

THE UNIVERSITY OF WESTERN ONTARIO  
INTERDISCIPLINARY PAIN PROGRAM

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ANNUAL REPORT

2010

Annual Report  
2010  
Interdisciplinary Pain Program

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**- EXECUTIVE SUMMARY -**

**Pain Program Annual Report 2010**

This was a year of fruition for the U.W.O. Interdisciplinary Pain Program with publications arising from several major research projects. Our centre participated in the Canadian STOP-PAIN project which showed the severe impairment and economic burden of chronic pain patients on lengthy waitlists for entry into university-affiliated pain centres. The CIHR-funded New Emerging Team grant on cancer pain culminated in a series of publications including a formal feasibility study of sublingual methadone for breakthrough cancer pain—a promising treatment for a challenging pain problem. A series of articles on whiplash-associated disorders by our rehab colleagues speaks to the interdisciplinary nature of our pain program.

We are excited about the prospects for 2011. Building on our successes of the last two years, we have peer-reviewed funding for an investigation of functional MRI in fibromyalgia and a randomized, controlled trial of methadone in the management of neuropathic pain. Our multi-centre cohort study of the longterm outcome of management of neuropathic pain is entering its final year and we eagerly await data analysis.

Apart from research initiatives, the other major mandate of the U.W.O. Pain Program is in pain education. The undergrad Pain Medicine course at the Schulich School of Medicine continues to thrive and we continue to provide Neuropathic Pain and Fibromyalgia Workshops as CME activities. However, the most striking pain education development of 2010 was the acceptance of Pain Medicine as a subspecialty discipline by the Royal College of Physicians & Surgeons. This initiative was spearheaded by Dr. Pat Morley-Forster from the Department of Anesthesia & Perioperative Medicine and has now entered Phase II with the creation of a curriculum and specifications of entry paths. This will undoubtedly be a major advance in pain education in Canada.

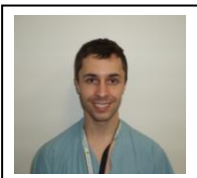


Dwight Moulin, M.D., FRCP(C), Earl Russell Chair, U.W.O. Pain Program

**Face Page**

Clinic Nurse, Cathy Lowery, and Pain Fellow, Dr. Darryl Bin, perform a nerve block under ultrasound guidance.

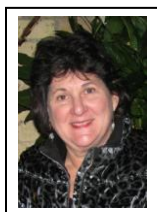
**- SCIENTIFIC ADVISORY BOARD MEMBERS -**



**Dr. Geoff Bellingham** completed residency in anesthesia and perioperative medicine at the University of Western Ontario. This was followed by a fellowship Bellingham's focus during the fellowship was on the use of ultrasound guidance for interventional pain management in addition to other established interventional pain management techniques using fluoroscopy. Currently, he holds pain clinics in which patients are managed using pharmacotherapy in addition to using other resources available such as psychotherapy and physiotherapy. Interventions using ultrasound are integrated into these clinics and separate interventional days using fluoroscopy are held within the St. Joseph's Imaging Department.



**Heather Getty** earned her Ph.D. in Adult Clinical Psychology at the University of Windsor. Her training including her Predoctoral Residency at the London Health Sciences Centre has involved work in both traditional mental health treatment settings and in clinical health psychology programs for the treatment of chronic sleep and pain disorders. She was Postdoctoral Fellow in the Pain/Anxiety program at St. Joseph's Health Care 2002-2005 where she researched psychosocial predictors of disability among individuals with chronic pain. She conducts treatment, research and education at the St. Joseph's Health Care Pain Management Program.



**Gloria Gilbert** attained a Bachelor of Science degree in Physiotherapy from McGill University and a Masters of Science degree from the University of Western Ontario.

She is secretary and newsletter editor of the Canadian Academy of Pain Management (CAPM)([www.canadianapm.com](http://www.canadianapm.com)) and is credentialed as a Fellow of both the AAPM and CAPM. Gloria has owned and operated The Downtown Clinic, Physiotherapy & Health Counselling in London since 1982.

Gloria's professional area of interest is in the treatment and management of the patient with chronic (persistent) pain as well as in the multi-disciplinary management of patients with complex injuries. She is a Progressive Goal Attainment Program(PGAP) provider ([www.PDP\\_PGAP.com](http://www.PDP_PGAP.com)). She currently runs a full time clinical practice and works closely with long term disability carriers and the legal profession to provide a comprehensive and realistic long term rehabilitation plan for the persistent pain patient.

She remains a mentor to her physiotherapy colleagues providing workshops on several titles including 'Integrating Pain Management Principles into Your Physiotherapy Practice.' Gloria and her research staff are also investigating the

possible relationship between chronic post-traumatic neck pain and mild traumatic brain injury (mTBI) symptoms.



**Dr. Patricia Morley-Forster** is an Associate Professor of Anesthesiology at the University of Western Ontario, was appointed as the inaugural Earl Russell Chair of Pain Research and Medical Director of the Comprehensive Pain Clinic at St. Joseph's Health Care, London, in February 2002. Past research in the area of pain has been on the use of non-steroidal anti-inflammatory medication for postoperative pain relief. From 1990-2000, she was the Director of Obstetric Anesthesia at the University of Western Ontario before undertaking fellowship training in cancer pain management and chronic pain at the Wasser Clinic in Toronto. She is keenly interested in education in Pain Management and, in 2006, was given the Departmental Award for Best Clinical Teacher for Fellows. Current research and clinical interests are neuropathic pain, acute pain management in chronic pain patients and the effects of opioids on the endocrine system.



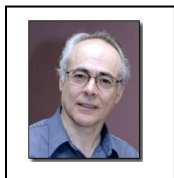
**Dr. Dwight Moulin** is a Professor in the Departments of Clinical Neurological Sciences and Oncology and the Earl Russell Chair of the Pain Program at the University of Western Ontario. He is also the Medical Director of Pain and Symptom Management at the London Regional Cancer Program in London, Ontario. His research interests include randomized controlled trials to determine the role of opioid analgesics in the management of chronic pain and observational studies to assess the impact of chronic pain in a variety of chronic neurological disorders. Current research projects include the role of intravenous lidocaine in the treatment of chronic pain and longterm outcome of the management of neuropathic pain. Dr. Moulin was the lead author of national consensus guidelines for the management of neuropathic pain in Canada.



**Dr. Warren Nielson** is an Adjunct Professor of Psychology at the University of Western Ontario. He is also the Clinical Director of the Rheumatology Day Programs at St. Joseph's Health Care, London. His research interests are in psychological factors associated with chronic pain, particularly in relation to Rheumatoid Arthritis, Osteoarthritis and Fibromyalgia Syndrome. He is also a member of the Canadian Scleroderma Research Group and on the Editorial Board of the Journal of Pain. Current studies focus on factors that influence outcomes of multidisciplinary treatment programs and motivational factors in pain self-management. Dr. Nielson is a Fellow of the Canadian Psychological Association.

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**Dr. Frank Prato** is a Professor in the Departments of Radiology and Nuclear Medicine and Medical Biophysics. His research interests are primarily in the area of imaging of brain function, both magnetic resonance imaging and nuclear medicine and how it is disturbed in cortical and vascular disease processes. He has also studied the mechanisms by which magnetic fields alter expression of opioid-induced analgesia. Animal and human studies have shown that combinations of magnetic fields can elicit analgesia equivalent to a modest dose of morphine. He plans to develop methods of imaging guided therapy for magnetic field treatment of pain.



**Dr. Alex Thomas** is the Bioelectromagnetics Scientist and CIHR Industry Chair in Bioelectromagnetics at the Lawson Research Institute, St. Joseph's Health Care (London) and an Associate Professor in the Departments of Medical Biophysics and Diagnostic Imaging, Schulich School of Medicine and Dentistry (UWO) and President of Planetary Village ([www.planetaryvillage.org](http://www.planetaryvillage.org)). Dr. Thomas is a multidisciplinary researcher and professor with degrees in Medical Biophysics, Neuroscience, Psychology, Geotechniques and Geology. He has had an extensive career in industry and academia and has formed spin-off corporations and invented and patented methods, devices and technologies. Dr. Thomas' interests are clearly in the development of new technologies related to diagnosis and therapy including pain and the discovery of new treatment and functional imaging modalities and understanding pain and placebo mechanisms. His group has recently pioneered the development of multi-modality hybrid imaging with simultaneous fMRI/EEG/EMG acquisition during the imaging of acute thermal pain during pulsed magnetic field pain treatment.

**- MISSION -**

To provide exemplary clinical care in prevention and treatment of debilitating pain states  
To continually improve pain management through research and education

**- VISION -**

The Interdisciplinary Pain Program at the University of Western Ontario identifies the study of pain as a priority that bridges academic disciplines. Integrating the fields of acute and chronic pain will encourage the development of new paradigms for prevention and treatment of chronic pain. Individuals with persistent chronic pain will be provided with timely access to an academic, research-focused facility with linkages to the community to promote continuity of care.

**- VALUES -**

We understand that each individual's experience of pain is unique, affecting their work, their life and relationships in a complex manner.

We believe in a broad interdisciplinary perspective on the understanding and treatment of pain.

We value evidence-based practice.

We support the ongoing search for and dissemination of knowledge in pain management.

**- AWARDS -**

**Manfred Harth**

Distinguished Rheumatologist Award of the Canadian Rheumatology Association  
2009

**Dwight Moulin**

Excellence in Undergraduate Medical Education, Medical Oncology, University of  
Western Ontario, 2009 – 2010

**Michael Sanatani**

Laurentian University 50<sup>th</sup> Anniversary Distinguished Alumnus, 1993 graduation  
year, 2010

**Keith Sequeira**

University Students' Council Teaching Honour Roll Award of Teaching  
Excellence, Faculty of Medicine, University of Western Ontario, 2009 – 2010

BCOE – “Certificate of Appreciation”, UWO Hippocratic Council, “in recognition of  
outstanding commitment to excellence in undergraduate medical education”,  
University of Western Ontario, 2009 – 2010



**- RESEARCH FUNDING -**

**Shalini Dhir**

“Success rate of infraclavicular blocks,” Physicians Services Incorporated (PSI) Foundation, \$60,000, 2009-2010 (principle investigator)

“Success rate of infravicular blocks,” AMOSO grant, \$32,000, 2009-2010 (principle investigator)

“Efficacy of US-guided TAP blocks for post-CS analgesia: Prospective randomized controlled trial,” Lawson LHRI, \$10,000 (2009-2012 (co-investigator)

**Patricia Morley-Forster**

Lead applicant on Proposal to Royal College of Physicians and Surgeons of Canada to make Pain Medicine a subspecialty of Anesthesia, 2007 – present.

Constantinescu C, Imasogie N, Morley-Forster PK. Combination ultra low dose naloxone infusion and oral Tramacet for postoperative pain management in elderly patients undergoing joint replacement surgery: A prospective randomized, controlled trial. Earl Russell Pain Program Trainee Award, \$10,000 (mentor)

McGrath PJ et al. Identification of physical and psychosocial predictors of chronic pain in children and adolescents: A first step towards prevention. Canadian Institutes of Health Research, Population and

Public Health, \$99,983 (co-applicant and knowledge user)

Moulin DE et al. Pfizer Canada Inc. “Neuropathic pain database (NePDAT) – Multicentre cohort study of the long term outcome of the management of neuropathic pain,” January 2008 – January 2012, \$993,000 (co-applicant)

**Dwight Moulin**

Prato FS, Thomas AW, Moulin DE et al. Canadian Institutes of Health Research – Operating Grant, “Mechanisms by which low frequency magnetic fields interact with biological systems,” April 1, 2006 – April 1, 2011, \$930,175 (co-applicant at Western).

Moulin DE et al. Pfizer Canada Inc. “Neuropathic pain database (NePDAT) – Multicentre cohort study of the long term outcome of the management of neuropathic pain,” January 2008 – January 2012, \$993,000 (principle investigator)

Moulin DE et al. Pfizer Canada Inc. “Neuropathic pain database (NePDAT) – Longterm study of the outcome of chronic neuropathic pain in primary care,” November 2009 – November 2012, \$500,000 (principle investigator)

Moulin DE. Canadian Institutes of Health Research – Patient-Oriented Research Program. “Methadone for Neuropathic Pain – Double-Blind, Randomized, Controlled Trial,” April 2010 – April 2013, \$100,000 (co-applicant at Western)

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**Frank Prato**

Prato FS (project leader),  
Koropatnick J (project co-leader),  
Thomas AW et al. Biomedical  
multimodality hybrid imaging,  
Canadian Foundation for Innovation  
(CFI) Leading Edge Fund and  
Ontario Research Fund (ORF),  
Project No. 11358, \$30,000,000,  
2007-2012

Legros A (PI), Thomas AW, Prato  
FS. Effects of a power line frequency  
magnetic field on human cognitive  
performances and brain activation  
which may be related to worker  
safety and performance and other  
health related concerns. Canadian  
Institutes of Health Research –  
Operating Grant: Industry Partnered,  
\$117,006, 2008 – 2011

Prato FS (PI), Thomas AW, Moulin  
DE. Mechanisms by which low  
frequency magnetic fields interact  
with biological systems. Canadian  
Institutes of Health Research –  
Operating Grant, \$930,175, 2006 –  
2011

Stodilka RZ (PI), Prato FS, Thomas  
AW. Localizing brain activities with  
EEG and MRI. National Defence  
(Canada), \$149,604, 2009 – 2011

**Keith Sequeira**

Wolfe DL, Ethans KE, Keast D,  
O'Connell C, Petrella R, Worley S,  
Potter PJ, Sequeira K. SCI Solutions  
Network/Ontario Neurotrauma  
Foundation, "Feasibility of an internet  
clinic for treating and preventing

pressure ulcers," 2009 – 2011,  
\$351,234

Wolfe DL, Martin GK, Hicks A,  
Legassic M, Fraser C, Petrella R,  
Persad R, Sequiera KAJ, Potter PJ.  
SCI Solutions Network, "The online  
physical activity and nutritional  
counseling (OPAN) demonstration  
project, 2010 – 2011, \$98,000

**Robert Teasell**

McDermid J, Santaguida P, Gross A,  
Reid D, Walton M, Buckley D, Cote  
Teasell R. Canadian Institutes of  
Health Research, "Synthesizing  
research evidence into clinical  
recommendations for managing neck  
pain," 2010 – 2011, \$98,605

**Alex Thomas**

DND W7711-094041. "Localizing  
Brain Activities with EEG and MRI,"  
2009 – 2011, \$149,604 (co-  
investigator)

Canadian Institutes of Health  
Research Industry Partnered Chair  
in Bioelectromagnetics, \$420,000,  
2008 - 2011

**- PUBLICATIONS -**

**Peer-Reviewed Articles**

**Bellingham GA**, Peng PW.  
Duloxetine: A review of its  
pharmacology and use in chronic  
pain management. *Reg Anesth Pain  
Med.* 35(3): 294-303, 2010

**Bellingham GA**, Peng PW. A low-  
cost ultrasound phantom of the

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lumbosacral spine. *Reg Anesth Pain Med.* 35(3): 290-293, 2010

Peng PW, Wiley MJ, Liang J and **Bellingham GA**. Ultrasound-guided suprascapular nerve block: A correlation with fluoroscopic and cadaveric findings. *Can J Anesth.* 57(2): 143-8, 2010 (Epub 2010 Jan 6)

Ponde V, Dessai AP, **Dhir S**. Ultrasound guided sciatic nerve block in infants and toddlers produces successful anesthesia regardless of the motor response. *Ped Anesth* 20(7): 633-637, 2010

**Dhir S**. Infraclavicular brachial plexus blocks. *Continuing Education in Anesthesia, Critical Care and Pain* 10(1): 29, 2010

**Merskey H**. Somatization and somatoform disorders (letter). *Pain* 148: 363, 2010

VanUum S, Chaudhary S, **Morley-Forster PK**. Chronic opioid therapy: Does it affect the endocrine system? *Canadian J Diagnosis* 27: 51-53, 2010

Choiniere M, Dion D, Peng P, Banner R, Barton PM, Boulanger A, Clark AJ, Gordon AS, Guerriere DN, Guertin MC, Intrater HM, Lefort SM, Lynch ME, **Moulin DE** et al. The Canadian STOP-PAIN Project – Part 1: Who are the patients on wait lists of multidisciplinary pain treatment facilities? *Canadian J of Anesthesia* 57(6): 539-548, 2010

Guerriere DN, Choiniere M, Dion D, Peng P, Stafford-Coyte E, Zagorski B, Banner R, Barton PM, Boulanger A, Clark AJ, Gordon AS, Guertin MC, Intrater HM, Lefort SM, Lynch ME, **Moulin DE** et al. The Canadian STOP-PAIN Project – Part 2: What is the cost of pain for patients on wait lists of multidisciplinary treatment facilities? *Canadian J of Anesthesia* 57(6): 549-558, 2010

Bojega S, Alsaadi T, Amir A, Hosny H, Karawagh AM, **Moulin DE** et al. Guidelines for the pharmacologic treatment of neuropathic pain: Expert Panel Guidelines for the Middle East Region. *Journal International Medical Research* 38: 295-317, 2010

Gordon A, Sarfudin R, **Moulin DE** et al. Buprenorphine transdermal system for opioid therapy in patients with chronic low back pain. *Pain Research and Management* 15(3): 169-178, 2010

Hagen NA, **Moulin DE**, Brasher P et al. A formal feasibility study of sublingual methadone for breakthrough cancer pain. *Palliative Medicine* 24(7): 696-706, 2010 (Epub 2010 Jul 29)

**Moulin DE**, Richarz U, Wallace M et al. Efficacy of the sustained-release hydromorphone in neuropathic pain management: Pooled analysis of three open-label studies. *J Pain and Palliative Care Pharmacotherapy* 24: 200-212, 2010

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Thombs BD, va Lankveld W, Bassel M, Baron M, Buzza R, Haslam S, Haythornthwaite JA, Hudson M, Jewett LR, Knafo R, Kwakkenbos L, Malcarne VL, Milette K, Motivala SJ, Newton EG, **Nielson W**, Pacy M, Razykov I, Schieir O, Taillefer S, Worrion-Sauve M. Psychological health and well-being in systemic sclerosis: State of the science and consensus research agenda. *Arthritis Care & Research* 62: 1181-1189, 2010

Walton DM, McDermid JC and **Nielson W**. Recovery from acute injury: Clinical, methodological and philosophical considerations. *Disability and Rehabilitation* 10: 864-874, 2010

Robertson JA, Juen N, Theberge J, Weller J, Drost DJ, **Prato FS**, **Thomas AW**. Evidence for a dose-dependent effect of pulsed magnetic fields on pain processing. *Neuroscience Letters* 482: 160-162, 2010

Reddy S, Weller J, Desjardins-Holmes D, Winters T, Keelaside L, **Prato FS**, Prihoda T, Vijayalaxmi A, **Thomas AW**. Micronuclei in the blood and bone marrow cells of mice exposed to specific complex time-varying pulsed magnetic fields. *Bioelectromagnetics* 31: 445-453, 2010

McNamee D, Corbacio M, Weller J, Brown S, Stodilka RZ, **Prato FS**, Bureau Y, **Thomas AW**, Legros A. The response of the human circulatory system to an acute 200

$\mu$ T, 60 Hz magnetic field exposure. *Int Arch Occup Environ Health*, May 25, 2010 (Epub ahead of print)

**Prato FS**, **Thomas AW**, Legros A, Robertson JA, Modolo J, Stodilka RZ, DeMoor JM, Huda W. MRI safety not scientifically proven. *Science* 328 (5978): 568-9, 2010 (letter)

Legros A, Corbacio M, Beuter A, Goulet D, Lambrozo J, Plante M, Souques M, **Prato FS**, **Thomas AW**. Human exposure to a 60 Hz 1800 microtesla magnetic field: A neurobehavioural study. *Revue de l'Electricite et de l'Electronique (REE)* 5: 44-55, 2010

Legros A, Marshall HR, Beuter A, Gow J, Cheung B, **Thomas AW**, **Prato FS**, Stodilka RZ. Effects of acute hypoxia on postural and kinetic tremor. *Eur J Appl Physiol* 110: 109-119, 2010

McKay JC, Corbacio M, Tymk K, **Prato FS**, **Thomas AW**. Extremely low frequency pulsed electromagnetic field designed for antinociception does not affect microvascular responsiveness to the vasodilator acetylcholine. *Bioelectromagnetics* 31(1): 64-76, 2010

Owen DG, Clarke CF, Ganapathy S, **Prato FS**, St. Lawrence KS. Using perfusion MRI to measure the dynamic changes in neural activation associated with tonic muscular pain. *Pain* 148(3): 375-386, 2010 (Epub 2009 November 14)

Robertson JA, Theberge J, Weller J, Drost DJ, **Prato FS, Thomas AW**. Low frequency pulsed electromagnetic field exposure can alter neuroprocessing in humans. *J R. Soc Interface* 7(44): 467-473, 2010 (Epub 2009 August 5)

**Sanatani M**. The anfortas question. *CMAJ* 182(1): 1268, 2010 (Epub July 26, 2010)

Foley N, Muria-Fernandez M, Speechley M, Salter K, **Sequeira K, Teasell R**. The impact of botox on gait velocity post-stroke. *European J Neurology* 17(12): 1419-1427, 2010

**Teasell R, McClure A, Walton D**. Editorial: Toward an evidence-based practice in whiplash injuries. *J Pain Research and Management* 15(5): 285-286, 2010

**Teasell R, Mehta S, Aubut J, Foulon B, Wolfe DL, Hsieh J, Townson A, Short C for the SCIRE Group**. A systemic review of pharmacological treatments of pain following SCI. *Archives of Physical Medicine and Rehabilitation* 91: 816-831, 2010

**Teasell R, McClure JA, Walton D, Pretty J, Salter K, Meyer M, Sequeira K, Deathe B**. A research synthesis of therapeutic interventions for whiplash-associated disorders (WAD): Part 1 – Overview and methodology. *J Pain Research and Management* 15(5): 287-294, 2010

**Teasell R, McClure JA, Walton D, Pretty J, Salter K, Meyer M, Sequeira K, Deathe B**. A research

synthesis of therapeutic interventions for whiplash-associated disorders (WAD): Part 2: Interventions for acute WAD. *J Pain Research and Management* 15(5): 295-304, 2010

**Teasell R, McClure JA, Walton D, Pretty J, Salter K, Meyer M, Sequeira K, Deathe B**. A research synthesis of therapeutic interventions for whiplash-associated disorders (WAD): Part 3: Interventions for subacute WAD. *J Pain Research and Management* 15(5): 305-312, 2010

**Teasell R, McClure JA, Walton D, Pretty J, Salter K, Meyer M, Sequeira K, Deathe B**. A research synthesis of therapeutic interventions for whiplash-associated disorders (WAD): Part 4: Non-invasive interventions for chronic WAD. *J Pain Research and Management* 15(5): 313-322, 2010

**Teasell R, McClure JA, Walton D, Pretty J, Salter K, Meyer M, Sequeira K, Deathe B**. A research synthesis of therapeutic interventions for whiplash-associated disorders (WAD): Part 5: - Surgical and injection-based interventions for chronic WAD. *J Pain Research and Management* 15(5): 323-334, 2010

## - PUBLICATIONS -

### Non-Peer Reviewed

**Merskey H**. Try to remember: Psychiatry's clash over meaning, memory and mind. Paul McHugh.

Can J Psychiat 55: 112-113 (book review), 2010

Peng PW, **Bellingham GA**. Antidepressants and Anticonvulsants. In "Pain Medicine: A Multidisciplinary Approach," (Tsui SL, Chen PP, Ng KFJ, Eds), Hong Kong University Press, Hong Kong, 2010

### Abstracts

**Dhir S**, Francispragasam M, Bouzari A, Tureanu L, Ganapathy S. Local anesthetic dilution for peripheral nerve blocks: Comparative evaluation of saline with 5% dextrose. Reg Anesth Pain Med 87, 2010

**Dhir S**, Armstrong K, Taylor H, Aitken J, Hutchinson J. Ambulatory surgery under regional anesthesia: What happens at home? Reg Anesth Pain med 98, 2010

Angle P et al. (PDPH collaborative: co-author **Dhir S**). How useful are clinical criteria for the PDPH diagnosis after epidurals? Abstract 801665, Canadian Anesthesia Society Annual Meeting, June 2010

Angle P et al. (PDPH collaborative: co-author **Dhir S**). How useful are clinical criteria for the PDPH diagnosis after epidurals? Abstract 182, Society for Obstetric Anesthesia and Perinatology Annual Meeting, May 2010

Angle P et al. (PDPH collaborative: co-author **Dhir S**). Persistent headaches in parturients after epidural related PDPH. Abstract 803384, Canadian Anesthesia Society Annual Meeting, June 2010

Samosh A, **Morley-Forster PK**, **Moulin DE**, Watson JE, Ower K. Safety of intravenous lidocaine infusions for the treatment of chronic neuropathic pain. Abstr. 18D, Pain Research and Management, Calgary AB 2010

**Moulin DE**, Genge A, Gilani A, Gordon A, Lynch M, **Morley-Forster PK** et al. Canadian multicenter cohort study to determine long term outcomes of chronic neuropathic pain and its management. International Association for the Study of Pain, 2010

Samosh A, **Morley-Forster PK**, **Moulin DE**, Ower K, Watson JT. Safety of intravenous lidocaine infusions for the treatment of chronic neuropathic pain. International Association for the Study of Pain (IASP), Montreal PQ, 2010

Angle P, Gawel M, **Morley-Forster PK** et al. (The Canadian PDPH Collaborative). How useful are clinical criteria for PDPH diagnosis after epidurals? Canadian Anesthesiologists' Society, Montreal PQ, 2010

Angle P, Kronberg J, Douglas J, George R, McKeen D, Preston R, Halpern S, Gawel M, **Morley-Forster PK** et al. (The Canadian

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PDPH Collaborative). Persistent headaches in parturients after epidural-related PDPH. Canadian Anesthesiologists' Society, Montreal PQ, 2010

**Imasogi N**, Singh S, Watson JT, Syrovoy J, **Morley-Forster PK**. Mechanisms of Anesthesia Conference Abstract, Toronto ON, June 2010

Miller J, Modolo J, Corbacio M, Robertson JR, Goulet D, Lambrozo J, Plante M, Souques M, **Prato FS**, **Thomas AW**., Legros A. Effets de l'exposition a un champ magnetique 60 Hz sur l'activite cerebrale pendant une tache de rotation mentale mesures par IMRf. Journee scientifique Effets biologiques et sanitaires de RNI organisee par la Societe Francaise de Radioprotection. Amiens, France, October 19, 2010

**Prato FS**, Legro A, Robertson JA, Miller J, Juen N, **Thomas AW**. What safety studies do we need in MRI? Proceedings: 6<sup>th</sup> International Workshop on the Biological Effects of Electromagnetic Fields, Bodrum, Turkey, October 10-14, 2010

Corbacio M, Brown S, Dubois S, Juen N, Weller J, Beuter A, Goulet D, Lambrozo J, Plante M, Souques M, **Prato FS**, **Thomas AW**, Legros AG. Is human cognitive performance modulated by a power line frequency magnetic field? Proceedings: 6<sup>th</sup> International Workshop on the Biological Effects of Electromagnetic

Fields, Bodrum, Turkey, October 10-14, 2010

Robertson JA, Juen N, Miller J, Theberge J, Modolo J, **Prato FS**, **Thomas AW**. Functional imaging of changes in pain related processing with pulsed magnetic field exposure. Proceedings: 6<sup>th</sup> International Workshop on the Biological Effects of Electromagnetic Fields, Bodrum, Turkey, October 10-14, 2010

**Thomas AW**, Robertson JA, Juen N, Theberge J, **Prato FS**. Evolution of functional imaging in bioelectromagnetics research. Proceedings: 6<sup>th</sup> International Workshop on the Biological Effects of Electromagnetic Fields, Bodrum, Turkey, October 10-14, 2010

Legros A, Miller J, Modolo J, Corbacio M, Robertson J, Goulet D, Lambrozo J, Plante M, Souques M, **Prato FS**, **Thomas AW**. Finger tapping induced brain activation is modulated after a 60 Hz, 3000  $\mu$ T magnetic field exposure. Proceedings: 6<sup>th</sup> International Workshop on the Biological Effects of Electromagnetic Fields, Bodrum, Turkey, October 10-14, 2010

Miller J, Modolo J, Robertson J, Corbacio M, Goulet D, Lambrozo J, Plante M, Souques M, **Prato FS**, **Thomas AW**, Legros A. Functional magnetic resonance imaging of the effects of an 60 Hz magnetic field on human cortical activity during a mental rotation task. Proceedings: 6<sup>th</sup> International Workshop on the Biological Effects of Electromagnetic

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Fields, Bodrum, Turkey, October 10-14, 2010

Modolo J, **Thomas AW**, Stodilka RZ, **Prato FS**, Legros A. Modulation of neuronal activity with extremely low frequency magnetic fields: Insights from biophysical modeling. Proceedings: IEEE Fifth International Conference on Bio-Inspired Computing: Theories and Applications, Liverpool, England, September 8 – 10, 2010

Legros A, Miller J, Modolo J, Corbacio M, Robertson J, Goulet D, Lambrozo J, Plante M, Souques M, **Prato FS**, **Thomas AW**. Functional brain activation during finger tapping is modulated after a 60 Hz, 3000  $\mu$ T magnetic field exposure. EMF Bordeaux Event (EBEA/URSI/COST), Bordeaux, France, May 2010

Modolo J, **Prato FS**, **Thomas AW**, Legros AG. Does a 10-minute, 1800  $\mu$ T, 60 Hz magnetic field exposure modulate collective oscillations of a cortical network model? EMF Bordeaux Event (EBEA/URSI/COST), Bordeaux, France, May 2010

Corbacio M, Brown S, Dubois S, Weller J, Beuter A, Goulet D, Lambrozo J, Plante M, Souques M, **Prato FS**, **Thomas AW**, Legros AG. Effects of a 60 Hz, 3000  $\mu$ T magnetic field on human cognitive processing. 32<sup>nd</sup> Annual Meeting of Bioelectromagnetics Society, Seoul, South Korea, June 14 – 18, 2010

Miller J, Modolo J, Robertson J, Corbacio M, Goulet D, Lambrozo J, Plante M, Souques M, **Prato FS**, **Thomas AW**, Legros A. Effects of a 60 Hz magnetic field exposure on human brain activity during a mental rotation task as measured by fMRI. 32<sup>nd</sup> Annual Meeting of Bioelectromagnetics Society, Seoul, South Korea, June 14 – 18, 2010

Modolo J, Legros A, **Prato FS**, **Thomas AW**. Effect of a 1000  $\mu$ T, 60 Hz magnetic field on spike timing in cortical neurons: A modeling study. 32<sup>nd</sup> Annual Meeting of Bioelectromagnetics Society, Seoul, South Korea, June 14 – 18, 2010

Legros A, Miller JE, Modolo J, Corbacio M, Robertson A, Goulet D, Lambrozo J, Plante M, Souques M, **Prato FS**, **Thomas AW**. Is finger tapping induced brain activation modulated by an exposure to a 60 Hz, 3000  $\mu$ T magnetic field? 32<sup>nd</sup> Annual Meeting of Bioelectromagnetics Society, Seoul, South Korea, June 14 – 18, 2010

Robertson JA, Theberge J, Miller J, Weller J, Drost DJ, **Prato FS**, **Thomas AW**. Magnetic field exposure can alter neuroprocessing in humans. 32<sup>nd</sup> Annual Meeting of Bioelectromagnetics Society, Seoul, South Korea, June 14 – 18, 2010

Corbacio M, Brown S, Dubois S, Weller J, Juen N, **Prato FS**, **Thomas AW**, Legros AG. Effects of a power line frequency magnetic field on human cognitive processing. Lawson



Research Day 2010, London ON,  
March 2010

Ganakumar V, Foley N, **Teasell R**.  
The effectiveness of lidocaine in the  
treatment of various chronic pain  
conditions: a systematic review and  
meta-analysis. J Rehabilitation  
Medicine 42(11): 1006-1007 (poster  
A30), 2010

Mehta S, Salter K, **Teasell R**, Hsieh  
J, Aubut JA, Townson A, Short C,  
Wolfe D and the SCIRE Research  
Group. Effectiveness of  
gabapentinoids in improving  
neuropathic pain intensity post-SCI:  
A meta-analysis. Archives of  
Physical Medicine and Rehabilitation  
91(10): e18 (poster 44), 2010

Juen N, Robertson JA, Abi-Raad R,  
Miller J, **Thomas AW**. Assessing the  
effects of specific low frequency  
magnetic fields on thermal pain  
processing using simultaneous  
functional MRI and EEG.  
Proceedings: 6<sup>th</sup> International  
Workshop on the Biological Effects  
of Electromagnetic Fields, Bodrum,  
Turkey, October 10-14, 2010

Macaluso S, Modolo J, Miller J,  
**Thomas AW**, Legros A, Miller T,  
Ross DC. Neurorehabilitation  
challenges following tibial to  
peroneal nerve transfer. AANEM,  
Quebec City, PQ, October 11 – 14,  
2010 (accepted for poster  
presentation)

## **- NATIONAL AND INTERNATIONAL PRESENTATIONS AND WORKSHOPS -**

**Bellingham GA**. Epidural steroids  
for chronic pain—An evidence-based  
approach to management.  
Interdisciplinary Pain Rounds, St.  
Joseph's Health Care, London, ON,  
January 2010

**Bellingham GA**. Workshop  
Demonstrator, Ultrasound for Pain  
Medicine Workshop – Ultrasound for  
Chronic Pain, January 29, 2010

**Bellingham GA**. Interventional  
approaches to chronic spinal pain.  
Physical Medicine and Rehabilitation  
Resident Lecture. Schulich School of  
Medicine & Dentistry, London, ON,  
March 29, 2010

**Bellingham GA**. Ultrasound and  
musculoskeletal pain syndromes of  
the upper limb. HULC Rehab  
Rounds, March 29, 2010

**Getty H**. Relationships between  
activity packing and adjustment  
among individuals with persisting  
pain. Poster at Annual Meeting of  
Canadian Pain Society, Calgary AB,  
May 2010

**Bellingham GA**. Chronic pain  
blocks—Stellate ganglion and  
suprascapular nerve blocks.  
Regional Anesthesia Rounds,  
Department of Anesthesia &  
Perioperative Medicine. Schulich  
School of Medicine & Dentistry,  
London, ON, June 2010

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**Bellingham GA.** Workshop Demonstrator, Canadian Anesthesiology Society – Ultrasound for Chronic Pain, June 26, 2010

**Bellingham GA.** Workshop Demonstrator, International Association for the Study of Pain – Ultrasound for Chronic Pain, August 27, 2010

**Bellingham GA.** Workshop Demonstrator, Ultrasound for Pain Medicine Workshop – Ultrasound for Chronic Pain, November 20, 2010

**Getty H.** Non-pharmacological approaches to the treatment of fibromyalgia. Workshop on Fibromyalgia, Interdisciplinary Pain Management Program, St. Joseph's Health Care, London ON, December 4, 2010

**Imasogie N.** The effects of combined-use naloxone infusion and oral Tramacet on postoperative analgesia in elderly patients undergoing joint replacement surgery: A randomized, controlled study. Mechanisms of Anesthesia Conference, Toronto ON, 2010

**Merskey H.** Sixty years on pain: 1959-2010. London Medical Historical Society, London ON, April 22, 2010

**Merskey H.** Evaluating chronic pain. Canadian Society of Medical Evaluators, Toronto ON, June 23, 2010

**Merskey H.** A moot on chronic pain. 13<sup>th</sup> World Congress of the International Association for the Study of Pain, Montreal PQ, August 30, 2010

**Morley-Forster PK.** Pharmacologic management: Opioid and non-opioid prescribing. Family Practice Resident Half-Day Seminar in Chronic Pain. January 2010

**Morley-Forster PK.** Treatment of chronic pain problems in the emergency department. Meds IV Annual Lecture, Pain and Its Management, April 2010

**Morley-Forster PK.** Pain and its interface with the biopsychosocial realm. 7<sup>th</sup> Annual Medicine Update for Psychiatry Medicine Update for Psychiatry, April 2010

**Morley-Forster PK.** Opioid guidelines for chronic non-cancer pain. University Hospitals Coventry and Warwickshire NHS Trust. Dept. of Pain Management and Anesthesia, July 2010

**Morley-Forster PK.** To produce a consensus statement on the optimal methods of interprofessional assessment. Workshop Chair. Moving the Pain Education Agenda Forward: Innovative Models, Toronto ON, August 2010

**Morley-Forster PK.** Methadone for chronic pain. Fourth Annual Interventional Pain Management Conference, McMaster University

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Health Sciences, Hamilton ON,  
September 2010

**Morley-Forster PK.** Chronic pelvic pain: An approach to diagnosis and treatment. Earl Russell Pain Program Interdisciplinary Pain Rounds, London ON, December 2010

**Moulin DE.** Antidepressants and anticonvulsants in pain management. Canadian Pain Society Refresher Course, Montreal PQ, February 20, 2010

**Moulin DE.** Neurobiology of pain and pain perception. Medicine Update for Psychiatry, University of Western Ontario, London ON, April 10, 2010

**Moulin DE.** Opioid weaning. Drug Therapy Day – Dept. of Medicine, University of Western Ontario, London ON, April 14, 2010

**Moulin DE.** The magic and machinations of methadone in the management of cancer pain. London Oncology Nurses' Interest Group Conference, London ON, April 16, 2010

**Moulin DE.** Managing the patient with chronic pain. American College of Physicians Annual Meeting, Toronto ON, April 24, 2010

**Moulin DE.** Breaking barriers in breakthrough cancer pain. Canadian Pain Society Annual Meeting, Calgary AB, May 12, 2010

**Moulin DE.** Measuring functionality in fibromyalgia: Translating function into practice. Canadian Pain Society Annual Meeting, Calgary AB, May 14, 2010

**Moulin DE.** TCA and anticonvulsants for neuropathic pain—Levels of evidence. 4<sup>th</sup> Annual Interventional Pain Management Conference, McMaster University, Hamilton ON, September 25, 2010

**Moulin DE.** Breakthroughs in treating breakthrough cancer pain – New therapeutic options. Interdisciplinary Pain Rounds, St. Joseph's Health Care, London ON, October 27, 2010

**Moulin DE.** Voltage-gated channels in generation of pain: Targets for therapy. 7<sup>th</sup> Neuromuscular Conference, London ON, November 13, 2010

**Nielson WR.** Prognosis following acute whiplash-associated disorder (WAD): Development, predictive validity and application of a new clinical tool. American Academy of Orthopedic Manual Physical Therapists (AAOMPT) Conference, San Antonio TX, October 2010

**Nielson WR.** Can we identify those people unlikely to recover from acute whiplash injury? A report on the development and initial validation of a new clinical screening tool. 13<sup>th</sup> World Congress on Pain, Montreal PQ, August 2010

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**Nielson WR.** Adherence to treatment: Practical skills for rheumatology health professionals. Professional Update Day for Health Professionals, St. Joseph's Health Care, London ON, June 2010

**Nielson WR.** Psychology of RA in women. Women's Issues in RA National Advisory Board Meeting, UCB Canada, Montreal PQ, October 2010

**Nielson WR.** What do we know about sleep?: Sleep in health and illness. Workshop Meeting of Canadian Scleroderma Society, Winnipeg MN, October 2010

**Nielson WR.** Pathophysiology of fibromyalgia syndrome. Workshop for Family Physicians, Kitchener-Waterloo ON, October 2010

**Prato FS.** Low amplitude electromagnetic stimulation of the central nervous system. International School of Bioelectromagnetics, E. Marjorana Foundation and Centre for Scientific Culture, Erice, Sicily, November 22 – 28, 2010

**Prato FS, Thomas AW.** What safety studies do we need in MRI? 6<sup>th</sup> International Workshop on Biological Effects of Electromagnetic Fields, Bodrum, Turkey, October 14, 2010

**Prato FS.** Mice can detect very low frequency magnetic fields: The threshold amplitudes of these nano Tesla are frequency dependent. 28<sup>th</sup> Progress in Electromagnetics Research Symposium (PIERS)

2010, Cambridge, USA, July 5 – 8, 2010

**Prato FS.** Extremely low frequency magnetic fields – Induced analgesia session. 32<sup>nd</sup> Bioelectromagnetics Annual Meeting, Seoul, South Korea, June 17, 2010

**Prato FS, Thomas AW.** Lund University and Lawson Health Research Institute. A 22-year history. Lund, Sweden, June 2, 2010

**Prato FS.** Effects of extremely low frequency magnetic fields measured during exposure: From mice to humans. Lund University, Lund, Sweden, June 1, 2010

**Prato FS.** Effects of extremely low frequency magnetic fields on nociception and pain in snails, mice and humans: Behaviour and mechanisms. Lund University, Lund, Sweden, June 1, 2010

Nittby H, **Prato FS, Thomas AW.** Simultaneous registrations of fMRI and EEG with the multi-source interference task (MSIT). Lund, Sweden, June 1, 2010

**Prato FS, Thomas AW.** What safety studies do we need in magnetic resonance imaging? Session on MRI Safety. EMF Bordeaux Event, France, May 28, 2010

Legros AG, Miller J, Modolo J, Corbacio M, Robertson JA, Goulet D, Lambrozo J, Plante M, Souques M, **Prato FS, Thomas AW.** Functional brain activation during

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finger tapping is modulated after a 60 z, 3000  $\mu$ T magnetic field exposure. Electric and Magnetic Stimulation of CNS Session – EMF Bordeaux Event (EBEA/URSI/COST), Bordeaux, France, May 27, 2010

**Rollman GB.** Pain communication in the internet age. Interdisciplinary Pain Rounds, University of Western Ontario Interdisciplinary Pain Program, London ON, May 2010

**Rollman GB & Rollman SA.** Knowledge transfer regarding pain in the web 2.0 era: Communication among stakeholders. 13<sup>th</sup> World Congress on Pain, Montreal PQ, August 2010

Walton DM, MacDermid JC, **Nielson WR, Teasell R.** Can we identify those people unlikely to recover from acute whiplash injury? A report on the development and initial validation of a new clinical screening tool. 13<sup>th</sup> International Association for the Study of Pain Conference, Montreal PQ, 2010

Walton DM, Levesque L, Reese H, MacDermid J, **Nielson W, Teasell R.** Prognosis following acute whiplash-associated disorders (WAD): Development, predictive validity and application of a new clinical tool. American Academy of Orthopedic Manual Physical Therapists (AROMPT) Conference, San Antonio TX, 2010

**Sanatani M.** Assessment and control of cancer pain syndromes.

Internal Medicine Noon Rounds, October 13, 2010

**Sanatani M.** Highlights from MASCC 2010 multinational association of supportive care in cancer - 2010 Meeting. Oncology Grand Rounds, September 28, 2010

**Sequeira K.** Spasticity management, injection techniques, review of literature in the stroke population. National Stroke Conference, Quebec City PQ, 2010

Mehta S, Salter K, **Teasell R,** Hsieh J, Aubut JA, Townson A, Short C, Wolfe D and the SCIRE Research Group. Effectiveness of gabapentinoids in improving neuropathic pain intensity post-SCI: A meta-analysis. American Congress of Rehabilitation Medicine and American Society of Neurorehabilitation Combined Annual Meeting, Montreal PQ, October 20-23, 2010 (poster 44)

Gnanakumar V, Foley N, **Teasell R.** The effectiveness of lidocaine in the treatment of various chronic pain conditions: A systematic review and meta-analysis. Canadian Association of Physical Medicine and Rehabilitation, Winnipeg MN, May 26-29, 2010 (podium)

Mehta S, Salter K, **Teasell R,** Hsieh J, Aubut JA, Townson A, Short C, Wolfe D and the SCIRE Research Group. Gabapentinoids in decreasing neuropathic pain intensity post-SCI: A meta-analysis. 4<sup>th</sup> National Spinal Cord Injury

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Conference, Niagara Fall ON,  
October 28-30, 2010

**Teasell R**, Mehta S, Aubut J, Foulon B, Wolfe D, Hsieh J, Townson A, Short C for the SCIRE Research Group. Non-pharmacological treatments of pain following spinal cord injury: Systematic review. GTA Best Practices Day: Rehabilitation Transforming Health Care, Toronto ON, March 1, 2010 (poster 34, p. 63)

**Teasell R**, Mehta S, Aubut J, Foulon B, Wolfe D, Hsieh J, Townson A, Short C for the SCIRE Research Group. Pharmacological treatments of pain following spinal cord injury: A systematic review. GTA Best Practices Day: Rehabilitation Transforming Health Care, Toronto ON, March 1, 2010 (poster 36, p. 65)

**- UNDERGRADUATE EDUCATION PROGRAM -**

The pain program continues to be very active in pain education at the undergraduate level. This includes a Year 4 selective on Pain and Its Management which was attended by approximately 100 students. This is a 12-hour multi-disciplinary course provided by neurologists, anesthesiologists, a psychiatrist, a psychologist, a palliative care specialist and a pharmacist. The evaluations for this Year 4 course have consistently been excellent. Small group one hour seminars on management of cancer pain are also provided to all the Clinical Clerks rotating through Oncology. Many medical students attend various pain clinics throughout the city.

**- POSTGRADUATE / FELLOW EDUCATION PROGRAM -**

Anesthesiology residents have a one-month mandatory rotation in the SJHC Interdisciplinary Pain Clinic. Neurology and physiatry residents also attend this clinic on a selective basis.

There is a pressing need to standardize pain assessment and management training at the Fellowship level and Dr. Pat Morley-Forster has spearheaded an application to the Royal College to recognize Pain Medicine as a subspecialty of Anesthesiology. This has been accepted by the Royal College as Phase I of this application. Phase II is now under way and requires the creation of a curriculum and specification of entry paths. The creation of Pain Medicine as a subspecialty discipline of the Royal College will be a major advance in pain education in Canada.

**- CONTINUING MEDICAL EDUCATION PROGRAM -**

We continue to provide half-day workshops on the assessment and management of neuropathic pain in the fall of each year. In 2010, we also provided a workshop on fibromyalgia. Each of these workshops were attended by approximately twenty community physicians from a variety of disciplines. The evaluations from these workshops were excellent.

Interdisciplinary Pain Rounds and Conferences continue to be very popular at U.W.O. A list of seminar topics and lectures follows on the next page.

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**- INTERDISCIPLINARY PAIN ROUNDS AND CONFERENCES 2010 -**

- Jan 27 Epidural Steroids for Chronic Pain: An Evidence-Based Approach to Management. **Dr. Geoff Bellingham**, Assistant Professor, Dept. Anesthesiology & Perioperative Medicine, University of Western Ontario, London, Ontario
- Feb 24 Radiofrequency Interventions – A Tool of Increasing Value in Pain Management. **Dr. Ramin Safakish**, Staff Anesthesiologist, Chatham-Kent Health Alliance, Chatham, Ontario
- Mar 24 Electrical Stimulation for Chronic Pain – From Cortex to Peripheral Nerve. **Dr. Andrew Parrent**, Associate Professor, Division of Neurosurgery, Dept. of Clinical Neurological Sciences, University Hospital, London, Ontario
- Apr 28 Chronic Pain – A Contextual Approach. **Dr. Michael MacDonald**, Assistant Professor, Dept. Psychiatry, University of Western Ontario, London, Ontario
- May 26 Pain Communication in the Internet Age. **Dr. Gary Rollman**, Professor Emeritus, Dept. Psychology, University of Western Ontario, London, Ontario
- Sept 30 Canadian National Opioid Use Guidelines for Pain – Consensus and Controversies. **Dr. Roman Jovey**, Medical Director CPM Centres for Pain Management, Physician Director ACDC Credit Valley Hospital, Mississauga, Ontario
- Oct 27 Breakthroughs in Treating Breakthrough Cancer Pain – New Therapeutic Options. **Dr. Dwight Moulin**, Professor, Dept. Clinical Neurological Sciences & Oncology, Earl Russell Chair Pain Program, University of Western Ontario, London, Ontario
- Dec 1 Chronic Pelvic Pain – An Approach to Diagnosis and Treatment. **Dr. Patricia Morley-Forster**, Associate Professor, Depts. Anesthesiology & Perioperative Medicine, Director Interdisciplinary Pain Program, St. Joseph's Health Care, London, Ontario