

Symposia Date: Friday, April 14

Symposia Time: 10:00-11:30am

Of mice, men, and microbes: how alterations in the gut-brain axis drive pain and co-morbid conditions

Primary Content: Translational

Katelyn Sadler, PhD, The University of Texas at Dallas; Erin Young, PhD, The University of Kansas Medical Center; Kara Margolis, MD, New York University

Dysregulation of the gut-brain axis is implicated in the pathogenesis of many neurological and chronic painful conditions. However, details regarding how gut microbes, metabolites, and host nervous system interact in these conditions remain unclear. In this session, an expert electrophysiologist, geneticist, and clinician-scientist will give 20-minute data presentations describing how the gut microenvironment may contribute to dysbiosis and pain in patients with pain-related disorders.

Symposia Moderator: Kate Sadler

Advances in spirituality and religion-based interventions across the continuum of pain and suffering

Primary Content: Psychosocial

Benjamin R. Doolittle, MD, MA Div., Professor, Internal Medicine & Pediatrics, Yale Medical School Professor, Religion & Health, Yale Divinity School Director, Yale Program for Medicine, Spirituality, and Religion - New Haven, CT; Harold G. Koenig, M.D., Professor of Psychiatry & Behavioral Sciences & Associate Professor of Medicine Director, Center for Spirituality, Theology and Health Duke University Medical Center, Durham, North Carolina Adjunct Professor, Dept of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia; Marta Illueca, MD, MDiv, MS, Clergy Medical Liaison - The Episcopal Diocese of Delaware Fellow, Yale Program for Medicine, Spirituality and Religion Professor of Pediatrics, Ad honorem, University of Panamá - School of Medicine, Republic of Panamá; Samantha Meints, PhD, Instructor- Symposium Moderator, Department of Anesthesiology, Perioperative and Pain Medicine Brigham and Women's Hospital | Harvard Medical School;

This interactive session (e.g. polling questions, audience participation, multimedia) will highlight recent developments in terminology, psychometrics, and research methodologies for the use of devotional practices related to pain and suffering. We will summarize the evidence with a focus on personal prayer, in relieving pain and suffering.

Symposia Moderator: Samantha Meints, PhD

2022 RAF Award in Pain Recipient Panel

Primary Content: Basic Science

Aaron Mickle, PhD , University of Florida; Gwendolyn Hoben, PhD, Medical College of Wisconsin; Geoffroy Laumet PhD, Michigan State University

Speaker: Aaron Mickle, PhD

Title: Urothelial cells involvement in bladder pain

Description: The endothelial cells that line the bladder, termed urothelial cells, play an important role in bladder sensation; however, the role of these cells in bladder nociception is unclear and challenging to study. Our group is taking a new approach to learning how these cells modulate sensory nerve activity under normal and disease conditions.

Speaker: Gwendolyn Hoben, PhD

Title: Neuromas and phantom limb pain: insights from surgical interventions

Description: Targeted muscle reinnervation and regenerative peripheral nerve interfaces have dramatically improved pain outcomes following limb amputation and peripheral nerve injuries. Examination of how these interventions affect sensory neurons may give insights into managing other pain syndromes.

Speaker: Geoffroy Laumet, PhD

Title: Neuro-immune interactions maintain the remission of pain.

Description: The mechanisms underlying the maintenance of remission from pain remain largely elusive. Here, we show that persistent production of interleukin-10 by spinal meningeal immune cells is necessary to upregulate delta opioid receptors in the dorsal root ganglion to maintain remission and prevent the relapse to pain.

Implementing Nonpharmacologic Pain Care in Underserved, Rural and Minoritized Communities Using Telehealth: Lessons Learned from Pragmatic Trials Research

Primary Content: Diversity, Equity, and Inclusion

Julie M Fritz, PT, PhD, FAPTA, University of Utah; Adam Goode, DPT, PhD, Duke University; Isaac Ford, PT, DPT, University of Utah; Laura Vinci De Vangeas, PT, DPT, University of Utah

Disparities in the prevalence and management of chronic pain are pervasive in underserved, rural, and minoritized communities. The lack of availability of accessible and culturally appropriate nonpharmacological pain interventions is one source of disparities in these communities. Pragmatic clinical trials often fail to include settings that serve minoritized, low-income, and rural communities. Conducting clinical research in underserved communities comes with unique challenges. The need to include more diverse settings and patient populations in clinical trials is crucial for reducing disparities. The goal of this session is to describe challenges in implementing telehealth interventions that address pain management disparities experienced in underserved communities and potentially successful, sustainable implementation strategies for nonpharmacologic pain management.

Symposia Moderator: Julie Fritz

Remembering the hippocampus: Novel mechanistic insights of an understudied brain region regarding chronic pain

Primary Content: Imaging

Sarah Nelson, Boston Children's Hospital/Harvard Medical School; Massieh Moayedi, PhD, University of Toronto; A. Vania Apkarian, PhD, Northwestern University

The current symposium aims to highlight the hippocampus as an important and understudied brain region to the understanding of acute and chronic pain. Across youth and adult populations, individuals with chronic pain report exposure to stressful or traumatic experiences (i.e., adverse childhood experiences) at a high rate. Structurally, one of the most common areas of the brain studied in stress-based research is the hippocampus. Evidence indicates that the hippocampus is particularly vulnerable to the effects of glucocorticoid release in response to stress and that individuals with repeated or prolonged stress (i.e., ACEs, posttraumatic stress disorder) evidence decreased hippocampal volume. Within pain research, evidence in adults suggests that hippocampal dysfunction (i.e., reduced volume, metabolic dysregulation) is greater in individuals with chronic pain compared to controls and may lead to altered pain processing across conditions, whether this is a stress response or a reflection of characteristics of the neurobiology of aversive memories will be discussed. Minimal research has investigated the hippocampus in diverse pain populations. As such, overarching goals of this symposium include providing an overview of novel research currently taking place with the hippocampus as a particular region of interest in acute and chronic pain. Individual talks will focus both on the broader literature and specifically how hippocampal functioning and pain processing interact.

Symposia Moderator: Sarah Nelson