

# Canadian Pain Society's 40<sup>th</sup> Annual Scientific Meeting

## Tuesday, April 2<sup>nd</sup>: Pre-Meeting

- 16.00 - 18.30 Registration  
 13.00 - 17.00 Interprofessional Pain Management SIG's Pre-Meeting Workshop: "How to navigate difficult conversations about pain: Interprofessional perspectives, strategies and skills for daily practice":  
 Separate registration required: [Click Here](#)  
 18.30 - 21.00 Welcome Reception

## Wednesday, April 3<sup>rd</sup>: Day 1

- 07.00 - 08.00 Registration and Breakfast  
 07.30 - 08.00 Special Session: Co-producing the future of pediatric chronic pain research in Canada  
 08.00 - 08.30 Opening Remarks & History of CPS – Barry Sessle  
 08.30 - 09.15 Mary Ellen Jeans Keynote  
 09.15 - 09.30 Poster Pitches  
 09.30 - 10.30 Coffee Break | Posters | Tradeshow  
 10.30 - 12.00 Wednesday Morning Breakout Sessions  
 12.00 - 13.30 Lunch - Special Luncheon (Sponsored)  
 12.00 - 13.30 Trainee Workshop: Finding Your Way: A Career Survival Guide for Pain Trainees  
 13.30 - 14.15 Plenary Session  
 14.30 - 16.00 Wednesday Afternoon Breakout Sessions  
 16.00 - 17.00 Coffee | Posters | Tradeshow  
 17.00 - 18.30 Wednesday Late-afternoon Breakouts  
 19.00 - 22.00 Trainee Social: off-site at The Ballroom

## Thursday, April 4<sup>th</sup>: Day 2

- 07.00 - 08.00 Breakfast and Poster Setup  
 08.00 - 08.30 CPS's Annual General Meeting: A chance to have your say!  
 08.30 - 08.45 Opening Remarks  
 08.45 - 09.30 Plenary Session: Opioid Receptors and the Brain  
 09.30 - 10.30 Coffee | Posters | Tradeshow | Poster Judging  
 10.30 - 12.00 Thursday Morning Breakout Sessions  
 12.00 - 13.30 Women in Learning & Leadership Lunch  
 12.00 - 13.30 Lunch | Posters | Tradeshow  
 13.30 - 15.00 Thursday Afternoon Breakout Sessions  
 15.00 - 16.00 Coffee | Posters | Tradeshow  
 15.30 - 16.00 Special Session: Introducing...Solutions for Kids in Pain  
 16.00 - 17.30 Hot Topics | Thursday Late Afternoon Sessions  
 18.30 - 23.00 Reception | Awards Gala and Dancing!

## Friday, April 5<sup>th</sup>: Day 3

- 08.00 - 09.15 Breakfast  
 09.15 - 09.30 Opening Remarks  
 09.30 - 10.00 Distinguished Career Award Keynote  
 10.00 - 10.30 Early Career Award Keynote  
 10.30 - 11.00 Morning Coffee Break  
 11.00 - 12.30 Friday Breakout Sessions

Note: Session times and locations subject to change.

# Canadian Pain Society's 40<sup>th</sup> Annual Scientific Meeting

## Tuesday, April 2, 2019

16.00 - 18.30 Registration

13.00 - 17.00 Interprofessional Pain Management SIG's Pre-Meeting Workshop: **Requires separate registration. Please click [HERE](#) for more information**

“How to navigate difficult conversations about pain: Interprofessional perspectives, strategies and skills for daily practice”

Join us for a Pre-Conference Workshop hosted by the newly formed Interprofessional Pain Management SIG. The Interprofessional Pain Management SIG strives to support evidence-based care from a biopsychosocial and interprofessional perspective. As an extension of the Interprofessional Pain Management SIG, this workshop will focus on providing attendees with new knowledge and applied skills related to navigating difficult conversations about pain from an interprofessional perspective. The overarching purpose of this workshop is to bring together a diverse group of professionals with an interest in pain to engage in a day of interprofessional learning and networking. We hope to see you there!

Speakers: **Timothy H. Wideman**, PT, PhD, Assistant Professor, School of Physical and Occupational Therapy, McGill University  
**Judy Watt-Watson**, RN, PhD, Professor Emeritus, Lawrence S. Bloomberg Faculty of Nursing, University of Toronto  
**Rebecca McDermott**, C.Psych, PhD, Clinical Psychologist, Chronic Pain Clinic, Kingston Health Sciences Centre  
**Stephen Henry**, MD, MSc, General Internist and Associate Professor, University of California Davis

**NOTE: This workshop requires separate registration. Please click [HERE](#) for more information.**

18.30 - 21.00 Welcome Reception

# Wednesday, April 3rd, 2019

**07.00 - 08.00**      **Registration and Breakfast**

**07.30 - 08.00**      **Co-producing the future of pediatric chronic pain research in Canada**

Speakers:      **Katie Birnie**, PhD RPsych, Alberta Children's Hospital  
                      **Jennifer Stinson**, RN-EC, PhD, CPNP , University of Toronto and The Hospital for Sick Children

### Session Description

This session will be led by Partnering for Pain project co-leads Dr. Katie Birnie and Dr. Jennifer Stinson; and co-facilitated by patient and parent partners.

Over the past year, the #PartneringForPain project engaged Canadians from across the country to identify the Top 10 research priorities in pediatric chronic pain from the perspective of people with lived experience (patients), family members, and clinicians. It's now time to move these priorities into action! This interactive session is for all comers interested in pediatric chronic pain (researchers, patients, family members, clinicians, policymakers, funders, etc.). We will collaboratively discuss the Top 10 identified patient-oriented research priorities and brainstorm effective strategies to move this research agenda forward. Your voice matters.

1. Could you confirm that it will be in the printed conference program itself? If not, we would like to include a printed insert.
2. Could you confirm the room at the Sheraton and the room's capacity? We will be sending targeted email invites to people and would like to know how much space we will have for planning purposes.

**08.00 - 08.30**      **Opening Remarks & History of CPS – Barry Sessle**  
 Plenary Room

**08.30 - 09.15**      **Mary Ellen Jeans Keynote: Clinical manifestations and sensitization across chronic musculoskeletal disorders and the impact on management**

**Keynote speaker: Lars Arendt-Nielsen**, Dr. Med., PhD, Founder & Director, Center for Sensory-Motor Interaction (SMI); Professor, Department of Health Science and Technology, School of Medicine, Aalborg University, Denmark

**09.15 - 09.30**      **Poster Pitches**

**09.30 - 10.30**      **Coffee Break | Posters | Tradeshow**

**10.30 - 12.00**      **Wednesday Morning Breakout Sessions**

*Session 1*      **Cognitive modulation of pain: An innovative multidisciplinary, multi-species approach**

**Chair:**            **Loren Martin**, PhD, Assistant Professor, Dept of Psychology, University of Toronto  
**Speakers:**      **Mathieu Roy**, PhD, Assistant Professor, Dept of Psychology, McGill University  
                      **Zoha Deldar**, PhD candidate, Université de Montréal/ Université du Québec à Trois-Rivières, Anatomy  
                      **Loren Martin**, PhD, Assistant Professor, University of Toronto

**Symposium Abstract**

Cognitive factors are known to facilitate or inhibit pain perception. Salient painful stimuli involuntarily direct our attention to the source of the pain, resulting in increased pain, while pain memories can transition pain from an acute to a chronic state. Contrary to this, engaging in a cognitively demanding task reduces pain. The mechanisms underlying this trade-off interaction and its effect on pain modulation are less clear. This symposium will be focused on a multimethod approach to understand the bidirectional relationship between pain and cognition following three research lines:

- 1) We will examine the interaction between pain, cognition and motivation regarding the role of reward in performing a cognitive task, cognitive effort and resource allocation on pain perception. The value of a reward modulates the amount of cognitive effort and resources allocated to specific tasks, which in turn modulates pain perception.
- 2) Discuss the effect of neuromodulation on cognition and pain inhibition in healthy adults by exploring ways through which cognition can be improved and how this improvement influences pain perception.
- 3) Introduce novel paradigms of context-dependent pain modulation that are being implemented to study pain memory at the neurobiological level. These models may provide a better understanding of pain hypersensitivity and pain relief. These presentations will provide a better understanding of the neural and psychological mechanisms underlying the interaction between pain and cognition. A better understanding of this bidirectional interaction can help in the development of improved interventions for individuals with pain.

**The role of value and cognitive resource availability in the trade-off between pain and cognitive effort:** Mathieu Roy, PhD

**Improving working memory and pain inhibition in young and older persons using neuromodulation of left dorsolateral prefrontal cortex.:** Zoha Deldar, PhD candidate

**Learning models of pain and pain relief:** Loren Martin, PhD

**Learning Objectives**

- To examine the impact of reward on pain perception and cognitive task performance
- To examine the effect of neuromodulation in enhancing cognitive performance and pain inhibition in healthy young and old persons
- To explore the neurobiological mechanisms of pain memory, learning and conditioning through the use of novel animal and human paradigms

**10.30 - 12.00**

**Wednesday Morning Breakout Sessions***Session 2*

**Opioid de-prescribing: practical advice from a patient, a pharmacist and a physician on how to safely and successfully taper opioids.**

**Chair:** **Andrea Furlan**, MD PhD, University of Toronto, Dept of Medicine, Associate Professor

**Speakers:** **Kirk Foat**, BA Sociology, University of Western  
**Laura Murphy**, PharmD, Toronto Rehabilitation Institute, University Health Network, Pharmacy, Toronto  
**Andrew Smith**, MDCM, Centre for Addiction and Mental Health

**Symposium Abstract**

Canada is the second largest prescriber of opioids in the world. The number of opioid prescriptions in Canada increased 6.8% between 2012 and 2016, from 20.2 million in 2012 to 21.5 million in 2016. The most common opioids prescribed in Canada include strong opioids such as hydromorphone, fentanyl, and oxycodone. Long-term and high dose opioids are associated with significant risks, which include death, opioid poisoning, sleep apnea, hypogonadism,

depression and opioid-induced hyperalgesia. The population with the highest of opioid use also has the highest risks from opioids; more than 20% of seniors received at least one prescription of opioid in 2015-16. (CIHI, 2018) The 2017 Canadian Opioid Guideline recommends that “for patients with chronic noncancer pain who are currently using 90 mg morphine equivalents of opioids per day or more, they taper opioids to the lowest effective dose, potentially including discontinuation, rather than making no change in opioid therapy”. De-prescribing opioids can be challenging to both clinicians and patients. The challenges are related to selecting the proper patients, choosing the best tapering regimen and sticking to the plan. The most common barriers from a clinician’s perspective include: lack of knowledge, skills, resources, motivation and empathy. Patients also lack knowledge about the reasons why tapering is necessary, and they fear worsening of pain and withdrawal symptoms. There is an urgent need to educate both clinicians and patients about appropriate tapering of opioids with the goals of improving quality of life of patients with chronic pain.

**Getting to Zero:** Kirk Foat, BA Sociology

**Guidance on opioid tapering in the context of chronic pain: Evidence, practical advice and frequently asked questions:** Laura Murphy, PharmD

**Challenging cases of opioid tapering:** Andrew Smith, MDCM

#### Learning Objectives

- At the end of this symposium participants will be able to identify appropriate patients for tapering opioids, use evidence-based protocols for opioid tapering, and to use empathy and compassion when helping patients to achieve the lowest possible dose of opioids to help them manage their chronic noncancer pain.

**10.30 - 12.00**

#### Wednesday Morning Breakout Sessions

*Session 3*

**Should it be the sociopsychobio model of pain? Novel theoretical, experimental, and clinical insights into social contexts of pain**

**Chair:** **Whitney Scott**, PhD, King’s College London, Institute of Psychiatry, Psychology, and Neuroscience, London, UK

**Speakers:** **Kenneth Craig**, PhD, University of British Columbia, Psychology  
**Kai Karos**, MSc, KU Leuven, Research Group on Health Psychology, Leuven, Belgium  
**Whitney Scott**, PhD, King’s College London, Institute of Psychiatry, Psychology, and Neuroscience, London, UK

#### Symposium Abstract

A proposal to update the definition of pain by Williams & Craig (2016) emphasizes the crucial role of social processes in the pain experience. However, within the biopsychosocial model of pain relatively less research has focused on social factors, as compared to biomedical or psychological factors. This session will argue for the need to place greater emphasis on the social context of pain from theoretical, experimental, and clinical perspectives. Theoretical models of the role of social contexts and interpersonal processes in the experience of pain and related disability will be outlined. Experimental data showing the impact of social threat on pain will be presented. Clinical data will be discussed to demonstrate the impact of social stigma on chronic pain outcomes and current challenges and opportunities for managing stigma will be identified. The session has the potential to advance theory and treatment development from both individual- and systems-level perspectives.

**Is pain a social experience?:** Kenneth Craig, PhD

**Pain as a threat to the social self: A motivational account:** Kai Karos, MSc

**The impact and management of stigma in people with chronic pain:** Whitney Scott, PhD

#### Learning Objectives

- Upon attending this symposium, attendees will recognize the importance of social features of pain experience for understanding pain, pain education and innovative interventions.
- Upon attending this symposium, attendees will have an understanding of pain as a fundamentally social and threatening experience which impacts on basic human needs.
- Upon attending this symposium, attendees will have an understanding of how stigma relates to chronic pain outcomes and approaches to managing stigma.

**10.30 - 12.00**

#### Wednesday Morning Breakout Sessions

##### Session 4

#### **Is enhanced pain facilitation and/or impairment in the efficacy of the endogenous inhibitory pain system an important contributing factor in chronic pain?**

**Chair:** Catherine E. Ferland, PhD, McGill University, Anesthesia

**Speakers:** Catherine E. Ferland, PhD, McGill University, Anesthesia

Guillaume Leonard, Pht, Ph.D, Research Center on Aging – Université de Sherbrooke, École de réadaptation, Sherbrooke

Karen D. Davis, PhD, Krembil Research Institute Division of Brain, Imaging and Behaviour – System Neuroscience

#### Symposium Abstract

Several factors may lead to poor pain management and consequently to the development of chronic pain, recognized as an expensive and debilitating public health issue. One abnormality associated with chronic pain is enhanced pain facilitation that can involve excitatory mechanisms such as central sensitization. A second abnormality associated with chronic pain is deficits in the endogenous mechanisms of pain control; possibly due to reduced efficacy of the endogenous inhibitory efferent pathways. Patients with sub-optimal function of this system are more likely to have poor pain control. This Symposium will examine brain-behaviour links related to pain facilitation (reflected by temporal summation of pain) and pain modulation (as reflected by conditioned pain modulation) in experimental and clinical studies.

**Endogenous pain modulation in youth with musculoskeletal pain: psychophysical findings and clinical implications:** Catherine E. Ferland, PhD

**Endogenous pain modulation in the elderly: psychophysical findings and clinical implications:** Guillaume Leonard, Pht, Ph.D

**Contribution of bottom-up, top-down, and intrinsic activity in the dynamic pain connectome reflect individual pain sensitivity and chronic pain treatment response:** Karen D. Davis, PhD

#### Learning Objectives

- To recognize the differences in the endogenous pain modulation among paediatric cohorts with pain conditions and at risk of poor acute and chronic pain management.
- To explore the role played by endogenous pain modulation in the occurrence of pain conditions and severity of pain symptoms in elderly individuals.
- To understand how brain imaging and psychophysics can be used to link brain mechanisms to the spectrum of behavioural pain sensitivity and to predict chronic pain treatment efficacy.

12.00 - 13.30

**Lunch - Special Luncheon (Sponsored)****New Directions in Chronic Pain: What Might the Future Hold?**

**Chair:** **Jordi Perez**, MD, PhD, FIPP, Associate Professor, Anesthesia and Director, Cancer Pain Fellowship, McGill University; Associate Medical Director, Alan Edwards Pain Management Unit; Director, MUHC Cancer Pain Program

**Speakers:** **Jordi Perez**, MD, PhD, FIPP, McGill University  
**Martin Koltzenburg**, MD, Dr. med, Professor and Chair, Clinical Neurophysiology, University College London, UK; Neurologist and Head of the Department of Clinical Neurophysiology, The National Hospital for Neurology and Neurosurgery at Queen Square  
**Patrick Mantyh**, PhD, JD, Professor of Pharmacology, Department of Pharmacology, University of Arizona

**Symposium Abstract**

Among adults in Canada, approximately 15-19% experience chronic noncancer pain – defined as a painful condition that persists for three months or longer. For most people with this type of chronic pain, it lasts much longer than three months: more than half of adults in Canada with chronic pain report suffering with it for more than 10 years. Two of the most prevalent types of chronic pain – and most common causes of disability in Canada – are low back pain and osteoarthritis, affecting up to 22% and 14% of Canadian adults, respectively. The burden of chronic pain weighs heavily on patients and society, with direct and indirect costs greater than that of cancer, heart disease, and HIV combined. Against this backdrop, in this symposium we will explore the challenges clinicians face in the pharmacological management of chronic pain and review our evolving understanding of the pathophysiology of chronic pain. Building on this science, we will discuss the mechanism of action, analgesic properties, efficacy, and safety of potential new treatments that modulate nerve growth factor (NGF) in chronic pain pathways, as well as the possible clinical applications of anti-NGFs to improve patient outcomes.

**Unmet Needs and Challenges in Chronic Pain:** Jordi Perez, MD, PhD, FIPP

**The Mechanisms of Chronic Pain: What We Know in 2019:** Martin Koltzenburg, MD, Dr. med

**Advancing Knowledge in Chronic Pain Management: The Role of Nerve Growth Factor:** Patrick Mantyh, PhD, JD

**Learning Objectives**

- Identify unmet needs and challenges in the optimal treatment of chronic pain, including low back pain and osteoarthritis
- Explain the current understanding of pain pathways and mechanisms and how they are modulated by current pharmacological treatment options
- Describe the mechanism of action of anti-nerve growth factor drugs in the management of chronic pain and their potential application in the clinical setting

12.00 - 13.30

**Trainee Workshop****Finding Your Way: A Career Survival Guide for Pain Trainees**

**Chair:** **Perri Tutelman**, PhD student, Dalhousie University & Carley Ouellette, RN, MSc student, McMaster University

**Speakers:** **Neil Andrews**, MS, MA, Pain Research Forum, International Association for the Study of Pain  
**Dawn Richards**, PhD, Founder, Five02 Labs Inc. & Chronic Pain Network  
**Rebecca Pillai Riddell**, PhD, Professor and Associate Vice-President Research, York University & Dept of Psychology, Hospital for Sick Children, University of Toronto

Note: Session times and locations subject to change.

Preparing for a successful and rewarding career in the pain sciences following your formal training requires knowing what options are available and discovering what inspires you. In this workshop, three established speakers with diverse backgrounds and careers related to pain will discuss how they got to where they are and will share lessons they learned along the way. This workshop will offer practical advice to pain trainees considering careers both in academia and beyond. Following the presentations, trainees will have the opportunity to ask questions and participate in an interactive panel discussion with the speakers.

**A Career Path to Science Journalism: I Was Young and Stupid, but It Worked Out in the End Anyway:** Neil Andrews, MS, MA

**How My Chronic Disease Led Me to My Consulting Career:** Dawn Richards, PhD

**I Still Don't Know What I Want to Be When I Grow Up:** Rebecca Pillai Riddell, PhD

**13.30 - 14.15**

**Plenary Session:**

**Keynote speaker** Beverly Thorn, PhD, ABPP, Professor and Chair, Clinical Health Psychology, Psychology Department, University of Alabama, Tuscaloosa, AL

**14.30 - 16.00**

**Wednesday Afternoon Breakout Sessions**

*Session 1*

**Stress and cognitive processes regulating the experience of pain and touch**

**Chair:** Robert Bonin, Ph.D, University of Toronto, Leslie Dan Faculty of Pharmacy

**Speakers:** Robert Bonin, Ph.D, University of Toronto

Frank Porreca, PhD, University of Arizona, Dept of Pharmacology

Massieh Moayedi, PhD, University of Toronto, Faculty of Dentistry

**Symposium Abstract**

Pain is considered to be an “unpleasant sensory and emotional experience”. However, the relative pleasantness or unpleasantness of a sensory experience can be highly variable. The environmental, physiological, and cognitive context can profoundly affect how pain is experienced. For example, stress can both precipitate pain and amplify the unpleasantness of stimuli. The relationship between context and pain has been used in cognitive therapies designed to alleviate or diminish chronic pain.

In this symposium, we will examine the interplay between environmental and cognitive context on the perception and response to noxious and innocuous stimuli. First, Dr. Robert Bonin will discuss new work using optogenetic approaches to study how environmental conditions modulates response to gentle tactile stimuli. He will describe how mouse preference for the activation of sensory afferents responsive to gentle touch is abolished by stress in a manner dependent of the production of corticosterone. Next, Dr. Frank Porreca will describe a potential new mechanism underlying the relationship between stress and pain in functional pain states. His work reveals a kappa-opioid receptor mediated hyperalgesic circuit within the central amygdala that increases descending facilitation. Finally, Dr. Massieh Moayedi will describe data examining the contextual modulation of pain. He will demonstrate how interventions to cognitively re-evaluate the experience or response to a pain stimulus can modulate the perceived unpleasantness and neurophysiological response to pain. Together, these studies provide new mechanistic insight into the relationship between context and the cognitive and physiological response to noxious and innocuous stimuli.

**Modulation of responses to gentle touch stimuli by physiological and environmental factors:**

Robert Bonin, Ph.D

**Stress-induced descending facilitation from amygdala kappa opioid receptors in functional**

**pain:** Frank Porreca, PhD

Note: Session times and locations subject to change.



**The meaning of a painful stimulus modulates neurophysiological responses:** Massieh Moayed, PhD

#### Learning Objectives

- To understand how optogenetics can be used to investigate acute changes in tactile sensory processing in freely behaving animals.
- To learn how stress and stress hormones can modulate the central processing of sensory stimuli and the modulation of pain by descending noxious inhibitory control.
- To gain insights into how cognitive expectations of pain can modulate the experience of pain.

**14.30 -16.00**

#### Wednesday Afternoon Breakout Sessions

##### Session 2

#### Prioritizing pain provincially: The need for a comprehensive approach

**Chair:** Maria Hudspith, MA, Director, Strategic Initiatives, Pain BC

**Speakers:** Fiona Campbell, BSc, MD, FRCA, President Canadian Pain Society, Co-director Ontario Chronic Pain Network (Pediatric), Hospital for Sick Children  
Susan Tupper, PT, PhD, Saskatchewan Health Authority, Pain Strategy  
John X. Pereira, MD CM CCFP CIME CEDIR VI, President, Pain Society of Alberta, Co-Chair, Alberta Pain Strategy, Calgary, Alberta, Canada

#### Symposium Abstract

Recognizing the efforts and accomplishments in prioritizing pain in provinces and territories across the country, this symposium will explore the development process of three emerging provincial pain strategies.

While the presentations will focus on the Ontario, Saskatchewan, Alberta, and British Columbia pain strategies, we will be speaking to the complexities involved in system transformation efforts. This includes engaging a broad range of stakeholders with different interests and priorities, as well as the interconnected and sometimes competing components within pain strategies. By exploring in detail the efforts underway in these three provinces as a starting point, the symposium will promote discussions on navigating change in other provinces as well as broader system change efforts at a national level.

#### Ontario Chronic Pain Network Pain Strategy; structure, function, achievements

Fiona Campbell, BSc, MD, FRCA, President Canadian Pain Society, Co-director Ontario Chronic Pain Network (Pediatric), Hospital for Sick Children

#### SaskPain: Saskatchewan's journey to develop a provincial pain strategy

Susan Tupper, PT, PhD, Saskatchewan Health Authority, Pain Strategy

#### Alberta Pain Strategy: A Truly Provincial Collaboration

John X. Pereira, MD CM CCFP CIME CEDIR VI, President, Pain Society of Alberta, Co-Chair, Alberta Pain Strategy

#### Learning Objectives

- To learn about different system transformation approaches in the development of emerging provincial pain strategies
- To understand the objectives and the different components within provincial pain strategies and the relationship among them
- To situate research and practice in the broader policy context to help improve the lives of people living with pain

**14.30 -16.00 Wednesday Afternoon Breakout Sessions***Session 3***Interventional Procedures for the Management of Chronic Non-Cancer Pain**

**Chair:** Harsha Shanthanna, MD, MSc, FRCPC, Associate Professor, McMaster University, Dept of Anesthesia

**Speakers:** Ian Beauprie, MD, FRCPC, Associate Professor, Dalhousie University, Department of Anesthesia, Pain Management and Perioperative Medicine  
Philip Peng, MBBS FRCPC, Founder (Pain Med), Professor, University of Toronto, Dept of Anesthesiology and Pain Management  
Harsha Shanthanna, MD, MSc, FRCPC, McMaster University

**Radiofrequency procedures for chronic pain: Mechanism, Evidence and Public health implications:** Ian Beauprie, MD, FRCPC

**Interventions for the management of Hip and Knee Joint Pain:** Philip Peng, MBBS FRCPC

**Evidence Based Interventions for Chronic Pain: Present State and Future Directions:** Harsha Shanthanna, MD, MSc, FRCPC

**Learning Objectives**

- To understand the mechanisms of RF treatment; strategies to select patients; new indications and modalities; and the implications for health budgets as RF treatment becomes more widespread.
- To understand the limitations of existing treatments for hip and knee joint pain; appreciate the innervation of knee and hip joints and potential sensory targets for pain interventions; and to discuss the potential role of image guided nerve block and radio-frequency treatments for knee and hip joint pain.
- To understand the evidence behind commonly performed interventional pain treatments and their limitations; appreciate the need for clinical studies and guidelines to better inform clinicians to perform evidence-based interventions; and
- To be aware of the ongoing efforts to promote evidence-based pain interventions in Canada.

**14.30 -16.00 Wednesday Afternoon Breakout Sessions***Session 4***Cannabis in clinical practice: current and future state**

**Chair:** Lori Montgomery, MD CCFP FCFP, Clinical Associate Professor, Cumming School of Medicine, Departments of Family Medicine and Anesthesiology, Perioperative and Pain Medicine

**Speakers:** G. Michael Allan, BSc, MD, CCFP, College of Family Physicians of Canada  
Barry D Kurtzer, BSc, MD MRO (AAMRO), Senior Staff Advisor, MRO and Medical Programs (retired), Driver Check Inc.  
Hance Clarke, MD PhD FRCPC, Staff Anesthesiologist, Director of The Transitional Pain Program Medical Director Pain Research Unit Department of Anesthesia and Pain Management, Toronto General Hospital Assistant Professor, University of Toronto

**Symposium Abstract**

As we begin to determine how medical use of cannabis fits into the context of legalization, we have an opportunity to re-examine the existing evidence and refine our conversations with patients. This workshop will address three key issues: what does the evidence currently tell us about the role of cannabis in chronic pain, and how do we best share this with patients? What advice can we give our patients who are currently using cannabis (whether authorized or not) regarding impairment? What does the basic science tell us about the potential of cannabinoid

medications, and where might research lead in the future? The presentations will be followed by a panel Q&A with all speakers.

**Is it high time for medical cannabis: critical thinking about the evidence in chronic pain:**

G. Michael Allan, BSc, MD, CCFP

**Cannabis and impairment:** Barry D Kurtzer, BSc, MD MRO (AAMRO)

**The promise of cannabinoids and future directions:** Hance Clarke, MD PhD FRCPC

**Learning Objectives**

- Develop a patient-centred approach to discussing the evidence for cannabis in chronic pain
- Frame a conversation with a patient about possible impairment as a result of cannabis use
- With reference to the basic science of cannabinoids, explain the potential for cannabis in pain management, and consider possible avenues for future research

**16.00 - 17.00** Coffee | Posters | Tradeshow

**17:00 - 18.30** Wednesday Late-afternoon Breakouts

*Session 1* **Exploring Pain as a Multidimensional Experience: The Essential Role of Qualitative Research**

**Chair:** **Judy Watt-Watson**, RN, MSc, PhD, University of Toronto, Lawrence S. Bloomberg Faculty of Nursing

**Speakers:** **Fiona Webster**, PhD, University of Toronto, Institute of Health Policy Management and Evaluation (IHPME)

**Craig Dale**, RN PhD, University of Toronto, Lawrence S. Bloomberg Faculty of Nursing

**Nida Mustafa**, BSc., MHSc., PhD Candidate, University of Toronto, Dalla Lana School of Public Health

**Symposium Abstract**

Pain is defined as a multidimensional experience – a highly subjective phenomenon resulting from the interaction of physical, biochemical, physiological, cognitive, emotional, behavioral, and sociocultural factors. Pain is complex, context-sensitive, and often resistant to objective measurement. Research that focuses upon the subjective nature of pain can contribute to understanding of the manifold ways in which pain is experienced in clinical and nonclinical contexts. This is important as patients and clinicians continue to identify deficiencies in all aspects of acute and chronic pain management despite growing biomedical understandings of its causes and consequences. Qualitative methods of engaging patients and clinicians in pain science are strongly recommended by the Canadian Institutes of Health Research (CIHR) and the International Association of the Study of Pain (IASP). Patient and caregiver experiences are now identified as key pieces of evidence to inform clinical pain services, health professional training, experimental interventions, and topics for research investment. In this presentation, we offer examples of qualitative explorations that have changed our understanding of pain, offer insight into the potential facilitators and barriers to good pain management, and generate critical directions for future research.

**Narratives from learners about treating patients with chronic pain:** Fiona Webster, PhD

**Making pain visible through video and photo-elicitation:** Craig Dale, RN PhD

**The Influence of Context: Exploring immigrant Indian women's lived-experiences of chronic pain in Canada:** Nida Mustafa, BSc., MHSc., PhD Candidate

**Learning Objectives**

- To identify qualitative approaches to the exploration of pain across clinical and community settings
- To describe social theory as a powerful means of seeing and articulating pain as a multidimensional phenomenon.
- To consider how qualitative evidence can inform clinical pain services, health professional training, experimental interventions, and topics for research investment.

**17:00 - 18.30****Wednesday Late-afternoon Breakouts***Session 2***Getting Your Message Across: Learning to Communicate about Pain with Different Stakeholders and Knowledge Users**

**Chair:** **Christine Chambers**, Departments of Pediatrics and Psychology & Neuroscience, Dalhousie University

**Speakers:** **Neil Andrews**, MS, MA, Pain Research Forum, International Association for the Study of Pain

**Maria Hudspith**, MA, Executive Director, Pain BC

**Erica Ehm**, YMC.ca and Ehm & Co

**Symposium Abstract**

Being able to effectively communicate about pain with different types of stakeholders and knowledge users (e.g., patients, caregivers, policy makers, the public at large) is critical in order to improve health outcomes and quality of care for patients with pain. Yet most of the formal training pain researchers and clinicians receive prepares them only for communicating with other researchers and clinicians. This workshop will provide an overview of effective communication strategies for different types of stakeholders and knowledge users, and will capitalize on the expertise and experiences of three professional communicators. Neil Andrews, Executive Editor of Pain Research Forum/RELIEF, will present on strategies for making science more accessible to the public. Maria Hudspith, Executive Director of Pain BC, will present on strategies to communicate effectively with policy makers to promote change. Erica Ehm, founder of YMC.ca (an award winning on-line publication for Canadian mothers) and owner of Ehm & Co (a digital agency specializing in the mother market) will talk about strategies to effectively communicate and engage with Canadian parents. In addition to sharing effective strategies, common mistakes and pitfalls will also be discussed. We will use Twitter during the symposium to take polls, share information, and promote engagement. The symposium will conclude with an interactive question and answer period. The role of effective communication in promoting dissemination and implementation of evidence to change practice and improve pain for patients in pain will be emphasized.

**Making Science Accessible to the Public: What a RELIEF!:** Neil Andrews, MS, MA

**Getting Pain on the Agenda: Communicating with Policy Makers to Catalyze Change:** Maria Hudspith, MA

**The Art Behind the Science: Communicating and Engaging with Parents:** Erica Ehm

**Learning Objectives**

- To learn of the challenges facing efforts to translate complicated science into understandable language and how to overcome them.
- To understand the collective impact model as it applies to advancing policy change and to learn strategies for communicating with provincial and national policy makers
- To gain understanding of cutting-edge strategies from marketing that could be used to communicate and engage with parents about pain research and management.

17:00 - 18.30

**Wednesday Late-afternoon Breakouts***Session 3***Mental expectations and neurobiological determinants of treatment outcomes**

**Chair:** **Mary E Lynch**, MD FRCPC, Dalhousie University, Department of Anesthesia, Pain Management & Perioperative Medicine

**Speakers:** **Ian Beauprie**, MD, FRCPC., Dalhousie University, Department of Anesthesia, Pain Management & Perioperative Medicine

**Javeria Ali Hashmi**, Bpharmacy, MSc, PhD, Department of Anesthesia, Pain Management & Perioperative Medicine, Dalhousie University

**A. Vania Apkarian**, PhD, Professor of Physiology, Anesthesia, PM&R Northwestern University, Feinberg School of Medicine

**Symposium Abstract**

It is recognized that endogenous pain relief systems, such as opioid circuitry in the brain, contribute to treatment outcomes of pain. Several neuroimaging studies have consistently highlighted that brain circuits are equipped to adjust pain intensity through learning, motivation and attention systems. Another phenomenon validated in several recent studies is that prior mental states and associated brain activity are significant indicators of intrinsically mediated changes in symptoms that occur on starting a new treatment. Thus, whether an individual has the endogenous capacity to mentally engage and respond to treatment is determined by patterns of brain connectivity. That optimally pre-configured brain circuits are a pre-requisite for better treatment outcomes is a potentially useful observation and needs wider acknowledgement to be clinically useful. New conceptual models and analysis techniques that look at macro-level brain structure and function in large-scale data are quickly revolutionizing this ability. Blue-sky research goals to predict, deploy and enhance these intrinsic responses are seeing a quick surge and may soon change how we diagnose and treat chronic pain. An important implication of these new approaches is that endogenous analgesia and placebo responses will be no longer seen as a non-specific or cryptic response, relevant only to clinical trials and devoid of value in the clinic. This symposium will highlight the role of the brain, the associated mechanisms and the psychological and clinical factors that shape the endogenous aspects of treatment response.

**I am here for my oxy and my medical marijuana—I know it will work!': clinician perspective on patient expectations in chronic pain clinics:** Ian Beauprie, MD, FRCPC.

**Theory, mechanisms and teleological roots of expectation effects on pain therapy:** Javeria Ali Hashmi, Bpharmacy, MSc, PhD

**Chronic pain as addiction and as an exaggerated memory:** A. Vania Apkarian, PhD

**Learning Objectives**

- Given the recognized magnitude of the placebo response (expectation effect), should a responsible clinician seek to eliminate it or amplify it?
- To overview theories and neurobiological mechanisms that mediate expectation effects on pain in experimental and clinical models.
- To understand that neurobiological and personality factors can predict the development of chronic pain and treatment outcomes.

17:00 - 18.30

**Wednesday Late-afternoon Breakouts***Session 4***Social mechanisms underlying the pain experience: Novel frameworks for examining the influence of social context.**

**Chair:** **Loren Martin**, PhD, Assistant Professor, Dept of Psychology, University of Toronto

**Speakers:** **Loren Martin**, PhD, University of Toronto

Note: Session times and locations subject to change.

**Andrey Ryabinin**, PhD, Professor, Department of Behavioral Neuroscience, Oregon Health & Science University

**Kristen Jastrowski Mano**, PhD, Assistant Professor, Department of Psychology, University of Cincinnati

### Symposium Abstract

Pain is considered a personal experience, but it is, in fact, rarely private. Individuals' behavioral responses to pain function to communicate distress to others in the environment, eliciting emotional reactions and caregiving actions that will in turn impact the sufferer's pain experience. This symposium will highlight the importance of understanding the social context of pain from a mechanistic perspective and how social threat alters the pain experience and emotionality in general and chronic pain populations. Evidence from both the basic science and clinical perspectives will be presented, illustrating how pain experiences can impact social interactions and how reactions from others in the social environment and the environment itself impact the sufferer's pain experience. Given the complex nature of social context and social interactions on pain sensitivity in humans and non-human animals, dissecting their integral role in mediating pain outcomes is critical. Our goal is to engage clinicians with pain neuroscientists to address how basic and clinical scientists can best address these complex questions. Thus, speakers will provide insight into (1) the fundamental mechanisms that engage the neural circuits responsible for pain modulation via social context, (2) the social transmission of pain sensitivity and lastly (3) how attentional biases to social threat may represent a critical mechanism underlying the co-occurrence of chronic pain and anxiety among chronic pain patients.

### Examining the neural circuits and molecular targets for the social modulation of pain:

Loren Martin, PhD

**Social transfer of hyperalgesia in rodents:** Andrey Ryabinin, PhD

**Attentional bias to social threat in pediatric chronic pain:** Kristen Jastrowski Mano, PhD

### Learning Objectives

- To understand the neural circuits and molecular targets for the social modulation of pain.
- To understand the contribution of social environment to induction of pain and the role underlying neural circuits.
- Illustrate how attentional biases to social threat represent an important mechanism underlying the co-occurrence of chronic pain and anxiety.

**19.00 - 22.00**

### Trainee Social: Off-site

Free to attend; however, separation registration required - [Click here](#) to register  
The Ballroom, 145 John Street, Toronto

# Thursday, April 4, 2019

**07.00 - 08.00**      **Breakfast and Poster Setup**

**08.00 - 08.30**      **CPS's Annual General Meeting: A chance to have your say!**  
Plenary Room

**08.30 - 08.45**      **Opening Remarks**

**08.45 - 09.30**      **Plenary Session: Opioid Receptors and the Brain**

**Keynote speaker:** Brigitte Kieffer, PhD, Scientific Director at the Douglas Mental Health University Institute; Professor, Department of Psychiatry, McGill University; Chair, Monique H. Bourgeois in Pervasive Developmental Disorders, Faculty of Medicine of McGill University; Canada Research Chair

**09.30 - 10.30**      **Coffee | Posters | Tradeshow | Poster Judging**

**10.30 - 12.00**      **Thursday Morning Breakout Sessions**

*Session 1*      **Ethical, Legal, and Social Dimensions of Chronic Pain: Considerations for Medical Assistance in Dying, the Overdose Crisis, and a National Pain Strategy**

**Chair:**            **Daniel Z. Buchman**, PhD, MSW, RSW, Bioethicist and Clinician Investigator, University Health Network

**Speakers:**    **Jennifer A Chandler**, BSc, JD, LLM, Professor, Bertram Loeb Research Chair, Centre for Health Law, Ethics and Policy, Faculty of Law, University of Ottawa  
**Daniel Z. Buchman**, PhD, MSW, RSW, Bioethicist and Clinician Investigator, University Health Network  
**Karen D. Davis**, PhD, FCAHS, Krembil Research Institute, Division of Brain, Imaging and Behaviour – System Neuroscience

### **Symposium Abstract**

Chronic pain remains a major public health problem in Canada and globally. There are promising advances in science and technology that could improve the management of pain. North American society is also in the midst of an alarming rise in individual and population-level harms due to opioid-related overdoses. Efforts towards improving pain management as well as opioid-related morbidity and mortality have raised ethical, legal, and social questions for pain sufferers and their families, clinicians, scientists, and policymakers. Recent societal changes relevant to pain include a landmark Supreme Court of Canada decision, where the experience of pain and intolerable suffering featured prominently in the Court's decision to permit eligible persons to request euthanasia. These social transformations exist alongside efforts to develop a National Pain Strategy for Canada. This Strategy will be instrumental in defining a Canadian approach for pain management, research, and education. In this symposium, we address the ethical, legal, and social dimensions of three timely issues that affect pain management, research, education, and policy in Canada. First, we discuss pain, suffering, and eligibility for euthanasia. Second, we examine the ethics of stigma, chronic pain, and substance use disorders in context of the overdose crisis. Finally, we explore how neuroethics should be considered and included in the creation of Canada's first National Pain Strategy.

**Pain Syndromes, Suffering, and Canada's New Medical Assistance in Dying Law:**  
Jennifer A Chandler, BSc, JD, LLM

**Chronic Pain, Substance Use, and Stigma in Context of the Overdose Crisis:**  
Daniel Z. Buchman, PhD, MSW, RSW

Note: Session times and locations subject to change.

**Neuroethics Considerations for a National Pain Strategy:** Karen D. Davis, PhD, FCAHS**Learning Objectives**

- Understand the ethical and legal issues associated with pain syndromes and eligibility for medical assistance in dying;
- Recognize how chronic pain and substance use stigma may become intensified in context of the current overdose crisis;
- Explore how neuroethics issues should be considered in the development of a National Pain Strategy for Canada and the future of pain policy.

**10.30 - 12.00****Thursday Morning Breakout Sessions***Session 2***Pain after traumatic brain injury: A clinical and molecular perspective towards better management and prevention**

**Chair:** **Gilles Lavigne**, DMD, PhD, Université de Montréal, Hôpital du Sacré-Coeur de Montréal

**Speakers:** **Céline Gélinas**, RN, PhD, McGill University, Centre for Nursing Research and Lady Davis Institute of the Jewish General Hospital

**Caroline Arbour**, RN, PhD, Université de Montréal, Hôpital du Sacré-Coeur de Montréal

**Samar Khoury**, PhD, McGill University

**Symposium Abstract**

Pain relief is a challenge in the context of traumatic brain injury (TBI) as many patients are temporarily unable to self-report. This is concerning because chronic pain is one of the most enduring sequelae of TBI and poorly managed pain in the acute phase of recovery could play a role in its development. Prevention of pain chronicity in this patient group starts with the use of validated tools to detect signs of unalleviated pain. A better understanding of the determinants associated to the emergence and maintenance of pain after TBI could also help clinicians identify at risk patients during the early stages of recovery. Ultimately, digging into the genetic profile of TBI individuals with chronic pain offers a new opportunity to match affected patients to suitable treatments. This symposium brings together clinicians and basic scientists to give an overview of the recent breakthroughs in our understanding of risk factors and preventive strategies for the alleviation of pain after TBI. After providing a brief introduction on the challenges surrounding pain assessment after TBI, Céline Gélinas will discuss her latest work regarding the adaptation of a behavioral pain scale for critically ill brain trauma patients. Caroline Arbour will describe the early clinical profile of TBI patients with persistent pain and investigate the possible underlying mechanisms. The session will conclude with a presentation from Samar Khoury, who will wrap-up the session and present emerging evidence supporting the plus value of genetic profiling to understand and treat chronic pain after TBI.

**Pain assessment in critically ill brain-injured patients: Filling a gap into practice:**

Céline Gélinas, RN, PhD

**Early identification of patients at risk of chronic pain after TBI: How thinking outside the box could get us a long way:** Caroline Arbour, RN, PhD**Using genetics to predict chronic pain in mild traumatic brain injury:** Samar Khoury, PhD**Learning Objectives**

- To share recent advances in pain assessment in the critical phase of TBI recovery
- Gain new insight into the clinical profile of TBI individuals who are at risk of transitioning from acute to chronic pain
- Project how genetics can be used to understand and treat chronic pain after TBI



**10.30 - 12.00 Thursday Morning Breakout Sessions***Session 3***Neuromodulation for pain – choosing the right modality for the right patient at the right time**

**Chair:** **Anuj Bhatia**, MD FRCP, University Health Network, Department of Anesthesia and Pain Medicine, University of Toronto

**Speakers:** **Angela Mailis**, MD MSc FRCP, University Health Network, Pain and Wellness Centre, Department of Medicine, University of Toronto  
**Anuj Bhatia**, MD FRCP, University Health Network, Department of Anesthesia and Pain Medicine, University of Toronto  
**Amitabh Gulati**, MD, Memorial Sloan Kettering Cancer Centre, Department of Anesthesia and Pain Medicine

**Symposium Abstract**

Neuromodulation including spinal cord (SCS) and peripheral nerve stimulation (PNS) is now increasingly available and it has a favorable benefit-to-risk profile with significant economic benefits for patients and the society. Traditionally, neuromodulation techniques are used to treat chronic neuropathic pain syndromes, but more recently, nociceptive pathologies have also been successfully treated. Offering neuromodulation early and to patients with appropriate indications are the keys to optimizing long-term outcomes. There is strong evidence to support benefits of SCS in peripheral neuropathic pain and its superiority over repeat surgery for patients with history of previous spine surgery. Paresthesia-based, tonic SCS (PB-SCS) has been extensively used to treat neuropathic pain in the limbs with or without axial pain with mean reduction in pain intensity of over 60%. However, PB-SCS suffers from limitations including attenuation of benefit with time and or problems with painful or unwanted paresthesias. Newer modes of SCS and recent advances in hardware for PNS have expanded the indications for neuromodulation and can improve the efficacy of neuromodulation in the pain population. This symposium will cover three key areas of current clinical and research interest – patient selection, mechanisms and outcomes of paresthesia-free SCS, and role of PNS in current pain management.

**Patient selection for neuromodulation – who is likely to benefit and who will not:**

Angela Mailis, MD MSc FRCP

**New modes of spinal cord stimulation (SCS) - High Frequency, Burst, High Density, and DRG stimulation – mechanisms of action and outcomes:** Anuj Bhatia, MD FRCP

**It is not all about the spinal cord – peripheral nerve stimulation for pain:** Amitabh Gulati, MD

**Learning Objectives**

- Attendees will be able to identify patients who can benefit from neuromodulation.
- Attendees will be able to understand mechanisms of new modes of spinal cord stimulation and the principles of evaluating outcomes of these modes in patients who trial these modes.
- Attendees will be able to recognize indications for the role of peripheral neuromodulation in patients with neuropathic pain.

**10.30 - 12.00 Thursday Morning Breakout Sessions***Session 4***Genes, Environments and Development in Pain: Crossing the Translational Divide**

**Chair:** **Marco Battaglia**, MD, Centre for Addiction & Mental Health Division of Child Youth and Emerging Adult Programme & Dept of Psychiatry University of Toronto

**Speakers:** **Marco Battaglia**, MD, Centre for Addiction & Mental Health Division of Child Youth and Emerging Adult Programme & Dept of Psychiatry University of Toronto  
**Yves De Koninck**, PhD, CERVO Brain Research Centre & Laval University  
**Steven Miller**, MD, Hospital for Sick Children; University of Toronto  
**Simon Beggs**, PhD, UCL Great Ormond Street Institute of Child Health, London, UK

Note: Session times and locations subject to change.

**Symposium Abstract**

This symposium will address the roles of genetic and environmental factors that influence risk for pain, and the possible gene-environment interplay. Special emphasis will be put on the developmental years: how early-life adversities and exposure to moderately harmful stimuli can modify the perception of pain in a stable manner, and influence the risk for prospective pain syndromes. This symposium brings together researchers and clinicians from both the human and the experimental fields, and will showcase investigations 'from preclinical to human, and back'. At the end of the symposium the listener will be able to appreciate how genetic and environmental factors influence pain early in life, how these processes likely unfold in a dynamic interplay, and how some preclinical data can be transferred to early risk identification and treatment applications in man.

**Genes and Environment in Adolescent Pain: Concepts and Research Strategies:** Marco Battaglia, MD

**Early interference with parental cares and altered nociception: learning from preclinical modelling:** Yves De Koninck, PhD

**The Early Environment of Preterm Newborns: Implications of Pain for Brain Development:** Steven Miller, MD

**Early-life pain experiences and their implications for persistent pain in adult life:** Simon Beggs, PhD

**Learning Objectives**

- Learn about how to study genetic and environmental influences on pain early in life in human populations and pre-clinically;
- How these processes likely unfold in a dynamic interplay, and how some preclinical data can be transferred to early risk identification and treatment applications in man
- How early environment may affect brain development, pain proclivity, and pain persistence in adult life.

**12.00 - 13.30** Lunch | Posters | Tradeshow

**12.00 - 13.30** Women in Learning and Leadership (WILL) Lunch

Our Women in Learning and Leadership (WILL) has been established to provide a platform to inform, inspire, and promote women in academic, research, clinical, and policy environments related to the field of pain. We also encourage men to be engaged in this platform to raise awareness and perspectives for and from men. We are thrilled to announce that the 2019 session will open with talks from three prominent figures in learning and leadership, followed by a panel discussion, and Q&A.

**Speakers:** **Janet Rossant** PhD, CC, FRS, FRSC, Senior Scientist and Chief of Research Emeritus, Hospital for Sick Children  
**Lisa Robinson** MD, FRCP(C), Associate Dean, Inclusion and Diversity, Faculty of Medicine, University of Toronto  
**Jim Woodgett** PhD, Senior Investigator and Director of Research, Lunenfeld-Tanenbaum Research

**13.30 - 15.00** Thursday Afternoon Breakout Sessions

*Session 1*

**Advances in Magnetic Resonance Imaging of Human Spinal Cord: Challenges and Opportunities for Pain Researchers and Clinicians**

**Chair:** **Ali Khatibi**, Ph.D, Dept of Neurology and Neurosurgery, McGill University  
**Speakers:** **Christian Buchel**, MD., Department of Systems Neuroscience, University Medical Center Hamburg-Eppendorf, Hamburg, Germany  
**Ali Khatibi**, Ph.D, Dept of Neurology and Neurosurgery, McGill University

Note: Session times and locations subject to change.

**Robert L. Barry**, PhD, Athinoula A. Martinos Center for Biomedical Imaging, Dept of Radiology, Massachusetts General Hospital, Harvard Medical School

### Symposium Abstract

The spinal cord has long been known to be an important part of the central nervous system especially when it comes to the study of pain processing and its modulation. The spinal cord has received considerable attention in animal model studies, but some limitations (e.g., small diameter, physiological noise, high diversity in the shape) have hindered studying the spinal cord in living humans. Recent advances in magnetic resonance imaging (e.g., development of new tools, improvement of sequences and machines) have allowed researchers to study the structure and the function of the spinal cord in vivo. This symposium will present the state-of-the-art in structural and functional imaging of the human spinal cord, and describe the existing opportunities and challenges in this field. We will present specific examples of neuroimaging studies that focus on the role of the spinal cord in the processing and modulation of pain in humans. We will deliver guidelines and suggestions for future experimental and clinical studies interested in imaging the human spinal cord.

**Combined fMRI of the brain and the spinal cord in pain research:** Christian Buchel, MD

**Understanding and modelling physiological noise in functional imaging of the human spinal cord:** Ali Khatibi, PhD

**Magnetic resonance imaging (MRI) of the human spinal cord at 7 Tesla:** Robert L. Barry, PhD

### Learning Objectives

- Understanding the interplay of the ascending and descending nociceptive system from the dorsal horn to the cortex
- Understanding the importance of modelling physiological noise in functional imaging of the human spinal cord
- Exploring the challenges and opportunities of spinal cord imaging at ultra-high magnetic fields

**13.30 - 15.00**

### Thursday Afternoon Breakout Sessions

*Session 2*

### Pain in autoimmune disease

**Chair:** **Bradley Kerr**, PhD, University of Alberta, Dept of Anesthesiology and Pain Medicine

**Speakers:** **Bradely Kerr**, PhD, University of Alberta, Dept of Anesthesiology and Pain Medicine

**Nader Ghasemlou**, PhD, Queen's University, Dept of Anesthesiology and Pain Medicine

**Ji Zhang**, MD, PhD, McGill University, The Alan Edwards Centre for Research on Pain

### Symposium Abstract

Multiple sclerosis (MS) and Guillain Barre Syndrome (GBS) are the two most frequently observed forms of autoimmune neuropathy in clinics. Often masked by muscle weakness and progressive paralysis, pain, although invisible, occurs often in these patients and is one of the most long-lasting sequelae of autoimmune neuropathy. However, the pathophysiology of pain in autoimmune disease is poorly understood. In this workshop, we will 1) discuss the animal model commonly used to study MS and examine new methodologies that allow us to analyze changes in sensory function while removing many of the confounds of motor impairment; 2) discuss the most recent findings on neuronal mechanisms of pain in MS highlighting the role of peripheral sensory ganglia in this process; 3) demonstrate the evidence of viral infection and injury triggered GBS like symptoms in mice and discuss the key role of CD8 T cell-macrophage interaction in autoimmune peripheral neuropathy-associated chronic pain.

Note: Session times and locations subject to change.

**The role of the peripheral nervous system in central neuropathic pain: changes in primary sensory neurons in an animal model of CNS autoimmune demyelination:** Bradely Kerr, PhD

**New approaches to modeling pain in MS:** Nader Ghasemlou, PhD

**The essentials of CD8 T cell-macrophage interaction in autoimmune peripheral neuropathy and associated chronic pain:** Ji Zhang, MD, PhD

#### Learning Objectives

- After this symposium, the learner will become familiar with novel animal models that model the pathophysiology of different autoimmune diseases.
- After this symposium, the learner will understand how the peripheral nervous system reacts and impacts on sensory function in disease states primarily affecting the CNS.
- After this symposium, the learner will gain insight into novel, immunological mechanisms that lead to pain in autoimmune peripheral neuropathy.

**13.30 - 15.00**

#### Thursday Afternoon Breakout Sessions

##### Session 3

**Keeping the “I” in Pain: Theoretical, Methodological and Clinical Strategies for Integrating the Subjective Experience of Pain Within Research and Practice.**

**Chair:** **Timothy H. Wideman**, PT, PhD, McGill University, School of Physical and Occupational Therapy

**Speakers:** **Timothy H. Wideman**, PT, PhD, McGill University, School of Physical and Occupational Therapy

**Eloise Carr**, BSc(RN), MSc, PhD, University of Calgary, Faculty of Nursing

**Stephen G. Henry**, MD, MSc; University of California – Davis; Dept of Internal Medicine, Sacramento, California

#### Symposium Abstract

The “Holy Grail” for pain assessment research is often framed as an objective biomarker that can validate, or invalidate, the reported pain experience and guide clinical decision-making. The broader context for this quest, is a literature base that has historically emphasized the use of quantitative methodologies to study pain. Within this context, pain assessment strategies are typically focused on aspects of pain most readily communicated through numbers, such as pain intensity ratings or pain threshold levels. While quantitative pain measures are vital to understanding and targeting mechanisms and benchmarking management, they often overlook important attributes of the subjective experience, such as the personal context and meaning that shape our experiences of pain and suffering. This workshop aims to provide a novel perspective on the flipside of this historic trend by highlighting the inherent value of and need for qualitative methodologies that specifically address subjectivity related to pain. Presentations will provide theoretical, methodological and clinical perspectives on how to integrate personal language with standardized measures in order to better address the subjective experience of pain. Workshop presenters will speak from their diverse clinical backgrounds in physical therapy, nursing and medicine and research experience that draws on both qualitative and quantitative methodologies. Researchers and clinicians in the audience are expected to develop a new way of considering pain assessment that emphasizes the relative ability and value of different methodologies in addressing the subjective experience of pain.

**The Multi-modal Assessment Model of Pain: A novel conceptual framework for further integrating the subjective pain experience within research and practice:**

Timothy H. Wideman, PT, PhD

**The added value of mixed methods research: Connecting and integrating the patient’s voice in pain research:** Eloise Carr, BSc(RN), MSc, PhD

**Clinical strategies for evaluating the subjective nature of pain in primary care:**

Stephen G. Henry, MD, MSc;

**Learning Objectives**

- Develop a new conceptual framework for understanding how the inherent subjectivity of pain influences its assessment and management.
- Understand how to effectively integrate qualitative and quantitative research methodologies to better access novel aspects of the subjective experience of pain.
- Develop practical clinical skills for evaluating and addressing patients' subjective experiences of pain within challenging primary care settings.

**13.30 - 15.00 Thursday Afternoon Breakout Sessions***Session 4***Trauma-Related Symptoms Associated with Chronic Pain, Traumatic Injury, and Major Surgery in Youth and Adults: Neurobiological, Psychological and Public Health Perspectives****Chair:** Hance Clarke, MD, FRCPC, PhD, Toronto General Hospital, Department of Anesthesia and Pain Management

**Speakers:** **Jillian Vinall**, PhD, University of Calgary, Anesthesia  
**Joel Katz**, PhD, York University, Psychology Department and Toronto General Hospital, Department of Anesthesia and Pain Management  
**Melita Giummarra**, BA (honours), PhD, School of Public Health and Preventive Medicine, Monash University, Melbourne, Victoria, Australia

**Symposium Abstract**

Globally, pain, mental health conditions and trauma lead to some of the greatest burden of disability across the lifespan. Understanding the mechanisms and manifestations of these problems is therefore a major public health priority to enable us to develop and deliver more effective and timely interventions to the right person at the right time. In this symposium, Dr Jillian Vinall will first discuss the co-occurrence of post-traumatic stress disorder symptoms in youths with chronic pain, and will present novel insights into neurobiological mechanisms associated with varying levels of PTSD symptoms in youths with chronic pain. Second, Dr. Joel Katz will discuss the role of sensitivity to pain traumatization and anxiety-related disorders in the manifestation of persistent pain both before and after major surgery. Sensitivity to pain traumatization describes the propensity to develop anxiety-related responses to pain that are similar to traumatic stress reactions, but are specific to pain as the traumatic experience. Finally, Dr Melita Giummarra will provide an overview of the prevalence and trajectories of pain and mental health problems after traumatic injury in adolescents through to older adults using population-level trauma registry data from Victoria, Australia. These neurobiological, psychological and population level modelling insights have significant implications for the delivery of early, timely, appropriate and effective interventions across the lifespan. We will therefore highlight important policy implications for improved delivery of services and treatments for pain and mental health that might ultimately lead to reductions in the global burden of pain and mental health conditions.

**PTSD symptoms and chronic pain in youth: shared neurobiology as a mutually maintaining mechanism:** Dr. Jillian Vinall, PhD

**Sensitivity to Pain Traumatization: Links between Trauma and Pain in Surgical Patients and Patients with Anxiety Disorders:** Joel Katz, PhD

**Pain and mental health after injury: Who experiences persistent problems, and what role might early interventions have?:** Dr Melita Giummarra, PhD

**Learning Objectives**

- To better understand the neurobiological mechanisms underlying the development and maintenance of chronic pain and comorbid posttraumatic stress symptoms in youth.
- To better understand the psychosocial constructs underlying the risk of developing comorbid chronic pain and anxiety disorders.
- To provide an understanding of the predominant trajectories of pain and mental health over the first two years following injury, which can be used to proactively deliver timely and effective treatments to reduce the burden of injury.

**15.00 - 16.00** Coffee | Posters | Tradeshow

**15.30 - 16.00** Special Session:

**Introducing...Solutions for Kids in Pain**

**Christine T. Chambers**, PhD Scientific Director, Solutions for Kids in Pain

*Are you a clinician who wants to improve pain management for children in your unit or institution? Are you a scientist or trainee who wants to get the results of your pediatric pain research directly into the hands of the people who can use it? Are you a patient or caregiver who wants to learn how you can use your experience to improve pain management for other children and families?*

Canada is a world leader in children's pain research and effective treatments exist, but this research evidence is not consistently mobilized into practice due to barriers and disjointed efforts. Come to this introductory session to learn more about "Solutions for Kids in Pain" (SKIP), a newly formed knowledge mobilization network, based at Dalhousie University and co-led by Children's Healthcare Canada. SKIP seeks to bridge the gap between current treatment practices and available evidence-based solutions for children's pain in Canadian health institutions. SKIP's vision is healthier Canadians through better pain management for children, with a mission to improve children's pain management by mobilizing evidence-based solutions through coordination and collaboration. SKIP brings together Canada's world-renowned pediatric pain research community, front-line knowledge user organizations, and end beneficiaries (patients and caregivers). Guided by a diverse and experienced Board, SKIP capitalizes on the engagement of: 48 Children's Healthcare Canada member organizations, over 75 partners, 4 regional hubs, and patients and caregivers (using a "Patients Included" approach) to collaborate and co-produce interconnected knowledge mobilization activities. Our goal is improved children's pain management in Canadian health institutions.

All are welcome. Come and learn more about how *you* can be a part of making a difference for children in pain and their families!

**16.00 - 17.30** Thursday Late Afternoon Sessions

*Session 1*

**Hot Topics****Parent Emotional Presence during Child Pain: Examining Parent Emotion Regulation and Mindfulness during their Child's Cold Pressor Task**

**Rachel Moline**, MA, University of Guelph, Department of Psychology

**Characterisation of spinal sensorimotor circuit re-organisation following peripheral nerve injury**

**Charlie Kwok**, BSc(Hons), PhD, Hotchkiss Brain Institute, Department of Veterinary Medicine

**Investigating the neural basis for music modulation of pain in the brain and brainstem using functional MR**

**Jocelyn M Powers**, BScH, Queen's University, Centre for Neuroscience Studies

**The effect of smoking on patients attending a tertiary pain management center: a propensity-weighted analysis on the Collaborative Health Outcomes Information Registry**

James S Khan, MSc MD, University of Toronto, Department of Anesthesiology

**The neural mechanisms behind conditioned analgesia in chronic neuropathic pain**

Chulmin Cho, PhD, University of Toronto, Psychology

**Can sensitivity to physical activity predict objectively measured activity levels better than psychological factors?**

Daniel Flegg, BSc, McGill University, School of Physical and Occupational Therapy

*Session 2*

**Temporomandibular disorders: insights from musculature, brain, and genes**

**Chair:** Barry Sessle, MDS, PhD, DSc(h.c.), University of Toronto, Faculty of Dentistry

**Speakers:** Iacopo Cioffi, DDS, PhD, Faculty of Dentistry, University of Toronto, University of Toronto Centre for The Study of Pain

Massieh Moayed, PhD, University of Toronto

Shad Smith, PhD, Center for Translational Pain Medicine, Duke University

**Symposium Abstract**

Temporomandibular disorders (TMD) commonly manifest jaw muscle pain and represent the most common chronic orofacial pain disorder. TMD affect about 12% of Canadians and pose a significant socioeconomic burden on society. Although several risk factors are associated with myofascial TMD (mTMD), clear organic causes for TMD pain have not been proven. This ambiguity contributes to the frequent misdiagnosis and hence mistreatment of mTMD and poses a significant and unnecessary burden on patients and the healthcare system. About 30% of individuals with TMD report pain up to at least 5 years after treatment regardless of the type of management they have received. This relatively high rate of treatment resistance is partly related to uncertainties about the mechanisms underlying mTMD. There is a clear unmet need for clarifying the peripheral and central mechanisms of TMD in order to develop novel treatment strategies. This symposium will present new research findings and discuss novel research modalities that have advanced our understanding of TMD and promise to lead to the development of such treatments. A particular strength of this symposium is the convergence of evidence across different disciplines (genetics, muscle physiopathology, and brain imaging) with regard to orofacial pain mechanisms.

**Functional and structural muscular signatures of chronic temporomandibular disorders:**

Iacopo Cioffi, DDS, PhD

**Structural and functional brain and trigeminal nerve abnormalities in temporomandibular disorders (TMD):** Massieh Moayed, PhD

**Discovery of novel mechanisms for orofacial pain disorders through genome wide approaches:**

Shad Smith, PhD

**Learning Objectives**

- Attendees will improve their understanding of jaw muscle physiopathology
- Attendees will learn about novel diagnostic approaches for orofacial pain
- Attendees will be able to identify novel methods for phenotyping orofacial pain

**16.00 - 17.30 Thursday Late Afternoon Sessions***Session 3***Let's Talk about (Painful) Sex!**

- Chair:** **Paul Yong**, MD, PhD, B.C. Women's Hospital and Health Centre & Vancouver General Hospital, Obstetrics and Gynecology
- Speakers:** **Lana Barry**, MEd, University of Victoria, Centre on Aging  
**Paul Yong**, MD, PhD, B.C. Women's Hospital and Health Centre & Vancouver General Hospital  
**Kate Wahl**, BSc, University of British Columbia, School of Population and Public Health  
**Natasha Orr**, MSc, University of British Columbia, Department of Obstetrics and Gynecology

**Symposium Abstract**

As many as 60% of women report experiencing sexual pain in their lifetime. This symptom negatively impacts psychosocial wellbeing, intimate relationships, and quality of life. Despite these sequelae, female sexual pain is under-researched and is often dismissed or mismanaged. The objective of this symposium is to summarize the pathophysiology and treatment of sexual pain in the context of clinical practice, research, and the patient experience. First, patient advocate Lana Barry will share her experience with sexual pain and highlight the importance of patient partners in research. Next, Dr. Paul Yong will discuss the etiology, diagnosis, and management of sexual pain. Finally, Natasha Orr and Kate Wahl will present quantitative and qualitative approaches to the investigation of female sexual pain.

**The Journey from Pain to Advocacy: A Patient Partner Experience:** Lana Barry, MEd

**One Size Does NOT Fit All: A Multi-disciplinary Perspective on the Pathophysiology and Treatment of Female Sexual Pain:** Paul Yong, MD, PhD

**Two Half of a Whole: Quantitative and Qualitative Methods in Female Sexual Pain Research:** Kate Wahl, BSc and Natasha Orr, MSc

**Learning Objectives**

- Realize the significant impact of female sexual pain from a patient perspective
- Understand the relationship between the etiology and multidisciplinary treatment of female sexual pain
- Learn about the examples of qualitative and quantitative methods in sexual pain research

**16.00 - 17.30 Thursday Late Afternoon Sessions***Session 4***Time for a PEP talk: Building the evidence for Patient Engagement in Pain**

- Chair:** **Carley Ouellette**, BScN RN, McMaster University, Nursing
- Speakers:** **Dawn Richards**, PhD, Chronic Pain Network, McMaster University  
**Christine Chambers**, PhD, Depts of Pediatrics and Psychology & Neuroscience, Dalhousie University  
**Kathryn Birnie**, PhD, Lawrence S. Bloomberg Faculty of Nursing, University of Toronto & Child Health Evaluative Sciences, The Hospital for Sick Children

**Symposium Abstract**

Public or patient engagement in research is "...research being carried out 'with' or 'by' members of the public rather than 'to', 'about', or 'for' them" (INVOLVE, 2018). Patient engagement represents a shift from the traditional view of patients as research participants to one that empowers patients, otherwise identified as 'people with lived experience', as partners and co-builders on research teams. Evidence suggests that engaging patients as collaborators enhances



the quality, appropriateness, and relevance across stages of the research process. This includes increased study enrolment and decreased attrition, improved data collection tools, more effective dissemination and implementation of study findings, better researcher-community rapport, and closer alignment of research objectives to patient-identified priorities. However, challenges to greater uptake of patient engagement identified by researchers include difficulties identifying representative and appropriate patients, uncertainty about the scope of patients' roles, perceived lack of evidence regarding the impact of patient engagement, and the need for researcher education and culture change as a prerequisite. Thus, there is a need for continual knowledge generation and reflective practice regarding patient engagement in health research. The objective of this symposium is to illustrate diverse, meaningful, and active partnership of people with lived experience with pain and their families, in pain research governance, priority setting, research conduct, and knowledge translation. This symposium draws from multiple expert perspectives, including two individuals with lived experience with pain and extensive involvement with patient engagement (symposium chair and first speaker), as well as two researchers leading national patient engagement practice in pain research (speakers).

**Integration of Lived Experience throughout the SPOR Chronic Pain Network:** Dawn Richards, PhD

**Patient engagement lessons learned from #ItDoesntHaveToHurt and #KidsCancerPain social media initiatives:** Christine Chambers, PhD

**#PartneringForPain: Empowering the patient and parent voice to co-build the future of pediatric chronic pain research:** Kathryn Birnie, PhD

#### Learning Objectives

- To understand and critically view how patient partners' roles were established and are evolving in a national research network.
- To understand the experience of parent partners involved in social media initiatives and ways to improve it in the future.
- To see meaningful integration of patient and parent partners as members of a research team, and empowerment of patient and parent voices to identify pain research priorities.

**18.30 - 23.00**

**Reception | Awards Gala and Dancing!**

# Friday, April 5, 2019

**08.00 - 09.15**      **Breakfast**

**09.15 - 09.30**      **Opening Remarks**

**09.30 - 10.00**      **Distinguished Career Award Keynote:**

**Keynote speaker: Karen D. Davis**, PhD, FCAHS, Krembil Research Institute, Division of Brain, Imaging and Behaviour – System Neuroscience

**Understanding Pain: from cells to brain to individual perceptions.**

I was introduced to the field of pain in the late 1970s. At that time, the discovery of an endogenous opiate system fascinated scientists (and budding scientists like me) who asked: why do humans have opiate receptors in their brains and why do our brains manufacture endogenous opiates? Excitement grew as these discoveries led to new ideas about how we experience and potentially alleviate pain. It was soon apparent that the mechanisms underlying our individual experience of pain and the ability to modulate that experience was much more complex than originally conceptualized. This was the cornerstone of my career journey and I have been fortunate to be mentored by and collaborate with some of the seminal pain scientists and clinicians in my career, and to be able to reinvent myself based on technological advances as they emerged. In this talk, I will look back to provide an overview of how this work contributes to understanding pain from the perspective of single cell electrophysiology from primary afferents to the brain in animal models and in humans. I will then discuss the powerful approach of combining brain imaging, psychophysics and behavioural assessments to provide insight into the brain circuitry underlying individual pain experiences. Finally, I will anticipate how these approaches are leading to an understanding of biomarkers that could be developed to predict and guide personalized pain management.

**10.00 - 10.30**      **Early Career Award Keynote**

**Keynote speaker: Loren Martin**, PhD, Assistant Professor, Dept of Psychology, University of Toronto

**Bridging the translational divide in pain research**

For many the term translational research refers to the “bench-to-bedside” enterprise of harnessing knowledge from basic science to develop new drugs, devices and therapies for patients. The current gap between translating basic science research findings into effective pain therapies in humans is a serious challenge, thus necessitating the concurrent use of both animal models and human cohorts. This problem is compounded further by not taking into account factors that modulate pain such as environmental variables and social influences. Research in the Martin lab attempts to overcome these translational barriers through experiments with animal and human subjects, while also analyzing biological samples from both species. Specifically, we use animal models to probe the influences of cognitive and social factors on pain modulation, while developing novel translational models to provide proof-of-importance for human pain modulation. This talk will highlight different translational approaches to address very different aspects of pain research. First, we have recently identified novel genetic variants that are associated with the development of chronic pain in people. Then, by using a reverse-translational approach in mouse models, we have uncovered the signaling cascade responsible for pain sensitivity and analgesia by these genes. In addition, this talk will emphasize separate lines of research where concerted efforts have been made to understand the role of the social and environmental context on pain modulation using both mice and humans.

**10.30 - 11.00**      **Morning Coffee Break**

Note: Session times and locations subject to change.

**11.00 - 12.30 Friday Breakout Sessions***Session 1***Pain and the Extracellular Matrix**

**Chair:** **Laura S Stone**, PhD, McGill University, Alan Edwards Centre for Research on Pain  
**Speakers:** **Lisbet Haglund**, Orthopedic Research Lab, McGill Scoliosis and Spine Group, Dept of Surgery, McGill University; Shriners' Hospital, Montreal  
**Arkady Khoutorsky**, PhD, DVM, McGill University, Dept of Anesthesia, Faculty of Medicine and Dentistry  
**Maral Tajarian**, PhD, Queens College, City University of New York, Biology Department

**Symposium Abstract**

The field of pain research has placed great emphasis on the mechanisms by which neuronal and glial cells regulate pain. In this symposia, we will highlight new insights into the role of the extracellular matrix (ECM) in pain generation and regulation. The workshop will cover mechanisms of pain regulation by the ECM in peripheral tissues (intervertebral discs) as well as in the spinal cord and the brain. The panelists will present data from murine models and from studies with human tissue samples.

**Extracellular Matrix Fragments and Toll-like Receptors as drivers of Low Back Pain and Disc Degeneration:** Lisbet Haglund, PhD

**Remodeling of Spinal Extracellular Matrix Modulates the Development of Pain Hypersensitivity:** Arkady Khoutorsky, PhD, DVM

**The hippocampal extracellular matrix regulates pain and memory dysfunction after peripheral injury:** Maral Tajarian, PhD

**Learning Objectives**

- 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.
- Upon completion of this session, attendees will be aware of various biophysical and biochemical tools that could be used to study the extracellular matrix in peripheral and central tissues.
- Upon completion of this session, attendees will demonstrate knowledge in various mechanisms by which the extracellular matrix can be targeted for the treatment of chronic pain.

**11.00 - 12.30 Friday Breakout Sessions***Session 2***Beyond pediatric pain: The mutual influence of child pain and cognitive, emotional and social development.**

**Chair:** **Rebecca Pillai Riddell**, PhD, York University, Dept of Psychology, Hospital for Sick Children, University of Toronto  
**Speakers:** **Maria Pavlova**, MSc, University of Calgary, Department of Psychology  
**Ruth E. Grunau**, PhD, University of British Columbia, Dept of Pediatrics  
**Rebecca Pillai Riddell**, PhD, York University, Dept of Psychology, Hospital for Sick Children, University of Toronto

**Symposium Abstract**

Pain in childhood is prevalent. Painful medical procedures (e.g., surgeries, immunizations), everyday cuts and bruises, and acute or chronic illness-related pain are a normative part of children's lives from the first days. Nociception shapes children's and caregivers' behavioural and psychosocial reactions to pain. Painful experiences of infancy and early childhood produce a

Note: Session times and locations subject to change.

cascade of effects on children's brain development and long-term developmental outcomes. At the same time, nociception and pain experiences are powerfully influenced by cognitive and psychological factors that undergo extensive changes in early childhood. For instance, children's rapidly developing language, communication skills, and autobiographical memory significantly alter parent-child verbal exchanges about the immediate and past pain. Social context, a key component in the experience of pain, is particularly robust in early childhood with parents exerting considerable influence on immediate pain experiences and their aftermath. For example, certain parent behaviours may increase or, on the contrary, alleviate infant distress during painful medical procedures. Further, parents may reduce detrimental long-term effects of pain-related distress following hospitalization at the neonatal intensive care unit. The proposed symposium will examine how children's cognitive, psychological, and social development and pain experiences mutually shape and influence each other within the context of changing parent-child verbal and non-verbal interactions. The panel includes an interdisciplinary group of researchers, applying a developmentally informed multi-dimensional biopsychosocial lens to pediatric pain research in the clinical and real-world settings.

**The influence of parent-child reminiscing about past pain on children's prosocial development:**

Maria Pavlova, MSc

**The adverse long-term effects of pain-related stress in the NICU and the role of parents in improving developmental outcomes:** Ruth E. Grunau, PhD

**Managing infant vaccination-related pain: Is preventing insensitivity better than promoting sensitivity?:** Rebecca Pillai Riddell, PhD

**Learning Objectives**

- To understand and discuss the differences in parent-child reminiscing about past distressing events and their association with children's prosocial behaviours.
- To discuss the impact pain-related stress on brain development and the role of parents in reducing detrimental effects of pain on children's developmental outcomes.
- To discuss new ways of using the power of parents to manage pediatric pain across medical contexts.

**11.00 - 12.30**

**Friday Breakout Sessions**

*Session 3*

**Formal Continuing Pain Education: How Can It Improve Patient Outcomes?**

**Chair:** Thomas Hadjistavropoulos, PhD, ABPP, FCAHS, Centre on Aging and Health, University of Regina

**Speakers:** Judy Watt-Watson, RN, MSc, PhD, Lawrence S. Bloomberg Faculty of Nursing, University of Toronto  
Michelle Gagnon, Ph.D, Department of Psychology, University of Saskatchewan  
Thomas Hadjistavropoulos, PhD, Centre on Aging and Health, University of Regina

**Symposium Abstract**

We will focus on continuing pain education training initiatives targeting health professionals working with children, vulnerable seniors with dementia as well as other adults. The need for formal continuing pain education cannot be understated. It is also clear that continuing pain education tends to increase participants' knowledge about pain care. The extent to which such education leads to improved clinical practices and outcomes is less clear. We will review the literature in this area and introduce some new data with the aim of identifying elements that tend to increase the probability that continuing pain education will improve patient outcomes.

**Improving Pain Practices through Continuing Professional Development: Is Education Enough?**

Judy Watt-Watson, RN, MSc, PhD

**Increasing Knowledge of Evidence-Based Practice Among Health Professionals Working with Children and Parents:** Michelle Gagnon, PhD

**Continuing pain education in long-term care: Does it improve patient outcomes?:**

Thomas Hadjistavropoulos, PhD

**Learning Objectives**

- To familiarize participants with types and outcomes of formal continuing pain education initiatives involving health professionals who work with people of all ages.
- To examine the relevance of the Pain Interprofessional Curriculum Design Model to continuing professional pain education contexts.
- To familiarize participants with factors that tend to increase the probability that continuing professional education will lead to improvements in patient outcomes.

**11.00 - 12.30**

**Friday Breakout Sessions**

*Session 4*

**Pain in cancer survivorship: Applying a lifespan approach to better understand an understudied problem**

**Chair:** **Nicole M. Alberts**, PhD, St. Jude Children's Research Hospital, Dept of Psychology, Memphis, Tennessee

**Speakers:** **Fiona Schulte**, PhD, Department of Oncology, Division of Psychosocial Oncology Cumming School of Medicine, University of Calgary  
**Nicole M. Alberts**, PhD, St. Jude Children's Research Hospital, Dept of Psychology, Memphis, Tennessee  
**Lynn R. Gauthier**, PhD, Université Laval, Dept of Family and Emergency Medicine  
**Myriam Asri**, BScN, RN, Health Admin. MSc, Université Laval, Department of Community Health

**Symposium Abstract**

Advances in early detection and treatment have dramatically increased both pediatric and adult-onset cancer survival rates. Nonetheless, long-term treatment-related morbidity, also referred to as late effects, are common among survivors. Moreover, these effects can be disabling and life threatening. As the number of cancer survivors continues to grow and the population ages, it is likely that the burden of late effects on both the individual and society will also continue to increase. Despite the prevalence of pain during and after cancer treatments and its impact on functioning and quality of life, pain has remained understudied relative to other late effects. In recognition of this overlooked area, increasing calls have recently been made to bring attention to pain among survivors. Utilizing a lifespan and developmental approach, this symposium aims to amplify this call, and provide an overview of work examining pain in cancer survivorship among child, adolescent, young adult, and older adult populations. First, results of a qualitative study examining the pain narratives of pediatric survivors of childhood cancer will be described. Next, findings pertaining to the prevalence, predictors, and functional outcomes of pain among adolescent and young adult survivors of childhood cancer will be presented. Finally, results of a longitudinal study examining age-related patterns in acute and chronic pain among breast cancer survivors will be summarized. Clinical implications of these findings as well as future directions for advancing the field of pain and cancer survivorship will be discussed.

**The pain of survival: An examination of pain narratives in long-term survivors of childhood cancer and their caregivers:** Fiona Schulte, PhD

**Prevalence and functional consequences of pain in adolescent and young adult survivors of childhood cancer:** Nicole M. Alberts, PhD

**Age-related patterns in taxane-induced acute and chronic pain and other sensory symptoms among adult breast cancer survivors:** Lynn R. Gauthier, PhD and Myriam Asri, BScN, RN

**Learning Objectives**

- To bring awareness to the problem of pain in cancer survivorship.
- To consider the influence of treatment/procedure, health, psychological, and developmental factors on pain among survivors.
- To describe the use of quantitative and qualitative research methods currently being applied to the study of pain in cancer survivorship.

**12.30****Conclusion of CPS's 2019 ASM – See you in 2020**

Canadian Pain Society's 41<sup>st</sup> Annual Scientific Meeting  
19 – 22 May 2020 | Calgary, Alberta