36th Annual Scientific Meeting
MAY 17–20, 2017
PITTSBURGH, PA

Schedule at a Glance

TUESDAY, MAY 16

8 am–4 pm, 5:30–7:30 pm reception

Spring Pain
The cost for Spring Pain is $160 for members and $175 for nonmembers. Preregistration is required. Reception is open to registrants only.

Spring Pain is back!

• Be the first to hear presentations of original, not yet published, research currently being conducted in the basic and clinical pain sciences.
• Enjoy activities in Pittsburgh each afternoon and then network with colleagues during an evening reception.
• Stay for the meeting: there are great basic science topics and speakers throughout the APS Annual Scientific Meeting, so plan to stay for the science!
• Visit americanpainsociety.org/springpain for a full listing of speakers and topics.

5–9 pm

The Fundamentals of Translational Pain Medicine: Integrating Science into Clinical Care
The cost for Fundamentals is $350. Preregistration is required.

Advances in the management of people in pain are linked to advances in basic science and its translation to clinical care. The Fundamentals Course will provide a foundation for early career pain scientists and clinicians with a translational focus for each topic presented. A goal is to foster new levels of multidisciplinary integration in the care and treatment of the patient in pain.

WEDNESDAY, MAY 17

7 am–1 pm

The Fundamentals of Translational Pain Medicine: Integrating Science into Clinical Care

8 am–Noon

Spring Pain
WEDNESDAY, MAY 17  (continued)

8 am–4 pm  
**Conference on Analgesic Trials**

*The cost for APS CAT is $100. Preregistration is required.*

This session is a follow up to 2016’s inaugural APS-CAT preconference, which had 200 clinical trial experts in attendance and featured eight presenters from regulatory bodies, industry, and academia focusing on optimizing the design and conduct of analgesic clinical trials. 2017’s panelists will discuss the latest thinking on increasing the reliability and accuracy of analgesic trials, and invite open discussion between speakers and attendees. Multiple experts will present on a range of topics related to improving clinical trial methodology, accelerating the development of effective compounds, and reducing false negative study results/squandered development efforts.

1–4 pm

**A Crash Course: The Terminology and Techniques of Basic Science**

*The cost for this session is $75. Preregistration is required.*

Science continues to progress at a tremendous pace with new tools, approaches, and terminology in use daily. Keeping up with this progress is difficult, even for those fully immersed in the process, but is essential for the effective translation of information from the bench to the bedside. This preconference is for clinicians and non-scientists who may require/desire a better understanding of the terminology and techniques used in basic pain research to better understand and apply educational material from the Annual Scientific Meeting. Preconference faculty will focus on four main areas of research. These include 1) animal behavioral assays developed to better model functional and emotional impact of pain that is so problematic in pain patients; 2) the effects of genetics on pain, with a discussion of the use and differences between genome-wide associate studies versus exome sequencing as well as the approaches to study the effects of human mutations in animals; 3) emerging approaches to study pain circuitry with a focus on genetic approaches to both selectivity label specific subpopulations of neurons, as well as manipulate activity through optogenetic and chemogenetic strategies; and 4) the use of both viral and non-viral “gene therapy” based approaches to both study the nervous system, and as a platforms for the development of therapeutic interventions. Participants will receive a PDF containing a glossary of terms and strategies.

1–4:15 pm

**Early Career Forum**

*This session is limited to 120 participants. Preregistration is required. CME credit will not be offered.*

The Early Career Forum provides opportunities for predoctoral students, postdoctoral trainees, and early career faculty to network with senior mentors in the field and to participate in sessions focused on academic career development. This year’s Early Career Forum will include a faculty mentoring event, followed by breakout sessions including a mock study section, National Institutes of Health grant workshop, and sounding board. Participants will select from a list of mentor discussion topics for the Faculty Mentoring event. This information will be used to group attendees and mentors together for two 25-minute networking rounds during the forum. Participants will also select their choice of two breakout sessions.

1–2 pm  Faculty Mentoring event
2–2:30 pm  Coffee Break/Networking event
2:30–4:15 pm  Breakout sessions

Forum attendees will choose any two of the following breakout sessions:

- **Mock Study Section:** This panel will conduct a peer review of a basic science and a clinical research grant by faculty experienced in the scientific peer review process.
- **NIH Grant Workshop:** Round table discussions regarding NIH Research Training and Career Development Programs facilitated by NIH faculty.
- **Sounding board:** Bring research ideas for input from clinical, basic, and translational science senior faculty and peers

The Early Career Forum aims to

- facilitate networking to share ideas and experiences and to develop new collaborations
- provide opportunities for early career members to interact with senior researchers and clinicians within the American Pain Society
- enhance early career members’ professional development
- promote education as an important component of pain research and treatment
- grow future generations of leaders in the pain community.
WEDNESDAY, MAY 17 (continued)

4:30–6 pm  
Opening Reception in the Experience Exchange with Exhibits and Posters

6–8 pm  
APS Clinical and Basic Science Data Blitz

THURSDAY, MAY 18

8–8:15 am  
Gathering and Introductions

8:15–9:30 am  
General Session
1.25 hours CME credit available

8:15–9 am  
Keynote Address

David Katz, MD, Founding Director, Yale-Griffin Prevention Research Center
Activity Type: Knowledge

9–9:30 am  
Plenary Lecture: Global Year Against Pain After Surgery Lecture: What Can We Learn from Postoperative Pain?
Timothy J. Brennan, PhD MD
The value of understanding postoperative pain and its mechanisms is increasing in importance. As opposed to many other acute pain syndromes, most surgical procedures occur electively. Thus, the timing of the traumatic event is known. In addition, preoperative characteristics of the patient can be assessed and the extent of surgery is usually known. However, postoperative pain, its consequences and response to treatments vary greatly among patients. Most postoperative pain resolves. However, chronic pain after surgery and continued medication use are increasingly recognized as important perioperative problems. This lecture will summarize these important topics and provide suggestions for future directions.
Activity Type: Knowledge

9:30–11 am  
Poster Session and Networking in the Experience Exchange

Author-Attended Session (Odd-Numbered Posters)

11 am–12:30 pm  
Symposia
1.5 hours CME credit available

A Deeper Dive into the Pain Psychology Treatment Toolbox
Anna Kratz, PhD (Moderator); Mark Jensen, PhD; Mark Lumley, PhD; Beverly Thorn, PhD
Through presentation of recent research data, historical context, and in-session demonstrations, this symposium will provide an in-depth perspective on three different pain psychology treatment approaches. Specifically, the rationale and methods of cognitive therapy with underserved populations, hypnotic approaches, and emotional awareness and expression interventions for pain treatment will be presented and discussed.
Classification: Clinical
Activity Type: Knowledge

The Medial Prefrontal Cortex and Pain
Patrick Sheets, PhD (Moderator); Marco Martina, MD PhD; Petra Schweinhardt, MD
The focus of this symposium will be 1) mPFC deactivation as a supraspinal mechanism contributing to chronic pain, 2) the involvement of the mPFC in pain facilitation, and 3) the effects of chronic pain on defined mPFC circuits implicated in endogenous analgesia.
Classification: Translational
Activity Type: Knowledge
THURSDAY, MAY 18 (continued)

**Clinical Phenotyping Strategies for Chronic Pain**
*Joachim Scholz, MD (Moderator); Michele Curatolo, MD PhD; David Yarnitsky, MD*

Phenotyping strategies discussed at the symposium will include bedside tools for clinical pain phenotyping, quantitative sensory testing (QST), evaluation of pain inhibition and facilitation, and conditioned pain modulation (CPM). We will compare the utility of these strategies for clinical research and practice. The comparison will concentrate on training, time and equipment requirements, differences in pain measurement, and relationship to treatment response.

**Classification**: Clinical  
**Activity Type**: Knowledge

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**Primary Afferent-Epithelial Communication: Implications for Sensory Transduction and Plasticity Related to Hypersensitivity and Pain**
*Brian Davis, PhD (Moderator); Jennifer DeBerry, PhD; Jianguo Gu, PhD*

This symposium will explore the nature of communication between primary afferents innervating the colon, bladder, and skin, and their corresponding epithelium. The focus will be on the anatomical and functional basis of this communication, including the chemical basis of epithelial activation of primary afferents. New data will include evidence for specializations of afferents that innervate the epithelium as well as data that describes how stimulation of the epithelium is converted in action potentials in primary afferents.

**Classification**: Basic Science  
**Activity Type**: Knowledge

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**Dissecting the Affective Dimensions of Pain**
*Sarah Ross, PhD (Moderator); Catherine Cahill, PhD; Frank Porecca, PhD*

The affective dimensions of pain are the main complaint of patients. However, the neural circuits underlying these aspects of the pain experience are poorly understood. Now optogenetic approaches, viral labeling, novel behavioral assays, and functional imaging are allowing the neural basis for the affective dimensions of pain to be dissected with new precision. This interactive discussion will highlight new discoveries about these pathways—from bottom-up activation of the threat response by noxious stimuli to top-down modulation of pain relief by cortical pathways.

**Classification**: Basic Science  
**Activity Type**: Knowledge

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12:45–2 pm  
**Networking in the Experience Exchange with Exhibits and Posters**

2:15–3:45 pm  
**Symposia**

1.5 hours CME credit available

**Social Determinants of Pain Disparities: Community-, Clinical-, and Neuroimaging-Level Evidence**
*Raimi Quiton, PhD (Moderator); Burel Goodin, PhD; Vani Mathur PhD*

This symposium will examine social determinants of pain disparities across several levels of analysis including functional neuroimaging of pain, social moderators of clinical pain, and community-level examinations of social environment and pain prevalence. This topic is aimed at expanding the approach to pain disparities in a way that may lead to greater mechanistic understanding of the development and maintenance of disparities as well as improved individual care for patients considering social experience and context.

**Classification**: Translational  
**Activity Type**: Knowledge
THURSDAY, MAY 18 (continued)

Assessment of Cancer Pain Across the Lifespan
Christine Chambers, PhD (Moderator); Judith Paice, PhD RN; Jennifer Stinson, PhD RN CPNP

This session summarizes the latest advances in cancer pain management across the lifespan, including in children, adolescents, and adults. The presentations will highlight how innovative digital health technologies, social media, and clinical practice guidelines can be used to improve cancer pain research and care.

Classification: Clinical
Activity Type: Knowledge

Neurobiological Mechanisms Mediating the Interaction of Chronic Pain and Alcohol Abuse
Scott Edwards, PhD (Moderator); Jon Levine, MD PhD; Dokyoung You, MS RN

Although chronic pain and alcohol abuse frequently co-occur and exacerbate each other, little is known about the underlying neurobiological mechanisms that mediate this interaction. The presenters will review findings from their preclinical animal and human studies that link excessive alcohol exposure, stress signaling, and pain hypersensitivity. Following this interactive symposium, researchers and healthcare professionals will better understand stress and neural mechanisms at the intersection of pain and alcohol abuse, as well as potential new therapeutic strategies targeting these two closely associated conditions.

Classification: Translational
Activity Type: Knowledge

New Mechanisms in Migraine
KC Brennan, MD (Moderator); Rami Burstein, PhD; Amynah Pradhan, PhD

This symposium will address the translational science of migraine, with a focus on new disease mechanisms and their potential treatment implications. Discussion will include unique alterations in cellular and network excitability in genetic migraine models, migraine-specific inflammatory pathway disruptions, and non-canonical opioid modulation of migraine phenotypes.

Classification: Translational
Activity Type: Knowledge

Targeting Peripheral Receptor Systems to Minimize CNS Side Effects of Analgesics
George Wilcox, PhD (Moderator); Kenneth Hargreaves, DDS PhD; Cheryl Stucky PhD

One promising avenue of analgesic development that has not been adequately addressed to date is the development of therapeutics directed specifically to peripheral tissues involved in the maintenance of chronic pain. This symposium will present three viable therapeutic targets far removed from the central nervous system circuits underlying respiratory depression, dependence, and addiction.

Classification: Basic Science
Activity Type: Knowledge

3:45–5:15 pm
Poster Session and Networking in the Experience Exchange
Author-Attended Session (Even-Numbered Posters)

5:30–6:30 pm
Shared Interest Group (SIG) Meetings

(SIG01) Advancing the Science of Quality & Pain Measurement and Its Impact
For 2017, the Pain Measurement and Its Impact and Advancing the Quality of Science SIGs will hold a combined meeting with 2 distinct components:

1. A brief business meeting including the election of new (co)chairs for each respective SIG for the 2017-18 term.
2. Presentations and discussion on the development of the Measurement Tool Evaluation Resource (“METER”) initiative. The goal of the METER is to provide a centralized web space where a comprehensive and evolving list of pain-related measures are briefly summarized with regard to content, psychometric properties, and use. It is anticipated that there will be discussions and brainstorming as we develop this initiative that will be particularly beneficial for early career investigators as well as those who would like to participate in the science of measurement for quality and research.
THURSDAY, MAY 18 (continued)

(SIG02) Basic Science
The Basic Science SIG meeting will feature two talks by the recipients of the Future Leaders in Pain Research Award for 2017. Agenda items for discussion include how pain scientists can better interact with government and media, an update on the national pain research strategy, funding for an APS pre-doctoral pain fellowship, and the election of a new SIG Co-Chair.

(SIG03) Complementary and Alternative Medicine
Interested in non-surgical treatments for lumbar spinal stenosis that are safe and effective? Does mindfulness meditation reduce low back pain? Can you measure non-specific factors that could influence treatment outcomes?
These three topics, presented by faculty from the University Pittsburgh Medical Center, will be on our agenda for the 2017 CAM SIG meeting. Join us for an interesting, engaging and informative venue with presenters Michael Schneider, DC PhD, Natalia Morone, MD MSc, and Carol M. Greco, PhD.

(SIG04) Ethics
The Ethics SIG will present a discussion on perspectives related to testing the THC in immunoassay of patients on opioids.

(SIG05) Genetics and Pain
This year’s Genetics and Pain SIG meeting will take the form of a papers discussion blitz moderated by an expert in the field. SIG and regular APS members are invited to briefly highlight one article published recently in the area of pain genetics that describes intriguing, unexpected, or clinically significant methods and results that will potentially affect the direction of the field. The speakers will highlight findings in diverse areas of pain genetics in order to provoke discussion. Comments and examples from the audience will be strongly encouraged to further enrich discussion and increase the scope of views and opinions.

(SIG06) Military/Veterans
The Military/Veterans SIG supports advances in clinical care, education, research, and advocacy for patients with pain who are military service members and veterans. Activities for the SIG in 2017 will focus on outreach to other professional societies with related interests, collaboration among members and with other SIGs, promoting membership, and dissemination of research results to VHA, DoD, and updates regarding pain care policy.

(SIG07) Nursing Issues
The Nursing SIG will discuss potential avenues to advance patient-centered pain management interventions that are focused on providing the requisite knowledge and skills for individual and family pain self-management. A panel discussion will be held to examine how self-management strategies can be applied to patients confronting acute and chronic pain conditions as well as the role of nursing in implementing personalized pain self-management interventions across systems. Priority areas in education, research, practice and policy will be identified as well as how collaborative partnerships across institutions and geographical areas can assist in achieving standards of excellence in pain management while reducing risks to patients and families afflicted by pain.

(SIG08) Pain in Infants, Children and Adolescents
The SIG on Pain in Infants, Children and Adolescents will again present a Pediatric Data Blitz including a series of brief oral presentations of emerging research in pediatric pain. We will present our annual Young Investigator Award.

FRIDAY, MAY 19

7:45–9 am
General Session
1.25 hour CME credit available

7:45–8:30 am
Wilbert E. Fordyce Clinical Lecture
Robert Kerns, PhD
Activity Type: Knowledge
FRIDAY, MAY 19 (continued)

8:30–9 am

Plenary Lecture: Beyond the Neuromatrix: Dynamics of Brain Mechanisms Underlie Pain Sensitivity and Coping in Health and Chronic Pain

Karen Davis, PhD

Healthy individuals and those suffering from chronic pain vary in how they sense and cope with pain. Individual traits and state-dependent factors that contribute to this intersubject variability include attention, cognitive and emotional states that fluctuate on a moment-by-moment basis. The brain mechanisms underlying these within-subject and cross-subject differences are thought to contribute to the range of therapeutic responses to chronic pain treatments. This talk will present two types of brain dynamics that Dr. Davis’ lab has linked to pain sensitivity and the ability to prioritize cognitive performance in the face of pain: activity between brain areas in a system we refer to as the dynamic pain connectome and activity within specific areas characterized by resting state fMRI BOLD variability. Additionally, speakers will discuss how such mechanisms may rely on brain scaffolding that differs across individuals. Understanding these functional and structural brain features provide a framework to develop predictive models to guide therapeutic decisions for personalized pain management. Dr. Davis will present brain imaging and behavioral evidence from several chronic pain conditions that have potential prognostic value in predicting treatment success. She will discuss the neuroethical issues concerning the use of brain imaging for the diagnosis of pain. Understanding individual differences in the dynamic pain connectome and its representation of a core feeling of “ouch” is important for the application of brain imaging for clinical purposes. Dr. Davis will discuss her new concept of a pain “switch” proposed to spearhead discussion of how pain is represented in the brain, the capabilities and limitations of a brain-based test of pain, and the work of a special presidential task force of the International Association for the Study of Pain (IASP) that she chairs to develop guidelines on the use of brain-based tests for the diagnosis of chronic pain.

Activity Type: Knowledge

9:15–10:45 am

Networking in the Experience Exchange with Exhibits and Posters

9:15–10:35 am

Science in the Learning Lounge

Join us for informal, TED-style talks in which you’ll have an opportunity to interact with the speakers and discuss clinical and basic science topics.

9:15–9:35 am  Jennifer Rabbitts, MD
9:45–10:05 AM  Donald Burke, MD
10:15–10:35 AM  jeffrey Mogil, PhD

11 am–12:30 pm

Symposia

1.5 hours CME credit available

From Molecules to Man: Diet as a Treatment for Chronic Pain

Robert Sorge, PhD (Moderator); Johnny Figueroa, PhD; Christopher Ramsden, MD

The CDC and FDA have recently reported the pressing need for reduction in opioid prescriptions for chronic pain. Therefore, non-opioid interventions are clearly of highest priority. In this session, speakers will present data supporting the potential of diet and dietary additives to reduce chronic pain conditions at the cellular, behavioral, and clinical levels, providing a translatable account of this emerging interventional treatment strategy. Dr. Figueroa will discuss the benefits of omega-3 fatty acids in promoting functional recovery and reducing pain in animal models of traumatic brain injury and post traumatic stress disorder. Dr. Sorge will present data on the use of an antiinflammatory diet to alleviate inflammatory chronic pain in animals and knee osteoarthritis pain in human clinical participants. Dr. Ramsden will report on his work with clinical diet interventions for multiple pain populations. Together, the presenters will demonstrate the potential of affordable and attainable diet interventions for the alleviation of various chronic pain conditions.

Classification: Translational

Activity Type: Knowledge
FRIDAY, MAY 19 (continued)

Defining New Cortical Mechanisms for the Regulation of Acute and Chronic Pain
Jing Wang, MD PhD (Moderator); Richard Harris, PhD; Tor Wager, PhD
Basic, translational, and clinical scientists will highlight their cutting-edge research on new divergent mechanisms by which the cortex regulates pain and demonstrate the impact of cortical circuitry on heightened aversive response to acute pain signals in chronic pain states, functional imaging data on the distinct cortical networks in the regulation of acute pain and pain empathy, and clinical evidence for abnormal integration of multisensory and pain pathways within the cortex in chronic pain conditions such as fibromyalgia. These critical topics inform future basic and clinical research in translating the scientific understanding of cortical modulation to targeted prevention and intervention strategies for acute and chronic pain patients.
Classification: Translational
Activity Type: Knowledge

Biopsychosocial Mechanisms Contributing to the Benefits of Nonpharmacologic Treatments for Chronic Pain
Robert Edwards, PhD (Moderator); Kristin Archer, PhD; Eric Garland, PhD
A broad variety of nonpharmacologic treatments have shown at least some efficacy in reducing pain and improving function in patients with persistent pain syndromes. Interventions such as cognitive behavioral therapy, physical therapy, exercise, mindfulness meditation, acupuncture, and others all seem to influence pain-related outcomes via an array of multimodal mechanisms (some that seem common to many treatments and some that may be unique to specific interventions). This symposium synthesizes perspectives from a social worker, physical therapist, and clinical psychologist engaged in studies of the therapeutic mechanisms underpinning the impact of such treatments on pain, function, medication use, and other important outcomes.
Classification: Clinical
Activity Type: Knowledge

Small-Fiber Neuropathy—A Big Pain Problem
Charles Argoff, MD (Moderator); Anne Louise Oaklander, MD PhD; Frank Rice, PhD
Small-fiber polyneuropathy (SFPN) is emerging as a major contributor to unexplained multisymptom syndromes involving chronic widespread pain. The speakers in this symposium will address mechanisms underlying the manifestation of SFPN, and summarize evidence of the contribution of SFPN to generalized pain syndromes and strategies for diagnosing and treating patients suffering from symptoms associated with SFPN.
Classification: Translational
Activity Type: Knowledge

Adherence in Pain Medicine: Novel Approaches for Broadening Our Horizons Beyond Opioids
Michael Schatman, PhD CPE (Moderator); Edward C. Covington, MD; Ronald J Kulich, PhD
Recently, the literature on adherence in pain medicine has focused almost exclusively on opioids. This symposium will emphasize issues of non-opioid-related patient adherence, the impact of providers’ failures to adhere to the evidence bases and treatment guidelines on clinical outcomes, and strategies for developing appropriate and effective contingencies to improve both patient and provider adherence.
Classification: Translational
Activity Type: Knowledge

Basic Science Poster Session
12:30–1:45 pm
Chronic Opioid Therapy: Where Should We Draw the Line?
David Tauben, MD (Moderator); Jane Ballantyne, MD FRCA; Douglas Gourlay, MD MSc; Edward Michna, PharmD MD JD; David Fishbain, MD
When we are faced with an ‘epidemic’ of prescription opioid abuse and related deaths, it becomes incumbent on us to examine what went wrong. There are many possible contributors to the problem, but we will discuss the expansion of opioid treatment for chronic pain that occurred in parallel with increases in prescription opioid abuse and death rates. The question is where should we draw the line in prescribing for chronic pain? Is it unethical to deny opioid to someone resistant to other treatments and reporting a high pain intensity, or does the deterioration in effectiveness over time coupled with the development of dependence so impair the efficacy and safety of opioids that they should not be offered for chronic pain?
Activity Type: Knowledge
FRIDAY, MAY 19 (continued)

2–3:30 pm

Symposia

1.5 hours CME credit available

Chronic Pain + Obesity: What Can Pain Experts Do About this Health Disparity?
Kari Hainsworth, PhD (Moderator); Melissa Santos, PhD; Stacy Stolzman, PhD MPT
The primary objective of this symposium is to educate APS attendees about the many ways in which co-occurring chronic pain and obesity impact the lives of children and adolescents. This knowledge will poise pain experts to alter the trajectory of lifelong disability faced by this population.

Classification: Clinical
Activity Type: Knowledge

Using Risk Assessment to Inform Treatment and Prevention in Pediatric Patients Vulnerable to Developing Chronic Pain
Amy Lewandowski Holley, PhD (Moderator); Laura Simons, PhD; William Zempsky, PhD
This symposium presents findings from four studies that use screening and risk assessment to identify youth at increased risk for poor pain outcomes in diverse samples. Presenters will describe how self-report data, laboratory assessment of pain sensitivity, and neuroimaging data can be used to generate profiles of risk and how early identification of risk can be used to inform treatment for prevention of pain and disability.

Classification: Clinical
Activity Type: Knowledge

Novel Directions in Basic Research: Rita Allen Scholars
Robert Sorge, PhD (Moderator); Katherine Hanlon, PhD; Yi Ye, PhD
In collaboration with the Rita Allen Foundation, basic science researchers carrying out innovative investigations into pain are chosen yearly. This session will highlight the researchers chosen in the last 2 years and their novel insights into pain mechanisms and treatment.

Classification: Basic Science
Activity Type: Knowledge

New Mechanisms of Latent Pain Sensitization and Hyperalgesic Priming: Clinical Implications
Brad Taylor, PhD (Moderator); Theodore Price, PhD; Mads Werner, MD DMSC
This session will compare and contrast what is meant by the terms latent pain sensitization (LP) and hyperalgesic priming (HP). The presenters will describe newly discovered mechanisms that allows LP and HP to silently persist for months, if not years, after injury and will then focus on the clinical example of persistent postsurgical pain to illustrate how these concepts are required for a better understanding of the predictors and potential therapeutic targets for chronic pain. The session will conclude with a debate as to whether LS and HP are the same thing and the translational value of these concepts.

Classification: Translational
Activity Type: Knowledge

Brain as a Target for Migraine and Pain Relief—Advances in tDCS Research, Technology, and Application
Alexandre DaSilva, DDS PhD (Moderator); Marom Bikson, PhD, Adam Woods, PhD
This symposium will discuss the last innovative research and best practices in migraine and chronic pain neuromodulation with transcranial direct current stimulation. Participants will have the opportunity to discuss with the speakers the overall potential, methodology, and mechanisms of tDCS for pain management, and anticipated future developments in this field.

Classification: Translational
Activity Type: Knowledge
FRIDAY, MAY 19 (continued)

3:45–5:15 pm
Symposia
1.5 hours CME credit available

Towards Precision Management of Female Chronic Pain: Lessons from Female Mice, Female Human Volunteers, and Female Patients
Kristin Schreiber, MD PhD (Moderator); Antje Barreveld; MD, Laura Frey Law, PhD PT; Jeffrey Mogil, PhD

Female pain syndromes, as well as sex differences in pain processing, have historically been understudied and poorly understood. This symposium will take a translational approach to addressing this gap. Speakers will present some of the recent research in this area, ranging from studies investigating sex differences in pain processing in female mice, to studies in female humans with healthy volunteers and gender-neutral pain syndromes, to clinical studies of female-specific clinical pain syndromes including post mastectomy pain and pelvic pain syndromes. Review of the physiology, psychosocial, and psychophysical characteristics of chronic pain will guide a discussion on practical strategies for using precision medicine to prevent and manage pain in women, with a focus on gender-specific considerations and treatment targets.

Classification: Translational
Activity Type: Knowledge

The Role of Pain Memories in the Pain Experience: Emerging Evidence in the Developing Child, Adult, and Rodent
Melanie Noel, PhD (Moderator); Robert Coghill, PhD; Loren Martin, PhD

This workshop will present the current state-of-the-science on pain memories in the developing child, adult, and rodent. Given the rapid changes in neurological, social, and cognitive development that impact memory from infancy to adulthood, a lifespan approach will be taken. Perspectives and methodologies from an international group of clinical and basic scientists, each tackling a different aspect/definition of pain memory (e.g., autobiographical and explicit recall, neural activation patterns, implicit learning) will be represented. Arguments for the utility of memory reframing interventions for pain management will be presented.

Classification: Translational
Activity Type: Knowledge

Opioid Cessation: Risks and Responses Across the Continuum of Care
Jennifer Murphy, PhD (Moderator); Jennifer Hah, MD MS; Eric Sun, MD PhD

In this data driven and clinically relevant session, attendees will learn the characteristics that impact who succeeds with opioid tapering, evidence regarding who maintains opioid cessation long term, and the perioperative factors that are associated with cessation versus continuation of opioids. Evidence will inform approaches to opioid tapering and cessation by revealing commonalities in patient response across settings and groups.

Classification: Clinical
Activity Type: Knowledge

Advances in Our Understanding of Chemotherapeutic-Induced Peripheral Neuropathy
Michael Gold, PhD (Moderator); Patrick Dougherty, PhD; Daniela Salvemini, PhD

The three speakers in this symposium will summarize recent advances in the mechanistic understanding of chemotherapy-induced peripheral neuropathy and strategies to mitigate the impact of this life-threatening side effect of cancer treatment.

Classification: Basic Science
Activity Type: Knowledge

Clinical Poster Session
FRIDAY, MAY 19 (continued)

5:30–6:30 pm
Shared Interest Group (SIG) Meetings

(SIG09) Pain Rehabilitation
Pain rehabilitation in the form of an evidence-based biopsychosocial interdisciplinary paradigm has represented for over 30 years, the cultural transformation the Institute of Medicine (IOM), the American College of Occupational & Industrial Medicine (ACOEM), the Official Disability Guidelines (ODG), the Army Surgeon General and the Medical Treatment Utilization Schedule of California's work comp system (MTUS), as well as 33 other States, have identified as the most effective way of reversing chronic pain syndromes, improving function, addressing issues regarding prescription medication and decreasing overall medical costs. The issues remain that 1) most stakeholders are unaware of such evidence-based solutions; 2) access to such care is difficult to come by; and 3) reimbursement does not correspond to evidence-based practices. The SIG’s ongoing focus is on 1) creating awareness among stakeholders including patients, medical providers, legislators, and payers regarding best practices; 2) providing treatment recommendations to UR and employers/payers; 3) describing business practices that both promote and prevent patients from receiving such evidence-based care; and 4) identifying tools such as wireless telemedicine, mobile health, and personalized and genomic medicine as a means of extending pain rehabilitation throughout the United States and worldwide.

(SIG10) Primary Care
The mission of the American Pain Society is to increase knowledge of pain and transform public policy and clinical practice to reduce pain-related suffering. Primary care clinicians provide the overwhelming majority of chronic pain care in the United States; APS’s mission cannot be achieved without primary care at the table. As leaders in pain and primary care, we would like to see the Primary Care SIG play a key role in facilitating conversation between APS/pain specialists and the primary care community. The goal of this year’s Primary Care SIG meeting is to have a structured strategic planning conversation that will include those at the meeting as well as invited telephone participants with leadership roles in other prominent pain and primary care-related professional societies.

(SIG11) Sickle Cell
The Pain in SCD SIG seeks to foster the development of a multidisciplinary community that brings together pain researchers, including basic scientists, and clinicians, nurses, psychologists, and other health professionals to increase the knowledge of pain in sickle cell disease and its treatment.

Updates of on-going or recently published SCD pain research will be presented by SIG members, with a focus on chronic pain. Dr. Dampier will also provide an update the SIG’s collaborative activities, including the ACTTION-APS Pain Taxonomy Project, and the ASH SCD Coalition.

(SIG12) Pain Education
The Pain Education will meet to share updates on opportunities for collaboration and APS leadership in pain education, participate in the “data blitz” presentations on current trends and hot topics in pain education, and establish working groups on pain education topics of interest (e.g. research in pain education, strategies for promoting and establishing interprofessional pain education curricula, dissemination of patient and provider education resources, etc.).

This session is not being offered for CME credit.

5:30–7:30 pm

(SIG13) Geriatric Pain, Pain Disparities, and Psychosocial Research
For 2017, the Pain and Disparities, Geriatric Pain, and Psychosocial Research SIGs will hold a combined meeting that will feature 4 distinct components:

1. A brief business meeting will update members on major SIG activities, including the announcement of newly elected (co)chairs for each respective SIG for the 2017-18 term.
2. The Annual SIG Young Investigator Poster awards will be presented, and 3 winners will each have 5 minutes to present his or her research in a platform session.
3. Representatives from each of the 3 SIGs will give brief presentations. Presentations and discussion will focus on important psychosocial determinants of pain experienced by older minority populations. Speakers and poster awardees will all participate in a “Q & A” session following presentations.
4. Following the presentations and discussion, there will be an informal breakout session. The breakout session will be facilitated by SIG leadership and will address critical aspects of establishing a laboratory and program of pain research focused on the domains represented by each of the three SIGs. It is anticipated that the breakout session will be particularly beneficial for early career investigators as well as those who are new to the field.
FRIDAY, MAY 19 (continued)

5:30–7:30 pm
Basic Science Dinner
Continuing education credit is not available for this session.

SATURDAY, MAY 20

8:45–10:30 am
General Session
1.75 hour CME credit available

8:45–9:30 am
Frederick W. L. Kerr Basic Science Research Lecture
Robert Gereau, PhD, Professor and Director, Washington University School of Medicine
In the quest for new treatment options for patients suffering from chronic pain, a major hurdle is the perceived difficulty in predicting clinical efficacy of a new potential treatment based only on preclinical studies in animal models. In this lecture, Dr. Gereau discusses some of the issues in preclinical and early human studies that confront the field, and how his lab and others are working to overcome these obstacles to help bring new treatments to patients as quickly and efficiently as possible.
Activity Type: Knowledge

9:30–10 am
Plenary Lecture: Embedded Trials & Health Services Research: What Can We Learn at Ground Zero of Chronic Pain Treatment?
Lynn DeBar, PhD MPH
This talk will highlight pain-related research being conducted at the frontlines of clinical care. Much of it focused on what has been happening in primary care settings where the majority of patients receive the bulk of their pain-related care and the pressures to move away from opioid-based pain management are substantial. Focus will be given to creative efforts to implement evidence-based multimodal pain care with attention to feasibility and sustainability within the everyday clinical work flow. Opportunities and challenges present in such work will be addressed.
Lynn DeBar PhD MPH is a senior investigator at the Kaiser Permanente Center for Health Research in Portland Oregon. Much of Dr. DeBar’s recent research has focused on addressing pain-related services in primary care. She currently leads a large multi-site NIH-sponsored pragmatic clinical trial focused on evaluating a primary care based multidisciplinary treatment approach for helping patients with chronic pain on long-term opioid treatment adopt self-care management practices. Dr. DeBar originally trained as a clinical health psychologist and did her doctoral work at Yale University and received her MPH in biostatistics and epidemiology from Oregon Health & Science University.
Activity Type: Knowledge

10–10:30 am
Plenary Lecture: What Can We Learn About Emotions, Brain, and Behavior from a Wristband?
Rosalind Picard, ScD FIEEE
Years ago, Dr. Picard’s team at MIT set out to give computers skills of emotional intelligence. They also built the first wearable technology to automatically recognize changes in human emotion. As the sensors shrank and became wearable 24/7, Dr. Picard’s team discovered several surprising findings, such as that “autonomic activity” measured through a sweat response was not as general as researchers thought but carried more specific information related to different kinds of brain activity. This talk will highlight some of their most surprising findings with implications for autism, anxiety, depression, sleep-memory consolidation, epilepsy, pain studies, and more.
Activity Type: Knowledge
About the Meeting

According to the Institute of Medicine, pain affects more lives than the total number of lives affected by heart disease, cancer, and diabetes combined. Pain is a leading cause of disability and a major public health problem. Moreover, the issue of ensuring appropriate interdisciplinary assessment and treatment of pain has a far-reaching impact on morbidity, mortality, quality of life, and economics—both of individuals and across the healthcare system. There is a continued need to connect the work of researchers studying the science of pain with those from multiple disciplines who seek to use the best-available evidence to treat and thus improve pain care. As the United States’ premier pain meeting, the American Pain Society (APS) Annual Scientific Meeting provides attendees with a unique forum for sharing advances and standards in evidence-based pain research and treatment by colleagues from all disciplines in pain in a setting that encourages interactions between scientists and clinicians.

This meeting accomplishes that by providing you the opportunity to

- interact with the best and brightest in pain research
- translate scientific discoveries into clinical practice
- connect with colleagues across settings and disciplines at numerous networking events, including shared interest group meetings and the opening reception with exhibits and posters
- raise questions, debate the implications, plan follow-up studies, and discuss results
- discuss your own research and clinical observations
- meet with hundreds of poster presenters to learn about their work and future research directions
- visit an extensive number of exhibit booths featuring products and services specifically designed for professionals who study and treat pain.

Who Should Attend

The APS 36th Annual Scientific Meeting is intended for basic scientists, nurses, pharmacists, physicians, psychologists, and other healthcare professionals who make up the interdisciplinary pain community. Generalists and specialists will benefit from a wide range of topics and faculty presenting basic, translational, and clinical research and treatment advancements.

What You Can Expect to Gain

The APS 36th Annual Scientific Meeting will offer current information about the diagnosis, treatment, and management of acute pain, chronic cancer, noncancer pain, and recurrent pain. Presentations are designed to enhance research or clinical knowledge and competence pertinent to pain management and will feature content appropriate for professionals at several experience levels. The meeting is an arena for interdisciplinary exchange among pain scientists and healthcare professionals. By participating in this meeting, attendees can expect to achieve the following objectives:

1. Describe various pain management models.
2. Critique current basic science and clinical and psychological research with regard to their applicability to practice.
3. Evaluate new trends, techniques, therapies, and diagnostic procedures in pain research and management.
4. Assemble a network of professional colleagues.

Continuing Education

The APS 36th Annual Scientific Meeting will offer continuing education/continuing medical education (CE/CME) credit for physicians, nurses, and psychologists. Credit will be awarded for those sessions attended and evaluated. Successful completion requires that participants register for the meeting, attend and participate, and complete an online evaluation. Participants will receive their CE/CME certificates immediately after they submit their evaluations online.
Detailed Schedule

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Faculty

Physicians
APS is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.
The American Pain Society designates this live activity for a maximum of 11.75 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nurses
The American Pain Society has applied to the American Association for Neuroscience Nurses as a cosponsor for continuing education for nurses at the annual scientific meeting. The American Association of Neuroscience Nurses is an accredited as a provider of continuing nursing education by the American Nurses Credentialing Center’s Commission on Accreditation. APS has requested designation for up to 11.75 contact hours.

Psychologists
The American Pain Society has applied to the Massachusetts Psychological Association as a cosponsor for continuing education for psychologists at the annual scientific meeting. The Massachusetts Psychological Association is approved by the American Psychological Association to sponsor continuing education for psychologists. The Massachusetts Psychological Association will maintain responsibility for this program and its content APS has requested designation for a maximum of 11.75 hours of CE credit for psychologists for sessions attended and evaluated.

Disclosure. APS requires that planners and presenters disclose the existence of any relevant financial or other relationship they and/or their spouse/partner have with the manufacturers of any commercial interest (defined as any entity producing, marketing, reselling, or distributing healthcare goods or services consumed by, or used on, patients) whose products or services relate to the topics presented. APS also requires disclosure of the intent to discuss unlabeled or investigational use(s) of a commercial product. The Scientific Program Committee reviews potential conflicts of interest as submitted by planners and presenters and resolves such conflicts so as to ensure the content of the activity is aligned with the interests of the public. Detailed disclosure information will be published in course materials. Learners will also be informed when no relevant financial relationships exist.

Disclaimer. The material presented in this activity represents the opinion of the speakers and not necessarily the views of APS.

Statement of Non-Endorsement. Accredited status does not imply endorsement by APS or the ACCME of any commercial products displayed in conjunction with this activity.

Young Investigator Travel Award Program
APS will offer travel stipends via the Young Investigator Travel Award for the 2017 APS Annual Scientific Meeting. A limited number of funding awards will be available to individuals presenting posters at the meeting, May 17–20, 2017, in Pittsburgh, PA. Applicants may be from any research training background (e.g., basic or clinical science, psychology, medicine, or biostatistics) and may be at any level in training (e.g., students, residents, predoctoral trainees, postdoctoral fellows, and those who have completed their postdoctoral training within the past 3 years). Applicants must be APS members and have an abstract accepted for presentation. Applications from nonmembers will not be considered.
To apply for funding, visit the APS website after January 9, 2017, to complete the online application. Note that an applicant’s abstract must be accepted for presentation before he or she is eligible to submit an application for this grant. Poster abstract acceptance letters will be e-mailed to primary authors in late December, and a listing of accepted abstracts, by primary author, will be available on the website by December 31. Please check the abstract acceptance list before applying for a Young Investigator award.
Applications will be reviewed, and notifications will be sent in March. Applicants selected to receive a 2017 award will receive their travel grants at the annual meeting.
2017 Scientific Program Committee

Michael Gold, PhD, Chair
Professor
University of Pittsburgh

Tonya M. Palermo, PhD, Chair-elect
Professor
Seattle Children’s Research Institute

Julie A. Carlsten Christianson, PhD
Assistant Professor
University of Kansas Medical Center

Sara Hall, RN CNS
Clinical Nurse Specialist
Regions Hospital

Nathaniel A. Jeske, PhD
Associate Professor
University of Texas Health Science Center of San Antonio

Anna Kratz, PhD
Assistant Professor
University of Michigan

Erin Krebs, MD MPH
Associate Professor
University of Minnesota

Linda L. Porter, PhD
Health Science Policy Advisor for Pain
National Institute of Neurological Disorders and Stroke/National Institutes of Health

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Anesthesiologist
Brigham and Women’s Hospital

Scott Strassels, PhD PharmD
Pharmacist
Optum Hospice Pharmacy Services

Ajay Wasan, MD MSc
Professor
University of Pittsburgh

Ex-Officio
David Williams, PhD
APS President
University of Michigan

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2017 Scientific Program Committee
Faculty
Faculty

Kristin Archer, PhD
Associate Professor
Vanderbilt Orthopaedic Institute

Charles E. Argoff, MD
Professor
Albany Med Department of Neurology

Jane Ballantyne, MD FRCA
Professor
University of Washington

Antje M. Barreveld, MD
Anesthesiologist
Newton-Wellesley Hospital

KC Brennan
Assistant Professor
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Department of Anesthesia
University of Iowa Hospital Clinic

Marom Bikson
Professor
The City College of New York

Donald Burke, MD
Dean, Graduate School of Public Health
Distinguished University Professor of Health Science and Policy
University of Pittsburgh

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Professor
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Christine T. Chambers, PhD
Professor
IWK Health Centre

Robert C. Coghill, PhD
Director of Research & Senior Scientist
Cincinnati Children’s Hospital

Edward C. Covington, MD
Emeritus Neurological Center for Pain
Cleveland Clinic

Michele Curatolo, MD PhD
Professor
University of Washington

Alexandre F. DaSilva, DDS PhD
Instructor
Harvard University

Brian M. Davis, PhD
Associate Professor
University of Pittsburgh

Karen Davis, PhD
Professor
Toronto Western Research Institute

Lynn Debar, PhD MPH
Senior Investigator
KP Center for Health Research

Jennifer J. DeBerry, PhD
Assistant Professor
University of Alabama at Birmingham

Patrick M. Dougherty, PhD
Professor
UTMD Anderson Cancer Center

Robert R. Edwards, PhD
Associate Professor
Brigham & Women’s Hospital

Scott Edwards
Assistant Professor
LSU Health Sciences Center

Johnny D. Figueroa, PhD
Assistant Professor
Loma Linda University

David Fink, MD
Professor and Chair
University of Michigan

David Fishbain, MD
Professor
University of Miami

Laura Frey Law, PhD PT
Associate Professor
University of Iowa

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2017 Scientific Program Committee Faculty

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Eric Garland, PhD
Associate Dean for Research
University of Utah College of Social Work

Robert Gereau, PhD
Professor and Director
Washington University School of Medicine

Michael S. Gold, PhD
Professor
University of Pittsburgh

Burel R. Goodin, PhD
Assistant Professor
University of Alabama at Birmingham

Douglas Gourlay, MD
Director
Centre at Mount Sinai Hospital in Toronto

Jianguo Gu, PhD
Professor
University of Alabama at Birmingham

Jennifer M. Hah, MD MS
Instructor
Stanford University School of Medicine

Keri Hainsworth, PhD
Assistant Professor
Children’s Hospital of Wisconsin

Katherine E. Hanlon, PhD
Assistant Professor
University of New England COM

Kenneth M. Hargreaves, DDS PhD
Professor
UT Health Science Center

Richard E. Harris, PhD
Associate Professor
University of Michigan Health Systems

Michael Iadarola, PhD
Senior Research Scientist
National Institutes of Health

Mark P. Jensen, PhD
Professor
University of Washington

Robert Kerns, PhD
Professor
VA Connecticut Healthcare System

Anna Kratz, PhD
Assistant Professor
University of Michigan

Ronald J. Kulich, PhD
Professor
Tufts Craniofacial Pain

Jon D. Levine, MD PhD
Professor
NIH Pain Center

Amy Lewandowski Holley, PhD
Assistant Professor
OHSU

Mark Lumley, PhD
Professor
Wayne State University

Loren Martin, PhD
Assistant Professor
University of Toronto

Marco Martina, MD PhD
Associate Professor
Northwestern University Feinberg School

Vani A. Mathur, PhD
Assistant Professor
Texas A&M University

Edward Michna, PharmD MD JD
Director
Brigham and Women’s Hospital

Jeffrey S. Mogil, PhD
Professor
McGill University

Jennifer L. Murphy, PhD
Clinical Director
James A. Haley VA Hospital

Melanie Noel, PhD
Assistant Professor
University of Calgary

Anne Louise Oaklander, MD PhD
Associate Professor
Massachusetts General Hospital

Judith A. Paice, PhD RN
Research Professor
Northwestern University Medical School
Rosalind Picard, ScD FIEEE
Director
Massachussetts Institute of Technology

Frank Porreca, PhD
Professor
University of Arizona

Amynah Pradhan, PhD
Assistant Professor
University of Illinois at Chicago

Theodore J. Price, PhD
Associate Professor
University of Texas at Dallas

Raimi L. Quiton, PhD
Assistant Professor
University of Maryland, Baltimore County

Jennifer Rabbitts, MD
Associate Professor
Seattle Children’s Hospital

Christopher Ramsden, MD
Medical Investigator
NIAAA

Frank Rice, PhD
Adjunct Professor
Integrated Tissue Dynamics LLC

Sarah E. Ross, PhD
Assistant Professor
University of Pittsburgh

Daniela Salvemini, PhD
Professor
St. Louis University School of Medicine

Melissa Santos, PhD
Pediatric Psychologist
Connecticut Children’s Medical Center

Michael E. Schatman, PhD
Executive Director
Foundation for Ethics in Pain Care

Joachim Scholz, MD
Assistant Professor
Columbia University

Kristin Schreiber, MD PhD
Neuroscientist
Brigham and Women’s Hospital

Petra Schweinhardt, MD
Associate Professor
McGill University

Patrick Sheets, PhD
Assistant Professor
Indiana University
School of Medicine

Laura E. Simons, PhD
Psychologist
Boston Children’s Hospital

Robert E. Sorge, PhD
Assistant Professor
University of Alabama at Birmingham

Steven Stanos, DO
Medical Director
Rehabilitation Institute of Chicago

Jennifer N. Stinson, PhD RN CPNP
Senior Scientist
Hospital for Sick Children

Stacy C. Stolzman, PhD MPT
Assistant Professor
Concordia University

Cheryl L. Stucky, PhD
Assistant Professor
Medical College of Wisconsin

Eric Sun, MD PhD
Assistant Professor
Stanford University

David Tauben, MD
Chief
UW Center for Pain Relief

Brad Taylor, PhD
Professor
University of Kentucky

Beverly E. Thorn, PhD
Professor
University of Alabama

Tor Wager, PhD
Director
University of Colorado Boulder

Jing Wang, MD PhD
Assistant Professor
Alexandria Center for Life Science

About the Meeting
2017 Scientific Program Committee Faculty
Mads U. Werner, MD DMSC
Associate Professor
Copenhagen University Hospital

George L. Wilcox, PhD
Professor
University of Minnesota

Adam J. Woods, PhD
Assistant Professor
University of Florida

David Yarnitsky, MD
Professor
Rambam Health Care Campus

Yi Ye, PhD
Assistant Professor
New York University

Dokyoung S. You, MS RN
Registered Nurse
Texas A&M University

William Zempsky, MD MPH
Division Head
Connecticut Children’s Medical Center