Advancing the Canadian Chiropractic Research Agenda

September 23-24, 2011 — Toronto

“A transdisciplinary approach to neuromusculoskeletal health, injury and disease: collaborative engagement in chiropractic research.”

The Symposium is focused on clinical, biomedical, health services and population health, and social sciences research aimed at better defining the role of chiropractic in Canadian health research and health care. Participants will strengthen linkages and collaboration across various disciplines in an interactive forum.

In 2009 the Consortium convened a Workshop to advance the Canadian Chiropractic Research Agenda. The Workshop was funded by CIHR and the CCRF and facilitated collaborative, multidisciplinary health research in the emerging area of chiropractic science. Innovative, state of the art research developments were presented which generated new knowledge and new perspectives on improving the health of Canadians.

With CIHR’s increased emphasis on partnerships, knowledge translation and collaboration with the end-users of research, the Consortium identified the need to increase its capacity, to strengthen cross disciplinary relationships, foster greater networking opportunities and new research streams.

In 2011, the Symposium once again, brings together researchers in an interactive forum to further shape relationship building across disciplines, knowledge exchange and enhanced networking. The Symposium will collectively address the difficult questions facing the growth of the chiropractic discipline.

- How can we better define our role in Canada’s health care system and Canada’s health research system? What are our strengths in epidemiological, biomechanical, biomedical research?
- How do we best deliver our new knowledge to health providers, health policy makers and end-users?
- What are the barriers to uptake and implementation?
- What strategic planning initiatives should be undertaken for the next 5 years? What are the priority areas and gaps for future research activity?
- How do we translate chiropractic research into better health for Canadians?
- Should CIHR adopt specific policy and funding incentives to ensure the viability and growth of the chiropractic researcher?
- Should the chiropractic discipline embrace the clinician-scientist model?
- How can we make chiropractic research capacity grow and become sustained?
- What are the challenges faced by Canada’s chiropractic researchers?
CONSORTIUM MEMBERS

Dr. Carlo Ammendolia DC, PhD ................................................................. University of Toronto
Dr. Lesley Biggs PhD ................................................................. University of Saskatchewan
Dr. Jean-Sébastien Blouin DC, PhD .................................................. University of British Columbia
Dr. Jean Boucher PhD ................................................................. Université du Québec à Montréal
Dr. Paul Bruno DC, PhD ................................................................. University of Regina
Dr. Jason Busse DC, PhD ................................................................. McMaster University
Dr. J. David Cassidy DC, PhD, Dr.Med.Sc. ........................................ University of Toronto
Dr. Pierre Côté DC, PhD ................................................................. University of Toronto
Dr. John Church PhD ................................................................. University of Alberta
Dr. Simon Dagenais DC, PhD ............................................................ University of Ottawa
Dr. Martin Descarreaux DC, PhD ........................................ Université du Québec à Trois-Rivières
Dr. Jim Dickey PhD ................................................................. University of Western Ontario
Dr. Mark Erwin DC, PhD ................................................................. University of Toronto
Dr. Jill Hayden DC, PhD ................................................................. Dalhousie University
Dr. Walter Herzog PhD ................................................................. University of Calgary
Dr. Greg Kawchuk DC, PhD ............................................................. University of Alberta
Dr. Adrian Levy PhD ................................................................. Dalhousie University
Dr. Annalyn Mercado PhD .............................................................. Saskatchewan Health Region
Dr. Bernadette Murphy DC, PhD ........................................ University of Ontario Institute of Technology
Dr. Steven Passmore DC ................................................................. University of Manitoba
Dr. Mathieu Piché, DC, PhD ..................................................... Université du Québec à Trois-Rivières
Dr. Jeff Quon DC, PhD ................................................................. University of British Columbia
Dr. Peter Ruben PhD ................................................................. Simon Fraser University
Dr. Martin Simoneau PhD .......................................................... Université Laval
Dr. John Srbely DC, PhD ................................................................. University of Guelph
Dr. John J. Triano DC, PhD ........................................................... Canadian Memorial Chiropractic College
Dr. Gabrielle van der Velde DC, PhD ........................................ Toronto Health Economics and Technology Assessment (THETA) Collaborative

PROGRAM DEVELOPMENT COMMITTEE

Dr. André Bussières DC, PhD candidate • Dr. Pierre Côté DC, PhD
Dr. Martin Descarreaux DC, PhD • Dr. Allan Gotlib DC
Dr. Jill Hayden DC, PhD • Dr. Bernadette Murphy DC, PhD
Dr. Jeff Quon DC, PhD • Dr. Kent Stuber DC, MSc
### Schedule of Events

**Friday, September 23, 2011**

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>2:00 – 2:05 pm</td>
<td><strong>Welcome and opening remarks</strong>&lt;br&gt;Dr. André Bussières DC, PhD candidate, University of Ottawa</td>
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<tr>
<td>2:05 – 2:20 pm</td>
<td><strong>Speaker:</strong> Welcome to the University of Toronto&lt;br&gt;“Health Research: Unfinished Business”&lt;br&gt;Dr. David Naylor, President, University of Toronto</td>
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<td>2:20 – 2:30 pm</td>
<td>Questions</td>
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<tr>
<td>2:30 – 2:50 pm</td>
<td><strong>Speaker:</strong> “Transdisciplinary programs in Work Disability Prevention”&lt;br&gt;Dr. Patrick Loisel, Professor, Dalla Lana School of Public Health, University of Toronto &amp; Professor, CMCC</td>
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<td>2:50 – 3:00 pm</td>
<td>Questions</td>
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<tr>
<td>3:00 – 4:15 pm</td>
<td><strong>Panel A:</strong> Moderator: Dr. Cesar Hincapié DC, PhD candidate&lt;br&gt;Panel: Ammendolia/Erwin/Srbely/Quon&lt;br&gt;Theme: “Should the chiropractic discipline embrace the clinician-scientist model?”</td>
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<td>4:15 – 4:30 pm</td>
<td><strong>Speaker:</strong> “Opportunities for research collaboration at CMCC”&lt;br&gt;Dr. Jean Moss, President, Canadian Memorial Chiropractic College</td>
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<td>4:30 – 4:40 pm</td>
<td>Questions</td>
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<td>4:40 – 5:55 pm</td>
<td><strong>Panel B:</strong> Moderator: Dr. Marc-André Blanchette DC, PhD candidate&lt;br&gt;Panel: Piché/Budgell/Murphy/Boucher&lt;br&gt;Theme: “What are our strengths in neurophysiological research?”</td>
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<tr>
<td>6:30 – 9:30 pm</td>
<td>University of Toronto Faculty Club - Reception &amp; Dinner</td>
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<td>8:00 – 8:30 am</td>
<td><strong>Breakfast</strong></td>
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<td>8:30 – 9:00 am</td>
<td><strong>Speaker:</strong> “CIHR strategic priorities – what role will chiropractors play in the next 5 year cycle?”&lt;br&gt;Dr. Phillip Gardiner, CIHR Scientific Director (Interim), IMHA</td>
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<td>9:00 – 9:15 am</td>
<td>Questions</td>
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<td>9:15 – 10:30 am</td>
<td><strong>Panel C:</strong> Moderator: Dr. Maja Stupar DC, PhD candidate&lt;br&gt;Panel: Côté/Hayden/Busse/Cassidy&lt;br&gt;Theme: “What are our strengths in epidemiological research?”</td>
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**Saturday, September 24, 2011**

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Saturday, September 24, 2011, continued

10:30 – 10:45 am  Nutrition break

10:45 – 12:00 pm  PANEL D:  Moderator: Dr. Diana De Carvalho DC, PhD candidate  
Panel:  Kawchuk/Herzog/Ruben/Dickey/Bruno  
Theme:  “What are our strengths in biomechanical research?”

12:00 – 1:00 pm  Lunch

1:00 – 2:15 pm  PANEL E:  Moderator: Dr. Mana Rezai DC, PhD candidate  
Panel:  Biggs/Levy/van der Velde/Vogel/Dagenais  
Theme:  “How do we translate chiropractic research into better health?”

2:15 – 3:30 pm  PANEL F:  Moderator: Dr. Ted Crowther DC, EdD  
Panel:  Blouin/Triano/Passmore/Descarreaux  
Theme:  “How can we make chiropractic research capacity grow and become sustained?”

3:30 – 3:45 pm  Nutrition Break

3:45 – 4:00 pm  Speaker:  “Cellular/molecular approaches to spinal research: it’s lonely over here”  
Dr. Mark Erwin, Assistant Professor, University of Toronto

4:00 - 5:15 pm  Open Discussion  
Moderator: Dr. David Cassidy DC, PhD, Dr.Med.Sc.  
• Collaborations that have occurred since the 2009 Symposium - what steps need to take place to take these collaborations further?  
• What are the challenges faced by Canada’s chiropractic researchers?  
• What strategic planning initiatives should be undertaken for the next 5 years?  
• What are the priority areas and gaps for future research activity?  
• How do we transfer our new knowledge to health providers, health policy makers and end-users. What are the barriers to uptake?  
• Where and why does our basic science fit with clinical practice and observations and what is its relevance?  
Q & A to engage open discussion.

5:15 pm  Closing remarks followed by reception  
Dr. Kent Stuber DC, MSc

Schedule Summary

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<tr>
<td>2:00 pm – 5:30 pm</td>
<td>Friday</td>
<td>Hotel Intercontinental Yorkville</td>
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<tr>
<td>6:30 pm – 9:30 pm</td>
<td>Friday evening</td>
<td>University of Toronto Faculty Club</td>
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<tr>
<td>8:00 am – 5:30 pm</td>
<td>Saturday</td>
<td>Hotel Intercontinental Yorkville</td>
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<tr>
<td>5:30 pm – 6:00 pm</td>
<td>Closing Ceremony (Spouses attend)</td>
<td>Networking</td>
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<tr>
<td>6:30 pm – 9:30 pm</td>
<td>Saturday</td>
<td>Networking</td>
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The Intercontinental Hotel is a 5 star luxury hotel on Bloor Street. Participants will stay here on Friday and Saturday nights. Spouses are most welcome. The University of Toronto Faculty Club on Willcocks Street is a 10 minute walk from the hotel.  
http://www.facultyclub.utoronto.ca
President David Naylor has been President of the University of Toronto since 2005. He earned his MD at Toronto in 1978, followed by a D Phil at Oxford where he studied as a Rhodes Scholar. Naylor completed clinical specialty training at the University of Western Ontario and joined the Department of Medicine of the University of Toronto in 1988. He was founding Chief Executive Officer of the Institute for Clinical Evaluative Sciences (1991-1998), before becoming Dean of Medicine and Vice Provost for Relations with Health Care Institutions of the University of Toronto (1999 - 2005). Naylor has co-authored approximately 300 scholarly publications, spanning social history, public policy, epidemiology and biostatistics, and health economics, as well as clinical and health services research in most fields of medicine. Among other honours, Naylor is a Fellow of the Royal Society of Canada, a Foreign Associate Fellow of the US Institute of Medicine, and an Officer of the Order of Canada.

Dr. Norman Rosenblum is a Professor of Pediatrics, Physiology, and Laboratory Medicine and Pathobiology, and Canada Research Chair in Developmental Nephrology at the University of Toronto, and a Pediatric Nephrologist and Senior Scientist at The Hospital for Sick Children. A native of Glace Bay, Nova Scotia, Dr. Rosenblum received his MD degree from Dalhousie University and then completed postgraduate training in Pediatrics and Pediatric Nephrology at the Children’s Hospital, Boston and research training in cell and molecular biology at Harvard Medical School. Since joining the University of Toronto in 1993, Dr. Rosenblum has pursued research aimed at defining molecular mechanisms that control formation of the normal and malformed kidney, the major cause of kidney failure during childhood. Dr. Rosenblum’s research has been recognized with the 2004 Aventis Pasteur Research Award, the 2006 American Pediatric Society New Member Outstanding Science Award, and the 2011 Kidney Foundation of Canada Medal for Research Excellence. In 2001, Dr. Rosenblum initiated the formation of and has subsequently led the Canadian Child Health Clinician Scientist Program, a CIHR-supported coalition of 17 Canadian University-based academic child and youth health science centres that is training a new generation of clinician scientists across 7 clinician child health disciplines within an interdisciplinary model. As Associate Dean, Physician Scientist Training at the University of Toronto, since 2009, Dr. Rosenblum directs the Undergraduate MD/PhD Program and the Postgraduate Clinician Investigator Program.
**Dr. Phillip Gardiner** is Director of the Health, Leisure & Human Performance Research Institute, and holds professorial positions in the Faculty of Kinesiology and Recreation Management, and in the Department of Physiology, Faculty of Medicine, at University of Manitoba. He currently holds a CIHR tier I Canada Research Chair in Physical Activity and Health Studies. Dr. Gardiner is a member of the Spinal Cord Research Center, where he directs a research laboratory, and an affiliate member of the Division of Neurodegenerative Disorders. After receiving his PhD in Exercise Physiology at University of Alberta in 1976, and spending 2 years of post-doctoral studies in Neuromuscular Physiology at UCLA, he took a position as Professor of Kinesiology at University of Montreal, where he worked for 26 years before taking his current position at University of Manitoba in 2002. Dr. Gardiner has been Editor-in Chief of the Canadian Journal of Applied Physiology (1995-2000), and President (2000-2002) and Executive Director (2006-2008) of the Canadian Society for Exercise Physiology. He conducts research on the effects of physical activity on the nervous and neuromuscular systems, and has published over 100 articles and 3 books in this area. His most recent text, *Advanced Neuromuscular Exercise Physiology*, was published in April 2011. His research has been supported by grants from the Canadian Institutes for Health Research, Natural Sciences & Engineering Research Council Canada, and the Canadian Space Agency. He has served as the University of Manitoba representative to the Canadian Institutes for Health Research, and has been a member, and Chair, of the MOV peer-review committee of CIHR. He has also been Chair of the Institute of Musculoskeletal Health and Arthritis, one of the 13 institutes of CIHR, since 2010, and has recently been appointed Scientific Director (interim) of that Institute (July 1, 2011 to June 30, 2012).

**President Jean Moss**, after enjoying an extensive career as a chiropractic practitioner, educator, clinician and administrator, was appointed the first female President of the Canadian Memorial Chiropractic College (CMCC) in 1991. Under Dr. Moss’s leadership, the College has prospered - building historic clinical relationships with universities and hospitals; supporting the pursuit of chiropractic research; implementing a new integrative curriculum; and the construction of the 6100 Leslie Street campus. A tenacious lobbyist, tireless spokesperson and recipient of many honours, Dr. Jean Moss is the past president of the Association of Chiropractic Colleges and a respected leader within the chiropractic profession internationally.

**Dr. Patrick Loisel** holds a Doctorate in medicine (MD), University of Paris VI, specialization in orthopedic surgery. After a career at the University of Sherbrooke, he is now Professor at the Dalla Lana School of Public Health of the University of Toronto and researcher in the Division of Orthopaedics at the University Health Network. He heads a team of the 30 researchers/mentors of the Work Disability Prevention CIHR Strategic Training Program, a unique worldwide training program for researchers in work disability prevention. His work is dedicated to research and evidence implementation in the field of work disability prevention for musculoskeletal disorders. Dr. Loisel has developed, tested and applied in the community an evidence-based work disability management program, the Sherbrooke model, linking clinical and workplace interventions, demonstrating for the first time the specific effectiveness and cost-effectiveness of workplace interventions for back pain disability. He is the author of many publications and presentations in the work disability prevention field.

**CMCC**

**Canadian Memorial Chiropractic College**
Dr. Carlo Ammendolia is a clinical epidemiologist at the Rebecca MacDonald Centre for Arthritis and Autoimmune Diseases at Mount Sinai Hospital and an Associate Scientist at the Institute for Work and Health in Toronto. He received his PhD in Clinical Evaluative Sciences in 2005 from the University of Toronto. Dr. Ammendolia is an Assistant Professor in the Department of Health Policy, Management and Evaluation at the University of Toronto. He has maintained a clinical practice in chiropractic over the past 29 years and is currently a staff clinician in the Department of Medicine at Mount Sinai Hospital in Toronto. His research interests include conservative management of degenerative and inflammatory spinal disorders and the development and implementation of workplace interventions to prevent disability and maximize worker health.

Professor Lesley Biggs received her B.Sc (1980) in Psychology and her M.Sc. (1993) and Ph.D. (1990) from the Department of Behavioral Science, Faculty of Medicine—all from the University of Toronto. She joined the Department of Sociology at the University of Saskatchewan, and in 1999 she became a member and Head of the Department of Women’s and Gender Studies, and served six and one half years. Professor Biggs’ main areas of interest lie in the history and sociology of the professions with a particular focus on complementary and alternative healers, particularly chiropractors and midwives. She is also interested in women’s health, studies of medical bodies and the construction of health care knowledge. Professor Biggs chaired the Midwifery Advisory Committee for the Government of Saskatchewan which led to the legalization of midwifery in 2007 when the Midwifery Act was proclaimed. She was awarded the Canadian Chiropractic Association Award of Merit for her contribution to the chiropractic profession. Most recently, Professor Biggs was the recipient of the Master Teacher Award at the 2009 spring convocation at the University of Saskatchewan. Currently, Professor Biggs is Vice-President of CCEI, a public member of CCEI (Can.), and is chairing a review of the first year curriculum for the College of Arts and Science at the University of Saskatchewan.

Dr. Jean-Sébastien Blouin is an assistant professor and holder of a CCRF Professorship in the School of Human Kinetics at the University of British Columbia (Canada). His research focuses on the physiology of human movement with particular interests in the sensorimotor control of balance, the neural control of the neck musculature and the pathophysiology of whiplash injury. As part of his research program, he participates in the development of innovative research tools and procedures that will advance our understanding of sensorimotor control of movement and balance.

Dr. Jean Boucher is Full Professor in the Kinanthropologie Department at the Université du Québec à Montréal. He was first appointed professor in 1983 after getting his doctorate in Exercise Science from the University of Massachusetts. His research activities contributed to the fields of neuromuscular control, functional health and Chiropractic. To date, he obtained more than $750,000 in research funding and his productions include 2 patents and 2 applications and over 140 published book chapters, communications, conferences and scientific articles, including 40 peer reviewed articles. He directed over 30 graduate students. He was chair of graduate studies in Kinanthropologie from 1985 to 1987 and 1995 to 1997. He also chaired the Department of Kinanthropologie from 1997 to 2006. He is a Fellow of the American College of Sports Medicine (FACSM) and a founding member of the International Society of Functional Electrical Stimulation (IFESS).

Dr. Paul Bruno obtained his Bachelor of Human Kinetics from the University of British Columbia (1999) and Doctor of Chiropractic from the Canadian Memorial Chiropractic College (2004). He was a research fellow and lecturer at the Anglo-European College of Chiropractic in the United Kingdom from 2004-10, during which time he was awarded the Elsevier International Post-Graduate Research Prize (2005, 2006, 2007) before receiving his PhD from the University of Portsmouth (2008). In July 2010, he was appointed Assistant Professor and CCRF Research Chair in
Neuromusculoskeletal Health in the Faculty of Kinesiology and Health Studies at the University of Regina. His research focuses on the fields of motor control and rehabilitative exercise for patients with low back pain. He is particularly interested in investigating the diagnostic utility of clinical tests that are used to assess for motor control impairments of the lumbopelvic region, the kinematic and motor control parameters during the performance of these tests and their relationship to functional activities, and the association between test findings and measures of spinal stiffness and spinal stability.

**Dr. David Cassidy** is an epidemiologist and a senior scientist at the Division of Health Care and Outcomes Research at the Toronto Western Research Institute, University Health Network. He is a Professor in the Division of Epidemiology at the Dalla Lana School of Public Health and in the Clinical Epidemiology Program at the Department of Health Policy Management and Evaluation at the University of Toronto. Originally trained as a chiropractor, he went on to obtain doctoral degrees in Pathology at the University of Saskatchewan and Injury Epidemiology at Karolinska Institute in Stockholm, Sweden. He has published over 250 research papers and chapters in textbooks. His research interests include injury epidemiology, musculoskeletal disorders and neurotrauma. He teaches chronic disease epidemiology at the Dalla Lana School of Public Health at the University of Toronto.

**Dr. John Church** is Associate Professor cross-appointed in the Department of Political Science and the Centre for Health Promotion Studies, School of Public Health, University of Alberta. His research interests revolve around the role of institutions, ideas and interests in Canadian health care policy making. Dr. Church has worked with international, national, provincial and regional health agencies in the evaluation of health care reforms.

**Dr. Pierre Côté** is a scientist in the Division of Health Care and Outcomes Research at the Toronto Western Research Institute. He is also an Associate Professor of epidemiology at the Dalla Lana School of Public Health at the University of Toronto. Côté also holds appointments in the Department of Health Policy Management and Evaluation at the University of Toronto and as an adjunct professor at Arizona State University and Lakehead University. Dr. Côté graduated as a chiropractor from the Canadian Memorial Chiropractic College in 1989. In 1996 he obtained a Master’s Degree in Surgery from the University of Saskatchewan where he studied the epidemiology of neck and back pain in the general population. He completed his PhD in epidemiology and a minor in medicine, and methodological research. His academic efforts are supported by a New Investigator Award from the Canadian Institutes of Health Research and Canadian Chiropractic Research Foundation.

**Dr. Jason Busse** has completed a BSc in Microbiology and a MSc in Medical and Molecular Genetics at the University of Toronto, a Doctorate in Chiropractic at CMCC, and a PhD in Health Research Methodology at McMaster University under the supervision of Dr. Gordon Guyatt. Dr. Busse is an Assistant Professor in the Department of Clinical Epidemiology & Biostatistics at McMaster University and a Scientist at the Institute for Work & Health. Dr. Busse has been active clinically in the management of disability secondary to chronic pain and fatigue syndromes since 1999. Dr. Busse has authored over 80 peer-reviewed publications with a focus on medically unexplained syndromes, orthopedic trauma, the integration of chiropractic into mainstream healthcare, insurance

**Dr. Brian Budgell** is the Director of the Laboratory of Neuropsychology at the Canadian Memorial Chiropractic College. He graduated from CMCC in 1986 and was in private practice in Toronto for 6 years. In 1993, he moved to Japan to study under the late Professor Akio Sato in the Department of the Autonomic Nervous System at the Tokyo Metropolitan Institute of Gerontology. Work conducted with Dr. Sato focused on the effects of somatic stimulation on the behaviour of autonomic nerves in animal models. Following Professor Sato’s retirement, Dr. Budgell moved to the Faculty of Medicine at Kyoto University. During this time, he completed a number of studies on the effects of spinal stimulation on autonomic regulation of cardiovascular function in humans. For the past ten years, he has also collaborated with Dr. Philip Bolton at the University of Newcastle in Australia, and with Dr. Weimin Li at the Shanghai Research Center for Acupuncture and Meridians. His most recent work concerns the effects of somatic stimulation on spinal cord blood flow, and the influence of spinal cord compression on the modulation of somato-autonomic reflexes.

**Dr. Pierre Côté** DC, PhD

**Dr. Jason Busse** DC, PhD

**Dr. John Church** PhD

**Dr. Pierre Côté** DC, PhD

**Dr. David Cassidy** DC, PhD, Dr.Med.Sc.
Dr. Simon Dagenais trained as a chiropractor and clinical epidemiologist. He has focused his career on research related to evidence-based management of spinal and musculoskeletal disorders. He has published a variety of articles in peer-reviewed journals, contributed to textbook chapters, edited textbooks on chiropractic care and evidence based spine care. Simon is Associate Editor for The Spine Journal and serves as a reviewer for several other scientific journals. He is an Assistant Professor in the Division of Orthopedic Surgery as well as the Department of Epidemiology and Community Medicine at the University of Ottawa, and in the Department of Social and Preventive Medicine at the University at Buffalo. Simon is currently conducting the University Health Network Whiplash Intervention Trial, a large randomized clinical trial of the effectiveness of three programs of care for the treatment of whiplash injuries.

Dr. Martin Descarreaux is a 1998 chiropractic graduate from the Université du Québec à Trois-Rivières (UQTR), where he now is a full professor, teaching pathomechanics and rehabilitation. He completed a Masters degree in kinesiology at the UQTR in 2000 and his PhD in kinesiology at the Université Laval in the Department of Social and Preventive Medicine in 2004. He currently holds the Chiropractic Research Chair at UQTR and he specialises in neuromuscular control of the spine and his research interests include the neurophysiologic effects of spinal manipulation. The characterization of the neurophysiological and biomechanical effects of spinal manipulations is upmost among the Chair’s research themes.

Dr. Erwin’s current work centers on the role(s) played by notochordal and adult stem cells within the intervertebral disc. Currently Dr. Erwin is a clinician/scientist with the academic rank of Assistant Professor in the Department of Surgery, Division of Orthopaedic Surgery at the University of Toronto and Toronto Western Hospital. He is also cross-appointed to The Spine Programme and is a scientist within the Arthritis and Autoimmunity Research Centre. In addition with a robust laboratory schedule, Dr. Erwin continues to see patients two half-days per week in private practice as well as assisting with the assessment of patients referred for neurosurgical consultation in the complex Spine Clinic at Toronto Western Hospital. Dr. Erwin has developed a multi-disciplinary disc biology research group that brings together the disciplines of neurosurgery, rheumatology, and cellular and molecular biology. Dr. Erwin’s research has been funded by peer-reviewed grants such as CIHR, the Canadian Arthritis Network, AO-Spine North America as well as industry and non-profit research support. Dr. Erwin has published in peer-reviewed journals such as Spine, Arthritis and Rheumatism, Journal of Neurosurgery- Spine and others. Dr. Erwin’s current work centers on the role(s) played by notochordal and adult stem cells within the intervertebral disc as well as restorative/regenerative strategies with a focus on degenerative disc disease and spinal cord injury.

Dr. Jim Dickey is a professor at the University of Western Ontario in the School of Kinesiology. He completed his BSc and MSc at the University of Waterloo working with Dr. David Winter. He worked as a research assistant in the Orthopaedics Department at Sunnybrook Hospital before performing his PhD in Mechanical Engineering at Queen’s University. He is actively involved in teaching and research. His research program is focused on joint biomechanics and includes specific projects evaluating the effects of whole-body vibration and also in vitro studies of joint mechanics.

Dr. Mark Erwin has been a practicing chiropractor since graduating from the Canadian Memorial Chiropractic College in 1984 after obtaining a specialized honors degree in physical education from York University in 1980. He obtained a PhD from the Institute of Medical Science at the University of Toronto in 2004 where the subject of his doctoral studies concerned the biology of the intervertebral disc. Currently Dr. Erwin is a clinician/scientist with the academic rank of Assistant Professor in the Department of Surgery, Division of Orthopaedic Surgery at the University of Toronto and Toronto Western Hospital. He is also cross-appointed to The Spine Programme and is a scientist within the Arthritis and Autoimmunity Research Centre. In addition with a robust laboratory schedule, Dr. Erwin continues to see patients two half-days per week in private practice as well as assisting with the assessment of patients referred for neurosurgical consultation in the complex Spine Clinic at Toronto Western Hospital. Dr. Erwin has developed a multi-disciplinary disc biology research group that brings together the disciplines of neurosurgery, rheumatology, and cellular and molecular biology. Dr. Erwin’s research has been funded by peer-reviewed grants such as CIHR, the Canadian Arthritis Network, AO-Spine North America as well as industry and non-profit research support. Dr. Erwin has published in peer-reviewed journals such as Spine, Arthritis and Rheumatism, Journal of Neurosurgery- Spine and others. Dr. Erwin’s current work centers on the role(s) played by notochordal and adult stem cells within the intervertebral disc as well as restorative/regenerative strategies with a focus on degenerative disc disease and spinal cord injury.
Dr. Jill Hayden is Assistant Professor in the Dept. of Community Health & Epidemiology, Dalhousie University. Dr. Hayden graduated from the Canadian Memorial Chiropractic College in 1996 and completed the Chiropractic Clinical Residency Program in 1999. In 2007 she completed her PhD in Clinical Epidemiology at the University of Toronto, specifically on the methods of systematic review of prognosis studies. She trained at the Institute for Work & Health in Toronto between 1999 and 2006. Dr. Hayden’s research experience and expertise includes prognostic research, systematic review methods and musculoskeletal health, specifically low back pain. She has been involved with the Cochrane Collaboration for many years, as review author, Advisory Board Member for the Back Review Group, and co-Convenor of the Prognosis Methods Group. Dr. Hayden is Principal Investigator of the Nova Scotia Cochrane Resource Centre, funded by the Nova Scotia Health Research Foundation to build regional capacity in systematic reviews and evidence-informed health care decision-making. She has been the recipient of several training and achievement awards and holds a Canadian Institutes of Health Research/ Canadian Chiropractic Research Foundation New Investigator Award (2007-2012).

Dr. Walter Herzog received his BSc in Kinesiology from Federal Technical Institute in Zurich in 1977, his MSc in Biomechanics from Federal Technical Institute in Zurich in 1978, and his PhD in Biomechanics from University of Iowa, USA, in 1985 which was followed by a Postdoc in Clinical Neuroscience and Biomechanics at University of Calgary in 1987. Presently, Dr. Herzog is a Professor and Canada Research Chair in Molecular and Cellular Biomechanics in the Faculties of Kinesiology, Engineering and Medicine, University of Calgary. His research interests are in musculoskeletal biomechanics with a focus on mechanisms of muscle contraction, joint loading and musculoskeletal injuries and diseases.

Dr. Greg Kawchuk is an Associate Professor and Canada Research Chair in Spinal Function in the Department of Physical Therapy at the University of Alberta. Greg obtained his chiropractic training from the Canadian Memorial Chiropractic College in 1990 and practiced actively until 2004. In that time, he acquired his Master’s degree in biomechanics and then his PhD in bioengineering. A full-time scientist since 2004, Dr. Kawchuk’s research is aimed at defining the mechanisms that initiate and sustain spinal disorders with the long-term goal of creating meaningful strategies to prevent, diagnose and treat back pain. To date, he has developed several novel technologies to measure spinal function that are now being used in clinical trials. Recently, one of these technologies was spun-off into its own company, VibeDx, which went on to win the Alberta Venture Prize in 2011. He presently is principle investigator on several competitive awards from various national and international agencies (CIHR, NSERC, NIH) and is a co-investigator on a 5 year CIHR Team Grant to study the safety of spinal manipulation.

Dr. Adrian Levy is Professor and Head, Department of Community Health and Epidemiology at Dalhousie University and a District Chief in the Capital District Health Authority. He holds a PhD from McGill University (epidemiology) and post-graduate training done at McMaster University (economic evaluation). In the early 1990s, he worked on the secretariat of the Conseil d’Évaluation des Technologies de la Santé du Québec. After completing his postdoctoral fellowship, he joined the faculty of the University of British Columbia (UBC) in 2000. While at UBC he held the BC Michael Smith Foundation for Health Research Scholar and Senior Scholar awards and the Canadian Institutes of Health Research New Investigator award. His academic interests are in health services research and include health technology assessment, access to care, and comparative health policy.

Dr. Annalyn Mercado obtained her BA (Hons.), majoring in psychology, at the University of Manitoba in 1995. She then moved to Saskatoon, SK, where she received a MA (1998) and PhD (2003) in Clinical Psychology from the University of Saskatchewan. Both her clinical and research interests are in health and rehabilitation psychology. Since receiving her PhD, she has worked as a clinic psychologist at the Kinetik & FIT for Active Living Programs, Saskatoon City Hospital. She is also a Professional Affiliate with the Clinical Psychology Department at the University of Saskatchewan. She does clinical work with individuals who have experienced physical injuries and supervises psychology practicum students and residents. She also has opportunities to engage in research projects within the hospital treatment setting.
Dr. Bernadette A. Murphy graduated from the Canadian Memorial Chiropractic College in 1989 before moving to New Zealand where she completed her MSc (1992) and PhD (1998) in Human Neurophysiology at the University of Auckland. She was a fulltime faculty member in the Department of Sport and Exercise Science from 1999-2007, where she established an MSc in Exercise Rehabilitation. In January 2008, she took up her current position in the Faculty of Health Sciences at UOIT at the University of Ontario Institute of Technology (UOIT). She is a Professor and Director of the Human Neurophysiology and Rehabilitation Laboratory and Head of the Kinesiology specialization in the BHSc degree. The overall theme of her research is neural adaptation in humans and the role of physical interventions such as manipulation and exercise in aiding the re-establishment of appropriate neuromuscular connections.

Dr. Steven Passmore is an assistant professor and holder of a CCRF Professorship in the School of Medical Rehabilitation at the University of Manitoba. He is a 2006 graduate of New York Chiropractic College and is also currently a PhD candidate in the Kinesiology program at McMaster University under the supervision of Dr. Tim Lee. His area of specialization for both his MS and PhD degrees is human perceptual motor control and learning. Utilizing his background in perceptual motor control Dr. Passmore seeks to determine performance based outcome measures to be collected at baseline, re evaluation, and then upon a later follow up to objectively determine outcome and sustainability of intervention. In addition perceptual motor control performance based outcome measures may add to our understanding of the neurological mechanisms associated with SMT, the training and delivery of SMT procedures, and identification of disorders that may respond to chiropractic management.

Dr. Mathieu Piché graduated in 2002 from the chiropractic doctoral program at Université du Québec à Trois-Rivières (UQTR). He obtained a Masters degree in Cell Biology from UQTR in 2004 for his work on neural plasticity of sensory systems in rodents. In July 2009, he obtained his PhD in Neurological Sciences from Université de Montréal for his work on endogenous modulation of pain in humans. He is currently an Associate Professor in the Department of Chiropractic at UQTR where he teaches neurophysiology. He holds the “UQTR Research Chair in Pain Neurophysiology” and is a co-researcher for the FRCQ Chiropractic Research Chair held by Dr. Martin Descarreaux. He also collaborates with researchers from the Tokyo Metropolitan Institute of Gerontology and from Université de Montréal. His research interests include the physiology and pathology of endogenous pain modulation and the impact of spinal pain on autonomic regulation in humans and rodents.

Dr. Jeffrey Quon graduated as a chiropractor from the Canadian Memorial Chiropractic College in Toronto in 1986. He completed a Master of Health Science degree in 1998, and a PhD in epidemiology in 2007 at the University of British Columbia (UBC). During his research training he was supported by a doctoral fellowship from the Michael Smith Foundation for Health Research, and a postdoctoral fellowship from the Canadian Institutes of Health Research, Canadian Chiropractic Research Foundation and British Columbia College of Chiropractors. Dr. Quon is a Clinical Assistant Professor in the School of Population and Public Health, Faculty of Medicine at UBC, and Research Associate at both the Combined Neurosurgical & Orthopaedic Spine Program (CNOSP), Vancouver General Hospital/Vancouver Coastal Health Authority, and the International Collaboration on Repair Discoveries (ICORD), at UBC.

Dr. Peter Ruben is a professor in the Department of Biomedical Physiology and Kinesiology at Simon Fraser University. He was the Chair for 5 years until May, 2011 and is now the Associate Dean for Research and Graduate Studies in the Faculty of Science, as of September, 2011. His research interests focus on the biophysical properties of voltage-gated sodium channels and their involvement in disease processes, including ischemic heart attack and stroke, epilepsy, and paralytic diseases like hyperkalemic periodic paralysis and paramyotonia congenital. Dr. Ruben received his PhD from the University of Calgary in Medical Physiology.
Dr. Martin Simoneau is full professor in Faculté de médecine - division de kinésiologie at Université Laval and research in the Centre de recherche FRSQ du Centre hospitalier affilié universitaire de Québec. The overall goal of his research is to gain an understanding of the neural, sensory and cognitive mechanisms that underlie motor control and learning. His research focuses on the neuromechanics of human movement with particular interests in the mechanisms related to balance control and to understand how the brain controls voluntary movement. Dr. Simoneau investigates these aspects of human movement in various populations (i.e., normal healthy older adult or individuals with neurological or musculoskeletal disorders) using biomechanical models (computer simulation), a variety of tools and experimental procedures.

Dr. John Z. Srbely graduated from the Canadian Memorial Chiropractic College in 1992 and received his PhD degree in 2008 from the University of Guelph. He was awarded the CCA Young Investigator Award in 2005. Dr. Srbely is an Assistant Professor at the University of Guelph, Department of Human Health and Nutritional Science and holds a CCRF Professorship in Spine Mechanics and Neurophysiology. He is a member of the Editorial Board of the Journal of the Canadian Chiropractic Association and a Network Investigator for the Canadian Arthritis Network (CAN). His primary research interests include the study of the neurophysiologic mechanisms of chronic pain, especially pain of myofascial origin and arthritis. He has published his research in high profile journals including Pain, Journal of Pain and Journal of Rehabilitation Medicine.

Dr. John J. Triano is a graduate of Logan College (DC), Webster College (MA), and the University of Michigan (PhD). He is a Fellow of the College of Chiropractic Scientists (Canada) and serves as an editorial advisor to the Journal of Manipulative and Physiological Therapeutics (since 1986), to Spine (since 1994), The Spine Journal (since 2000) and The BackLetter. Dr. Triano was Research Professor in the University of Texas Southwestern Medical Center Arlington, Joint Biomedical Engineering Program. To date he has written 81 scientific and clinical articles and 15 book chapters. From 1992 to 2005 he was the Co-Director of Conservative Medicine and Founding Director for the Chiropractic Division at the Texas Back Institute, a multidisciplinary spine facility caring for 15,000 new patients per year. Currently, he is Professor and Dean of Graduate Education at the Canadian Memorial Chiropractic College with cross-appointment as Associate Professor, Rehabilitation Sciences, McMaster University.

Dr. Gabrielle van der Velde is a Scientist at the Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto and Adjunct Scientist at the Institute for Work and Health. She completed a PhD in Clinical Epidemiology and Health Care Research in the Department of Health Policy, Management and Evaluation at the University of Toronto (2008). Dr. van der Velde conducts research in health technology assessment, applied health economics and health-related quality-of-life. She has held Canadian Institutes of Health Research (CIHR) doctoral fellowships, a CIHR post-doctoral fellowship and a CIHR Bisby Fellowship for Top Candidate in the Allied Health Professionals Committee. She currently holds a CIHR operating grant to conduct a cost-effectiveness analysis of two interventions compared to the legislated standard of care in Ontario for whiplash. Her research has been published in: Archives of Physical Medicine and Rehabilitation, Arthritis Care & Research, BMC Trials, BMC Public Health, Canadian Journal of Cardiology, European Spine Journal, Journal of the American Medical Association, Journal of Clinical Epidemiology, Journal of Manipulative and Physiologic Therapeutics, Quality of Life Research, Spine, and Value in Health.

Dr. Ellen Vogel is Dean of the Faculty of Health Sciences at the University of Ontario Institute of Technology. She completed a PhD at the University of Alberta (Nutrition and Metabolism) and a Postdoc from Health Canada. She is a Fellow with Dietitians of Canada and has received awards for leadership in dietetics practice. She is well known for her work in community health and has led or co-led national studies tackling topics such as the effectiveness of community-based programs and building capacity for food security through policy change. She currently leads the evaluation of a Community University Research Alliance in Nova Scotia on community food security. The recipient of multiple grants from the Canadian Foundation for Dietetic Research, she shared her work on building dietitians’ capacities in nutritional genomics at close to 30 national and/or international conferences. Internationally, she played a lead role in research examining nutrition policy-making processes in Canada, Costa Rica and Brazil.
Dr. Marc-André Blanchette entered the Public Health PhD program in epidemiology in 2008 at the University of Montreal under the supervision of Dr. Michèle Rivard. The program focuses on training researchers who master one field of expertise while maintaining a global vision of public health. In 2010, Dr. Blanchette entered two different strategic training programs funded by the CIHR. The first program focuses on a transdisciplinary approach for the prevention of work disability and is based at the University of Toronto. The second program focuses on Transdisciplinary Research on Public Health Interventions: Promotion, Prevention and Public Policy (4p). Dr. Blanchette’s research focuses on the first line of care in work related disease. His study will investigate if direct access to different health care providers is cost-effective in the context of worker compensation. Dr. Blanchette is funded by CIHR through the 4p program.

Dr. Edward Crowther is an Assistant Clinical Professor in the Department of Family Medicine, Michael G. DeGroote School of Medicine at McMaster University. His research interests are in the area of patient satisfaction, care quality, and cost-effectiveness. He is undertaking his doctoral program in the Health Policy and Health Education Program at D’Youville College, Buffalo, New York. His dissertation is entitled: A comparison of quality and satisfaction experiences of patients attending chiropractic and medical services in Ontario. This qualitative study of patients receiving chiropractic and medical care seeks to determine the source of satisfaction and quality perceptions in market and social justice systems. Using critical incident technique the key events and experiences that shape patient views of care will be explored. Dr. Crowther’s supervisor is Dr. Donald Sabo, Professor, Health Policy and Health Education, Doctoral Programs, D’Youville College.

Dr. Diana De Carvalho is a PhD candidate at the University of Waterloo and funded by a CIHR Doctoral Research Award. She is training under the supervision of Dr. Jack P. Callaghan who currently holds the Canada Research Chair in Spine Biomechanics and Injury Prevention. Dr. De Carvalho’s research goal is to examine the spine biomechanics and low back pain injury mechanisms in seated postures. Specifically, she is interested in gender differences and spine posture responses to prolonged static conditions as well as seat design and movement interventions. In addition to her doctoral work, she is completing the University of Waterloo Certificate in University Teaching. Dr. De Carvalho was recently named the recipient of the 2010 CCA Young Investigator Award for her very significant contributions to the chiropractic community and has received an Ontario Graduate Scholarship and University of Waterloo President’s Scholarship ($10,000) for 2011/2012 school year.

Dr. Cesar Hincapié is a PhD candidate in the Division of Epidemiology at the Dalla Lana School of Public Health, Faculty of Medicine, University of Toronto, and a research associate in the Division of Health Care and Outcomes Research, at the Toronto Western Research Institute, University Health Network. His supervisor is Dr. David Cassidy DC, PhD. Dr. Hincapié has been awarded a CIHR Fellowship Award in the Area of Knowledge Translation. The aim of his PhD dissertation is to increase the understanding of the risk of acute lumbar disc herniation following chiropractic care. This multidisciplinary doctoral program, entitled “Risk for acute lumbar disc herniation and chiropractic care: a Bayesian epidemiologic approach”, focuses on three main goals: 1) review the incidence and determinants of lumbar spine disc herniation; 2) describe currently held beliefs about the risk for lumbar disc herniation from chiropractic care; and 3) investigate the association between chiropractic care and acute lumbar spine disc herniation. Dr. Hincapié is the recipient of the 2010 CCA Young Investigator Award.
**PANEL MODERATORS**

**Dr. Mana Rezai** is an Epidemiology PhD candidate at the Dalla Lana School of Public Health, University of Toronto. Her doctoral dissertation is an examination of the association between work-ability and return-to-work following a traffic injury. Her research goals are to better understand the course and determinants of recovery from traffic injuries in order to implement effective health care interventions, develop return-to-work programs and policies, and promote healthy lifestyle changes. Dr. Rezai’s doctoral work takes place at the Toronto Western Research Institute, under the supervision of Dr. Pierre Côté. Her MHSc work included a project at the Institute for Work and Health examining the association between quality of life and neck pain as well as two international projects in Cambodia examining rates of injury, access to care and education for persons with disabilities. In December 2010, Dr. Rezai returned to Cambodia to evaluate access to education barriers for persons with disabilities. This research was funded by CIHR and the International Centre for Disability and Rehabilitation at the University of Toronto.

**Dr. Maja Stupar** is a doctoral candidate in Clinical Epidemiology at the Department of Health Policy, Management and Evaluation, Faculty of Medicine, University of Toronto. Her thesis addresses measurement of outcomes in musculoskeletal injuries, specifically evaluating psychometric properties of an outcome measure developed for assessing whiplash-related disability and her supervisor is Dr. Pierre Côté. Dr. Stupar is a CIHR Vanier Canada Scholar and a recipient of the Michael Smith Foreign Study Supplement. Her work at the Karolinska Institute in Sweden assessed an outcome measure in the Swedish adult population with back and neck pain. A collaboration with Dr. Gillian Hawker, a rheumatologist and Chief of Medicine at Women’s College Hospital, resulted in a publication in the JMPT in 2010. This paper “The Association Between Low Back Pain and Osteoarthritis of the Hip and Knee: A Population-Based Cohort Study” was awarded the 2nd place World Federation of Chiropractic (WFC) research prize. Dr. Stupar has presented her work at the Primary Care Musculoskeletal Research Congress in Rotterdam, Netherlands and the International Society of Quality of Life Research conference in London, UK.

**FACILITATORS**

**Dr. André Bussières** is a CMCC graduate (1991) and completed a BSc in Nursing in 1987 and an MSc in Kinesiology in 2008. He has written over 20 scientific papers. He is full professor at UQTR and is undertaking a PhD in Population Health at the University of Ottawa under Dr. Jeremy Grimshaw, Director of Cochrane Canada. His thesis project is to establish a scientific rationale for interventions to translate research findings into clinical practice. Dr. Bussières is the recipient of the 2009 CCA Young Investigator Award, a prestigious CIHR Fellowship Award and a KT Canada Fellowship Award.

**Dr. Allan Gotlib** has been the Editor of the Journal of the Canadian Chiropractic Association, a peer-reviewed scholarly scientific publication, for the past 27 years. He is a member of the World Association of Medical Editors, the American Medical Writers Association and the Canadian Pediatric Society. In 2002, he was elected to the Executive Committee for the Canadian Cochrane Network and Center. From 2003 to 2007, he was a member of the CIHR President’s Voluntary Sector Committee. In 2007 he received the Homewood Professorship from the Canadian Memorial Chiropractic College.

**Dr. Kent Stuber** graduated from the University of Calgary with a BSc in Cellular, Molecular & Microbial Biology, received his DC from CMCC in 2002, and an MSc in Health and Social Care Research from the University of Sheffield in 2008. He is an Editorial Board member for JCCA and a peer reviewer for JMPT. He has published in numerous peer-reviewed journals. Dr. Stuber was the recipient of the CCA’s Young Investigator Award in 2008. He was also the co-recipient of a CIHR peer-reviewed award to support the “Workshop to Advance the Canadian Chiropractic Research Agenda”.

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