

Symposia Date: Thursday, April 13

Symposia Time: 10:00-11:30am

Neuro-immune mechanisms of cancer pain

Primary Content: Translational

Nicole Scheff, PhD, University of Pittsburgh; Christopher Donnelly, DDS, PhD, Duke University School of Medicine; Yi Ye, PhD, New York University College of Dentistry; Sebastien Talbot, PhD, Queen's University; Jami Saloman, PhD, University of Pittsburgh

Rationale for choosing this symposium: The field of neuroimmune crosstalk in cancer is rapidly growing, pioneered primarily by early career investigators whose research programs focus on cancer pain and neuroimmune signaling. As such, this symposium aims to highlight the work of five early career investigators who are working in at least five distinct cancer conditions. Cancer pain was not highlighted with an independent symposium at the USASP 2022 meeting or at the IASP 2022 meeting, and given the important paradigm shifts that are occurring in this field, representation at the 2023 meeting is critical to drive new ideas and collaborations. We are also hopeful that a symposium highlighting the work of early career investigators will inspire research interest and enthusiasm among more junior trainees to pursue research in the rapidly evolving field of cancer neuroscience. Audience participation: From the outset of the session, the session moderators will take ~3 minutes to present the learning objectives and introduce the audience to the emerging field of cancer neuroscience. Presenters will work together to ensure that the information presented is non-redundant and complementary in nature, which will aid audience comprehension and learning. Given the focus on early career investigators, we will particularly encourage young investigators, students, and postdoctoral fellows in the audience to participate during the Q&A period by inviting them to the microphone to ask questions. Representation from diverse backgrounds: All speakers in this symposium are early career investigators, and this speaker lineup represents multiple ethnic groups, religious backgrounds, socioeconomic backgrounds, and genders, as well as geographical diversity with scientists from both the USA and Canada.

Symposia Moderator: Christopher Donnelly and Nicole Scheff

The clinician-patient relationship and pain: clinical, experimental, and neurobiological approaches

Primary Content: Psychosocial

Adam Hirsh, Ph.D., Indiana University – Purdue University Indianapolis; Elizabeth Reynolds Losin, Ph.D., University of Miami, As of March 1 2023: The Pennsylvania State University; Vitaly Napadow, Ph.D., Spaulding Rehabilitation Hospital, Harvard Medical School

The experience of pain is shaped by many biopsychosocial factors. Yet, the influence of the clinician-patient relationship on pain, one of the social relationships closest to the pain experience, has not been extensively studied. Research on the ways in which the clinician-patient relationship can ameliorate or exacerbate pain has myriad potential benefits, including highlighting novel ways to reduce patient pain, reducing noise in clinical trials, and even addressing persistent disparities in pain and pain treatment. In our interdisciplinary symposium, we will present three talks that explore the influence of the clinician-patient relationship on pain from different perspectives: clinical, experimental, and neurobiological. Dr. Hirsh will describe results of patient-focused interventions aimed at increasing shared clinician-patient decision making in pain care, especially among minoritized patients. Dr. Losin will describe the results of two studies aimed at understanding the clinician's contributions to ethnic/racial and gender pain treatment disparities and their neurobiological underpinnings. Dr. Napadow will present a series of studies applying a novel hyperscan neuroimaging platform to simultaneously measure brain-to-brain concordance in dyadic clinician-patient interactions. Sparse research exists on the influence of the clinician-patient relationship on pain, yet it likely has profound effects for both parties and represents a modifiable target for intervention. Thus, our symposium will add a unique dimension to the 2023 USASP program that is likely to be of broad interest. Although none of our speakers identify with underrepresented ethnic/racial groups, two of our three talks focus on addressing racial and ethnic disparities in pain and pain care, further increasing the impact and broad interest of the work presented. The symposium will consist of 3, 20-minute talks followed by 30 minutes of panel question and answer and audience questions.

Symposia Moderator: Elizabeth Reynolds Losin

Neural circuits of pain affect and its top-down control

Primary Content: Basic Science

Sarah Ross, PhD, University of Pittsburgh; Nathan Cramer, Assistant Professor, University of Maryland; Rotem Botvinik Nezer, Postdoc in the Wager lab, Dartmouth College; ; ;

This symposium will focus on new insights from basic and clinical research on the neural circuits of pain affect and its top-down control. In the first talk, Dr. Ross will provide an anatomical view of major spinal output pathways at a new level of detail, and show evidence for which pathways are responsible for which nociceptive behaviors in mice. In the second talk, Dr. Cramer will describe the relationship between stress, parabrachial excitability, and chronic pain. His work will also reveal how the nucleus of the solitary tract regulates parabrachial excitability through noradrenergic mechanisms. Finally, Dr. Nezer will describe brain pattern sand regions associated with pain processing. Her work will also reveal brain regions important for placebo analgesia in humans.

Symposia Moderator: Sarah Ross

Recent findings regarding reasons for the differences in pain experience and treatment between men and women

Primary Content: Disparities in pain experience and treatment

Hadas Nahman-Averbuch, PhD, Assistant Professor/Department of Anesthesiology Washington University in St Louis School of Medicine; Christin Veasley, Chronic Pain Research Alliance; Diane Hoffmann, MS, JD, Professor, University of Maryland Carey School of Law; Gianna McCarty, LGBTQ+ Equity and Education, Johns Hopkins Medicine Office of Diversity, Inclusion and Health Equity

This panel builds on the Meeting theme of “From Bench to Bedside to Population: Translational Pain Science Approaches for the Whole Person.” While pain clinicians strive to deliver treatments and cures to the entire population of pain patients, women represent at least half of those experiencing long term pain yet continue to be inadequately treated in several areas of medical practice. Determining why this is the case is important for the goals of population health. This panel explores the biopsychosocial factors contributing to sex differences in the experience of pain and sex and gender disparities in pain treatment. Dr. Nahman-Averbuch (Wash U School of Medicine) will discuss biological factors related to sex hormones in pediatric and adult individuals and present new data on the relationships between experimental pain and sex hormones. Christin Veasley (Chronic Pain Research Alliance) will present the results of her research on recent studies exploring psychosocial and cultural factors that influence pain experience based on sex as well as how those factors combine with each other and biological factors to influence the pain experience. In addition, she will discuss how resilience plays a role in the pain experiences of men and women. Prof. Hoffmann (University of Maryland School of Law) will report on several relatively recent large-scale studies on disparities in pain treatment based on sex and the potential reasons for such differences in treatment. While much of the research on disparities in pain treatment has focused on sex as a binary condition, we now understand that this construct is outmoded, and that sex includes not only males and females but also individuals who are intersex. Further, we now recognize that gender exists on a spectrum and includes those who do not identify with any gender, those who do not identify with the sex they were assigned at birth, and those who identify with both genders. Because these developments in the field of sex, gender and identity are still quite new, the research on pain has not yet incorporated them to a significant extent and thus we do not yet have robust data linking these categories to the experience of ongoing pain and efforts to obtain treatment. Therefore, we also plan to include the perspective of a transgender individual who can speak either to the lived experience of a transgender person with chronic pain and/or the experience of trans gender individuals obtaining adequate pain treatment/management.

Symposia Moderator: Diane Hoffmann

A day in the life of a pediatric intensive pain rehabilitation program: an interdisciplinary approach to treating the whole child

Primary Content: Pediatric

Ashley Debeljak, Psy.D., Nationwide Children's Hospital / Clinical Assistant Professor of Pediatrics The Ohio State University; Lauren Renner, CPNP-PC/AC, Nationwide Children's Hospital; Alex Rospert, PT, DPT, OCS, CSCS, Nationwide Children's Hospital Clinical Lead Sports and Orthopedic Therapies; Anjana Jagpal, PhD, Pediatric Pain Psychology Fellow, Nationwide Children's Hospital

Our symposium aims to describe how a multidisciplinary intensive pain rehabilitation program utilizes the biopsychosocial model to guide clinical practice which in turn inspires the study of chronic pain and translates that data into improved functional outcomes for our chronic pain patients. We strongly believe that the wide array of expertise within our presenters (pediatric pain psychologist, pediatric nurse practitioner, physical therapist) also demonstrates our mission to be consistent to that of USASP which is by treating every aspect of our patient, (emotional, social, family systems, physical, academic, behavioral) we are ultimately able to treat not only the whole person, but the entire family unit.

Symposia Moderator: Ashley Debeljak, Psy.D.