

## Canadian Pain Society | 38<sup>th</sup> Annual Scientific Meeting Program

### PRE-CONFERENCE: Tuesday, May 23

1:00 PM - 4:30 PM	<b>Room:</b> Annapolis Room <b>2017 Study Day (Pain Education SIG)</b>
5:00 PM - 6:30 PM	<b>Room:</b> Nova Scotia C&D <b>Test Poster Pitches</b>
5:00 PM - 6:30 PM	<b>Room:</b> Halifax A <b>Education SIG Meeting</b>
5:00 PM - 6:30 PM	<b>Room:</b> Halifax C <b>Neuropathic Pain SIG Meeting</b>
7:00 PM - 8:00 PM	<b>Room:</b> Nova Scotia A&B & Foyer <b>Welcome Reception</b>

### DAY 1: Wednesday, May 24

7:00 AM - 9:00 AM	<b>Room:</b> Nova Scotia A&B & Foyer <b>Breakfast and Poster Set-up</b>
7:30 AM - 8:45 AM	<b>Room:</b> Nova Scotia C&D <b>Annual General Meeting</b>
8:45 AM - 9:00 AM	<b>Room:</b> Nova Scotia C&D <b>Opening Remarks</b>
9:00 AM - 9:45 AM	<p><b>Room:</b> Nova Scotia C&amp;D <b>Mary Ellen Jeans Lecture</b></p> <p><b>BRAIN CIRCUITS MEDIATING PAIN AND ITS RELIEF</b></p> <p><b>Speaker:</b> Frank Porreca, PhD, Professor of Pharmacology, University of Arizona</p> <p><b>Speaker Abstract:</b> Relief is a complex emotion that can result from both the termination of an aversive state, and activation of mechanisms that promote a positive hedonic state. Patients often perceive the relief of pain as pleasurable. Primary rewards, or reward predicting cues, are encoded in brain reward/motivational circuits. The neural mechanisms underlying the hedonic and motivational features of pain relief are not well understood. We have explored the relief of pain as a reward that contributes to motivation and learning. Pain is multidimensional with sensory, affective-motivational and cognitive domains all of which collectively elicit the human experience. Evaluation of pain in preclinical models has been limited by a relative inability to capture affective dimensions of pain in non-verbal animals. We hypothesized pain can be unmasked in animals indirectly, by assessing the motivation to seek relief from pain aversiveness using learning assays associated with conditioned place preference (CPP) and aversion (CPA). Because ongoing pain</p>

	<p>provides a strong motivational drive to seek pain relief, motivational behavior in CPP paradigm can be utilized as an output measure of the efficacy of treatments to modulate pain aversiveness as well as to identify new mechanisms for advancement to therapy. These preclinical studies are in agreement with the psychological investigations in humans that conceptualize relief of pain as a reward. Release of endogenous opioids have been correlated with positive hedonic value supporting the conclusion that pain relief may result, in part, from neural processes that represent more than the termination of noxious stimuli.</p>
9:45 AM - 10:00 AM	<p><b>Room: Nova Scotia C&amp;D</b> <b>Poster Pitches</b></p>
10:00 AM - 11:00 AM	<p><b>Room: Halifax, Foyer</b> <b>Poster Session &amp; Morning Break</b></p>
11:00 AM - 12:30 PM	<p><b>Room: Sable A&amp;B</b> <b>Session 101</b></p> <p><b>CALCIUM REGULATION AND TARGETS FOR PAIN AND ANALGESIA</b></p> <p><b>Chair:</b> Bradley Kerr, PhD, Department of Pharmacology, University of Alberta</p> <p><b>Speakers:</b></p> <ul style="list-style-type: none"> <li>• Michael Gold, PhD, University of Pittsburgh Department of Neurobiology</li> <li>• Bradley Kerr, PhD, Department of Pharmacology, University of Alberta</li> <li>• Gerald Zamponi, PhD, Department of Physiology and Pharmacology, Hotchkiss Brain Institute and Alberta Children's Hospital Research Institute, Cumming School of Medicine, University of Calgary</li> </ul> <p><b>Symposium Abstract:</b> Intracellular Ca<sup>2+</sup> is essential for a variety of cellular processes, and as a result, intracellular Ca<sup>2+</sup> levels are tightly regulated. This symposium will focus on distinct components of Ca<sup>2+</sup> signaling and regulation in the presence of absence of tissue injury and the evidence in support of these components as mechanisms of pain associated with tissue injury as well as targets for novel therapeutic interventions. Michael Gold will focus on the role of different Ca<sup>2+</sup> regulatory mechanisms in the response to inflammation and nerve injury. Bradley Kerr will present data on mitochondrial dysfunction and oxidative stress in the MS model that is likely mediated through dysfunction of the Ca<sup>2+</sup> handling. Finally, Gerald Zamponi will discuss recent data on the role of T-type voltage-gated Ca<sup>2+</sup> channels in both nociceptive processing and as potential targets for novel therapeutic interventions.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Review the diversity of Ca<sup>2+</sup> regulatory mechanisms</li> <li>2. Illustrate the differential impact of the type of injury on the dysregulation of intracellular Ca<sup>2+</sup> among subpopulations of neurons</li> <li>3. Highlight evidence in support novel therapeutic targets for the treatment of pain</li> </ol> <p><b><u>Impact of the type of injury on Ca<sup>2+</sup> regulation on subpopulations of nociceptive afferents</u></b> Michael Gold, PhD, University of Pittsburgh Department of Neurobiology</p>

	<p><b><u>Transient inflammation in the PNS leads to oxidative stress and calcium dysregulation in MS associated pain states</u></b> Bradley Kerr, PhD, Department of Pharmacology, University of Alberta</p> <p><b><u>Targeting ubiquitination of calcium channels – a novel therapeutic strategy for pain</u></b> Gerald Zamponi, PhD, Department of Physiology and Pharmacology, Hotchkiss Brain Institute and Alberta Children's Hospital Research Institute, Cumming School of Medicine, University of Calgary</p>
11:00 AM - 12:30 PM	<p><b>Room: Sable C&amp;D</b> <b>Session 102</b></p> <p><b>THE LINK BETWEEN STRESS AND PAIN ACROSS THE LIFESPAN: EVIDENCE FROM CHILDREN, ADULTS, AND RODENTS</b></p> <p><b>Chair:</b> Melanie Noel, PhD, Department of Psychology, University of Calgary and Alberta Children's Hospital Research Institute</p> <p><b>Speakers:</b></p> <ul style="list-style-type: none"> <li>• Melanie Noel, PhD, University of Calgary and Alberta Children's Hospital Research Institute</li> <li>• Joel Katz, PhD, York University</li> <li>• Loren Martin, PhD, University of Toronto</li> </ul> <p><b>Symposium Abstract:</b> By its very definition, pain is an emotionally distressing experience. Stress and pain systems are intrinsically tied. As an evolutionarily salient alarm signal, pain activates a stress response, which propels action. On the other hand, stress has been shown to confer risk for the development and maintenance of pain problems. The stress-pain relationship should be understood from a developmental perspective. There is compelling evidence to suggest that pain experienced early in life reprograms the HPA axis and leads to altered stress responses later in life. Moreover, early life stress has been linked to chronic pain conditions in adulthood. Among adults, those individuals with a heightened propensity to become traumatized by pain are more likely to subsequently develop chronic pain. Theorists have argued that the co-occurrence of traumatic stress and pain is mutually maintained by underlying cognitive, behavioral and neurobiological mechanisms. Moreover, heightened levels of subjective stress have been shown to impede response to pain management interventions. Better understanding of the connection between stress and pain could lead to improved, tailored treatments and address the growing epidemic of chronic pain in childhood and adulthood.</p> <p>This workshop will present the current state-of-the-science on the relationship between stress and pain across childhood, adolescence, and adulthood. It will consist of a panel of clinical and basic scientists examining this topic using a variety of innovative methodologies and approaches, populations (acute and chronic pain and transition in between [post-surgical pain]), and perspectives.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. To examine the prevalence, short- and long-term functional impact, and mechanisms underlying the PTSD and pain relationship in children and adolescents with chronic pain.</li> <li>2. To understand the relationships between traumatic stress reactions and chronic pain in general and as they relate to chronic</li> </ol>

	<p>postsurgical pain.</p> <p>3. To highlight the importance of environmental stressors on modulating pain responses using translational approaches.</p> <p><b><u>The Co-occurrence of Post-Traumatic Stress and Pain in Youth with Chronic Pain</u></b> Melanie Noel, PhD, Department of Psychology, University of Calgary and Alberta Children’s Hospital Research Institute</p> <p><b><u>Sensitivity to Pain Traumatization: A Novel Construct Linking Traumatic Stress Reactions and Chronic Pain to Pain-related Disability</u></b> Joel Katz, PhD, York University</p> <p><b><u>The Modulation of Pain by Environmental Stress</u></b> Loren Martin, PhD, University of Toronto</p>
11:00 AM - 12:30 PM	<p><b>Room: Nova Scotia C</b> <b>Session 103</b></p> <p><b>A NOVEL PROTOCOL OF TITRATED, SLOW KETAMINE INFUSIONS FOR CRPS AND NEUROPATHIC PAIN: RATIONALE, OUTCOMES, AND BEHAVIORAL CORRELATES</b></p> <p><b>Chair:</b> Karen Davis, PhD, University of Toronto and Toronto Western Hospital</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Ian Beauprie, MD, FRCPC, Dalhousie University</li> <li>2. Anuj Bhatia, MBBS, MD, FRCA, FFPMRCA, FIPP, FRCPC, EDRA, CIPS, University of Toronto</li> <li>3. Rachael Bosma, PhD, Krembil Research Institute, University Health Network</li> </ol> <p><b>Symposium Abstract:</b> Despite a plethora of treatment options available to treat complex regional pain syndrome (CRPS) and neuropathic pain (NP), up to two thirds of patients are refractory to treatment. Furthermore, treatments that do provide some effectiveness can be costly. Recent evidence suggests that low dose infusion of ketamine, an NMDA antagonist known for its anesthetic and depression-relieving properties, can provide significant relief of NP. However, its side effects, including psychedelic symptoms, can preclude its use. This symposium will 1) provide an overview of CRPS and NP, 2) provide insights into the bio-psycho-social aspects of living with relentless chronic pain and how life altering adequate treatment can be; as expressed from a first-person narrative provided by a patient with CRPS who has achieved pain relief from ketamine, 2) discuss the development of a low dose ketamine infusion protocol that is carefully titrated in each patient to minimize its negative side-effects while maximizing its long term analgesic properties, and 3) present behavioural data of individual differences in responders vs. non-responders to ketamine. Understanding baseline factors that can predict treatment response to ketamine will improve patient selection and protocol design for clinical studies.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. To understand the general characteristics of neuropathic pain and treatment options.</li> <li>2. To be aware of a new protocol for IV ketamine infusions for refractory CRPS and neuropathic pain and of the potential life-</li> </ol>

	<p>changing outcomes, as shared from a patient perspective.</p> <p>3. To be aware of the effects of ketamine on pain sensitivity, psychological and psychiatric measures, and of the pre-treatment characteristics of patients with NP who are responsive vs non-responsive to IV ketamine.</p> <p><b><u>Neuropathic Pain and CRPS: Scope of problem and existing treatments</u></b> Ian Beauprie, MD, FRCPC, Dalhousie University</p> <p><b><u>IV ketamine infusions for CRPS and refractory neuropathic pain: Outcome data from over 5 years</u></b> Anuj Bhatia, MBBS, MD, FRCA, FPPMRCA, FIPP, FRCPC, EDRA, CIPS, University of Toronto</p> <p><b><u>Behavioural factors that contribute to the variability in treatment efficacy of low-dose ketamine infusion for neuropathic pain</u></b> Rachael Bosma, PhD, Krembil Research Institute, University Health Network</p>
11:00 AM - 12:30 PM	<p><b>Room: Nova Scotia D</b> <b>Session 104</b></p> <p><b>NEW ADVANCES IN CANCER PAIN: PERSPECTIVES FROM ACROSS THE LIFESPAN</b></p> <p><b>Chair:</b> Paul Daeninck, MD, MSc, FRCPC, CancerCare Manitoba / University of Manitoba / Winnipeg Regional Health Authority Palliative Care Program</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Parker Murchison, High School Student</li> <li>2. Perri Tutelman, BHSc. (Hons), Dalhousie University and IWK Health Centre</li> <li>3. Paul Daeninck, MD, MSc, FRCPC, CancerCare Manitoba / University of Manitoba / Winnipeg Regional Health Authority Palliative Care Program</li> </ol> <p><b>Symposium Abstract:</b> Improvements in cancer survival have highlighted the importance of supportive care and symptom management across the disease trajectory. Cancer patients consistently rank pain as one of the most distressing symptoms associated with having cancer, citing impacts on quality of life, and physical and emotional functioning. The objective of the present workshop is to summarize advances in cancer pain across the lifespan in the context of research, practice, and firsthand patient experience. First, Parker Murchison, a 14-year-old cancer survivor, will describe his experiences with pain throughout his treatment for Acute Lymphoblastic Leukemia. Next, Perri Tutelman will present data from an online survey on the prevalence and characteristics of pediatric cancer pain around the world. Finally, Dr. Paul Daeninck will provide an overview of the new Canadian recommendations for the management of breakthrough cancer pain in adult patients. This research has relevance for clinicians and scientists working in various domains including psychosocial care and medical management. The information described in the current workshop will be presented in the context of how it may contribute to the development of new pain treatment protocols and psychosocial, family-centered interventions to ensure that all patients have access to optimal cancer-pain management.</p> <p><b>Learning Objectives:</b></p>

	<ol style="list-style-type: none"> <li>1. To consider the experience of cancer pain from a patient's perspective.</li> <li>2. To describe the prevalence and characteristics of pediatric cancer pain and parents' cancer-pain management practices</li> <li>3. To review the Canadian recommendations for the management of breakthrough cancer pain and integrate them in a comprehensive plan to treat pain in adults with cancer</li> </ol> <p><b><u>Pain with Acute Lymphoblastic Leukemia: A Young Patient's Experience</u></b> Parker Murchison, High School Student</p> <p><b><u>Prevalence, Characteristics, and Management of Pain in Children with Cancer</u></b> Perri Tutelman, BHSc. (Hons), Dalhousie University and IWK Health Centre</p> <p><b><u>Breakthrough Cancer Pain: Canadian Recommendations for Proper Management</u></b> Paul Daeninck, MD, MSc, FRCPC, CancerCare Manitoba / University of Manitoba / Winnipeg Regional Health Authority Palliative Care Program</p>
12:30 PM - 1:30 PM	<p><b>Room: Nova Scotia A&amp;B &amp; Foyer</b> <b>Lunch/Posters/Tradeshow</b></p>
1:30 PM - 3:00 PM	<p><b>Room: Sable A&amp;B</b> <b>Session 105</b></p> <p><b>THE EVOLUTIONARY BIOLOGY OF PAIN</b></p> <p><b>Chair:</b> Jeffrey S. Mogil, PhD, McGill University and Alan Edwards Centre for Research on Pain</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Amanda C de C Williams, PhD, University College London</li> <li>2. Edgar T. Walters, PhD, McGovern Medical School at UTHealth</li> <li>3. Jeffrey S. Mogil, PhD, McGill University and Alan Edwards Centre for Research on Pain</li> </ol> <p><b>Symposium Abstract:</b> Evolutionary theory has proven to be a useful way to understand biological phenomena, but has almost never been applied to pain. Even the simplest of questions remained unanswered: What is the purpose of pain, including chronic pain? Do animals approach or avoid pain in others? How similar are mechanisms of pain-like states in phylogenetically diverse animals? The presenters will discuss theory and experimental data, collected in animals and humans, bearing upon these issues. Amanda Williams will discuss theoretical issues and introduce relevant evolutionary concepts. Edgar (Terry) Walters will discuss the evolution of nociceptive sensitization mechanisms, presenting related observations from Aplysia, squid, insects, fish, and rodents. Jeffrey Mogil will discuss the surprising evolutionary conservation of social modulation of pain, describing parallel experiments performed in rodents and humans.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. To understand the potential utility of evolutionary theory as applied to pain-related</li> <li>2. To consider evidence for widespread, adaptive, pain-like states in the animal kingdom</li> </ol>

	<p>3. To appreciate new evidence related to social modulation of pain in animals and humans</p> <p><b><u>Evolution, Pain Behaviour, and the Persistence of Pain</u></b> Amanda C de C Williams, PhD, University College London</p> <p><b><u>Evolutionary Insights into Mechanisms That Drive Persistent Pain</u></b> Edgar T. Walters, PhD, McGovern Medical School at UTHealth</p> <p><b><u>Mice are People Too: Social Modulation of and by Pain in Laboratory Rodents and Humans</u></b> Jeffrey S. Mogil, PhD, McGill University and Alan Edwards Centre for Research on Pain</p>
1:30 PM - 3:00 PM	<p><b>Room: Sable C&amp;D</b> <b>Session 106</b></p> <p><b>PROTECTIVE RESPONSES IN CHRONIC PAIN AND HOW THEY BECOME MALADAPTIVE</b></p> <p><b>Chair:</b> Tasha Stanton, BScPT, MScRS, PhD, University of South Australia &amp; Neuroscience Research Australia</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Tasha Stanton, BScPT, MScRS, PhD, University of South Australia &amp; Neuroscience Research Australia</li> <li>2. Geoff Bostick, BScPT, PhD, University of Alberta</li> <li>3. Ann Meulders, BSc, MSc, PhD, KU Leuven, Belgium &amp; Maastricht University</li> </ol> <p><b>Symposium Abstract:</b> This symposium aims to explore the complexity of protective response in chronic pain. Learning to predict danger is critical to human survival; it allows us to both anticipate and avoid harm. Perhaps unsurprisingly then, people in pain are often very protective of their painful body part – they limit movement and avoid activities that are perceived as being threatening or that may provoke pain. These protective responses are adaptive in the acute pain stage and promote healing and recovery, yet they might paradoxically aggravate the situation when pain becomes chronic and no longer signals bodily threat. This symposium will specifically focus on how initially adaptive responses may become maladaptive in chronic pain and also how a similar response to pain may be adaptive in one context, but maladaptive in another. Recently, several innovative lines of research on the role of bodily perception, expectation, and learning in protective responses to pain have emerged. Dr Tasha Stanton will discuss new findings in chronic low back pain suggesting that bodily feelings of stiffness may represent a maladaptive protective response against movement. Dr Geoff Bostick will present work showing that in chronic pain, the same expectation of outcome can become adaptive in one context, but maladaptive in another: that is, those with failed treatments update their expectations regarding outcome, allowing for reductions in maladaptive responses such as pain catastrophizing. Last, Dr Ann Meulders will present new data on associative learning in pain, specifically the role of maladaptive generalisation and the lack of selective learning; features which may well underlie the transition between maladaptive and adaptive responses and/or maintain chronic pain problems.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. To understand how conscious bodily feelings themselves may be maladaptive in chronic pain.</li> </ol>

	<ol style="list-style-type: none"> <li>2. To appreciate how cognitively-driven protective responses can become adaptive in the chronic pain patient.</li> <li>3. To better understand how selective learning underlies adaptive protective responses and how the lack thereof may play a role in pain chronicity.</li> </ol> <p><b><u>Bodily feelings of stiffness – a maladaptive response to protect against movement?</u></b> Tasha Stanton, BScPT, MScRS, PhD, University of South Australia &amp; Neuroscience Research Australia</p> <p><b><u>Pain expectation in people with chronic pain: a shift from maladaptive to adaptive responses?</u></b> Geoff Bostick, BScPT, PhD, University of Alberta</p> <p><b><u>Persistent overgeneralization and lack of selective learning in chronic pain</u></b> Ann Meulders, BSc, MSc, PhD, KU Leuven, Belgium &amp; Maastricht University</p>
1:30 PM - 3:00 PM	<p><b>Room: Nova Scotia C</b> <b>Session 107</b></p> <p><b>WHO IS TEACHING WHOM ABOUT PAIN MANAGEMENT? NOVEL TRAINING AND MENTORING INITIATIVES ENGAGING PATIENTS AND TRAINEES</b></p> <p><b>Chair:</b> Bonnie Stevens, RN, PhD, FAAN, Lawrence S. Bloomberg Faculty of Nursing, University of Toronto; The Hospital for Sick Children</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Bonnie Stevens, RN, PhD, FAAN, University of Toronto &amp; The Hospital for Sick Children</li> <li>2. Judy Watt-Watson, RN, PhD, University of Toronto &amp; Michael McGillion, RN, PhD, McMaster University</li> <li>3. David K. Lam, MD, DDS, PhD, FRCD, University of Toronto &amp; Carley Ouellette, BScN, Western University</li> </ol> <p><b>Symposium Abstract:</b> Patients continue to rate their pain management as suboptimal in clinical practice. To address this issue, there is an urgent need to ensure that patients’ voices are heard in health care professional training initiatives on pain. Developing pain management competencies requires a comprehensive training approach that has been outlined in the IASP curriculum. Key components of this curriculum include 4 consensus-derived competencies categorized within the domains of the multidimensional nature of pain, pain assessment and measurement, management of pain, and context of pain management. These domains capture the complexity of pain assessment and management across the life span in the context of various settings, populations, and care team models. This approach optimally encompasses strategic training at the undergraduate and pre-licensure level but can also be applied across the continuum of professional development. To enhance pain management practices, and clinical and organizational outcomes, we need to create a critical mass of health care professionals competent in pain assessment and management. Each of the presenters will focus on the development, implementation and evaluation of their unique training initiatives and use this as a platform for discussion for evaluating pain training programs with a particular eye on their success in engaging patients and trainees.</p> <p><b>Learning Objectives:</b></p>

	<ol style="list-style-type: none"> <li>1. Explore opportunities for engaging patients in innovative training opportunities to improve pain knowledge and competencies as outlined in the IASP curriculum.</li> <li>2. Determine strategies to foster strong linkages between trainees, patients and mentors to enhance interdisciplinary education and research collaboration, innovation and trainee success.</li> <li>3. Describe the value of diverse and unique partnership experiences and engaging partnerships across research settings, clinics, training networks, centers and stakeholders.</li> </ol> <p><b><u>Putting Patients at the Centre: A Pre-Licensure Interprofessional Pain Education Program</u></b> Bonnie Stevens, RN, PhD, FAAN, Lawrence S. Bloomberg Faculty of Nursing, University of Toronto; The Hospital for Sick Children</p> <p><b><u>A Patient-Focused Innovative Web-Based Education Model: The Pain Education Interprofessional Resource (PEIR)</u></b> Judy Watt-Watson, RN, PhD, University of Toronto &amp; Michael McGillion, RN, PhD, McMaster University</p> <p><b><u>Abstract: Engaging Patients with Pain in Summertime Learning: The Connaught Summer Institute in Pain</u></b> David K. Lam, MD, DDS, PhD, FRCD, University of Toronto &amp; Carley Ouellette, BScN, Western University</p>
1:30 PM - 3:00 PM	<p><b>Room: Nova Scotia D</b> <b>Session 108</b></p> <p><b>CANNABIS UPDATE: FROM PAIN TO POLICY</b></p> <p><b>Chair:</b> Mark A. Ware, MD, MSc, McGill University</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Jason Busse, DC, PhD, McMaster University</li> <li>2. Zach Walsh, PhD, RPsych, University of British Columbia</li> <li>3. Mark A. Ware, MD, MSc, McGill University</li> </ol> <p><b>Symposium Abstract:</b> The medical use of cannabis continues to be a hot topic in medical and non-medical circles, with increasing interest in policies of non-medical use in Canada. There are increasing concerns about opioid-related harms, and interest in the potential opioid sparing effects of cannabis and cannabinoids. This workshop will review the current level of evidence for the use of cannabinoids in pain, will review the mental health effects of cannabis, and will consider the interactions between opioids and cannabinoids in preclinical and clinical studies and practice. Attendees will be invited to share their perspectives and experiences in a dynamic and evidence based workshop.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Review the evidence for cannabis and cannabinoid in pain management</li> <li>2. Review the evidence for the effects of cannabis on mental health</li> <li>3. Consider the role of the pain profession in a legal cannabis environment</li> </ol>

	<p><b><u>Effectiveness of Medical Marijuana of Chronic non-Cancer Pain: A Systematic Review</u></b> Jason Busse, DC, PhD, McMaster University</p> <p><b><u>Medical cannabis and Mental Health: A Guided Systematic Review</u></b> Zach Walsh, PhD, RPsych, University of British Columbia</p> <p><b><u>Putting it all together: the role of pain medicine in a legal cannabis future</u></b> Mark A. Ware, MD, MSc, McGill University</p>
3:00 PM - 4:00 PM	<p><b>Room: Nova Scotia A&amp;B &amp; Foyer</b> <b>Coffee/Posters/Tradeshaw</b></p>
3:55 PM - 5:30 PM	<p><b>Room: Halifax &amp; Foyer</b> <b>Poster Tear Down</b></p>
4:00 PM - 5:30 PM	<p><b>Room: Sable A&amp;B</b> <b>Session 109</b></p> <p><b>UNCOVERING NOVEL MECHANISM-BASED THERAPEUTIC TARGETS FOR PAIN</b></p> <p><b>Chair:</b> Laura S. Stone, PhD, McGill University</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Tuan Trang, PhD, University of Calgary</li> <li>2. Michael Hildebrand, PhD, Carleton University</li> <li>3. Laura S. Stone, PhD, McGill University</li> </ol> <p><b>Symposium Abstract:</b> Current treatments provide moderate pain relief and have many side effects, as exemplified by the tolerance and withdrawal associated with opioids. Thus, there is an urgent need to identify therapeutic targets based on new mechanisms. The spinal cord and degenerating intervertebral discs in the spine are both potential sites of action for new therapeutic approaches. This session will highlight current research aimed at identifying the molecular players in spinal hyperexcitability and intervertebral disc degeneration. We will discuss the roles of specific molecular mediators of pathological plasticity and degeneration. Based on evidence from ex vivo assays, rodent models of pathological pain and human pain conditions, we will discuss how targeting these diverse mechanisms might reverse pain-related pathologies ranging from opioid tolerance to neuropathic and low back pain.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Review the challenge of opioid withdrawal for opioid pain therapy and understand the potential role of pannexin-1 as a novel therapeutic target for treating withdrawal</li> <li>2. Explore the molecular determinants of spinal cord hyperexcitability in pain processing and discuss novel targets to reverse these pathological changes</li> <li>3. Discuss new studies uncovering molecular pathways that contribute to low back pain and intervertebral disc degeneration and</li> </ol>

	<p>explore their therapeutic potential</p> <p><b><u>Pain, poppies, and pannexin-1 channels</u></b> Tuan Trang, PhD, University of Calgary</p> <p><b><u>How to stop a runaway train: mediators of spinal hyperexcitability in pathological pain</u></b> Michael Hildebrand, PhD, Carleton University</p> <p><b><u>Preventing pain at the source: targeting intervertebral disc degeneration as a therapeutic strategy for low back pain</u></b> Laura S. Stone, PhD, McGill University</p>
4:00 PM - 5:30 PM	<p><b>Room: Sable C&amp;D</b> <b>Session 110</b></p> <p><b>LEVERAGING USER-CENTRED DESIGN PRINCIPLES TO DEVELOP AND EVALUATE DIGITAL HEALTH TECHNOLOGIES FOR PAIN ASSESSMENT AND SELF-MANAGEMENT</b></p> <p><b>Chair:</b> Chitra Laloo, BHSc, PhD, The Hospital for Sick Children &amp; Lynn Cooper, President, Canadian Pain Coalition</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Kathryn Birnie, BA(Hons), PhD, The Hospital for Sick Children &amp; University of Toronto</li> <li>2. Chitra Laloo, BHSc, PhD, The Hospital for Sick Children</li> <li>3. Michael McGillion, RN, PhD, McMaster University</li> </ol> <p><b>Symposium Abstract:</b> Digital health technologies such as smartphone apps, websites, and medical devices, offer new ways to deliver ongoing assessment and self-management support to individuals with painful conditions. These technologies can be leveraged to provide engaging self-management care that is tailored to the needs of different patient groups and individual patients. User-centred design refers to a systematic, iterative process involving assessment of user needs, prototyping, usability evaluation, and deployment. In the context of self-management interventions, “users” often include both patients and healthcare providers. This approach is consistent with patient-oriented research that strives to engage patients as partners, focus on patient-identified priorities, and improve patient outcomes (CIHR, 2016). This symposium will describe approaches to user-centred design that have been successfully applied in patient-oriented research programs. Lessons learned from diverse, funded projects spanning pediatric, young adult, and adult patient populations, each in differing stages of development, will be distilled and discussed. Practical case studies will address a variety of digital delivery platforms, including smartphones, websites, and medical devices. Techniques used to seek and incorporate patient perspectives throughout the intervention design process will be made explicit, along with associated challenges and successful mitigation strategies. The presentations will include embedded user perspectives from both patient partners and healthcare providers (HCPs), integral to each development team. Lynn Cooper (President, Canadian Pain Coalition), involved in all three case studies as a consumer consultant, will act as discussant, offering her perspective on partnerships through the design and evaluation phases of these digital health technologies.</p>

	<p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Explain three different user-centred design approaches, and appraise the advantages and disadvantages of each approach.</li> <li>2. Illustrate specific examples of how patient and HCP engagement significantly impacted the iterative design process and usability of digital self-management interventions.</li> <li>3. Integrate “lessons learned” from pediatric and adult pain use case scenarios to inform their own digital health initiatives, going forward.</li> </ol> <p><b><u>My Post-Operative Pain (MyPOP): A Smartphone-Based App to Address Gaps in Post-Operative Pain Self-Management for Youth</u></b> Kathryn Birnie, BA(Hons), PhD, The Hospital for Sick Children &amp; University of Toronto</p> <p><b><u>iCanCope: A Web and Smartphone-Based Pain Self-Management Platform for Youth Aged 12-25 years with Persistent Pain</u></b> Chitra Laloo, BHSc, PhD, The Hospital for Sick Children</p> <p><b><u>Getting THE SMArTVIEW CoVerRed (TecHnology Enabled remote automated monitoring and pain Self-MANagementT: VIsion for patient EmpoWerment following Cardiac and VasculaR surgery) in Canada and the United Kingdom</u></b> Michael McGillion, RN, PhD, McMaster University</p>
4:00 PM - 5:30 PM	<p><b>Room: Nova Scotia C</b> <b>Session 111</b></p> <p><b>UNRAVELLING THE RELATIONSHIP BETWEEN SLEEP AND PAIN: A TRANSLATIONAL, LIFESPAN PERSPECTIVE</b></p> <p><b>Chair:</b> Patrick Finan, PhD, Johns Hopkins University School of Medicine</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Patrick Finan, PhD, Johns Hopkins University School of Medicine</li> <li>2. Melanie Noel, PhD, University of Calgary &amp; Alberta Children’s Hospital Research Institute</li> <li>3. Richelle Mychasiuk, PhD, University of Calgary &amp; Hotchkiss Brain Institute</li> </ol> <p><b>Symposium Abstract:</b> The relationship between sleep and pain is well established and robust. Epidemiological studies have repeatedly shown that sleep impairment predicts both the development and worsening of pain problems in children and adults. While previous theoretical and empirical work supported a bidirectional relationship between sleep and pain, more recent evidence suggests that sleep is a stronger predictor of pain. At a neurobiological level, sleep impairment has been shown to disrupt pain inhibitory processes, leading to the development and maintenance of pain problems. At a behavioral level, impairments in subjective and objective sleep quality are associated with deficits in mood and cognition, which confer risk for worsening pain trajectories. Indeed, the coupling between depression and pain may be partially explained by variation in sleep continuity and architecture. These relationships have important clinical implications. Sleep disturbances have been shown to impair response to psychosocial pain treatments, making it an increasingly important (yet underutilized) target in pain management interventions. Nevertheless, important questions remain</p>

	<p>regarding mechanisms underlying the sleep-pain relationship and its impact across development. This workshop will present new evidence demonstrating the role of sleep in the experience of acute and chronic pain in pediatric and adult populations and across human and rodent studies. The panel is comprised of a group of clinical and basic scientists who utilize a range of innovative methodological approaches to assess sleep (e.g., sleep deprivation, assessment of circadian rhythms using telemetry probes, polysomnography, actigraphy, daily sleep diary) and pain (e.g., quantitative sensory testing, self-report, functional magnetic resonance imaging).</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. To evaluate the role of sleep as an upstream predictor of pain inhibitory and facilitative processes throughout the lifespan.</li> <li>2. To examine the role of sleep in the development of cognitive biases and post-surgical pain in young children as well as its role in trajectories of pain and function in adolescents with chronic pain.</li> <li>3. To examine the relationship between circadian rhythms and pain responsivity in adolescent rats following mild traumatic brain injury.</li> </ol> <p><b><u>The Effects of Sleep Disruption on Measures of Pain Inhibition and Facilitation in Adults</u></b> Patrick Finan, PhD, Johns Hopkins University School of Medicine</p> <p><b><u>The Relationship between Sleep and Acute and Chronic Pediatric Pain</u></b> Melanie Noel, PhD, University of Calgary &amp; Alberta Children’s Hospital Research Institute</p> <p><b><u>The Effects of Pain on Disruption of Circadian Rhythms Following mTBI in Adolescent Rats</u></b> Richelle Mychasiuk, PhD, University of Calgary &amp; Hotchkiss Brain Institute</p>
4:00 PM - 5:30 PM	<p><b>Room: Nova Scotia D</b> <b>Session 112</b></p> <p><b>HELPING THE COMPLEX CHRONIC PAIN PATIENT: A MULTIDISCIPLINARY APPROACH TO REVERSING CNS HYPEREXCITABILITY</b></p> <p><b>Chair:</b> Joel Katz, PhD, York University</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Aliza Weinrib, PhD, CPsych, Toronto General Hospital</li> <li>2. Linda Cundiff, BScOT, Royal Jubilee Hospital &amp; Jessica Dulong, MPT, BSc, Royal Jubilee Hospital (Kin)</li> <li>3. Hance Clarke, MD, FRCPC, PhD, Transitional Pain Service, Department of Anesthesia and Pain Management, Toronto General Hospital</li> </ol> <p><b>Symposium Abstract:</b> This symposium will feature speakers from four disciplines whose clinical practices are all aimed at eliminating the ravages of chronic pain and in particular at reducing the psychological, physical, and physiological correlates of central neural mechanisms that have gone awry and that often accompany and contribute to the hypersensitivity evident in many chronic pain conditions. The session</p>

	<p>begins with a presentation from Aliza Weinrib, lead psychologist at the Toronto General Hospital, Transitional Pain Service who will illustrate with examples two approaches she uses to reducing sympathetic nervous system over-reactivity including relaxation training and Acceptance and Commitment Therapy (ACT). This is followed by a joint presentation by occupational and physical therapists, Linda Cundiff and Jessica Dulong, from the Pain Program at the Royal Jubilee Hospital in Victoria who will illustrate their approach to “calming the nervous system” in a lively session involving helpful tips, pointers and activities. They will bring to light how everyday encounters with clients can be used in the service of reducing CNS hypersensitivity and how physical activity can be incorporated into the treatment plan to foster self-confidence and an active re-engagement in life. The session will conclude with a presentation from Hance Clarke, anesthesiologist and Director of Pain Services at the Toronto General Hospital who will wrap-up the session and briefly discuss pharmacological management designed to reduce CNS hyperexcitability.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Participants will be able to classify and describe psychological techniques that can calm the nervous system in patients living with complex pain.</li> <li>2. Participants will understand the impact health professionals have on clients’ nervous system and how clients can realize the huge potential in developing a calming and healing nervous system.</li> <li>3. To discuss medications that impact the CNS in pain patients and understand the physician’s role in reducing CNS hyperexcitability.</li> </ol> <p><b><u>Psychological Strategies to Reduce CNS Hyperexcitability</u></b> Aliza Weinrib, PhD, CPsych, Toronto General Hospital</p> <p><b><u>Myths and Movement</u></b> Linda Cundiff, BScOT, Royal Jubilee Hospital &amp; Jessica Dulong, MPT, BSc, Royal Jubilee Hospital (Kin)</p> <p><b><u>The Physician's Role in Treating Complex Pain Patients and Reducing CNS Hyperexcitability</u></b> Hance Clarke, MD, FRCPC, PhD, Transitional Pain Service, Department of Anesthesia and Pain Management, Toronto General Hospital</p>
6:00 PM - 7:30 PM	<p><b>Room: Sable A</b> <b>Nursing Issues SIG Meeting</b></p>
6:00 PM - 7:30 PM	<p><b>Room: Sable B</b> <b>Interventional Pain SIG Meeting</b></p>
5:45 PM - 7:15 PM	<p><b>Room: Sable C&amp;D</b> <b>Trainee Session</b></p> <p><b>NICE TO MEET YOU: HOW TO PRESENT YOURSELF AND YOUR IDEAS</b></p> <p><b>Chair:</b> Sarah Rosen, PhD Candidate, McGill University &amp; Carley Ouellette, BScN, Western University</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Jeffrey S. Mogil, PhD, McGill University and Alan Edwards Centre for Research on Pain</li> </ol>

	<ol style="list-style-type: none"> <li>2. Jack Hourigan, BA &amp; Mario Di Carlo, CPN</li> <li>3. Jack Hourigan, BA</li> </ol> <p><b>Symposium Abstract:</b> While dedication and hard work create a strong base for young scientists and professionals, refined communication skills are crucial for landing the “dream job”. Communication skills encompass a broad range of qualities such as: presenting information to large diverse audiences, sharing knowledge and expertise with colleagues and collaborators, and connecting with peers and patients. Strong communication and interpersonal skills are assets that contribute to success in academia, clinics, industry, and agencies, but require mindfulness and practice. This workshop will offer hands-on strategies on how to deliver an engaging presentation, how to build and stabilize professional relationships through networking, and how to improve your interpersonal skills in a range of settings.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Learn how to organize and deliver a professional presentation with confidence.</li> <li>2. Learn how to connect with, and communicate effectively, with colleagues, collaborators, and patients.</li> <li>3. Develop networking skills through engagement and practice.</li> </ol> <p><b><u>How to Give a Better Talk</u></b> Jeffrey S. Mogil, PhD, McGill University and Alan Edwards Centre for Research on Pain</p> <p><b><u>Having Patience with Patients</u></b> Jack Hourigan, BA &amp; Mario Di Carlo, CPN</p> <p><b><u>Networking Strategies</u></b> Jack Hourigan, BA</p>
7:00 PM - 10:00 PM	<b>Offsite</b> <b>Trainee Social Event</b>

**DAY 2: Thursday, May 25**

7:00 AM - 8:30 AM	<b>Room: Nova Scotia A&amp;B &amp; Foyer</b> <b>Breakfast &amp; Poster Set-up</b>
7:00 AM - 8:30 AM	<b>Room: Nova Scotia C&amp;D</b> <b>Chronic Pain Network Update</b>  <b>Speakers:</b> Norm Buckley and members of the CPN Leadership  <b>Update Abstract:</b> The Chronic Pain Network, one of five chronic disease networks to receive funding through the Canadian Institutes of Health Research’s Strategy for Patient-Oriented Research (SPOR), is now entering its second year. Learn about the ways patients are playing

	<p>an active role within the Network to help guide research and create a more effective healthcare system. This update will also provide a quick overview of key Network initiatives and upcoming events. The Chronic Pain Network represents an unprecedented level of collaboration amongst national stakeholders, and supports, coordinates and synchronizes leading innovative and high-impact research with the ultimate goal of removing barriers to better chronic pain management.</p>
8:30 AM - 8:45 AM	<p><b>Room: Nova Scotia C&amp;D</b> <b>Opening Remarks</b></p>
8:45 AM - 9:30 AM	<p><b>Room: Nova Scotia C&amp;D</b> <b>Plenary Session</b></p> <p><b>THE EPIDEMIOLOGY OF CHRONIC PAIN: SOMETHING OLD, SOMETHING NEW</b></p> <p><b>Speaker:</b> Gary MacFarlane, BSc (Hons), MBChB, PhD, CStat, MD (Hons), FFPHM, University of Aberdeen</p> <p><b>Speaker Abstract:</b> The talk will focus on chronic widespread pain, the cardinal feature of fibromyalgia. It will review what we understand about its epidemiology and natural history and then combined with evidence on what management approaches are most effective, it will make a case for trying trying to prevent the condition and detail information about such a project which is currently underway</p>
9:30 AM - 10:00 AM	<p><b>Room: Nova Scotia C&amp;D</b> <b>Distinguished Career Award Keynote</b></p> <p><b>GATING PAIN; FROM NORMAL TO PATHOLOGICAL SENSORY CODING</b></p> <p><b>Speaker:</b> Yves De Koninck, PhD, Laval University, Quebec Mental Health Institute Research Center</p> <p><b>Speaker Abstract:</b> TBD</p>
10:00 AM - 11:00 AM	<p><b>Room: Nova Scotia A&amp;B &amp; Foyer</b> <b>Coffee/Posters/Tradeshow</b></p>
11:00 AM - 12:30 PM	<p><b>Room: Sable A&amp;B</b> <b>Session 201</b></p> <p><b>OPIOIDS FOR CHRONIC PAIN - FINDING THE BALANCE AGAIN</b></p> <p><b>Chair:</b> Roman D. Jovey, MD, CPM Centres for Pain Management</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Roman D. Jovey, MD, CPM Centres for Pain Management</li> <li>2. Dawn Petit, RN, West Grove Primary Care Network</li> <li>3. Lydia Hatcher, MD. CCFP, FCFP, CHE, D-CAPM, St. Joseph's Healthcare Hamilton</li> </ol> <p><b>Symposium Abstract:</b></p>

	<p>Opioids have been prescribed long-term for patients with CNCP for over 20 years. In spite of the absence of long-term RCT evidence for efficacy, patients and providers have endorsed significant long-term benefits for a subset of patients. However the ongoing publicity regarding misuse, abuse, addiction and the increasing toll of opioid-related deaths has resulted in calls for regulatory pressure to reduce total opioid prescribing for all patients.</p> <p>This symposium will update participants on the problem of opioid misuse and its impact on people with pain, discuss potential improved screening criteria to optimize future patient selection and will summarize the key recommendations from the 2016 Canadian Opioid Guideline recommendations for safe and effective opioid prescribing.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Develop a practical strategy to reduce the risks of opioids by optimizing the selection of patients with chronic pain who might benefit from opioids</li> <li>2. Discuss the potential impact on people with pain of recent government and regulatory strategies to reduce opioid prescribing</li> <li>3. Describe the impact of some of the significant changes in the 2016 Canadian Opioid Guidelines</li> </ol> <p><b><u>Opioids for CNCP - Challenging Assumptions, Improving Patient Selection</u></b> Roman D. Jovey, MD, CPM Centres for Pain Management</p> <p><b><u>The Impact of the Opioid Crisis on People With Pain</u></b> Dawn Petit, RN, West Grove Primary Care Network</p> <p><b><u>The Canadian Opioid Guidelines 2016 - Something Old, Something New</u></b> Lydia Hatcher, MD, CCFP, FCFP, CHE, D-CAPM, St. Joseph's Healthcare Hamilton</p>
11:00 AM - 12:30 PM	<p><b>Room: Sable C&amp;D</b> <b>Session 202</b></p> <p><b>PAIN CONTROL, PERCEPTION AND EXPRESSION IN OLDER INDIVIDUALS</b></p> <p><b>Chair:</b> Magali Millecamps, PhD, McGill University</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Thomas Hadjistavropoulos, PhD, ABPP, FCAHS, University of Regina</li> <li>2. Magali Millecamps, PhD, McGill University</li> <li>3. Guillaume Léonard, PT, PhD, Centre hospitalier universitaire de Sherbrooke (CIUSSS de l’Estrrie-CHUS)</li> </ol> <p><b>Symposium Abstract:</b> One in five Canadians experience chronic pain. Pain prevalence increases with age. Adults over 65 often present with numerous pathological conditions which results in over prescription of medications. This is concerning because older people are also more sensitive to drug interactions and side effects. Moreover, co-morbidities like cognitive decline, associated with aging, often complicate pain assessment and management. While they are among the most likely to suffer from chronic pain, older adults end up being the least likely to receive adequate treatment.</p>

	<p>To improve pain management in older populations, it is necessary to improve our understanding of pain experience and physiology in older individuals. Ultimately, a better understanding of pain in geriatric populations will result in the optimization of pain. New therapeutic options, more suitable for the special needs of this growing population, are urgently needed.</p> <p>After a brief introduction of the clinical problem, our multidisciplinary and translational panel of experts will explore three aspects of this growing field. Thomas Hadjistavropoulos will present the clinical challenges of assessing pain in older adults including those suffering from severe dementia. Magali Millecamps will describe changes in the behavioural expression of acute versus chronic pain in aging mice and investigate the possible underlying supra-spinal mechanisms. Guillaume Léonard will conclude our symposium with a presentation on pain management in older patients focusing on non-pharmacological alternatives.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. To familiarize participants with clinical challenges in the assessment of pain in older adults and with ways of overcoming these challenges.</li> <li>2. To provide evidence of changes in the chronic pain experience during aging and discuss possible underlying mechanisms.</li> <li>3. To explore new non-pharmacological pain management avenues to help older patients manage chronic pain.</li> </ol> <p><b><u>Pain Communication in older adults: Self-report, nonverbal expressions and clinical challenges</u></b> Thomas Hadjistavropoulos, PhD, ABPP, FCAHS, University of Regina</p> <p><b><u>Changes in behavioral expressions of acute and chronic pain in aging mice</u></b> Magali Millecamps, PhD, McGill University</p> <p><b><u>Neurostimulation as an alternative approach to pharmacological treatment for alleviating pain in older adults</u></b> Guillaume Léonard, PT, PhD, Centre hospitalier universitaire de Sherbrooke (CIUSSS de l’Estrie-CHUS)</p>
11:00 AM - 12:30 PM	<p><b>Room: Nova Scotia C</b> <b>Session 203</b></p> <p><b>SPINAL CORD STIMULATION FOR THE TREATMENT OF NEUROPATHIC PAIN</b></p> <p><b>Chair:</b> Cecile C. de Vos, PhD, Medisch Spectrum Twente Hospital and McGill University</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Lutz Weise, MD, PhD, Dalhousie University</li> <li>2. Cecile C. de Vos, PhD, Medisch Spectrum Twente Hospital and McGill University</li> <li>3. Jeffrey Kramer, PhD, St. Jude Medical USA</li> </ol> <p><b>Symposium Abstract:</b> Spinal cord stimulation (SCS) for the treatment of neuropathic pain has been available for over forty years and its efficacy has been demonstrated for chronic intractable pain of various aetiologies. However, technological development of SCS therapy has been relatively slow and only recently several new stimulation paradigms and targets have become available, that might allow for broader application of the technology.</p>

	<p>In this symposium we will give an overview of the current evidence for SCS therapy, the first results of several new forms of SCS and how these new stimulation approaches can be used to target specific patient populations and further personalise pain treatment.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Know what types of pain can be treated effectively with spinal cord stimulation.</li> <li>2. Gain an understanding of current evidence in the field of spinal cord stimulation</li> <li>3. Understand the possibilities and limitations of new technological developments in neuromodulation.</li> </ol> <p><b><u>Evidence for the analgesic effects of Spinal Cord Stimulation</u></b> Lutz Weise, MD, PhD, Dalhousie University</p> <p><b><u>What are the benefits and draw backs of new spinal cord stimulation settings?</u></b> Cecile C. de Vos, PhD, Medisch Spectrum Twente Hospital and McGill University</p> <p><b><u>What are the benefits and draw backs of new neurostimulation targets?</u></b> Jeffrey Kramer, PhD, St. Jude Medical USA</p>
11:00 AM - 12:30 PM	<p><b>Room: Nova Scotia D</b> <b>Session 204</b></p> <p><b>COPING WITH PAIN: BASIC, DEVELOPMENTAL, AND TRANSLATIONAL PERSPECTIVES</b></p> <p><b>Chair:</b> Rebecca Pillai Riddell, PhD, York University</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Loren Martin, PhD, University of Toronto – Mississauga</li> <li>2. Lauren Campbell, MA, York University</li> <li>3. Sylvie Le May, RN, MSc, PhD, Université de Montréal</li> </ol> <p><b>Symposium Abstract:</b> Coping is considered a complex and dynamic process in which one’s thoughts and behaviors are continuously changing in response to specific demands appraised as stressful. Despite the importance of studying coping with pain, the question of how to define coping in this context has presented itself as a major issue in the field, with researchers exhibiting discrepant views on the operationalization of the coping construct. In the literature, the term ‘coping’ has been used to not only reflect behaviors that reduce distress but also to reflect the actual reduction of distress. It is both the outcome and the response by which that outcome is achieved. After the chair provides a brief theoretical background to the study of coping and current challenges, this multidisciplinary presentation (with experts in neuroscience, developmental psychology and pediatric nursing) sets out to present new research on basic mechanisms of coping using animal models, the developmental of coping using longitudinal data of parent and children over the first five years of life, and a new clinical application for coping assessment with francophone adolescents after a major surgery. An audience-led discussion period, facilitated by the chair, will conclude the session.</p>

	<p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Become versed in a novel animal paradigm that informs our understanding of how stress changes how the brain processes pain in ourselves and others</li> <li>2. Develop a grounding in developmental pathways of children’s coping with acute pain highlighting new data on the role of parent interactions and children’s language abilities</li> <li>3. Learn about a new version of a measure of pain coping that is based on state of the art data with French adolescents who have undergone spinal fusion surgery</li> </ol> <p><b><u>Stress, pain and social interactions in mice</u></b> Loren Martin, PhD, University of Toronto - Mississauga</p> <p><b><u>Parent and child predictors of children’s coping with needle-related procedures</u></b> Lauren Campbell, MA, York University</p> <p><b><u>Validation of the French version of the Pain Coping Questionnaire (PCQ) with patients post-spinal fusion</u></b> Sylvie Le May, RN, MSc, PhD, Université de Montréal</p>
12:30 PM - 1:30 PM	<p><b>Room: Nova Scotia A&amp;B &amp; Foyer</b> <b>Lunch/Posters/Tradeshow</b></p>
12:30 PM - 1:30 PM	<p><b>Room: Oxford</b> <b>Annual Family Physician Lunch and Meeting</b></p>
1:30 PM - 3:00 PM	<p><b>Room: Sable A&amp;B</b> <b>Session 205</b></p> <p><b>TACKLING THE OPIOID CRISIS: THE CLINICAL AND CELLULAR BATTLEFRONTS</b></p> <p><b>Chair:</b> Tuan Trang, PhD, University of Calgary</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Hance Clarke, MD, PhD, FRCPC, Toronto General Hospital</li> <li>2. Jose Moron-Concepcion, PhD, Washington University School of Medicine</li> <li>3. Catherine M. Cahill, PhD, University of California</li> </ol> <p><b>Symposium Abstract:</b> Opioid analgesics are essential pharmacological tools for treating pain. The consumption of opioids is highest in Canada and the United States; this increased prevalence has resulted in an alarming rise in opioid substance use disorder and opioid related deaths. This workshop brings together basic scientists and clinicians to discuss the opioid crisis that currently plagues North America, and to highlight recent preclinical breakthroughs and their clinical translation towards improved opioid therapies.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. To understand the rise in morbidity and mortality associated with opioid misuse in the Canadian population.</li> </ol>

	<ol style="list-style-type: none"> <li>2. Increase our knowledge of the neural adaptations in the presence of pain that can promote opioid drug escalation and consequently misuse.</li> <li>3. To understand that neuroinflammation is a commonality of both chronic pain and chronic opioid use and the functional implications of this state.</li> </ol> <p><b><u>The Clinical and Political Battlefront</u></b> Hance Clarke, MD, PhD, FRCPC, Toronto General Hospital</p> <p><b><u>Pain impacts opioid self-administration and associated motivated behavior via dysregulation of the endogenous opioid system</u></b> Jose Moron-Concepcion, PhD, Washington University School of Medicine</p> <p><b><u>Neuroinflammation – A co-occurring phenomenon linking chronic pain and opioid dependence</u></b> Catherine M. Cahill, PhD, University of California</p>
1:30 PM - 3:00 PM	<p><b>Room: Sable C&amp;D</b> <b>Session 206</b></p> <p><b>BEYOND TENS MACHINES AND HEATING PADS: DEVELOPMENT AND APPLICATION OF ADVANCED TECHNOLOGIES IN PAIN PREVENTION, ASSESSMENT AND MANAGEMENT</b></p> <p><b>Chair:</b> Thomas Hadjistavropoulos, PhD, ABPP, FCAHS, University of Regina</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Catherine Mercier, OT, PhD, Université Laval</li> <li>2. Thomas Hadjistavropoulos, PhD, ABPP, FCAHS, University of Regina</li> <li>3. Alex Mihailidis, PhD, PEng, AGE-WELL NCE Inc., Toronto Rehab Institute-UHN / University of Toronto</li> </ol> <p><b>Symposium Abstract:</b> The goal of this symposium is to familiarize participants with development, research and applications related to cutting edge technologies for pain prevention, assessment and management. These technologies include: a) applications of computer vision in pain assessment; b) virtual reality in the assessment and treatment of patients with conditions such as non-specific low back pain and complex regional pain syndrome; c) virtual reality in the treatment of conditions such as phantom limb pain; and d) automated and artificial intelligence systems in the prevention of painful injury.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. To provide an overview of cutting edge advanced technologies designed to prevent pain, assess and treat pain</li> <li>2. To familiarize participants with the scientific process leading to the development and evaluation of such technologies</li> <li>3. To discuss use of these technologies in real life settings such as health care facilities</li> </ol> <p><b><u>Using virtual reality to provide altered feedback about movements: new avenues for assessment and treatment in chronic pain populations</u></b></p>

	<p>Catherine Mercier, OT, PhD, Université Laval</p> <p><b><u>Development of Clinically Useful, Inexpensive and Practical Technologies to Monitor Pain Behaviour in Advanced Dementia</u></b> Thomas Hadjistavropoulos, PhD, ABPP, FCAHS, University of Regina</p> <p><b><u>Use of advanced technologies in the prevention of painful injuries in at-risk frail populations</u></b> Alex Mihailidis, PhD, PEng, AGE-WELL NCE Inc., Toronto Rehab Institute-UHN / University of Toronto</p>
1:30 PM - 3:00 PM	<p><b>Room: Nova Scotia C</b> <b>Session 207</b></p> <p><b>PAIN SCALES DEVELOPMENT AND VALIDATION ACROSS AGE, CULTURE AND CLINICAL CONTEXTS OF CARE</b></p> <p><b>Chair:</b> Sylvie Le May, RN, MSc, PhD, Université de Montréal</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Ariane Ballard, RN, BScN, PhD, University of Montreal, CHU Ste-Justine Research Centre</li> <li>2. Margot Latimer, PhD, Dalhousie University &amp; John R. Sylliboy, MAEd, IWK Health</li> <li>3. Céline Gélinas, RN, PhD, McGill University</li> </ol> <p><b>Symposium Abstract:</b> Instruments are essential for clinicians and researchers to assess pain and provide personalized pain management. However, pain is an inherently subjective experience. Therefore, scales selected should have been validated with the targeted population prior to their specific use. This workshop aims to present the process of development or validation of selected pain measurement tools across different age-groups, culture and clinical contexts. Three researchers interested by the development and psychometric testing of pain scales will each present their different projects thus research on self-report pain measures in children using existing scales, newly developed applications for Aboriginal children and combination of physiological measures to better assess pain in critically ill adult patients. Participants will gain more knowledge on psychometric properties of existing scales as well as learn about new applications and technologies to assess pain.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. To inform the audience about the psychometric properties of three scales measuring acute pain in children and commonly used in the pediatric emergency department (ED).</li> <li>2. To inform the audience about the psychometric process associated with the testing and development of an electronic application associated with emotional and physical pain for Aboriginal children and youth.</li> <li>3. To inform the audience about the validity of physiologic indicators (i.e., vital signs, pupil dilation reflex, cerebral measures) for the assessment of acute pain and to present preliminary data on the use of an innovative technology i.e., the Nociception Level Index</li> </ol> <p><b><u>Comparisons of Psychometric Properties of the VAS, FPS-R and CAS used in Children with Acute Pain within an Emergency</u></b></p>

	<p><b><u>Department Context</u></b> Ariane Ballard, RN, BScN, PhD, University of Montreal, CHU Ste-Justine Research Centre</p> <p><b><u>Developing and Testing an Electronic Pain App for Aboriginal Children &amp; Youth</u></b> Margot Latimer, PhD, Dalhousie University &amp; John R. Sylliboy, MAEd, IWK Health</p> <p><b><u>Physiologic Indicators for the Assessment of Acute Pain: Recent Evidence and New Trends</u></b> Céline Gélinas, RN, PhD, McGill University</p>
1:30 PM - 3:00 PM	<p><b>Room: Nova Scotia D Session 208</b></p> <p><b>IS IT TIME TO REPLACE SWEET SOLUTIONS WITH SWEET PARENTS? PARENTAL LED INTERVENTIONS AS THE STANDARD OF CARE FOR PROCEDURAL PAIN MANAGEMENT IN INFANTS</b></p> <p><b>Chair:</b> Marsha Campbell-Yeo, PhD, NNP-BC, RN, Dalhousie University and IWK Health Centre</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Manon Ranger, PhD, RN, Columbia University</li> <li>2. Marsha Campbell-Yeo, PhD, NNP-BC, RN, Dalhousie University and IWK Health Centre</li> <li>3. Jack Hourigan, BA</li> </ol> <p><b>Symposium Abstract:</b> Sweet tasting solutions, such as sucrose or glucose, are currently considered the gold standard for the treatment of needle related and routinely performed minor procedural pain in both full term and prematurely born neonates. However, despite strong evidence of the effectiveness to reduce behavioural pain response and recommendations that its non use would be unethical, some concerns have been raised regarding the possibility of adverse effects following repeated exposure on the developing brain of the youngest and sickest neonates. Moreover, the efficacy of sucrose to reduce cortical responses associated with procedural pain exposure in newborns has yet to be demonstrated. As such, alternative treatments are continuing to be explored. Thus, involvement of parents in neonatal pain management is of increased interest in both research and clinical settings. From an evolutionary view, the mother is the optimal source of physical and psychological support for the infant, both as a fetus and after birth. Hospital care and medical interventions are sources of separation and stress, leading to a diminished capacity for the infant to endure painful procedures and situations. In this workshop, utilizing basic and clinical science as well as parent perspectives, we suggest redefining the hierarchy of pain treatment from sweet tasting solutions to parents as the consistent first line treatment for infant pain relief. This implies a change of role of parents, from being present or being advocates for their infant, to being active partners in pain care. We will discuss the evidence behind this recommendation, and listen to the viewpoint of a parent of a preterm infant regarding this new role, including the challenges and opportunities to engage families. Intended audience: Clinicians and researchers with interest in neonatal pain management and knowledge translation.</p> <p><b>Learning Objectives:</b></p>

	<ol style="list-style-type: none"> <li>1. Describe most recent evidence on long-term effects of early repetitive sucrose exposure on brain and behavioural outcomes in a mouse pain model.</li> <li>2. Describe the current evidence for parent-led pain relieving interventions available for infants.</li> <li>3. Recognize and better understand parent perceptions regarding the role of parents in improving pain treatment in hospitalized infants and identify strategies for engaging parents as active participants in infant pain care.</li> </ol> <p><b><u>Let's not sugar coat it: Evidence from a translational pain mouse model of long term effects of repeated sucrose for pain management in very preterm infants</u></b> Manon Ranger, PhD, RN, Columbia University</p> <p><b><u>Mamma really does know best: Evidence update of maternal-led interventions to reduce behavioural pain response in preterm infants</u></b> Marsha Campbell-Yeo, PhD, NNP-BC, RN, Dalhousie University and IWK Health Centre</p> <p><b><u>Parenting isn't a pain in the NICU: Supporting active parental participation in neonatal pain management</u></b> Jack Hourigan, BA</p>
3:00 PM - 4:00 PM	<p><b>Room: Nova Scotia A&amp;B &amp; Foyer</b> <b>Coffee/Posters/Tradeshow</b></p>
3:55 PM - 5:30 PM	<p><b>Room: Halifax &amp; Foyer</b> <b>Poster Tear Down</b></p>
4:00 PM - 5:30 PM	<p><b>Room: Sable A&amp;B</b> <b>Session 209</b></p> <p><b>ADDRESSING THE OPIOID CRISIS IN CANADA; WHO WHAT WHERE WHEN WHY HOW</b></p> <p><b>Chair:</b> Fiona Campbell, BSc, MD, FRCA, Hospital for Sick Children, University of Toronto, President-elect Canadian Pain Society</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Fiona Campbell, BSc, MD, FRCA, Hospital for Sick Children, University of Toronto, President-elect Canadian Pain Society</li> <li>2. Paula Robeson, RN, MScN, Canadian Centre on Substance Abuse</li> <li>3. Jason W. Busse, DC, PhD, McMaster University</li> </ol> <p><b>Symposium Abstract:</b> Canada faces a crisis with escalating, overdose and death caused by opioids. In response, the Federal and Ontario Ministers of Health, Jane Philpott and Eric Hoskins co-hosted a 2-day Opioid Conference and Summit in Ottawa, to develop a Joint Statement of Action to address this crisis. To quote Ministers Philpott and Hoskins “This is a complex health and social issue with devastating consequences for individuals, families, and communities. The response to this crisis needs to be comprehensive, collaborative, compassionate and evidence-based.” The goals of this workshop are to provide an overview of i) the opioid crisis, ii) the Opioid Summit and the Joint Statement of Action committed by stakeholders, and iii) the updated Canadian Guideline for Safe and Effective Use of Opioids for Non-Cancer Pain, a</p>

	<p>key deliverable funded by Health Canada.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Explain the opioid crisis that led to the Opioid Summit, and describe what the Joint Statement of Action means specifically for the Canadian Pain Society and people suffering with chronic pain</li> <li>2. Describe the progress and implementation of the Joint Statement of Action committed by stakeholders across Canada to address the opioid crisis</li> <li>3. Interpret statistically significant treatment effects of opioids for chronic non-cancer pain with respect to their clinical importance</li> </ol> <p><b><u>Addressing the Opioid Crisis in Canada; Implications for the Canadian Pain Society and the pain community</u></b>  Fiona Campbell, BSc, MD, FRCA, Hospital for Sick Children, University of Toronto, President-elect Canadian Pain Society</p> <p><b><u>Addressing the Opioid Crisis in Canada: Progress on the Joint Statement of Action</u></b>  Paula Robeson, RN, MScN, Canadian Centre on Substance Abuse</p> <p><b><u>Addressing the Opioid Crisis in Canada; The new Guideline for Safe and Effective Use of Opioids for Non-Cancer Pain</u></b>  Jason W. Busse, DC, PhD, McMaster University</p>
4:00 PM - 5:30 PM	<p><b>Room: Sable C&amp;D</b>  <b>Session 210</b></p> <p><b>PRESCRIBING MOVEMENT AS MEDICINE FOR PEOPLE IN PAIN</b></p> <p><b>Chair:</b> Timothy Wideman, PhD, McGill University</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Neil Pearson, PT, MSc, University of British Columbia</li> <li>2. Arthur Woznowski-Vu, PT, MSc, PhD (Candidate), McGill University</li> <li>3. Jordan Miller, PT, PhD, Queen’s University</li> </ol> <p><b>Symposium Abstract:</b>  The overall aim of this symposium is to describe how prescribing movement and exercise as medicine play a vital role in pain management. Movement and exercise can positively impact the quality of life of an individual with pain by improving function and reducing disability, by providing exercise-induced analgesia, and by reducing unhelpful pain beliefs. The first presentation will describe the analgesic benefits of prescribing exercise as medicine as well as describing how movement can provide a valuable learning opportunity to address unhelpful pain beliefs. The second presentation will introduce participants to the concept of sensitivity to physical activity, which may explain some of the variability in responses to movement and exercise focused interventions. Sensitivity to physical activity measures are associated with increased disability, dysfunctional pain modulation, and negative pain cognitions. These measures can serve as valuable clinical tools by identifying people who are more likely to experience increases in pain following physical activity. This presentation will introduce evidence for the assessment of sensitivity to physical activity in</p>

	<p>practice and will describe potential implications for tailored approaches to treatment based on sensitivity to physical activity. The final presentation will describe how tailored exercises have been incorporated in a self-management program to improve functional outcomes in a primary health care setting. This example of tailoring exercises to the participant will build on the previous presentations by providing a practical approach to graded activity and exercise for people who are more sensitive to physical activity.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Understand that movement, therapeutic exercise, and physical activity should be incorporated in effective pain management.</li> <li>2. Be able to identify people who have high sensitivity to physical activity which may form a barrier to participating in standardized movement or exercise interventions.</li> <li>3. Be able to implement a simple approach to help patients tailor their own movement and exercise giving consideration to their response to physical activity.</li> </ol> <p><b><u>Using exercise interventions to provide analgesic effects and reduce unhelpful pain beliefs</u></b> Neil Pearson, PT, MSc, University of British Columbia</p> <p><b><u>Sensitivity to physical activity as a barrier to participating in physical activity and exercise interventions</u></b> Arthur Woznowski-Vu, PT, MSc, PhD (Candidate), McGill University</p> <p><b><u>Encouraging self-management in primary health care through a tailored approach to physical activity and exercise interventions</u></b> Jordan Miller, PT, PhD, Queen's University</p>
4:00 PM - 5:30 PM	<p><b>Room: Nova Scotia C</b> <b>Session 211</b></p> <p><b>PAIN AS A SENSORY DISTURBANCE: MANIPULATION, MODULATION AND MECHANISMS</b></p> <p><b>Chair:</b> Massieh Moayedi, PhD, University of Toronto</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Jenny Lewis, Dip COT, MSc, PhD, Royal National Hospital for Rheumatic Diseases</li> <li>2. Janet Bulititude, BPsych, BSc, PhD, University of Bath</li> <li>3. Massieh Moayedi, PhD, University of Toronto</li> </ol> <p><b>Symposium Abstract:</b> Sensory perceptual abnormalities associated with pain can occur in chronic pain conditions and Complex Regional Pain Syndrome (CRPS) is an exemplary model. This workshop gives an overview of the evidence for sensory perceptual disturbances in chronic pain and how these can be modulated for pain relief. We will present findings from recent CRPS research that explores the use of visual illusions in normalising the appearance of the painful hand, followed by studies that measure and manipulate spatial attention. These will be discussed in the context of how sensory and perceptual abnormalities can be manipulated for therapeutic benefit.</p>

	<p>Finally, we will present novel neuroimaging data to provide insight in the underlying neural mechanisms associated with these perceptual changes</p> <p><b><u>Visual manipulation, pain modulation: exploring the use of hand illusions in CRPS</u></b> Jenny Lewis, Dip COT, MSc, PhD, Royal National Hospital for Rheumatic Diseases</p> <p><b><u>Spatial cognition in Complex Regional Pain Syndrome</u></b> Janet Bulititude, BPsych, BSc, PhD, University of Bath</p> <p><b><u>Neural correlates of visuo-haptic illusions: potential mechanisms of pain modulation</u></b> Massieh Moayedi, PhD, University of Toronto</p>
4:00 PM - 5:30 PM	<p><b>Room: Nova Scotia D</b> <b>Hot Topics Session</b></p> <p><b>Chair:</b> Mark A. Ware, MD, MSc, McGill University</p> <p><b>Speakers:</b></p> <ul style="list-style-type: none"> <li>• Robert Bonin, PhD, University of Toronto</li> <li>• Carley Ouellette, BScN, University of Western Ontario and The Hospital for Sick Children</li> <li>• Diane Gromala, PhD, MA, Simon Fraser University</li> <li>• Jason Busse, DC, PhD, McMaster University</li> <li>• Samantha Landry, BA (candidate), University of New Brunswick</li> <li>• Tracy Moniz, PhD, Mount Saint Vincent University</li> </ul> <p><b><u>Non-ionotropic NMDA receptor activity contributes to reversal of hyperalgesia and sensitization in pain reconsolidation</u></b> Abigail D'Souza, BSc, University of Toronto Yu-Feng Xie, PhD, University of Toronto Irene Lecker, PhD, University of Toronto Robert Bonin, PhD, University of Toronto</p> <p><b><u>Using a humanoid robot to reduce procedural pain in children with cancer: a pilot randomized controlled trial (RCT)</u></b> Carley Ouellette, BScN, University of Western Ontario and The Hospital for Sick Children Jennifer N. Stinson, RN-EC, PhD, CPNP, The Hospital for Sick Children Paul. C Nathan, MD, The Hospital for Sick Children Lindsay A. Jibb, PhD, RN, MSc, University of Ottawa Vanessa Hum, MEnvSc, BSc, The Hospital for Sick Children Tanya Beran, PhD, University of Calgary</p> <p><b><u>A pilot focus group study of Farmooo, a virtual reality pain distraction game designed for 14- to 18 -year-old patients</u></b></p>

	<p><b><u>undergoing chemotherapy</u></b>  Janice Ng, BA, Simon Fraser University  Henry Lo, BSc, Simon Fraser University  Xin Tong, MSc, BA, Simon Fraser University  Weina Jin, MD, Simon Fraser University  Diane Gromala, PhD, MA, Simon Fraser University  Caron Strahlendorf, MB, BCh. FCP, FRCPC, BC Children’s Hospital &amp; University of British Columbia</p> <p><b><u>Predictors of opioid misuse following prescription of opioids for chronic non-cancer pain: A systematic review and meta-analysis of observational studies</u></b>  Regina Li, MD (candidate), McMaster University  Li Wang, PhD, McMaster University  Pat Hong, MD (candidate), University of Ottawa  Alka Kaushal, MD, McMaster University  Vahid Ashoorion, MD, PhD, McMaster University  Yasir Rehman, MD, McMaster University  Yaping Chang, PhD (candidate), McMaster University  Kyle De Oliveira, MD (candidate), University College Dublin  Anna Goshua, BHsc (candidate), McMaster University  Stephanie Ross, PhD, McMaster University  Raad Yameen, MD, University of Toronto  Rachel Couban, MSc, McMaster University  Samantha Craigie, MSc, McMaster University  Jason W. Busse, DC, PhD, McMaster University</p> <p><b><u>Competitiveness in Facebook peer support groups for fibromyalgia</u></b>  Samantha Landry, BA (candidate), University of New Brunswick  Lyndsay Crump, BA Honours, University of New Brunswick  Diane LaChapelle, PhD, University of New Brunswick</p> <p><b><u>It Doesn't Have to Hurt: an analysis of earned media coverage and public engagement</u></b>  Tracy Moniz, PhD, Mount Saint Vincent University  Christine Chambers, PhD, Dalhousie University and IWK Health Centre  Erica Ehm, BA, CEO, Ehm &amp; Co; Founder, YummyMummyClub.ca  Justine Dol, MSc, Dalhousie University and IWK Health Centre</p>
6:30 PM - 11:00 PM	<p><b>Room: Halifax/Nova Scotia B, C&amp;D</b>  <b>Annual Dinner, Awards &amp; Entertainment</b></p>

**DAY 3: Friday, May 26**

7:30 AM - 8:45 AM	<b>Room: Nova Scotia A&amp;B &amp; Foyer</b> <b>Breakfast</b>
8:45 AM - 9:00 AM	<b>Room: Nova Scotia C&amp;D</b> <b>Opening Remarks &amp; Poster Awards</b>
9:00 AM - 9:45 AM	<b>Room: Nova Scotia C&amp;D</b> <b>Early Career Award Keynote</b>  <b>REMEMBERING THE PAIN OF CHILDHOOD: DEVELOPMENT, IMPACT, AND INTERVENTION</b>  <b>Speaker:</b> Melanie Noel, PhD, University of Calgary and Alberta Children's Hospital Research Institute  <b>Symposium Abstract:</b> Pain is an inevitable part of in childhood. If poorly managed, acute pain can have adverse effects on children's development and lead to fears and avoidance of medical care. Chronic pain in childhood is very prevalent (affecting 15-40% of youth), costly (11.8 billion USD/year), and often persists into adulthood and heightens risk for mental health disorders. Therefore, it is important to understand modifiable factors, such as pain memories, that underlie trajectories of pediatric pain. Dr. Noel's research has documented the powerful role of memories of pain in children's pain experiences. Children who have high fears and anxiety tend to develop distressing memories of pain, which place them at higher risk for developing pain problems in the future. Importantly, pain-related fears and memories can be modified and reframed through relatively simple language based interventions to improve pain outcomes and therefore hold promise for preventing pain problems from developing in the first place. Dr. Noel will present her program of research examining the roles of children's memories in their experiences of acute (needle procedures) and chronic pain, as well as in the transition of pain from an acute to chronic state in youth undergoing surgeries. Solidly rooted in developmental models of pain memories and pain that she co-developed, Dr. Noel will describe how she uses innovative lab-based and clinical methods in her research with preschoolers to adolescents to examine how fears and children's attention and memory biases influence the co-occurrence of fears and pain over time.
9:45 AM - 10:30 AM	<b>Room: Nova Scotia C&amp;D</b> <b>Plenary Session</b>  <b>CORTEX: UNRAVELLING THE FINAL FRONTIER IN PAIN</b>  <b>Speaker:</b> Rohini Kuner, PhD, Heidelberg University  <b>Speaker Abstract:</b> A timely and fundamental question in the neurosciences revolves around how functional specificity is generated in highly redundant brain circuits. Several regions are activated in the human brain during a pain percept, which have not been interrogated functionally so far. In this talk, I will briefly review some of the recently acquired insights and present new data from our laboratory addressing the function and specificity of medial prefrontal cortical circuits in pain. We identified a novel functional role of an important subdivision of the cingulate cortex, namely the mid-cingulate cortex (MCC), in

	<p>central plasticity mediating the transition from acute to chronic pain. In functional mapping studies, the MCC emerged as a key nodal point in cortical and subcortical circuits activated in pain. With a view towards this goal, we employed <i>in vivo</i> optogenetic manipulations, viral-based circuit tracing and functional analyses in mice. Taken together with previous seminal work on the rostral (pregenual) subdivision of the anterior cingulate (rACC), our work reveals a functional dichotomy between the rACC and the MCC in creating the multidimensional experience of pain.</p> <p>Recent studies in humans emphasize the importance of oscillatory activity in the brain in creating and modulating the percept of pain. In this context, I will present data on the analysis of brain activity rhythms in rodents during acute and chronic pain and discuss their functional relevance to pain. Overall, our data suggest that multiple brain regions can trigger nociceptive hypersensitivity independently of peripheral nociceptor input into the brain. These findings can explain changes in pain sensitivity reported in patients in the absence of (or persisting following healing of) obvious injuries or physical pathologies. Moreover, they provide a mechanistic basis for exacerbation of pain by psychosocial factors, such as stress and anxiety, that may deregulate activity in cortical circuits.</p>
10:30 AM - 11:00 AM	<p><b>Room: Foyer</b> <b>Coffee</b></p>
11:00 AM - 12:30 PM	<p><b>Room: Sable A&amp;B</b> <b>Session 301</b></p> <p><b>THE PAIN MANAGEMENT BARRIER: LET'S BREAK ON THROUGH TO THE OTHER SIDE</b></p> <p><b>Chair:</b> Ruth Dubin, PhD, MD, Queens University and Project ECHO Ontario</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Terry Bremner, President - Canadian Pain Association of Canada</li> <li>2. Maureen Allen, MD, Dalhousie University</li> <li>3. Ruth Dubin, PhD, MD, Queens University and Project ECHO Ontario</li> </ol> <p><b>Symposium Abstract:</b> Canada is in the grips of an opioid overdose crisis which has multiple root causes, including inadequately trained healthcare providers, long wait times to access pain clinics and specialists and other systemic barriers to safe and effective pain management. Regulatory colleges, professional bodies and health ministries are now working to mitigate the tragic consequences of poor pain management and the over-prescribing of opioid analgesics. Since Watt-Watson et al's 2009 article outlined the gulf between pain education for veterinarians versus human HCP's, a number of Canadian institutions have developed strong educational programs. However other institutions lag behind despite strong advocacy from both patients and professionals. This presentation will share some successful community and educational interventions as well as some persistent barriers to best-practice pain education and clinical services delivery for Canadians who live with chronic pain and healthcare providers who support them. Audience input into seeking solutions will be encouraged.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Highlight barriers to safe and accessible healthcare for pain patients due to declaration of the opioid crisis.</li> <li>2. Understand some advances in pain education for primary care providers as well as persistent barriers</li> </ol>

	<p>3. Celebrate (and perhaps replicate) an innovative solution for managing both addiction and pain in a community setting.</p> <p><b><u>My View from the trenches: Pain Patients and the Opioid Crisis</u></b> Terry Bremner, President - Canadian Pain Association of Canada</p> <p><b><u>A community's response to the opiate + chronic pain epidemic</u></b> Maureen Allen, MD, Dalhousie University</p> <p><b><u>The long and winding road to family physician pain training</u></b> Ruth Dubin, PhD, MD, Queens University and Project ECHO Ontario</p>
11:00 AM - 12:30 PM	<p><b>Room: Sable C&amp;D</b> <b>Session 302</b></p> <p><b>PROCEDURE PAIN MANAGEMENT FOR CHRONIC AND CRITICALLY ILL PEDIATRIC AND ADULT PATIENTS: IDENTIFICATION, INNOVATION, AND EVIDENCE SYNTHESIS</b></p> <p><b>Chair:</b> Jennifer Stinson, RN, PhD, Hospital for Sick Children / University of Toronto</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Kathryn Birnie, PhD, University of Toronto / Hospital for Sick Children</li> <li>2. Jennifer Stinson, RN, PhD, Hospital for Sick Children / University of Toronto</li> <li>3. Craig Dale, RN, PhD, CNCC(C), University of Toronto / Sunnybrook Health Sciences Centre</li> </ol> <p><b>Symposium Abstract:</b> Medical procedures are an incredibly common source of pain and distress, particularly for individuals requiring frequent and/or repeated procedures for assessment or treatment. Despite the frequent occurrence of medical procedures for the chronic or critically ill patient, strategies to manage procedural pain are often underutilized and reports of significant pain remain high for pediatric and adult patients alike (e.g., Siffleet et al., 2007; Stevens et al., 2011). Furthermore, inadequate management of procedure-related pain and distress can significantly negatively impact subsequent procedures and patient's recovery. The goal of this symposium is to highlight emerging innovative research in the area of procedure pain assessment and management. In particular, it focuses on the need for further research and clinical attention regarding procedure pain management for chronically and critically ill patients with whom more limited work has been done to date. The workshop will: (1) review the evidence for psychological/behavioural management of procedure-related pain and distress from early childhood to adulthood, with particular attention to the evidence derived from chronically or critically ill patient populations; (2) present evidence for the application of new technology (MEDi, a humanoid robot) for procedure management in children with cancer; and (3) discuss new investigations of the prevalence of pain behaviours during oral care procedures for mechanically ventilated adults in the intensive care unit.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Identify evidence-based psychological interventions for procedure pain management from childhood through adulthood, including direct evidence for chronically or critically ill patients.</li> </ol>

	<ol style="list-style-type: none"> <li>2. Describe the application, benefits, and challenges of using a humanoid robot (MEDi-Port) for pain and distress in children with cancer undergoing subcutaneous port access.</li> <li>3. Gain new insight into procedural oral pain in critical illness including patient behaviours and recollections.</li> </ol> <p><b><u>Evidence of what and for whom? Psychological interventions for procedure-related pain and distress in children, adolescents, and adults</u></b> Kathryn Birnie, PhD, University of Toronto / Hospital for Sick Children</p> <p><b><u>MEDi-PORT: Using a humanoid robot to reduce procedural pain and distress in children with cancer: A pilot randomized controlled trial</u></b> Jennifer Stinson, RN, PhD, Hospital for Sick Children / University of Toronto</p> <p><b><u>Under-recognized and undertreated: Procedural oral pain in the adult intensive care unit</u></b> Craig Dale, RN, PhD, CNCC(C), University of Toronto / Sunnybrook Health Sciences Centre</p>
11:00 AM - 12:30 PM	<p><b>Room: Nova Scotia C</b> <b>Session 303</b></p> <p><b>BIOMARKERS FOR CHRONIC PAIN</b></p> <p><b>Chair:</b> Javeria Ali Hashmi, Bpharm, MSc, PhD, Dalhousie University</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Karen Davis, PhD, University of Toronto and Toronto Western Hospital</li> <li>2. Jason J. McDougall, PhD, Dalhousie University</li> <li>3. Javeria Ali Hashmi, Bpharm, MSc, PhD, Dalhousie University</li> </ol> <p><b>Symposium Abstract:</b> Chronic pain is associated with changes in nerve morphology, signaling properties from peripheral nerve terminals to the brain, and/or changes within the brain itself. However, the experience and report of pain are subjective, can be intransitive in nature, and do not necessarily correlate with underlying pathologies. As a result, there is no objective diagnostic test to complement the subjective assessment of chronic pain. The fact that there are no objective biomarkers for chronic pain has cast a pall on how to diagnose, understand and treat the often incendiary reports of severe pain in such a large population of people. Objective information on the neurobiological causes that mediate chronic pain could dramatically change the current outlook for treatment of chronic pain and help to validate the biological origin of chronic pain. In this symposium, the speakers will outline current efforts to delineate biomarkers of chronic pain by using different research approaches and techniques. Dr. Karen Davis will discuss new directions for developing objective biomarkers of treatment outcomes from brain imaging for 1) trigeminal neuralgia, 2) ankylosing spondylitis, and 3) peripheral nerve injuries. Dr. Jason McDougall will share novel information on neural biomarkers that specifically signal the “chronic pain” aspects of tissue damage associated with knee osteoarthritis. Dr. Hashmi’s talk will underscore the potential uses of neural biomarkers for predicting treatment outcomes for chronic pain. Her talk will highlight the necessity, significance, potential impact, and models for using neural biomarkers to implement</p>

	<p>precision medicine in chronic pain therapeutics.</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1. To share novel evidence for neural involvement in chronic pain in the peripheral and central nervous systems through research in humans and animals</li> <li>2. Project how neurobiological findings can serve to more accurately diagnose, understand and treat chronic pain and improve the future of chronic pain diagnostics and clinical pain management</li> <li>3. Discuss caveats and potential pitfalls of existing precision medicine models</li> </ol> <p><b><u>Neuroimaging of chronic pain treatment effects</u></b> Karen Davis, PhD, University of Toronto and Toronto Western Hospital</p> <p><b><u>Discovery of a novel biomarker for neuropathic pain in osteoarthritis</u></b> Jason J. McDougall, PhD, Dalhousie University</p> <p><b><u>Data analytics for implementing precision medicine in chronic pain therapeutics</u></b> Javeria Ali Hashmi, Bpharm, MSc, PhD, Dalhousie University</p>
11:00 AM - 12:30 PM	<p><b>Room: Nova Scotia D</b> <b>Session 304</b></p> <p><b>MINDFULNESS-BASED INTERVENTIONS FOR CHRONIC PAIN: EXPERIENCE AND EVIDENCE</b></p> <p><b>Chair:</b> Ted Robinson, Hon BSc, MD, University of Toronto and Mount Sinai Hospital and Bridgepoint Hospital</p> <p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Denise Paneduro, MA, PhD, Mount Sinai Hospital and York University</li> <li>2. Jaisa Sulit, MScOT, BPHE, Bed, University of British Columbia</li> <li>3. Ted Robinson, Hon BSc, MD, University of Toronto and Mount Sinai Hospital and Bridgepoint Hospital</li> </ol> <p><b>Symposium Abstract:</b> Chronic pain is a multidimensional life experience. Traditional medical approaches are often limited to treating physical aspects of pain. Biopsychosocial theoretical models of pain (Gatchel, Peng, Peters, Fuchs, &amp; Turk, 2007) and evaluations of mindfulness-based interventions suggest that pharmacological management of chronic pain is inadequate alone, and is most beneficial when combined with more holistic approaches. Mindfulness practices provide the patient with effective self-management strategies for living with the adversity of chronic pain. In this symposium we will review the history of Mindfulness-Based Stress Reduction (MBSR) programs for chronic pain, examine the evidence for their benefit, explore the effectiveness of Mindfulness from the patient's perspective, and look at future modifications of the basic MBSR program, which may enhance its benefit. This symposium will also provide participants with an opportunity to experience some introductory Mindfulness practices.</p> <p><b>Learning Objectives:</b></p>

1. Participants will be informed about the evidence that mindfulness-based practices provide chronic pain patients with beneficial coping strategies for living with chronic pain.
2. Participants will have an opportunity to explore mindfulness experientially, and to hear directly from a chronic pain patient about its benefits.
3. Participants will learn about a potentially more powerful new program (MBCT for chronic pain) which incorporates strategies from two programs (MBSR and CBT) both known to be beneficial in chronic pain patients.

**Evidence for Effectiveness of MBSR for Chronic Pain**

Denise Paneduro, MA, PhD, Mount Sinai Hospital and York University

**Mindfulness from Inside and Out: Experiences of a Chronic Pain Patient and Mindfulness Teacher**

Jaisa Sulit, MScOT, BPHE, Bed, University of British Columbia

**Mindfulness-Based Cognitive Therapy (MBCT) for Chronic Pain - A Pilot Project**

Ted Robinson, Hon BSc, MD, University of Toronto and Mount Sinai Hospital and Bridgepoint Hospital