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President's Message

DR. DREW POTTER, DC



Dear Colleagues,

As you read through this Research Bulletin, I would ask you to not only appreciate the information provided, but also to consider the importance to the profession of the development of our university-based chiropractors taking the lead in research projects along with PhDs from other disciplines. These dedicated men and women, who work in universities in almost every province across the country, interact with researchers from all over the world. Their information and opinions from a chiropractic perspective are acknowledged and respected worldwide, and their reputations then reflect on the profession as a whole. Just as a negative outcome by one of our practitioners affects us all, the very positive information our researchers are discovering reflects on us all and elevates our credibility.

We currently have more and more DCs pursuing academic careers as Masters and PhDs and this demonstrates an amplified culture of research and the pursuit of knowledge. It is imperative that we find positions for them to carry on chiropractic research in Canadian universities.

Even though our researchers are not always front and center, their accomplishments do affect our day-to-day practices as other professions, policy makers and the public assimilate the information being offered.

It is now universally accepted that evidence-based, patient-centered care and best practice are the benchmarks of the delivery of healthcare and our researchers are demonstrating that our techniques and methods meet these criteria.

The movement of the development of the Chiropractic Clinical Practice Guidelines to a world-class university setting is an example of how, with the resources of the institution, we can produce recognized results in a very cost-effective manner.

Our researchers are a vital cog in the wheel of our progression to equal recognition as a healthcare profession and I would suggest that one of the best things we can all do for our future is to support the chiropractic research initiative in Canada. This can easily be done by clicking on canadahelps.org.

Dr. Drew Potter, DC
President, CCRF
drdrew@gto.net



*Dr. Diane Grondin,
MHK, DC,
PhD candidate
University of Toronto*

Dr. Diane Grondin is a PhD candidate at the University of Toronto in Health Policy, Management and Evaluation in the Health Services (Knowledge Translation) stream. She is an Assistant Professor at CMCC and Adjunct Assistant Professor at the University of Ontario Institute of Technology. Dr. Grondin is most interested in studying healthcare policy and methods for effective knowledge exchange within the healthcare system. She is interested in the barriers

and facilitators for effective guideline implementation, as well as the development of strategies for educating managers, clinicians and the public regarding evidence-based practices, particularly related to alternative care options and preventative lifestyle changes. She is interested in the motor learning and human factors components of practice innovation and behaviour change.

In March 2013, she was the recipient of the Association of Chiropractic Colleges Research Agenda Conference (ACC-RAC) research award for a paper entitled, "The effect of a semi-custom, dual contoured pillow on muscle activation, posture and contact pressures of the head and neck".

Recent grants that Dr. Grondin has been involved in include:

- 1) Howarth, S., Grondin, D.E. A biomechanical evaluation of occupational musculoskeletal injury mechanisms in dental hygienists, funded by the Workplace Safety and Insurance Board (WSIB) Ontario, 2013. Partner organizations: Canadian Dental Hygienist Association (CDHA) and Ontario Dental Hygienists' Association (ODHA)
- 2) Triano, J., Grondin, D. The effect of foot orthotics on lower extremity joint coupling during functional tasks, funded by Footlevelers, 2012-2013.
- 3) Multiple authors at CMCC and UOIT. Serious games to decrease injury in the fire service by training safer movement patterns and decision making skills: development and piloting, funded by the Workers Compensation Board of Manitoba, 2012-2013.



*Dr. Jean Thérour, DC,
PhD candidate
Université de
Montréal*

Dr. Jean Thérour is currently registered as a doctoral student at the *Université de Montréal* under the supervision of Dr. Sylvie Le May, RN, PhD. His co-supervisor is Dr. Hubert Labelle, leader of the Research Group on Musculoskeletal Deformations and holder of the Motion Sciences Chair at the CHU Ste-Justine and the University of Montreal. Dr. Thérour's research project

focuses on the efficacy of spinal manipulative therapy for back pain associated with adolescent idiopathic scoliosis.

Dr. Jean Thérour graduated from CMCC in 1984. With over 19 years of private practice, he started teaching in 1995 at the chiropractic department at the *Université du Québec à Trois-Rivières* as a sessional lecturer and was appointed adjunct professor from 2006-09. From 2007-09, he held the position of Director of clinical practicums. Dr. Thérour obtained a Master's degree in Biomedical Sciences in 2012 from the University of Montreal. His thesis was on musculoskeletal knowledge related to adolescent idiopathic scoliosis from health professionals most likely to encounter this condition. Also in 2012, Dr. Thérour was awarded a departmental award which was used to facilitate his studies. This year, he was awarded a doctoral grant by *La fondation de recherche chiropratique du Québec* which is awarded to a PhD student according to their academic profile, perseverance and research enthusiasm.



*Dr. Katherine Pohlman,
DC, MS, DICCP,
PhD candidate
University of Alberta*

Dr. Katherine Pohlman is currently a PhD student at the University of Alberta in the Department of Pediatrics. She received her Doctor of Chiropractic degree in 2006 from the Palmer College of Chiropractic. In 2008, she received her Diplomate in Clinical Chiropractic Pediatrics and, in 2010, her Masters in Clinical Research also from the Palmer College of Chiropractic. She started her PhD in 2010 with the University of Alberta's Complementary and Alternative

Research and Education (CARE) department and anticipates graduation in June 2015. Prior to her studies at the University of Alberta, Dr. Pohlman was a clinical project manager for several federally-funded clinical trials at the Palmer Center for Chiropractic Research. Currently, Dr. Pohlman serves as the Vice President of the American Chiropractic Association's Council on Chiropractic Pediatric and a member of the Institutional Review Board at the Palmer College of Chiropractic. Her research interests include the safety and effectiveness of spinal manipulative therapy, especially within the pediatric population.



*Dr. Neil Neary, DC,
MPH-HP,
PhD candidate
University of Alberta*

Dr. Neil Neary practised in Brandon, Manitoba for 11 years prior to enrolling in the Master of Public Health – Health Promotion program in the Centre for Health Promotion Studies at the University of Alberta. After completing his Master's degree in 2011, he was accepted as a PhD student in Health Promotion and Socio-behavioural Science at the University of Alberta where he began studying the prevention of child-

hood obesity by using policies to modify environments.

His primary research interest is the application of the complex systems theories and tools to public health and health systems issues. He is interested in combining qualitative research methods that capture the complex nature of systems with computational modeling methods (e.g. agent-based modeling) that allow for manipulation and testing of system parameters.

Dr. Neary is currently employed as a Senior Consultant for Clinical Engagement Strategies and Initiatives with Alberta Health Services. His PhD thesis proposal will be about how the knowledge and expertise that exists in front-line clinician groups, such as chiropractors, is incorporated into healthcare systems at an organizational level.



Dr. Shawn Rossi DC,
PhD candidate
Laurentian University

Dr. Shawn Rossi received his Bachelor of Science degree from Laurentian University in 2001 and a Master's degree in pharmacology in 2004. His Master's thesis focused on antimicrobial efficacy of a new antibiotic-loaded poly (hydroxybutyric-co-hydroxyvaleric acid) controlled release system in prosthetic hip replacement. In 2007, he graduated from CMCC and entered the PhD program in Interdisciplinarity at Laurentian University under the supervision of Dr. Sylvain Grenier.

Dr. Rossi's research focuses on the delivery of healthcare in an efficient cost-effective manner utilizing an interdisciplinary setting. He is the PI in a research study titled, "Interprofessional Health Care Delivery Study: Implementing an Interdisciplinary Collaborative Practice" involving Laurentian University Faculty and Vale Inco Ltd. His study is investigating an interprofessional group in the diagnosis and treatment which would allow the patient to receive the utmost quality of care utilizing the most current treatment protocols of multiple professions. The provider of healthcare delivery is chosen based on scope of practice and most cost-effective route. This allows the patient to receive treatment from a member of the team in a cost-effective manner without compromising their care, ensuring a high rate of quality control.

Dr. Rossi currently holds positions on the Laurentian University Alumni Board of Directors, the University Senate and also on the selection committee for Honorary Doctorate recipients. He is a co-founder of TARP, a not-for-profit fitness facility for seniors and people with disabilities. TARP was created with the hope that people with disabilities can work out and feel comfortable, which most find difficult in larger fitness centers. In 2009, he received the Sudbury's Favourite Chiropractor award. He holds a faculty appointment at the Northern Ontario School of Medicine where he serves as a clinical supervisor and lecturer.

DC, PhD Candidates OUR UNIVERSITY-BASED RISING STARS!

Dr. Marc-André Blanchette, DC	Université de Montréal
Dr. Jean-Alexandre Boucher, DC	Université du Québec à Trois-Rivières
Dr. Ed Cambridge, DC	University of Waterloo
Dr. Carol Cancelliere, DC	University of Toronto
Dr. Connie D'Astolfo, DC	York University
Dr. Diana De Carvalho, DC	University of Waterloo
Dr. Diane Grondin, DC	University of Toronto
Dr. Julie-Marthe Grenier, DC	Université du Québec à Trois-Rivières
Dr. Cesar A. Hincapié, DC	University of Toronto
Dr. Alexandra Ladouceur, DC	Université du Québec à Trois-Rivières
Dr. Neal Neary, DC	University of Alberta
Dr. Jean-Philippe Pialasse, DC	Université Laval
Dr. Katherine Pohlman, DC	University of Alberta
Dr. Mana Rezai, DC	University of Toronto
Dr. Shawn Rossi, DC	Laurentian University
Dr. Josh Stehmeier, DC	University of British Columbia
Dr. Maja Stupar, DC	University of Toronto
Dr. Jean Thérout, DC	Université de Montréal



Sareekha Singh, MSc
CCA Research Manager

Research is the Key

Research is one of the keys to keeping our profession relevant in an evidence-based healthcare community.

In an era where evidence-based healthcare is increasingly relied upon by healthcare providers, third party payers and patients alike, claims for clinical effectiveness and efficacy need to be appropriately substantiated. Clearly these same principles apply to the chiropractic profession. As we are increasingly and appropriately scrutinized, the chiropractic profession should look to evidence to ensure continued relevance and growth in the future. Stuber et al (2008) argued that, “it is necessary to conduct both basic biological research and clinical research to link discoveries with practice”. In fact, any healthcare profession requires research capacity to “advance knowledge and find more effective and safer ways to help patients”.¹ Both basic biological and clinical research are needed to enhance our understanding and serve as complement to these respective disciplines with respect to understanding the pathophysiology of disorders of the spine and prospective treatments while applying these to establishing best practices for patients.¹ Establishing parallels between both streams would ensure that evidence-informed practice is the cornerstone of the profession and future relevance in the healthcare community at large.

The chiropractic profession has secured a foot hold in the area of dedicated research due to the support of Canadian chiropractors across Canada. The profession has successfully established 12 university-based research chairs/professorships, built critical research capacity, and has advanced the development of collaborative networks. Our chiropractic-scientists are integrated into Canadian universities including the University of Toronto, McGill University, McMaster University and the University of British Columbia, just to name a few. Collectively, this group of talented individuals are helping to establish a research culture within the chiropractic profession.

Dr. Mark Erwin’s research is one example of this forward thinking, building the understanding of degenerative conditions. As one of the only molecular biology chiropractic researchers in the world, Dr. Erwin (CCRF Professorship in Disc Biology) has performed innovative work in notochordal and stem cell biology and disc degeneration. Dr. Erwin’s work has already had a profound impact on the profession’s credibility within medical groups and in enhancing collaborative opportunities for chiropractors and scientists alike. The implications of his work could one day offer other alternatives to degenerative disc and pos-

sibly neural repair strategies.² Another example from a clinical standpoint is Dr. Carlo Ammendolia, who holds the CCRF Professorship in Spine at the University of Toronto. Using randomized controlled trials, Dr. Ammendolia plans to further develop and test six self-management programs to help individuals suffering from degenerative conditions. His research is unique in the packaging of his results, as he hopes to establish a ‘boot-camp’ program whereby both patients as well as practitioners will learn the therapies developed from randomized-controlled trials. The program will incorporate various types of media, including instructional videos, a website and printed material. The goal is to help patients suffering from conditions such as spinal stenosis, Ankylosing Spondylitis, disc degeneration, and various forms of back pain. Dr. Ammendolia hopes that these will increase the effectiveness of care for practising chiropractors and health outcomes for patients.

Impacts beyond the science

The contribution of the chiropractic scientist has made the healthcare community take notice of the value and potential contributions of Canadian chiropractors. Today, chiropractors are being invited to contribute their expertise, to be panelists and to be involved in health policy development provincially and nationally.

It is clear that considerable progress has been made; however, there is still work ahead. It is estimated that less than 1% of Canadian chiropractors are engaged in active fulltime research and that to compete with comparable health professions we should strive to increase our research capacity by another 40 full-time chiropractors.^{1,3} It is now time for the chiropractic profession as a whole to engage and support such important work, and to establish the foundation for the future growth of our profession.

1. Stuber K, Bussi  res A, and Gotlib A. Chiropractic research capacity in Canada in 2008. *J Can Chiropr Assoc.* 2009; 53(2): 78-86.

2. Erwin WM, et al., Intervertebral disc-derived stem cells: Implications for regenerative medicine and repair. *Spine*, 2013; 38(3): 211-216.

3. Stuber K, Bussi  res A, and Gotlib A. Chiropractic research capacity in Canada in 2008- Phase 3. *J Can Chiropr Assoc.* 2009; 53(4): 227-230.

Congratulations!

ACADEMIC APPOINTMENTS



Dr. John Srbely,
DC, PhD
University of
Guelph

Dr. John Srbely was recently appointed as the Chair of the Research Ethics Board at the University of Guelph. He was also appointed the Associate Chair of the Natural, Physical and Engineering Sciences (NPES). The NPES deals with submissions for research protocols dealing primarily with health, natural sciences and engineering.

Dr. Srbely is an Assistant Professor at the College of Biological Sciences in the Department of Human Health and Nutritional Sciences at the University of Guelph. He also holds the CCRF Professorship in Spine at the Faculty of Mechanics and Human Neurophysiology at the university. His primary research interests center around the study of pain mechanisms and therapeutic approaches to pain management. He is also developing a patented novel technique in the area of pain quantification.

Recently, Dr. Srbely had a manuscript entitled, "Spinal Manipulative Therapy Evokes Regional Antinociceptive Effects in Myofascial Tissues" accepted for publication in the *Journal of Manipulative and Physiological Therapeutics* (JMPT). This study specifically investigated the mechanisms of SMT and its role in the treatment of myofascial pain.



Dr. Carlo Ammendolia,
DC, PhD, FCCRS
University of Toronto

Dr. Carlo Ammendolia has been accepted for a cross appointment as Associate Member to the Institute of Medical Sciences, and also as Assistant Professor in the Department of Surgery at the University of Toronto and is now in a position to supervise graduate students. His primary appointment remains with the Institute of Health Policy, Management and Evaluation.

Dr. Ammendolia holds the prestigious CCRF Professorship in Spine in the Faculty of Medicine at the University of Toronto. He is a clinical epidemiologist and Assistant Professor at Mount Sinai Hospital in Toronto, in the Rebecca MacDonald Centre for Arthritis and Autoimmune Diseases. In addition, he is a member of the "U of T Spine Program" and sits on the Research Committee and CME Committee to develop educational programs for physicians for appropriate examination and management of both critical spine and non-critical spine related disorders.



Dr. Kelly E. Donkers
Ainsworth, DC, MD,
FRCPC
McMaster University

Dr. Kelly Donkers Ainsworth has been appointed as the new staff Pediatric Radiologist at the McMaster University Medical Center. She is also an Assistant Professor in the Department of Diagnostic Imaging at the university and sits on the Editorial Board of the *Journal of the Canadian Chiropractic Association*.

Dr. Donkers Ainsworth received her DC from

CMCC in 2004, followed by her MD at McMaster University. Her primary research interests are in pediatric musculoskeletal and trauma imaging.



Dr. Edward R.
Crowther, BA, DC,
MS, EdD, FCCS
International
Medical University,
Kuala Lumpur,
Malaysia

Dr. Edward Crowther has joined the International Medical University in Kuala Lumpur, Malaysia as an Associate Professor in the School of Health and Medicine. IMU is Malaysia's first and most established private medical and healthcare university. Established in 1992, it delivers a wide range of programs including medicine, dentistry, nursing and pharmacology, as well as a variety of Master's and Doctoral programs. It has formal academic ties with over 30 universities worldwide including Memorial University and Dalhousie University in

Canada. More recently, it has implemented a five-year Doctor of Chiropractic program. At this time, students are now completing their clinical training before undertaking a one-year housemanship program. Formal institutional ties with the Royal Melbourne Institute of Technology and the Anglo-European College of Chiropractic allow students from all programs to complete their internships at partner institutions. Dr. Crowther provides instructional services across the pre-clinical and clinical years of study. The chiropractic faculty and Dr. Crowther recently delivered poster presentations at the International Conference on Medical Education and the Unesco Bioethics Conference hosted by the IMU. Prior to joining IMU, Dr. Crowther was an Assistant Clinical Professor in the Department of Family Medicine at the DeGroote School of Medicine, McMaster University. He recently completed a study investigating the use of a chiropractor in the training of medical students. Results of this study were presented at the 2013 Canadian Conference on Medical Education.



Dr. Jason Busse,
DC, PhD
McMaster
University

Dr. Jason Busse has been appointed as Assistant Professor in the Department of Anesthesia at McMaster University and continues to hold a cross-appointment to the Department of Clinical Epidemiology and Biostatistics. He was also awarded the Profession Service Award for Research in Chiropractic for 2012 and holds three new grants. Dr. Busse holds the CCRF/CIHR Chiropractic Research Chair and is also a Scientist at the Institute for Work

& Health with expertise in Health Research Methodology. He has authored over 100 peer-reviewed publications with a focus on medically unexplained syndromes, orthopedic trauma, the integration of chiropractic into mainstream healthcare, insurance medicine, and methodological research.



Dr. Mark Erwin,
DC, PhD
University of
Toronto

Dr. Mark Erwin has been cross-appointed to the Division of Neurosurgery in the Department of Surgery. He is also an Assistant Professor in the Faculty of Medicine at the University of Toronto with his primary appointment in the Division of Orthopedic Surgery. Most recently, Dr. Erwin's application to the Institute of Medical Science (IMS) was accepted and he now holds a prestigious Associate Supervisor position at IMS, which will allow him to supervise graduate students.

Dr. Erwin holds the coveted CCRF Professorship in Disc Biology in the Faculty of Medicine and also is a Scientist at the Toronto Western Research Institute and a member of the Spine Program. He undertakes his research at the Toronto Western hospital in his own dedicated laboratory. His research program is unique

at the University of Toronto and is focused upon notochordal cell biology and also stem cell applications towards regenerative medicine in spine.

In 2013 to date, Dr. Erwin is the PI in four significant operating grants. He has presented his research at the Canadian Spine Society, North American Spine Society, AOSpine Global Spine Congress, International Society for the Study of the Lumbar Spine and the American Association of Orthopedic Medicine annual meetings. Dr. Erwin is a member of the Biologics Committee of the North American Spine Society, serves on the Animal Care committee for the University Health Network as well as the UHN biobanking committee. He will be a speaker concerning biologics at the upcoming NASS meeting in the autumn of 2013 (New Orleans) where he will give a talk regarding cell-based therapeutics and disc disease.

Funding RECENT AWARDS

- **Dr. Jason Busse, DC, PhD**
- **McMaster University**
- **Assistant Professor**

Grant #1

PI: Dr. MacIntyre, N., Bhandari, M.

Co-Investigator: Anthony, A., Busse, J.W., de Beer, J., Samanta, S., Stratford, P., Toffolo, N., Winemaker, M.

Award: \$45,000 (2012-2014)

Granting Agency: Bioventus

Project Title: Can very low intensity ultrasound therapy improve pain in people with knee osteoarthritis? A pilot, double-blinded, placebo-controlled, randomized trial.

Grant #2

PI: Steenstra, I.

Co-investigators: Busse, J.W., Amick, B., Furlan, A., Hogg-Johnson, S., McIntosh, G.

Award: \$102,697 (2013-2016)

Granting Agency: Canadian Institutes of Health Research (CIHR)

Project Title: Predicting successful return to work in workers on disability due to low back pain

Grant #3

PI: Buckley, N.

Co-Investigator: Busse, J.W., Guyatt, G.H., Mulla, S.M.

Award: \$30,000 (Canadian Journal of Anesthesia Research Award – 2013-2014)

Granting Agency: Canadian Anesthesia Research Foundation

Project Title: Management of chronic neuropathic pain syndromes a network meta-analysis

Dr. Busse's research has focused on medically unexplained syndromes, orthopedic trauma, and the integration of chiropractic into mainstream healthcare, insurance 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. Maja Stupar, DC, PhD (candidate)**
- **University of Toronto**

Dr. Maja Stupar, DC, was awarded the Office of Research Trainees (ORT) Conference Travel Award by the University Health Network in support of presentations at the 12th International Forum on Back Pain Research in Primary Care, Odense, Denmark held on October 16 to 19, 2012. The conference was titled "Turning the ugly duckling of back pain into a beautiful swan" and focused on collaboration of the latest findings in back pain research. Dr. Stupar presented her work titled, "Exploratory factor structure of the Whiplash Disability Questionnaire (WDQ) in adults with acute whiplash-associated disorders (WAD)" and "Validity and Responsiveness of the WDQ in Adults with Acute WAD," Stupar, M., Côté, P., Beaton, D., Boyle, E., Cassidy, J.D. [Click here to view the UHN newsletter](#) with a report on the the conference attendance by travel awardees.

Dr. Maja Stupar, DC, is a PhD candidate in Clinical Epidemiology at the Institute of Health Policy, Management & Evaluation in the Faculty of Medicine at the University of Toronto. She is also the recipient of the CIHR Vanier Canada Scholar for 2009-2012 and the recipient of the 2011 CCA Young Investigator Award.

- **Dr. Martin Descarreaux, DC, PhD**
- **Université du Québec à Trois-Rivières (UQTR)**

Dr. Martin Descarreaux, DC, PhD has been awarded a very significant research grant of \$175,000 from the Research Institute of Robert Sauvé in workplace health and safety for his work titled, "Clinical and neuromechanical determinants of low back pain in workers."

He has also recently won three prestigious paper awards for his research. The first two are Association of Chiropractic Colleges

and the Research Agenda Conference (ACC RAC) 2013 research paper awards for the following works:

- 1) Physiological responses to spinal manipulation therapy: are electromyographic responses related to peak force? Francois Nougrou, Constance Deslauriers, Claude Dugas, Martin Descarreaux.
- 2) Trunk neuromuscular responses to a single whole-body vibration session in patients with chronic low back pain: a cross-sectional study. Jean-Alexandre Boucher, Jacques Abboud, Jean-Daniel Dubois, Elise Legault, Martin Descarreaux, Yves Henchoz.

The third was the 2013 World Federation of Chiropractic (WFC) paper award for the work titled, "Evidence-Based Guideline for the Chiropractic Treatment of Adults with Neck Pain." R. Ruegg, M. Descarreaux, R. Bryans, Decina, M. Duranleau, H. Marcoux, B. Potter, L. Shaw, R. Watkin, E. White .

Dr. Descarreaux sits on the Editorial Board of the *Journal of the Canadian Chiropractic Association*. He is also a professor at *Université du Québec à Trois-Rivières* (UQTR) where he teaches clinical biomechanics. Currently his research focus lies in three main areas: first, understanding the effect of muscular fatigue and pain on the control of head and neck movements; second is learning the effects of augmented feedback on the learning of lumbar and cervical spinal manipulation; and, finally, he is conducting a study on low back muscle fatigue and neuromuscular control of lumbar stability to better understand lower back pain (LBP).

- **Dr. Carlo Ammendolia, DC, PhD**
- **University of Toronto**

Dr. Ammendolia, DC, PhD has been awarded a very significant research grant of \$1,707,751 USD from the Patient-Centered Outcomes Research Institute for 2013-2016. He has also been awarded \$23,372 by the NCMIC Foundation, Supporting Research and Education for 2013-2014.

Dr. Ammendolia holds the CCRF Professorship in Spine at the Department of Surgery at the University of Toronto. He is currently the Director of the Chiropractic Spine Clinic and the Spinal Stenosis Program at the Rebecca MacDonald Centre for Arthritis and Autoimmune Diseases at Mount Sinai Hospital and an Assistant Professor in the Department of Health Policy, Management and Evaluation at the University of Toronto. With over 30 years of chiropractic experience, Dr. Ammendolia has successfully incorporated clinical practice with research focusing on non-operative treatments for mechanical, degenerative and inflammatory spinal disorders, in particular, lumbar spinal stenosis. Dr. Ammendolia's work has resulted in several impressive awards, including the two most recent:

Award #1

PI: Dr. Carlo Ammendolia

Co-PI: C Schneider, M

Award: \$23,372

Funded by: NCMIC Foundation, Supporting Research and Education

Project Title: Outcomes in Neurogenic Claudication Due to Degenerative Lumbar Spinal Stenosis: A Patients' Perspective
This award funds a research project that will provide much-needed data on what outcomes are most meaningful to patients who suffer from neurogenic claudication due to lumbar spinal stenosis.

Award #2

Co-investigator: Dr. Carlo Ammendolia

PI: Schneider, M.J.

Grant: \$1,707,751

Funded by: Patient-Centred Outcomes Research Institute.

Project Title: A Comparison of Non-Surgical Treatment Methods for Patients with Lumbar Spinal Stenosis

This grant funds a three-arm randomized controlled trial comparing the effectiveness of a multi-modal spinal stenosis clinical program consisting of manual therapy, exercise and education (currently used at Mount Sinai Hospital) to usual medical care and senior community exercise.

Award #3

PI: Dr. Carlo Ammendolia

Co-Investigators: Rampersaud, R., Côté, P., Budgell, B., Bombardier, C., Hawker, H.

Award: \$359,358.00 (2013-2016)

Funded by: The Arthritis Society 2013/14 Strategic Operating Grant Competition.

Title: Self-Management to improve walking ability in degenerative lumbar spinal stenosis: the evaluation of four novel strategies.

- **Dr. Diana De Carvalho, DC, MSc, PhD (candidate)**
- **University of Waterloo**

Dr. Diana De Carvalho, DC, MSc, PhD (candidate) has recently received several awards, including the Canadian Society of Biomechanics Travel Award (2012), the Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD) Travel Award (2011), Ontario Graduate Scholarship (2011-2012) and University of Waterloo President's Scholarship (2011-2012).

In addition, Dr. De Carvalho has also been awarded two significant research grants:

Award #1:

PI: Anderson, S.

Co-Investigator: Dr. Diana De Carvalho

Award: \$29,987.26

Awarded By: Centre for Teaching Excellence Learning Innovation & Teaching Enhancement (LITE) Grant – 2012

Project Title: "Building capacity for case-based learning at uWaterloo" Anderson, S. (PI), Gooyers, C.E., De Carvalho, D.E., Callaghan, J.P., Anthony, K., Lynes, J., Hrynychak, P., Barnett, J., Vanden Bosche, N., Berberich, G.

The Case-Based Learning Project is an initiative by 10 collaborators from four faculties who received a Learning Innovation and Teaching Enhancement (LITE) grant. Their goal is to build capacity for instructors at the University of Waterloo who are interested in using Case-Based Learning in their undergraduate and graduate teaching. They also hope to build a community of

practice to share knowledge and experience about writing and teaching with cases. Dr. De Carvalho is one of the 10 successful collaborators to receive a grant for this project.

Award #2

PI: De Carvalho, D. (PI)
Co-Investigators: Callaghan, J.
Award: \$9,461.80

Awarded by: CRE-MSD Seed Grant August 2010:

Project Title: Assessment of pelvic, lumbar spine and thoracic spine chair design features on lumbar spine posture and comfort during prolonged office sitting.

Dr. De Carvalho received her Doctor of Chiropractic from CMCC and is currently finishing her PhD in Biomechanics at the University of Waterloo. She hopes to defend before the 2013 winter break.

- **Dr. Jean-Philippe Pialasse, DC, MSc, PhD (candidate)**
- **Laval University**

Dr. Jean-Philippe Pialasse, DC, MSc, PhD (candidate) has received two awards recently. During May 2012, he was the recipient of the best platform presentation award for the Medical Faculty Research Symposium of *Université Laval*. He was also awarded \$5,000 for the Bourse-Jean-Aimé-Simoneau award for the best post-graduate student in the kinesiology department engaged in research related to muscle.

In addition to his recent awards, Dr. Pialasse has been busy publishing. He wrote a chapter on scoliosis in the book titled, "Sensorimotor Integration in Adolescent Idiopathic Scoliosis Patients, Recent Advances in Scoliosis." Dr. Theodoros Grivas (Ed.), Pialasse, J.P., Descarreaux, M., Mercier, P., Blouin, J., Simoneau, M. (2012). [The book is accessible by clicking here.](#)

Dr. Pialasse graduated with his Doctor of Chiropractic in 2004 from the *Institut Franco-Européen de Chiropratique* (IFEC). In January 2010, he started his PhD in the kinesiology program at Laval University with his thesis focusing on idiopathic scoliosis and the influence of vestibular asymmetry on its evolution.

- **Dr. John Riva, DC**
- **McMaster University**

Dr. John Riva, DC, has recently won three awards for his work in research. The National Chiropractic Mutual Insurance Company (NCMIC) presented Dr. Riva with a tuition award contributing to an MSc in Health Research Methodology. Then, on November 3, 2012 he attended the 7th Annual Canadian Interdisciplinary Network for Complementary & Alternative Medicine Research (INCAM) symposium, for which he was given a travel award for oral presentation of the work entitled, "Attitudes towards Complementary and Alternative Medicine (CAM) among McMaster University medical students: a cross-sectional survey." Most recently (May 2013), Dr. Riva managed to win another travel award for the Canadian Agency for Drugs and Technologies in Health (CADTH) symposium in St. John's Newfoundland for his oral presentation of, "Appropriateness of spinal imaging use in Canada".

Dr. Riva is a Director of the Ontario Chiropractic Association

(OCA) and sits on the Editorial Board for the *Journal of the Canadian Chiropractic Association* (JCCA). He is also an assistant clinical professor at the Department of Family Medicine at McMaster University.

- **Dr. Samuel Howarth, PhD**
- **Canadian Memorial Chiropractic College**

Dr. Samuel Howarth, PhD, has won a significant award for 2013-2014 in the competition, "Bridging the Gap" from the Workplace Safety and Insurance Board/Ministry of Labour. Dr. Howarth also holds a BSc in Kinesiology and an MSc and PhD in Biomechanics from the University of Waterloo. His doctoral thesis focused on how passive tissue damage in the lumbar spine under acute and repetitive shear loading is influenced by various factors such as morphology, bone density, posture, etc. His goal is to one day understand how the injury mechanisms can be used to develop interventions to reduce shear-related lower back injuries.

PI: Dr. Samuel Howarth
Award: \$31,846
Funded By: Workplace Safety and Insurance Board/Ministry of Labour
Competition: Bridging the Gap
Project Title: A biomechanical evaluation of occupational musculoskeletal injury mechanisms in dental hygienists

- **Dr. Steven Passmore, DC, PhD**
- **University of Manitoba**

Dr. Steven Passmore, DC, PhD has won the prestigious Alexander Gibson Fund Grant award of \$19,536.68 for the project, "The impact of spinal manipulation on lower extremity motor control in lumbar spinal stenosis patients: a single-blind randomized before-after trial." Dr. Passmore, the principal investigator, collaborated with three others for this work: Michael Johnson, MD, FRCSC, Cheryl Glazebrook, MSc PT, PhD, and Dean Kriellaars, PhD. The project was so well received, it was a feature presentation at the Association of Chiropractic Colleges Research Agenda Conference (ACC-RAC) in Washington, DC, March 2013.

Additionally, his work on the paper, "The effect of spinal manipulation on sensorimotor integration and cortical effects of motor training in a cohort of participants with subclinical neck pain" was a winning submission at the 2013 World Federation of Chiropractic in Durban, South Africa.

Dr. Passmore holds the CCRF Professorship in the School of Medical Rehabilitation at the University of Manitoba. He is also an Adjunct Professor in the research department at New York Chiropractic College.

- **Dr. Connie D'Astolfo, DC, PhD (candidate)**
- York University

Dr. Connie D'Astolfo, DC, PhD (candidate) presented a ground-breaking poster on a study entitled, "The Feasibility of a 'Rehabilitation Model' to Improve Outcomes in Long-Term Care" at the Applied Research Education Day – February 13, 2013 hosted by the Ontario Long-Term Care Association. She was also invited to take part in the 2013 Annual Ontario Gerontology Association Conference.

Dr. D'Astolfo is the president of SPINEgroup which is a clinical research consulting firm in Vaughan, Ontario. She completed her Doctor of Chiropractic degree in 2001 at the National University of Health Sciences in Chicago IL. Currently, she is completing her PhD in Health Informatics and Decision Making in the Faculty of Health at York University. Her thesis topic is 'Spine Care Program Model and Implementation in the Ontario Long-Term Care System.

- **Dr. Richard Roy DC, PhD**
- Université du Québec à Montréal

The Research team at Université du Québec à Montréal (Dr. Auger, Dr. Comtois, Dr. Roy and Dr. Boucher) is presently putting the finishing touches on a project concerning the clinical validity of multiple percussion analysis. The next step will be to compare treatment dosage using a traditional chiropractic adjustment, a single thrust with a mechanical instrument (Activator) and multiple thrust with variable frequency (Sigma Instruments Inc.). This will be a multiple-site research project with ongoing data recording and possibly a retrospective study on treatment efficacy. The team is looking for six chiropractors to collaborate on the study (two for each technique). They are also looking at the effect of variable frequency on extremities adjusting and muscle adaptability (relaxation or stimulation of muscles involved in extremity adjusting). The preliminary results are very exciting and some of their previous work on muscle relaxation was replicated in Japan.

- **Dr. Walter Herzog, PhD**
- Killam Memorial Chair (University of Calgary)
- Canada Research Chair (Tier 1) in Molecular and Cellular Biomechanics
- Professor in Kinesiology, Medicine, Engineering and Veterinary Medicine

In 2012, Dr. Herzog's team continued to study the stresses and strains of vertebral and internal carotid arteries during neck manipulations. Specifically, they published first-ever data on the stresses and strains of vertebral artery segments C1-C6.¹ This had not been possible in their earlier work due to the limitations with older strain measurement equipment. They also started to study stresses and strains in the internal carotid artery and published first-ever work in this area in 2012.² In both cases, Dr.

Herzog's team confirmed that high-speed, low-amplitude cervical spinal manipulation does not strain vertebral and internal carotid arteries beyond what they would normally be subjected to during everyday neck movements.

One of the eternal criticisms of the team's work had been that vertebral artery strains had been measured in the past on cadaveric specimens and that the biomechanics of cervical manipulations applied to cadaveric specimens might not be the same as those applied to patients. Bruce Symons, DC and Sarah Wuest, DC addressed this criticism by measuring the forces applied by chiropractors on cadaveric specimens, patients and non-patient (convenience) populations.³ To their surprise, there were statistical differences between the biomechanics of spinal neck manipulations in live patients and cadaveric specimens, but not between patients and non-patient populations. Specifically, neck manipulations were applied with more force and at a higher rate of force application in the cadaveric specimens than live people, thereby suggesting that stresses and strains of vertebral and carotid arteries, if anything at all, would be overestimated in the cadavers compared to what patients experience in clinical practice.

Steve Piper, DC, is quantifying the three-dimensional head and neck movements during cervical spinal manipulations. The results, once fully analyzed, will be the first to quantify the detailed three-dimensional head and neck movements that occur during neck manipulations and should provide further insights into the detailed mechanics of neck arteries during cervical spinal manipulations.

1. Herzog W, Leonard TR, Symons B, Tang C, Wuest S. (2012) Vertebral artery strains during high-speed, low amplitude cervical spinal manipulation. *J Electromyography and Kinesiology*. 22:740-746.

2. Herzog W, Tang C, Leonard TR. Internal carotid artery strains during high-velocity, low-amplitude spinal manipulative therapy of the neck. *J Manip Physiol Ther*. (in press)

3. Symons B, Wuest S, Leonard TR, Herzog W. (2012) Biomechanical characterization of cervical spinal manipulation in living subjects and cadavers. *J Electromyography and Kinesiology*. 22:747-751.

- **Dr. Jeffrey Quon, DC, FCCS(S), PhD**
- University of British Columbia

Dr. Jeffrey Quon, DC, FCCS(S), PhD is a co-investigator on a study funded by the National Centre for Complementary and Alternative Medicine (United States National Institutes of Health). The project is entitled, "Biological and Clinical Outcomes of Chiropractic Spinal Manipulative Therapy in the Treatment of Patients with Acute Inflammatory Radiculopathy Secondary to Lumbar Disc Herniation: a Pilot Study".

Surgery has not been shown to be appreciably superior to non-operative treatment for patients with acute sciatica second-

ary to lumbar intervertebral disc herniation (AS/LDH). However, the composition of optimum non-operative treatment for this patient population is ill-defined. In some trials involving AS/LDH patients, spinal manipulative therapy (SMT) has been associated with beneficial effects. However, although preliminary *in vivo* studies suggest that SMT may provide therapeutic benefits by modulating inflammatory mediators, to date, this finding has only been documented in healthy subjects. The aim of the current feasibility study is to define the key experimental variables required to conduct a large multicentre study that will clarify the biological and clinical benefits of SMT, specifically in the treatment of patients with active AS/LDH.

The study involves a randomized parallel trial and nested-cohort design, with blinded assessment of both clinical and biochemical outcomes. Dr. Quon is the study methodologist. He and fellow chiropractic co-investigator, Dr. Brian Arthur, MSc, have acquired hospital privileges for the project and are currently treating patients at a clinic in the International Collaboration on Repair Discoveries (ICORD) Spine Centre at Vancouver General Hospital, University of British Columbia.

Canadian Chiropractic Research Foundation Professorship in Epidemiology/Biomechanics

Applications are invited for a tenure track faculty position at the Assistant Professor level in the Discipline of Medicine, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland and Labrador, Canada. The successful applicant will be nominated for a Canadian Chiropractic Research Foundation (CCRF) Professorship in Epidemiology/Biomechanics (www.canadianchiropracticresearchfoundation.com).

Applicants must hold a Doctor of Chiropractic (DC) and a PhD or equivalent credentials from accredited institutions. Please note that Memorial currently has a particular interest in candidates with research skills in epidemiology, spine biomechanics, neurophysiology or cell biology. The successful appointee will be expected to establish and maintain a vigorous research program, sustain a strong record of peer-reviewed publication and external funding, as well as advise and mentor graduate students. The successful candidate will be cross-appointed to the School of Human Kinetics and Recreation.

The Discipline of Medicine is the largest clinical discipline in the Faculty of Medicine and encompasses areas of Internal Medicine including Physical Medicine and Rehabilitation. Further information about the Faculty of Medicine, the Discipline of Medicine, the School of Human Kinetics and Recreation and Memorial University may be found at www.mun.ca.

The application package should include curriculum vitae, names and contact details of three referees, and a letter of application outlining a description of research and teaching interests. The closing date for applications is 31 October 2013 and appointment will commence as soon as possible thereafter.

Applications should be electronically submitted to: Dr. Sharon Peters, Administrative Head, c/o Joan Fillier, joan.fillier@med.mun.ca. Please state reference number VPA-MEDI-2013-001 in your application package.



International Chiropractic Research Network (ICRN) and Database

The International Chiropractic Research Network (ICRN) is a new project that aims to develop a global resource for those interested in research related to the chiropractic profession. The ICRN was initiated in June 2012 by Dr. Greg Kawchuck, DC, PhD, Canada Research Chair in Spinal Function, Faculty of Rehabilitation Medicine, University of Alberta, and Vice-Chair, WFC Research Council. This network is hosted by LinkedIn and already boasts 100 members from a wide variety of backgrounds, including education, research, healthcare services, and consulting, to name a few. To join this network, you simply need to add the following three criteria to your existing LinkedIn profile:

- 1 Your photo
- 2 A research summary in the summary field and
- 3 An authored publication from a peer-reviewed journal

Or follow this [short online video](#) that explains the process.

Dr. Kent Stuber, BSc, DC, is a proud member of a new research project called the International Task Force on Diagnosis and Management of Lumbar Spinal Stenosis.

The Task Force is a multi-disciplinary team including surgeons, physiatrists, physical therapists, chiropractors, and researchers from around the world. This Task Force was formed at SpineWeek 2012 with the initial goal of defining a common set of clinical diagnostic criteria for lumbar spinal stenosis (LSS). As a first project, the Task Force took on an international Delphi study involving stakeholders in lumbar spinal stenosis diagnosis from around the world. Ultimately, the focus of the Task Force is to translate current research findings from the diagnosis and management of lumbar spinal stenosis into health policies and best clinical practice models. To date the Task Force has published the results of a preliminary study that surveyed Physiatrists in the USA regarding clinical diagnosis of LSS. This study forms the basis of the upcoming Delphi project.

Taskforce Members: Christy Tomkins-Lane, PhD (Mount Royal University, Calgary), Markus Melloh, MD, DMedSc, MPH, PhD, MBA (University of Western Australia), Richard Hu, MD, FRCSC (University of Calgary), Andrew Haig, MD (University of Michigan), Matthew Smuck, MD (Stanford University), Jon Lurie, MD, MS (Geisel School of Medicine, Dartmouth), Christine Comer, PT, PhD, Lukas Staub, MD (University of Bern, Switzerland), Luciana Macedo, PT, PhD (University of Alberta), Michele Battié, PhD (University of Alberta), Kent Stuber, BSc, DC, Brian Freeman, FRCs, MBChB, MD (Royal Adelaide Hospital- South Australia) and Thomas Barz, MD (University of Greifswald and Asklepios Klinikum Uckermark, Germany).

Dr. Stuber graduated with his Doctor of Chiropractic from CMCC in 2005, and in 2008 completed his Master's degree in the Health and Social Care program from the School of Health and Related Research at the University of Sheffield, UK. Currently, he serves as an Adjunct Professor in the Division of Graduate Education and Research at CMCC and is an Associate Editor of the *Journal of the Canadian Chiropractic Association* (JCCA).



Chair's Message

DR. CHRISTOPHER L. MARTIN, DC

When I began my relationship with the CCRF, many years ago now, we were just on the door step, entering into and developing our first Chiropractic Research Chair at the University of Calgary. Today, we are continuing in our endeavours – Dr. Greg Kawchuk is now a Canada Research Chair and we have research chairs in almost every province. In addition, we have 19 PhD candidates, all in different phases of their doctoral pursuit. Our challenge ahead is to find them a home once they have attained their goal.

Our researchers are world class and they have developed strong collaborative and interdisciplinary relations with other leading scientists throughout Canada and around the world. What is important to understand is that these are your colleagues, doing chiropractic research for chiropractors. Their work will not only enhance your practice and our credibility, it allows us to bring the latest and most up-to-date information to our patients, therefore enhancing their healthcare.

We have been very fortunate to be lead by strong and dedicated boards over the years, but more importantly, we have benefitted from the skill and expertise, not to mention the determination and dedication of Dr. Allan Gotlib. Our achievements lay squarely with this individual's never-say-quit approach and for that we are most grateful.

As always, this requires money and we need your support. We strongly urge you, once having read this latest bulletin, to become a member of the CCRF. This will be money well spent and the benefits to you and your patients are enormous and far reaching. Take the time, go to www.canadahelps.org and follow the links. Become a member today and make a difference tomorrow.

Dr. Christopher L. Martin, DC
Chair, CCRF



CCRF Membership Opportunities

Help us reach our goals! In 2013, the Research Foundation will see up to 2 more university-based Chiropractic Research Chairs/Professorships become available. Each Chair/Professorship requires a minimum of \$500,000, so please be generous.



Each Foundation member will receive a tax receipt for full donation amount, the Chiropractic Research Newsletter, a listing in the Newsletter if you wish, and a Membership Certificate for your office.

<input type="checkbox"/> Bronze Membership	\$ 125	<input type="checkbox"/> Silver Membership	\$ 500
<input type="checkbox"/> Gold Membership	\$ 1,000	<input type="checkbox"/> Platinum Membership	\$ 5,000
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Every dollar you donate helps us reach our goals!

- Less than 1% of chiropractors in Canada are actively engaged in research.
- Chiropractic researchers in Canada are substantially under-funded.
- Many chiropractic researchers and graduate students are solely self-funded.
- There is an urgent need to continue to build chiropractic research capacity.

Membership Information (please enclose with your membership payment):

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Suite 6, 186 Spadina Avenue
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