

## CONFERENCE PROGRAM

### Tuesday, April 11, 2023

#### Early Career Forum

12:30pm – 1:30pm

**Lunch** (*Presidents 1&2*)

1:30pm-2:30pm

#### **Panel Discussions**

Considerations for Careers Outside of Academia (*Biddle*)  
Specific Aim: the good, the bad, and the ugly (*Forest A/B*)

2:30pm-3:30pm

#### **Career Stage Networking Session**

Graduate Student (*Forest A/B*)  
Postdoc (*Matlock*)  
Faculty/Early Career Professionals (*Biddle*)

3:30pm-4:30pm

**Small Group Mentoring Round Tables** (*Presidents 1 & 2*)

#### **Early Career Forum is sponsored by:**

University of Iowa Neuroscience and Pharmacology

**4:30pm – 6:30pm**

**Early Career Forum Reception** (*Presidents and Ambassador Galleries at the WDI; All attendees are welcome!*)

6:30pm

**Duke Chapel Tour and Organ Demonstration** (*off-site event; Free for all attendees*)

### Wednesday, April 12, 2023

8:00am – 8:55am

**Board of Directors Breakfast Meeting** (*Rotunda*)

**IDEA Committee Meeting & 2023 DEI Scholars Meeting** (*Forest A/B*)

9:00am – 9:55am

**Presidents Welcome and Keynote: Neuroimmune interaction in chronic pain: From clinical to clinically-informed basic science** (*Presidents Ballroom*)

*Presenter: Vivianne L. Tawfik, MD, PhD (Stanford University)*

10:00am – 11:30am

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### SIG MEETINGS -

**Pain Epidemiology** (*Matlock*)

**Sleep and Pain** (*Garden*)

**Clinical Trials for Pain Research** (*President's 1*)

**Pain Neuroimaging** (*President's 2*)

**Basic Science- Preclinical** (*President's 3 & 4*)

11:30am – 1:00pm

**POSTER SESSION "A"** – with beverages (*Ambassador Ballroom*)

1:00pm – 2:00pm

### LUNCH

#### Sponsored by:

Pittsburgh Center for Pain Research  
Washington University School of Medicine  
Center for Translational Pain Medicine at Duke  
IASP

**Journal of Pain Editorial Office Meeting** (*Presidents 3&4*)

**Education and Professional Development Committee Meeting** (*Rotunda*)

2:00pm – 3:30pm

### SYMPOSIA 1 –

**Neuropathic ocular pain: A new look at the trigeminal nociceptive system from the periphery to the brain**

Primary Content: Translational (*Forest A/B*)

**Speakers:** Elizabeth R. Felix, PhD, Miami VA and University of Miami; Sue A. Aicher, PhD, Oregon Health & Science University; Eric A. Moulton, OD, PhD, Boston Children's Hospital, Harvard Medical School

The cornea contains the highest density of nociceptors of any tissue in the body, and pain can be evoked by even low threshold stimuli, making ocular surface pain perhaps one of the most intense pain experiences. Though many patients with chronic ocular dysesthesias including pain are diagnosed with "dry eye," evidence over the past 15 years has mounted to support a more appropriate diagnosis of neuropathic ocular pain (NOP) for a large subgroup of this population. Dr. Felix will present an overview of research using clinical and laboratory assessments that have assisted with differential diagnosis/nociceptive phenotyping in this patient group, including validated pain and dysesthesia symptom questionnaires, quantitative sensory testing, and ocular exam findings. Dr. Aicher will discuss mechanisms associated with ocular pain after refractive surgery in humans and in animal models, exploring common features and translational insights. Finally, Dr. Moulton will present data from fMRI studies in humans showing activation in brain areas associated with nociceptive processing during light stimulation in patients with light-evoked unpleasantness or pain sensations. Dr. Galor (moderator) will provide a brief summary of presentations and the implications of work on NOP for the broader pain community.

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Symposia Moderator: Anat Galor, MD MSPH

### **Chronic cancer pain, opioid management, and substance use disorder: intersecting challenges in a vulnerable population**

Primary Content: Clinical (*Presidents 1*)

**Speakers**: Hailey W. Bulls, PhD, CHALLENGES in Managing and Preventing Pain (CHAMPP) Clinical Research Center, University of Pittsburgh; Devon K. Check, PhD, Duke Cancer Institute, Duke University; Jessica S. Merlin, MD, PhD, MBA, Director, CHALLENGES in Managing and Preventing Pain (CHAMPP) Clinical Research Center, University of Pittsburgh

People with cancer are increasingly living longer due to advances in cancer therapies, and are at high risk for developing chronic pain. This “chronic cancer pain” may be from effects of the cancer itself (e.g., back pain from a bone metastasis) or its treatment (e.g., post-surgical pain, chemotherapy-induced peripheral neuropathy). Opioid management may be particularly complex for the management of chronic cancer pain. Substance use is associated with higher risk of cancer diagnosis and opioids are first line therapy for cancer pain, leading to concerns about development of opioid misuse/use disorder. Additionally, regardless of risk, opioid and addiction stigma may negatively impact perceptions of opioid therapy among patients, caregivers, and clinicians, and management strategies may need to be different based on cancer-related factors such as prognosis. However, little is known about opioid prescribing in people with chronic cancer pain, including patient, caregiver, and clinician experiences, clinical epidemiology of high risk substance use/use disorder including opioids, and effective opioid management that balances opioid risks and benefits. Instead, research has focused on pain management in people with acute pain just after cancer diagnosis or at the end of life, or people with non-cancer pain. This lack of evidence makes people with chronic cancer pain particularly vulnerable to suboptimal pain management. Therefore, research and clinical guidance at this intersection is urgently needed. This symposium will begin with an overview of chronic cancer pain. Then, Dr. Bulls will review clinician, patient, and support person perspectives on the opioid management in people with chronic cancer pain and ways to improve it. Dr. Check will describe overall prevalence of high-risk substance use and use disorder (including opioids) in people with cancer, as well as subtypes of patients who may require the most need for integrated services and harm reduction interventions. Dr. Merlin will describe consensus-level management strategies for chronic cancer pain people with opioid misuse/use disorder, highlighting strategies specifically appropriate for patients likely to survive for years after their diagnoses.

Symposia Moderator: Jessica S. Merlin, MD, PhD, MBA

### **Pain and the Extracellular Matrix**

Primary Content: Basic Science (*Presidents 2*)

**Speakers**: Laura S Stone, PhD, University of Minnesota; Arkady Khoutorsky, PhD, DVM, McGill University; Maral Tajarian, PhD, Queens College, City University of New York

The field of pain research has focused on intracellular mechanisms to regulate neuronal functions in pathological pain rather than modulation of the extracellular matrix (ECM). The ECM not only provides structural support but is also involved in the regulation of neuronal excitability, as well as synaptic and structural plasticity. Changes in

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neuronal activity via modulation of the ECM have been shown to play key roles in physiological processes such as memory formation and pathologies such as Alzheimer's disease. In this symposium, we will highlight new insights into the role of the ECM in the generation and maintenance of chronic pain. The workshop will cover mechanisms of pain generation and regulation driven by the ECM in peripheral tissues (intervertebral discs; Dr. Laura Stone, PhD, U. of MN), spinal cord (Arkady Khoutorsky, PhD, DVM, McGill University) and supraspinal areas such as hippocampus (Maral Tajerian, PhD, CUNY). Upon completion of this session, attendees will be able to describe the extracellular matrix plasticity that parallels chronic pain in the intervertebral disc, spinal cord, and brain. The results presented at the symposium will delineate extracellular mechanisms of pain-related plasticity, thereby offering new therapeutic targets that could modulate already-established peripheral and central nervous system alterations in chronic pain.

Symposia Moderator: Laura S Stone

### **Racial disparities, underlying differential epigenetic pathways and mitigation approaches across pediatric and adult pain conditions**

Primary Content: Diversity, Equity, and Inclusion (*Presidents 3 & 4*)

**Speakers:** Keesha Powell-Roach, PhD, RN, Assistant Professor of Nursing, University of Tennessee Health Science Center (UTHSC), TN; Edwin N. Aroke, Ph.D., CRNA, FAANA, FAAN, Associate professor of Nursing, School of Nursing, University of Alabama at Birmingham, AL; Vidya Chidambaran, MD, MS, FASA, Professor of Anesthesia, Cincinnati Childrens Hospital, Cincinnati, OH; Monika Goyal MD, MSCE, Associate Professor of Pediatrics and Emergency Medicine, George Washington University, Washington DC

Inequities in pain experiences based on racial and ethnic groups are increasingly described in adult and pediatric settings. Mechanisms underlying these disparities may be patient, provider, or systemic-related, and there is an urgent need to understand these factors and mitigate them. Pain experiences are influenced by individual psychosocial, genetic, and environmental factors related to early life stress, discrimination, upbringing, etc. These gene environmental interactions are captured by epigenetic mechanisms such as DNA methylation. In this panel, we bring together a diverse spectrum of multidisciplinary speakers differing in clinical backgrounds (nursing, emergency medicine, anesthesia, pain). Their research includes clinical and translational research in a spectrum of pain conditions across the life span ranging from acute to chronic pain in different settings in racially diverse cohorts. We will discuss racial disparities in subjective pain experiences in pediatric acute and chronic pain conditions, epigenetic mechanisms underlying these differences, and pain management inequities in the ED and research employing systems approaches to mitigate them. We will start with snap talks (not exceeding 15 min per speaker) followed by an active panel discussion, audience polls, and audience questions (over 30 min) to enable a robust interactive format. We have included speakers of diverse backgrounds affiliated with premier academic institutions all over the country (Cincinnati (OH), DC, Alabama, Tennessee) in various stages of their careers. We anticipate that the timeliness and impact of the topic (including epigenetic mechanisms, mixed methods research, and mitigation strategies) will be of interest to the USASP audience. Our panel also targets a broad audience across pediatric/adult pain with interests ranging from basic science to clinical areas.

Symposia Moderator: Vidya Chidambaran

### **Long-term outcomes of children with chronic pain: adult health and functioning**

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Primary Content: Pediatric (Garden)

**Speakers:** Caitlin B. Murray, PhD, University of Washington, Department of Anesthesiology and Pain Medicine; Susmita Kashikar-Zuck, PhD, Professor, UC Department of Pediatrics; Amanda Stone, PhD, Assistant Professor of Anesthesiology, Vanderbilt University Medical Center

Pediatric chronic pain is a highly prevalent public health problem. Chronic pain is associated with disability during childhood, and evidence suggests that pain tends to persist into adulthood for many youth. Recent research demonstrates that long-term outcomes are highly variable in individuals with childhood-onset chronic pain, with some youth adapting well over the years, while others suffer from persistent disability and other adverse health outcomes into adulthood. More systematic investigation - including prospective longitudinal studies, are needed to understand early psychological and familial predictors of this variability in long-term outcomes of youth with chronic pain. Dr. Murray will discuss results from a longitudinal study of adolescents with chronic pain who were followed into emerging adulthood, indicating pain intensity, sleep quality, anxiety, and family functioning may play a crucial role in predicting long-term health and functioning. Dr. Kashikar-Zuck will discuss quantitative and qualitative results from a longitudinal study of trajectories of youth with juvenile-onset fibromyalgia and discuss patient perspectives on resilience factors that could be promoted to mitigate the negative impacts of pain into adulthood. Dr. Stone will present research evaluating outcomes of a pediatric abdominal pain cohort 20 years later, in adulthood. Dr. Tonya Palermo, an expert in behavioral intervention research in pediatric chronic pain will lead a 30-minute Q&A session about the implications of findings from these studies. In particular, she will focus on how results might be incorporated into designing more effective treatments and developing tailored treatment strategies for young adults with chronic pain. In alignment with the conference theme on “translational pain science approaches for the whole person,” the goal of this symposium is to highlight recent findings on modifiable psychosocial risk and resilience factors that shape long-term health outcomes of youth with chronic pain, and ways we may apply these results to enhance and tailor treatment for this population.

Symposia Moderator: Tonya Palermo, PhD

3:30pm – 5:00pm

**POSTER SESSION “B”** – with beverages (Ambassador Ballroom)

5:00pm – 6:30pm

**SIG MEETINGS** –

**Pain, Movement, & Rehabilitation Science** (Garden)

**Psychosocial Factors and Interventions** (Presidents 1)

**Clinical and/or Translational Research** (Presidents 2)

**Sex Differences in Pain and Analgesia** (Presidents 3 & 4)

**Abdominal and Pelvic Pain** (Biddle)

**Board of Directors Meeting** (Duke University Room)

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6:30pm – 8:30pm

**Presidents Reception** (Presidents and Ambassador Galleries, All Attendees are Welcome!)

### Sponsored by:

Center for Translational Pain Medicine at Duke  
University of Michigan Chronic Pain and Fatigue Research Center  
Duke Clinical Research Institute—Musculoskeletal and Surgical Sciences Therapeutic Area

## Thursday, April 13, 2023

8:00am – 8:55am

### Breakfast

**Finance Committee Meeting** (*Biddle*)

9:00am – 9:55am

**State of Society Report & Keynote: Burstein** *Understanding the pathophysiology of migraine headache and why it is not just one more pain* (*Presidents Ballroom*)

*Presenter: Rami Burstein, PhD (Harvard Medical School)*

10:00am – 11:30am

### SYMPOSIA 2 –

#### **Neuro-immune mechanisms of cancer pain**

Primary Content: Translational (*Forest A/B*)

**Speakers:** 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.

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Symposia Moderator: Christopher Donnelly and Nicole Scheff

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

Primary Content: Psychosocial (Presidents 3&4)

**Speakers:** 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 (Presidents 1)

**Speakers:** 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 and regions associated with pain processing. Her work will also reveal brain regions important for placebo analgesia in humans.

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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 (Presidents 2)

**Speakers:** 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 (Garden)

**Speakers:** 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



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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.

11:30am – 1:00pm

**POSTER SESSION “C”** with beverages (*Ambassador Ballroom*)

1:00pm – 2:00pm

**LUNCH**

**Membership Committee Meeting** (*Rotunda*)

**Advocacy Committee Meeting** (*Presidents 3&4*)

### **Sponsored by:**

Center for Advanced Pain Studies – UT Dallas

CHAMPP

University of Florida Pain Research & Intervention Center of Excellence

Center for Translational Pain Medicine at Duke

University of Michigan Chronic Pain and Fatigue Research Center

2:00pm – 3:30pm

**SYMPOSIA 3 –**

**CIPN from bench to bedside – novel mechanism, targets, and approaches for closing translational gaps**

Primary Content: Translational (*Forest A/B*)

**Speakers:** Daniela Salvemini, Ph.D, William Beaumont Professor and Chair, Director, Institute for Translational Neuroscience, Department of Pharmacology and Physiology and Institute of Translational Neuroscience, Saint Louis University School of Medicine, St. Louis, MO; Juliana M. Navia Pelaez, PhD, Postdoctoral fellow, University of California, San Diego School of Medicine, San Diego, CA; Simon Haroutounian, MSc.Pharm, PhD, Department of Anesthesiology, Washington University School of Medicine, St. Louis, MO; Patrick Dougherty, PhD, Division of Anesthesiology, Critical Care and Pain Medicine, MD Anderson Cancer Center, Houston, TX

Chemotherapy-induced peripheral neuropathy and neuropathic pain (CIPN/NP) are major complications of widely used cancer chemotherapeutics. 15-20% of patients receiving common chemotherapy drugs such as taxanes and platinum compounds develop chronic CIPN, affecting functioning and quality of life. There are no

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FDA- approved drugs for CIPN prevention or treatment. The discovery of novel therapeutic targets is necessary, along with successful bench to bedside translation. In this multidisciplinary symposium, we combine presentations of novel pharmacological target discovery for CIPN/NP, along with novel results from a pilot clinical trial, and discuss major advances and barriers toward translational CIPN research and therapeutic development.

Symposia Moderator: Patrick Dougherty

### **Let's Talk About It: Using Insights from Qualitative Interviews to Advance Mindfulness-based Interventions for Chronic Pain**

Primary Content: *Clinical (Presidents 1)*

**Speakers**: Jessica Barnhill, MD, MPH, University of North Carolina - School of Medicine; Carrie Brintz, Vanderbilt University Medical Center; Matthew Herbert, PhD, VA San Diego Healthcare System

Mindfulness-based interventions (MBIs) for chronic pain continue to be of high interest to patients and providers. However, similar to other evidence-based psychological interventions, not every patient receives benefit from MBIs and effects on outcomes of interest remain small to medium. In an effort to better understand the receptivity, applicability, and impact of MBIs, this symposium centers on findings from qualitative interviews from three different MBIs among three different chronic pain populations to learn directly from the words of participants.

Symposia Moderator: Matthew Herbert

### **Non-coding RNAs, potential biomarkers and targets for chronic pain and itch**

Primary Content: *Basic Science (Presidents 2)*

**Speakers**: Ru-Rong Ji, PhD, Department of Anesthesiology, Center for Translational Pain Medicine, Duke University Medical Center, Durham, NC, USA; Seena K Ajit, Department of Pharmacology and Physiology, Drexel University College of Medicine, Philadelphia, PA, USA; Yuan-Xiang Tao, Department of Anesthesiology, Rutgers, The State University of New Jersey, New Jersey Medical School, Newark, NJ, USA

Dysregulation of pain/itch-associated genes in sensory nerve system is considered to be a molecular basis of chronic pain and itch genesis. Non-coding RNAs including miRNAs and long non-coding RNAs govern gene expression. In this symposium, we will discuss the updated evidence that non-coding RNAs contribute to chronic pain and itch and are potential biomarkers and/or targets for these disorders.

Symposia Moderator: Yuan-Xiang Ta

### **Addressing Social Indicators of Health to Improve Pain and Functioning in African American Older Adults**

Primary Content: *Diversity, Equity, and Inclusion (Garden)*

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**Speakers:** Staja Booker, PhD, RN, University of Florida, College of Nursing; Mary Janevic, PhD, MPH, University of Michigan School of Public Health; Janiece Taylor, Johns Hopkins School of Nursing

Psychosocial interventions for pain have typically focused on individual behavior change, with little attention to the inequitable social and environmental conditions that place minoritized and marginalized groups at high risk for pain-related disability. Our presenters discuss behavioral interventions, at various stages of development from conceptualization to implementation, that address social, cultural, and environmental factors affecting pain and whole-person health in African American older adults, a group at high risk of disabling pain.

Symposia Moderator: Tamara Baker

### **Nonopioid substance Use and Pain: Human and Animal Studies**

Primary Content: Basic science, clinical and translational (*Presidents 3&4*)

**Speakers:** Anushree Karkhanis, Ph.D. Assistant Professor, Department of Psychology, Binghamton University – SUNY.; Lisa R. LaRowe, Ph.D. Instructor in Investigation, Division of Palliative Care and Geriatric Medicine, Massachusetts General Hospital., Boston, MA; Nicholas Gilpin, Ph.D. Professor, Department of Physiology, LSU Health New Orleans; M. Imad Damaj, Ph.D. Professor, Department of Pharmacology and Toxicology, Virginia Commonwealth University, Richmond VA;

Pain and substance abuse are highly comorbid conditions, and the prevalence of substance use among persons with pain is higher than the general population. Understanding the complex relationship between SUD and pain is an important area of research for the pain community. About 20 percent of adults (50 million people) in the United States had chronic pain, defined as pain most days in the previous 6 months. Recent studies suggest that around 1 in 4 adults in chronic pain reports self-medicating with alcohol, and 43–73 percent of people with alcohol use disorder (AUD) report experiencing chronic pain. This produces synergistic burdens on individuals, providers, and health-care systems. While research has focused on opioid use and misuse in acute and chronic pain, emerging literature also suggests that pain and nonopioid substance dependence such as alcohol, nicotine and cannabis are both highly prevalent and comorbid conditions. This symposium will focus on these nonopioid substances and pain relationship in animal models and human studies and explore the relationship between pain and various aspects of three substances of abuse such as nicotine, alcohol, and cannabis.

Symposia Moderator: Anushree Karkhanis

3:30pm – 5:00pm

**POSTER SESSION “D”** – *with beverages (Ambassador Ballroom)*

5:00pm – 6:30pm

### **SIG MEETINGS -**

**Pediatric Pain** (*Presidents 1*)

**Pain and Aging** (*Biddle*)

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**Acute (to Chronic) Pain** (*Presidents 2*)

**Complimentary and Integrative Pain Management** (*Presidents 3&4*)

**Substance Use and Addiction** (*Garden*)

**Diversity, Inclusion, and Anti-Racism Pain** (*Forest A/B*)

**USASP Awards Committee Meeting** (Matlock)

### Friday, April 14, 2023

6:30am

**5K Fun Run** (Washington Duke Inn; Al Buehler Cross Country Trail)

8:00am – 8:55am

**SIG Chair Meeting** (*Rotunda*)

9:00am – 9:55am

**Awards and Keynote:** Amplifying the voices of children and adolescents with chronic pain and sickle cell disease  
(*Presidents Ballroom*)

*Presenter: Soumitri Sil, PhD, ABPP (Emory University School of Medicine and Children's Healthcare of Atlanta)*

10:00am – 11:30am

**SYMPOSIA 4 –**

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

Primary Content: Translational (*Presidents 1*)

**Speakers:** 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 (*Garden*)

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**Speakers:** 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 Rita Allen Foundation Award in Pain Recipient Panel**

Primary Content: Basic Science (Forest A/B)

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

Speaker: Aaron Mickle, PhD

*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

*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

*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**

## 2023 USASP Annual Scientific Meeting

April 11-14, 2023 | Washington Duke Inn, Durham, NC

### CONFERENCE PROGRAM

#### **Telehealth: Lessons Learned from Pragmatic Trials Research**

Primary Content: Diversity, Equity, and Inclusion (Presidents 3&4)

**Speakers:** 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 (Presidents 2)

**Speakers:** Sarah Nelson, Boston Children's Hospital/Harvard Medical School; Massieh Moayed, 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

11:45am – 1:30pm

**Lunch Panel Discussion:** NIH HEAL Initiative and CDMRP Funding Opportunities in Pain Research & Management

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*(Presidents Ballroom)*

**Speakers:** DP Mohapatra, PhD, Program Director, NINDS/NIH; talk title: NIH HEAL Initiative Funding Opportunities in Pain, Pete Murray, PhD, Program Director, NCCIH/NIH; talk title: NIH and HEAL Initiative Funding Opportunities in Complementary and Integrative Pain Research and Health Disparities in Pain, Henry Nothnagel, PhD, Program Manager, CDMRP/DoD, talk title: Congressionally Directed Medical Research Programs – Overview & Application Process.

The US National Institutes of Health (NIH) and the US Department of Defense Congressionally Directed Medical Research Program (CDMRP) have long standing mission and commitment to seek fundamental knowledge about the nature of pain and application of that knowledge to enhance health and reduce disability. Furthermore, the Helping to End Addiction Long-term® (HEAL) Initiative, is aggressively supporting research on understanding, managing, and treating pain, to accelerate scientific solutions to stem the national opioid public health crisis. Multiple research programs and funding opportunities in pain have been developed by NIH, the HEAL Initiative and CDMRP, ranging from basic discovery science to therapeutics development, clinical research, clinical trials, and effectiveness research. These opportunities are available to investigators across all career stages in academia, industry, and health care provider sectors. The goal of this symposium is to educate the pain research and management community, through the US Association for the Study of Pain (USASP), on programmatic goals and available funding opportunities from NIH, HEAL Initiative and CDMRP. Attendees at the 2023 USASP Annual Scientific Meeting will learn about the application submission and evaluation processes utilized by NIH and CDMRP. They will be informed of identified programmatic priorities so they can align their research ideas with appropriate funding mechanisms to improve chances for success in obtaining federal research grant support. The 1st half of the symposium will comprise of team-based presentations by program staff, including individuals from underrepresented and/or disadvantaged backgrounds, on NIH, Heal Initiative and CDMRP mission & priorities in Pain, and on available funding opportunities. The 2nd half will be devoted to four breakout discussion sessions (NIH - Basic and Preclinical Pain, NIH - Translational & Pain Therapeutics Development, NIH-Clinical Pain Research & Clinical Trials, and CDMRP Pain Research), wherein meeting attendees can meet with NIH and CDMRP Program Staff, get answers to their questions on specific funding opportunities, discuss about their research programs & alignment to specific funding opportunities, and provide feedback to NIH & CDMRP staff.

### **Sponsored by:**

Department of Symptom Research, MD Anderson Cancer Center

Duke Clinical Research Institute—Musculoskeletal and Surgical Sciences Therapeutic Area

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*The USASP is a chapter of the International Association for the Study of Pain. USASP embraces, promotes, and fosters a culture based on inclusion, diversity, equality, and access. We especially encourage applications from members of underrepresented groups such as, but not limited to, members of underrepresented communities, members of the LGBTQ+ community, and people with disabilities.*

*Funding for this conference was made possible (in part) by R13 AT 012428 from the Eunice Kennedy Shriver National*

## CONFERENCE PROGRAM

*Institute of Child Health & Human Development (NICHD); National Center for Complementary and Integrative Health (NCCIH); National Institute of Aging (NIA); National Institute of Dental & Craniofacial Research (NIDCR); National Institute of Neurological Disorders & Stroke (NINDS); and the National Institute of Arthritis & Musculoskeletal & Skin Diseases (NIAMS). The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention by trade names, commercial practices, or organizations imply endorsement by the U.S. Government.*



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## CONFERENCE PROGRAM

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on Neuropathic Pain  
**NeuPSIG2023**



Early Bird Registration Deadline: 5 May | [neupsig2023.org](https://neupsig2023.org)  
IASP members will receive a discount of up to \$157 off full registration.

1-4 October | Halifax, Nova Scotia



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ON PEDIATRIC PAIN 2023**



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