

THE UNIVERSITY OF WESTERN ONTARIO  
INTERDISCIPLINARY PAIN PROGRAM

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ANNUAL REPORT

2009

Annual Report  
2009  
Interdisciplinary Pain Program

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**- EXECUTIVE SUMMARY -**

**Pain Program Annual Report 2009**

This was a year of transition for the U.W.O. Interdisciplinary Pain Program. Three members of the Scientific Advisory Board, Drs. Harold Merskey, Manfred Harth and Gary Rollman, have now moved into semi-retirement and Dr. Leora Swartzman has changed her research focus in Social Sciences. My deepest gratitude to all of these individuals for their devoted service to the U.W.O. Pain Program over the last eight years and best wishes in all their new endeavours in the future. Dr. Heather Getty, Division of Psychology at St. Joseph's Health Care, is the newest member of the Scientific Advisory Board – welcome!

Among many research accomplishments of the U.W.O. Pain Program in 2009, one project stands out. Dr. Daron Owen and colleagues from the imaging team at Lawson Health Research Institute published their seminal paper in Pain on functional magnetic resonance imaging of the tonic pain experience. As highlighted by a subsequent editorial in Pain, this technique allows for mapping of regional increases in cerebral blood flow associated with chronic pain and has the potential to provide a neuro-imaging correlate of the subjective pain experience. Our strategic plan for the next five years will include a major focus in neuro-imaging of pain to reflect the importance of this work.

The U.W.O. Pain Program is most grateful for the generous donation of \$25,000 from the Nicolaas and Regina Veenboer Foundation for pain research. These funds have already been targeted to support the work of Dr. Ngozi Imasogie and colleagues in postoperative pain research and to also support the neuromuscular pain research program in the Department of Clinical Neurological Sciences. Congratulations to Dr. Corina Constantinescu in collaboration with Dr. Imasogie from the Department of Anesthesiology & Perioperative Medicine as the recipients of the 2009 Earl Russell Trainee Grant to further support their research in postoperative pain management in the elderly.

The educational initiatives of the U.W.O. Pain Program continue to be very popular. These include the undergrad Pain Medicine course at the Schulich School of Medicine, the Neuropathic Pain Workshop and our monthly Interdisciplinary Pain Rounds which are now available through video conference to outlying communities including St. Thomas and Chatham.



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

**- SCIENTIFIC ADVISORY BOARD MEMBERS -**



**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** is a graduate of McGill University (B.Sc.PT) who obtained a Masters of Science degree in physical therapy from the University of Western Ontario in 2002. Her thesis topic was 'Cervico-cephalic kinesthesia in patients with chronic neck pain'. In 1982, Gloria opened The Downtown Clinic, Physiotherapy & Health Counseling, the first privately owned physiotherapy clinic in London. Her professional area of interest is in the treatment and management of the patient with chronic (persistent) pain as well as in the rehabilitation of patients with complex injuries. An involved member of the Canadian Pain Society, she is also a member of the Scientific Advisory Board of the Interdisciplinary Pain Program at UWO. Gloria represents her profession on the Executive Committee of the Canadian Academy of Pain Management ([www.canadianapm.com](http://www.canadianapm.com)). In 2006, she was a member of the Literature search and Review Strategy Committee for the WSIB Program of Care for Chronic Pain.

Gloria has continued to be a mentor to her physiotherapy colleagues in the area of chronic pain management. She has conducted workshops for physiotherapists and serves as a consultant to her professional organization, her colleagues and other health professionals on the necessity of providing a Team approach for pain management programs to be successful.



**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

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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 Pain Research at the University of Western Ontario. He is also the Medical Director of Pain and Symptom Management at the London Regional Cancer Program and Head of the Division of Neurology at Victoria Campus of the London Health Sciences Centre 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 safety and efficacy of marijuana in the treatment of chronic pain and longterm outcome of the management of neuropathic pain.



**Dr. Warren Nielson** is an Associate Professor of Medicine (Rheumatology) and Adjunct Professor of Psychology at the University of Western Ontario. He is also the Clinical Director of the Rheumatology Day Programs at the Arthritis Institute and 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. Current studies focus on factors that influence outcomes of multidisciplinary treatment programs. Dr. Nielson is a Fellow of the Canadian Psychological Association.



**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.

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**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 Radiology, Schulich School of Medicine and Dentistry (UWO) and V-P Research for Fralex Therapeutics Inc. (Toronto; TSX:FXI). 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.

- MISSION -

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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.

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**- AWARDS -**

Constantinescu C, Imasogie N, Morley-Forster P. “The Effect of Combined Use of Naxolone Infusion and Oral Tramacet on Postoperative Analgesia in Elderly Patients Undergoing Joint Replacement Surgery”, Earl Russell Trainee Grant, \$10,000, 2009



**- RESEARCH FUNDING -**

**Shalini Dhir**

“Success rate of infraclavicular blocks: Comparison of ultrasound vs. neurostimulation-guided catheter placement,” Physicians Services Incorporated Foundation, \$60,000, 2009-2010 (principle investigator)

“Success rate of infraclavicular blocks: Comparison of ultrasound vs. neurostimulation-guided catheter placement,” AMOSO Opportunity Fund, \$32,500, 2009-2010 (principle investigator)

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

“Local anesthetic dilution for peripheral nerve blocks,” Department Grant (2<sup>nd</sup> year), \$5,500, 2009 (principle investigator)

**Sugantha Ganapathy**

“Success rate of infraclavicular blocks,” PSI Foundation, \$60,000, 2009 (co-investigator)

**Ngozi Imasogie**

“Postoperative cognitive dysfunction after major reconstructive surgery,” PSI Foundation, \$16,000, 2009 (co-investigator)

“The effect of combined use of naloxone infusion and oral Tramacet on postoperative analgesia in elderly patients undergoing joint replacement surgery,” IRF Competition, Lawson

Health Research Institute, \$15,000, 2009 (principle investigator)

“Efficacy of ultrasound-guided transverse abdominis plane blocks for post-Cesarean section analgesia: A prospective blinded, randomized clinical trial,” IRF Competition, Lawson Health Research Institute, \$10,000, 2009 (co-investigator)

“The effect of combined use of naloxone infusion and oral Tramacet on postoperative analgesia in elderly patients undergoing joint replacement surgery,” Earl Russell Trainee Grant, \$10,000, 2009

**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.

Moulin DE, Morley-Forster PK et al. Multi-centre neuropathic pain database study: Long term outcome of the pharmacologic management of neuropathic pain. \$853,088 over 3 years (Pfizer Canada) 2007-2010

Dr. Pamela Angle. Post-dural puncture headache clinical trials group, Physicians Services Inc., \$149,500 March 1, 2007 – February 28, 2009 (member of Adjudication Committee and Safety Monitoring Committee)(principle investigator)

Dr. Pamela Angle. Post-dural puncture headache clinical trials

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group, Canadian Anesthesiologists' Society, \$40,000 March 1, 2007 – February 28, 2009 (2007 Dr. RA Gordon Patient Safety Research Award)(principle Investigator)

Outcome and side effects of lidocaine infusions for neuropathic pain in outpatients, Summer Research Training Program, University of Western Ontario, Faculty Supervisor of Adam Samosh, UWO Meds II, \$10,000

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

**Dwight Moulin**

Hagen NA, Moulin DE et al. Canadian Institutes of Health Research – New Emerging Team Grant Program, “Cancer Pain Research Network,” July 1, 2004 – July 1, 2009, \$1,363,586 over 5 years (co-applicant at Western).

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 2011, \$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)

**Gary Rollman**

Natural Sciences and Engineering Research Council of Canada. “Psychophysical Studies of Pain and Touch,” 2004 – 2009, \$75,000

**Alex Thomas**

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

**- PUBLICATIONS -**

**Peer-Reviewed Articles**

**Bellingham GA**, Peng PWH. Ultrasound-guided interventional procedures for chronic pelvic pain. Techniques in Regional Anesthesia and Pain Management 13: 171-178, 2009

**Dhir S**, Tureanu L, Stewart SA. Axillary brachial plexus block complicated by cervical disc protrusion and radial nerve injury.

Acta Anesthesiol Scand 53(3): 411, 2009

Gofeld M, Bhatia A, Abbas S, **Ganapathy S**, Johnson M.

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Development and validation of a new technique for ultrasound-guided stellate ganglion block. *Reg Anesth Pain Med* 34(5): 475-479, 2009

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 November 14, 2009

**Imasogie N**, Singh S, Watson JT, Hurley D, **Morley-Forster P**. Ultra low-dose naloxone and tramadol/acetaminophen in elderly patients undergoing joint replacement surgery. *Pain Res manage* 14(2): 103-108, 2009

Woo KM, **Imasogie NN**, Bruni I, Singh SI. Anesthetic management of a pregnant woman with carcinoid disease. *International Journal of Obstetric Anesthesia* 18: 272-275, 2009

**Morley-Forster PK**. The vexing problem of post-amputation pain. *Can J Anes* 56: 895-900, 2009

VanUum SHM, McKeough-Fraser LA, **Morley-Forster PK**, Paul TL, Loren G et al. Oral opioids for chronic non-cancer pain: Higher prevalence of hypogonadism in men than women. *Exptl and Clin Endo and Diabetes* 117: 38-43, 2009

Iskedjian M, Einarson TR, Walker JH, Jovey R, **Moulin DE**. Anticonvulsants, serotonin-norepinephrine reuptake inhibitors and tricyclic antidepressants in management of neuropathic pain: A meta-analysis and economic evaluation

(technology report #116). Ottawa: Canadian Agency for Drugs and Technologies in Health; 2009 ([www.cadth.ca/index.php/en/hta/reports-publications/search-public](http://www.cadth.ca/index.php/en/hta/reports-publications/search-public))

Wallace M, **Moulin DE**, Rauck RL et al. Longterm safety, tolerability and efficacy of OROS hydromorphone in patients with chronic pain. *Journal of Opioid Management* 5: 97-105, 2009

Algahtani H, **Moulin DE**, Bolton CF, Abulabani AA. Guillain-Barre syndrome following cardiac surgery. *Neurosciences* 14(4): 160-164, 2009

Walton DM, Macdermid JC, **Nielson W**. Recovery from acute injury: Clinical, methodological and philosophical considerations. *Disabil*

*Rehabil.*, October 26, 2009 (Epub ahead of print)

Harth M, **Nielson W**. War is over. Give peach a chance. *Journal of Rheumatology* 36: 2837-2838, 2009

**Nielson WR**, Armstrong JM, Jensen MP, Kerns RD. Two brief versions of the Multidimensional Pain Readiness to Change Questionnaire (MPRCQ2). *Clinical Journal of Pain* 25: 48-57, 2009

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*, November 13, 2009 (Epub ahead of print)

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McNamee DA, Corbacio M, Weller JK, Brown S, **Prato FS, Thomas AW**, Legros AG. The cardiovascular response to an acute 1800- $\mu$ T, 60-Hz magnetic field exposure in humans. *Int. Arch. Occup. Environ. Health*, November 10, 2009 (Epub ahead of print)

Robertson JA, Theberg J, Weller J, Drost DJ, **Prato FS, Thomas AW**. Low frequency pulsed electromagnetic field exposure can alter neuroprocessing in humans. *J. R. Soc. Interface*, August 5, 2009 (Epub ahead of print)

McKay J, Corbacio M, Tymi K, **Prato FS, Thomas AW**. Extremely low frequency pulsed electromagnetic field designed for antinociception does not affect microvascular responsiveness to the vasodilator acetylcholine. *Bioelectromagnetics*, July 30, 2009 (Epub ahead of print)

Albert GC, Cook CM, **Prato FS, Thomas AW**. Deep brain stimulation, vagal nerve stimulation and transcranial stimulation: An overview of stimulation parameters and neurotransmitter release. *Neurosci. Biobehav. Rev.* 33(7): 1042-1060, 2009

McNamee DA, Legros AG, Krewski DR, Wisenberg G, **Prato FS, Thomas AW**. A literature review: The cardiovascular effects of exposure to extremely low frequency electromagnetic fields. *Int. Arch. Occup. Environ. Health*, February 17, 2009 (Epub ahead of print)

Habash R, Elwood JM, Krewski D, Lotz G, McNamee J, **Prato FS**. Recent advances in research on radiofrequency fields and health: 2004-2007. *J. Toxicol. Environ. Health B Crit. Rev.* 12: 250-288, 2009

**Prato FS**, Desjardins-Holmes D, Keenlside L, McKay JC, Robertson JA, **Thomas AW**. Light alters nociceptive effects of magnetic field shielding in mice: Intensity and wavelength considerations. *J. Roy. Soc. Interface* 6(30): 17-28, 2009

Cook C, Saucier DM, **Thomas AW, Prato FS**. Changes in human EEG alpha activity following exposure to two different pulsed magnetic field sequences. *Bioelectromagnetics* 30: 9-20, 2009

**Rollman GB**. Perspective on hypervigilance. *Pain* 141: 183-184, 2009

**Sanatani M**. Beating Cancer. *J Support Oncol.* 7(4): 120, 2009

Gofton TE, Jog MS, **Schulz V**. A palliative approach to neurological care: A literature review. *Canadian Journal of Neurological Sciences* 36, 2009

**Schulz V**, Kozell K, Biondo PD, Stiles C, Tonkin K, Martins L, Hagen NA. The malignant wound assessment tool: A validation study using a Delphi approach. *Palliative Medicine* 23: 266-273, 2009

Zibrowski EM, Singh SI, Goodszmidt MA, Watling CJ, Kenyon CF, **Schulz V**, Maddocks HL, Lingard L. The sum of the parts detracts from the intended whole: Competencies and

intraining assessment. Medical Education 43: 741-748, 2009

Walton D, **Teasell R**, Pretty J, McDermid J. Prognosis for chronic pain and disability following whiplash: A meta-analysis. J of Orthopedic and Sports Physical Therapy 39(5): 334-350, 2009

**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 2009 (accepted)

## - PUBLICATIONS -

### Non-Peer Reviewed

**Dhir S**. Regional Anesthesia for the high-risk patient. In: McConachie I (ed): Anesthesia for the High-Risk Patient. 2<sup>nd</sup> Ed, Cambridge University Press, 2009

**Merskey H**. Somatization and somatoform disorders: Another God that failed pain. 145: 4-5, 2009.

Clarke C, **Morley-Forster PK**. Chapter 7: Analgesia for the high-risk patient. In: McConachie I (ed), Anesthesia for the High-Risk Patient, Cambridge University Press, Cambridge, 2009

Kerns Rd, Jansen MP, **Nielson WR**. Motivational issues in pain

management. In: Hasenbring M, Rusu A, Turk DC (eds): Acute to Chronic Back Pain: Risk Factors, Mechanisms and Clinical Implications. Oxford University Press, Oxford, UK., 2009

St. Lawrence KS, **Prato FS**, Owen DG. Arterial spin labeling: A magnetic resonance imaging technique for measuring cerebral perfusion. In: Stergiopoulos S (ed), Advanced Signal Processing Handbook, 2<sup>nd</sup> Edition, CRC Press, Boca Raton, 2009

**Rollman GB**. Pain: Cognitive and contextual influences. In: Goldstein B (ed), Encyclopedia of Perception. Thousand Oaks, CA: Sage pp. 716-720, 2009

### Abstracts

Hagen NA, **Moulin DE**, Watanabe S, Brasher P, Stiles C. Sublingual methadone for breakthrough cancer pain: A randomized clinical trial is not feasible but the treatment appears effective. Poster presentation at the

11<sup>th</sup> Congress of the European Association for Palliative Care (EAPC), Vienna, Austria, May 7-10, 2009

Owen DG, Clarke C, Velayutham V, **Ganapathy S, Prato FS, St. Lawrence KS**. Temporal differences in neural activation of muscular pain as measured by arterial spin labeling. Human Brain Mapping Conference, San Francisco, CA, June 13-23, 2009

Bureau Y, **Prato FS**. Behavioural conditioning using weak low frequency pulsed magnetic fields. Joint Meeting of

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EBEA and BEMS, Davos, Switzerland,  
June 13-19, 2009

Stodilka RZ, Legros AG, Sabondjian E,  
Patrick J, Robertson JA, **Prato FS,**  
**Thomas AW**. Eliciting a brain model to  
respond to simple and complex stimuli.  
Joint Meeting of  
EBEA and BEMS, Davos, Switzerland,  
June 13-19, 2009

Corbacio M, Legros AG, Beuter A,  
Weller J, Dubois S, Brown S, Goulet D,  
Lambrozo J, Plante M, Souques M,  
**Prato FS, Thomas AW**. Effects of a 60  
Hz 3000 microtesla magnetic field on  
human cognitive processing: Preliminary  
results. Joint Meeting of EBEA and  
BEMS, Davos, Switzerland, June 13-19,  
2009

Mckay JC, Tyml K, **Prato FS, Thomas**  
**AW**. Effects of time-varying magnetic  
fields and parametric resonance  
conditions on circulation and  
microcirculation. Joint Meeting

of EBEA and BEMS, Davos,  
Switzerland, June 13-19, 2009

McKay JC, Tyml K, **Prato FS, Thomas**  
**AW**. Effects of time-varying magnetic  
fields and parametric  
resonance conditions on circulatory and  
microcirculatory parameters using  
healthy and spontaneously hypertensive  
rats. Joint Meeting of EBEA and BEMS,  
Davos, Switzerland, June 13-19, 2009

**Prato FS**, Desjardine-Holmes D,  
Robertson JA, Keenlside LD, **Thomas**  
**AW**. Introduction of a sinusoidal  
magnetic field into a hypogeomagnetic  
environment on humans. Joint Meeting

of EBEA and BEMS, Davos,  
Switzerland, June 13-19, 2009

Keenlside LD, **Prato FS**, Robertson JA,  
**Thomas AW**. Magnetic field shielding  
facility to study the effects of a  
hypogeomagnetic environment  
on humans. Joint Meeting of EBEA and  
BEMS, Davos, Switzerland, June 13-19,  
2009

Robertson JA, Theberg J, Weller J,  
Drost DJ, **Prato FS, Thomas AW**.  
Magnetic field exposure can alter  
neuroprocessing in humans. Joint  
Meeting of EBEA and BEMS, Davos,  
Switzerland, June 13-19, 2009

**Teasell R**, Mehta S, Aubut J, Foulon B,  
Wolfe DL, Hsieh JTC, Townson AF,  
Short C and the SCIRE Research  
Team. Nonpharmacological treatments  
of pain following spinal cord injury:

Systematic review. Journal of Spinal  
Cord Medicine 42(4): 479, 2009

**Teasell R**, Mehta S, Aubut J, Foulon B,  
Wolfe DL, Hsieh JTC, Townson AF,  
Short C and the SCIRE Research  
Team. Pharmacological treatments of  
pain following spinal cord injury: A  
systematic review. Journal of Spinal  
Cord Medicine 42(4): 479-480, 2009

Stodilka RZ, Legros A, Sabondjian E,  
Patrick J, Robertson JA, **Prato FS,**  
**Thomas AW**. Eliciting a brain model to  
respond to simple and complex stimuli.  
Platform accepted to BioEM2009 (Joint  
Meeting of EBEA and BEMS), Davos,  
Switzerland, June 2009

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Reddy SB, Weller J, Desjardins-Holmes D, Winters T, Keenlside LD, **Prato FS**, Vijayalaxmi, **Thomas AW**. Micronuclei in mice exposed to pulsed magnetic fields. Platform accepted to BioEM2009 (Joint Meeting of EBEA and BEMS), Davos, Switzerland, June 2009

McKay JC, Tymi K, **Prato FS**, **Thomas AW**. Effects of time-varying magnetic fields and parametric resonance conditions on circulatory and microcirculatory parameters using healthy and spontaneously hypertensive rats. Platform accepted to BioEM2009 (Joint Meeting of EBEA and BEMS), Davos, Switzerland, June 2009

Corbacio M, Legros AG, Beuter A, Weller J, Dubois S, Brown S, Goulet D, Lambrozo J, Plante M, Souques

M, **Prato FS**, **Thomas AW**. Effects of a 60 Hz, 3000 microtesla magnetic field on human cognitive processing: Preliminary results. Platform accepted to BioEM2009 (Joint Meeting of EBEA and BEMS), Davos, Switzerland, June 2009

**Prato FS**, Desjardins-Holmes D, Robertson JA, Keenlside LD, **Thomas AW**. Introduction of a sinusoidal magnetic field into a hypogeomagnetic environment: Effect on nociceptive behaviour in CD-1 mice. Platform accepted to BioEM2009 (Joint Meeting of EBEA and BEMS), Davos, Switzerland, June 2009

Keenlside LD, **Prato FS**, Robertson JA, **Thomas AW**. Magnetic field shielding facility to study the effects of a hypogeomagnetic environment on

humans: Poster accepted to BioEM2009 (Joint Meeting of EBEA and BEMS), Davos, Switzerland, June 2009

Robertson JA, Theberge J, Weller J, Drost DJ, **Prato FS**, **Thomas AW**. Magnetic field exposure can alter neuroprocessing in humans. Platform accepted to BioEM2009 (Joint Meeting of EBEA and BEMS), Davos, Switzerland, June 2009

Legros A, Weller J, Robertson J, Corbacio M, Dubois S, Beuter A, Stodilka RZ, Goulet D, Lambrozo J, Plante M, Souques M, **Prato FS**, **Thomas AW**. Is human brain functional activation modulated by a 60 Hz, 1800 uT magnetic field exposure? Poster accepted to

BioEM2009 (Joint Meeting of EBEA and BEMS), Davos, Switzerland, June 2009

Legros A, Marshall AH, Gow J, Beuter A, Corbacio M, Cheung B, **Thomas AW**, **Prato FS**, Stodilka RZ. Changes in physiological tremor induced by acute hypoxia. The Movement Disorder Society's 13<sup>th</sup> International Congress of Parkinson's Disease and Movement Disorders, Paris, France, 2009

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 neuron-behavioural study. CIGRE International Colloquium, Sarajevo, Bosnia and Herzegovina, 2009

McKay JC, Tymi K, **Prato FS**, **Thomas AW**. Effects of time-varying magnetic fields and parametric resonance

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conditions on circulation and microcirculation. Lawson Research Day, London ON, March 2009

Corbacio M, Legros AG, Beuter A, Weller J, Dubois SL, Brown S, **Prato FS, Thomas AW**. Effects of a power line frequency magnetic field on human cognitive processing: Preliminary results. Lawson Research Day, London ON, March 2009

**- NATIONAL AND INTERNATIONAL PRESENTATIONS AND WORKSHOPS**

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**Bellingham GA**. Ultrasound guided axillary nerve block in the quadrilateral space. CAS Annual Meeting. Vancouver, BC 2009 (poster discussion)

**Bellingham GA**. Randomized controlled trial comparing pudendal nerve block under ultrasound and fluoroscopic guidance. Canadian Pain Society 29<sup>th</sup> Annual Conference. Quebec City, PQ 2009 (poster discussion)

**Bellingham GA**. Ultrasound and Pain Medicine Workshop. Toronto Western Hospital. May 8-10 & September 25-27, 2009

**Dhir S**. Ultrasound-guided regional anesthesia. 1<sup>st</sup> International Conference on Recent Advances in Anesthesiology, New Delhi, India. January 30-February 1, 2009

**Dhir S**. Recent advances in postoperative pain management. 1<sup>st</sup> International Conference on Recent Advances in Anesthesiology, New Delhi, India. January 31-February 1, 2009

**Dhir S**. Recent advances in obstetric anesthesia. TEE and ultrasound-guided nerve blocks workshop, Banaras Hindu University, India. February 12, 2009

**Dhir S**, Ultrasound guided blocks. TEE and ultrasound-guided nerve blocks workshop. Banaras Hindu University, India. February 12, 2009

**Dhir S**, Ultrasound-guided regional blocks. Jai Prakash Narayan Apex Trauma Centre, All India Institute of Medical Sciences, New Delhi, India. February 14, 2009

**Dhir S**, Local Anesthetics and regional anesthesia. Anesthesia Assistant Program, Fanshawe College, London ON. March 27, 2009

**Dhir S**, Ultrasound-guided lower limb blocks. 4<sup>th</sup> Advanced Regional Anesthesia and Ultrasound Workshop, Hyderabad, India. August 8-9, 2009

**Dhir S**, Truncal I blocks. 4<sup>th</sup> Advanced Regional Anesthesia and Ultrasound Workshop, Hyderabad, India. August 8-9, 2009

**Dhir S**, Infraclavicular anatomy and block. CSTAR's Varkeys Regional Anesthesia Update, London ON. November 28-29, 2009



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**Dhir S.** New analgesic drugs. All India Institute of Medical Sciences, New Delhi, India. December 19 & 21, 2009

**Getty H.** SJHC Pain Management Program Breakfast and Learn: Attachment and pain. June 26, 2009

**Getty H.** SJHC Pain Management Program: Corraling Chronic Pain

Seminar: Psychological factors in the development and treatment of chronic pain conditions. November 21, 2009

**Ganapathy S.** Periarticular infiltration for lower limb arthroplasty. The Chinese University of Hong Kong, Prince of Wales Hospital, Hong Kong. April 13, 2009

**Ganapathy S.** Feasibility of Axillary Nerve Block Using Ultrasound—An Anatomical and Clinical Study. ASRA 34<sup>th</sup> Annual Regional Anesthesia Meeting and Workshop. April 30, 2009 (poster presentation)

**Ganapathy S.** Ultrasound-guided saphenous, obturator, LFC nerve blocks. 34<sup>th</sup> American Society of Regional Anesthesia and Pain Medicine (ASRA), Phoenix, AR. May 3, 2009

**Ganapathy S.** Ultrasound for regional anesthesia. Advanced Regional Anesthesia: Invasive Pain Management Techniques and Regional Anesthesia Hands-on Workshop. Wayne State University School of Medicine, Detroit MI. May 16, 2009

**Ganapathy S.** Basic ultrasound principles and terminology. ASRA Workshop US-guided Regional Anesthesia, San Francisco CA. May 30, 2009

**Ganapathy S.** Ultrasound-guided nerve blocks upper limb. Blockit, The Hull Regional Anesthesia Symposium and Workshop, Castle

Hill Hospital, Cottingham, England. June 17, 2009

**Ganapathy S.** Symposium 9. Regional Anesthesia and Acute Pain Management Section Event—Ultrasound Esoterica—Luncheon. Saphenous/Obturator/LFCN, Canadian Anesthesiologists' Society Annual Meeting, Vancouver BC. June 28, 2009

**Ganapathy S.** Chair, Workshop 17, Masterclass—Torso, Canadian Anesthesiologists' Society Annual Meeting, Vancouver BC. June 29, 2009

**Ganapathy S.** Regional Blocks Below the Clavicle. 6<sup>th</sup> Annual International Symposium ISURA, Schloss Schwetzingen German. September 12, 2009

**Ganapathy S.** Periarticular Infusions and Fast Track Arthroplasty. A Canadian Experience. 54<sup>th</sup> Annual Ontario Anesthesia Meeting, Toronto ON. October 4, 2009

**Ganapathy S.** Perioperative Multimodal Analgesia & Outcomes. 3<sup>rd</sup> Anesthesia Conference of Kuwait, The Convention Centre, Movenpick Hotel, Free Trade Zone, Kuwait. Stem II. Acute Pain & Regional Anesthesia. November 7, 2009

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**Ganapathy S.** Lumbar Plexus (Psoas Compartment, Lateral Femoral Cutaneous Nerve, Saphenous Nerve, Obturator Nerve). Advanced Ultrasound Workshop,

Toronto Western Hospital, Toronto ON.  
December 4, 2009

**Merskey H.** Pain Rounds. The history of pain 1950-2000. St. Joseph's Health Care, London, ON, May 21, 2009

**Merskey H.** Replacing dissociation and somatoform disorders—A hope for DSM-VI. The First Michael Conlon Memorial Lecture. Goderich ON, June 12, 2009

**Miller TA,** Ross DC. Piriformis syndrome. Diagnosis and management: Myths and facts. AANEM Course The Hip and the Neuromuscular Physician from EDX to Coxa Saltans. San Diego CA, October 2009

Ross DC, **Miller TA.** Evaluation and surgical treatment of neurologic injuries around the hip. AANEM Course The Hip and the Neuromuscular Physician from EDX to Coxa Saltans. San Diego CA, October 2009

**Miller TA.** Piriformis syndrome. Ontario Physiatry Review. Toronto ON, November 2009

Sangha H, **Miller TA,** Ross DC. Neurogenic thoracic outlet syndrome: A treatable disorder. The Natural History and Outcome in a Case Series. CAPMR, Banff AB. June 2009

**Miller TA,** Grewal R, King G. Chronic lateral epicondylitis: Rehab, surgery and functional outcomes.

HULC/Rehab Rds, London ON.  
September 2009

**Morley-Forster PK.** Developments in treatment of CRPS. City-wide UWO Dept. of Anesthesia Rounds, Aud D, University Hospital, London ON.  
January 2009

**Morley-Forster PK.** Use of topical agents in neuropathic pain. Canadian Pain Society SIG Pain Refresher Course, Toronto ON, February 2009

**Morley-Forster PK.** Chronic opioid therapy: Does it affect the endocrine system? Canadian Endocrine Update, University Hospital, London ON, April 2009

**Morley-Forster PK.** New concepts in complex regional pain syndrome and acute pain management in the opioid-dependent patient. Mexican College of Anesthesia, August 2009 (invited lecturer), November 2009

**Morley-Forster PK.** Perioperative considerations in fibromyalgia syndrome. OMA/CAS Section of Anesthesia meeting, October 2009

**Morley-Forster PK.** Diagnosis and treatment of chronic pelvic pain. Hugh Allen Education Day, Dept. of Obstetrics and Gynecology, October 2009

**Morley-Forster PK.** Second Annual Kuwaiti Anesthesia Conference. Invited

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guest professor (delivered four lectures),  
November 2009

**Moulin DE.** Diabetic painful neuropathy: International guidelines and recommendations. First Middle East Regional Diabetes Summit, Dubai, United Arab Emirates, October 9, 2009

**Moulin DE.** Management of malignant neuropathic pain. Conquering malignant pain and suffering: New possibilities. Schulich Medicine & Dentistry (Windsor Program), June 5, 2009

**Nielson WR.** What do we know about sleep?: Sleep in health and illness. Workshop at Meeting of the Canadian Scleroderma Society, Winnipeg MN, October 2009

**Prato FS.** Future treatment of chronic pain and affective disorders through inductive coupling of EMG exposures. 5<sup>th</sup> EMF Seminar in China: Electromagnetic Fields and Biological Effects. Hangzhou, China, April 17-19, 2009

**Rollman GB.** Organizer and Chairman, Workshop on psychophysical insights regarding the mechanisms of chronic pain. Canadian Pain Society, Quebec City, PQ, May 2009

**Rollman GB.** Behavioural correlates of chronic pain. Canadian Pain Society, Quebec City, PQ, May 2009

**Teasell R,** Aubut J, Short C, wolfe D, Hsieh J, Townson A, Foulon B for the SCIRE Research Team. A review of

treatment of pain following SCI. Greater Toronto Area Best

Practices Day in Rehabilitation, Toronto, ON, March 9, 2009

**Teasell R.** Beyond the Bare Bones: Understanding the Natural History and Treatment of Soft Tissue Injuries. The Essential Soft Tissue Conference, Vancouver, BC, March 27, 2009 (keynote speaker)

**Teasell R.** Whiplash injuries: Dealing with the June Science. The Essential Soft Tissue Conference, Vancouver, BC, March 28, 2009 (panel discussion)

**Teasell R.** Acceptance and Pacing in Chronic Pain: Giving In is Not Giving Up. Innovations in the Treatment of Chronic Pain, London, ON, June 5, 2009

**Thomas AW.** Effets de l'exposition à un champ magnétique entre 1800 et 3000  $\mu\text{T}$  à 60 Hz sur le control moteur, les performances neurocognitives and l'activation cérébrale chez l'humain. Invited talk, Head Office of Electricite de France, Paris, France, June 2009

**- 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 in principle 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. The workshop in 2009 was attended by approximately twenty community physicians from a variety of disciplines. The evaluations from this workshop were superb.

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.

**- INTERDISCIPLINARY PAIN ROUNDS AND CONFERENCES 2009 -**

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- Jan 22 The Social Context of Pain: New Findings and New Directions. **Dr. Francis J. Keefe**, Professor and director, Pain Prevention and Treatment Research Program, Duke University Medical Centre, Durham, North Carolina
- Feb 25 Hope and Hopelessness. **Dr. Michael Sanatani**, Medical Oncologist, London Regional Cancer Program, London, Ontario
- Mar 25 The Role of Cannabinoids in Chronic Pain Management. **Dr. Mark Ware**, Assistant Professor, Anesthesia & Family Medicine, McGill University, Montreal, Quebec
- Apr 21 Cancelled
- May 21 The Founding, Growth and Future of the International Association for the Study of Pain: A Personal Account. **Dr. Harold Merskey**, Professor Emeritus, Department of Psychiatry, University of Western Ontario, London, Ontario; Former Honorary Historian IASP
- Sept 23 Functional and Structural MR Imaging of Pain in the Brain. **Dr. Karen Davis**, Professor Department of Surgery, Associate Director Institute of Medical Science & Canada Research Chair in Brain and Behaviour University of Toronto, Head Division of Brain, Imaging and Behaviour-Systems Neuroscience, Toronto Western Research Institute, Toronto, Ontario
- Oct 28 Mindfulness and Meditation (the 2 “Ms”): Are These the New Morphine and Marijuana of Pain Management? **Dr. Jackie Gardner**, Chronic Pain Consultant Depts. Anesthesia St. Michael’s Hospital Pain Clinic & Sunnybrook Health Sciences Centre Pain Management Program Toronto, Assistant Professor Department of Anesthesia, University of Toronto, Toronto, Ontario
- Dec 2 Genetics and Phenomics of Neuropathic Pain. **Dr. Ze’ev Seltzer**, Canada Research Chair in Comparative Pain Genetics, Professor of Genetics & Physiology, Faculties of Dentistry & Medicine, University of Toronto Centre for the Study of Pain, Toronto, Ontario