying inflammation-induced changes in the evoked Ca²⁺ transients in sensory neurons, 2) characterizing the mechanisms underlying the inflammatory mediator-induced sensitization of dural afferents, 3) characterizing the influence of estrogen on the excitability of spinal and trigeminal ganglion neurons, 4) characterizing the mechanisms underlying the link between stress and migraine, 5) characterizing the role of changes in inhibitory receptors, in particular GABA, in injury-induced increases in sensitivity, and 6) identification of ways to maximize the therapeutic utility of local anesthetics. The ultimate goal of these studies is to identify novel targets for the development of therapeutic interventions for the treatment of pain.

Center for Excellence in the Neurosciences

11 Hills Beach Road, Biddeford, ME 04005

www.une.edu/research/cen

UNE UNIVERSITY OF
NEW ENGLAND