Welcome to the second CARL newsletter for 2019 (Issue 5). Following the 2018 Edmonton meeting, the CARL residential III originally scheduled for Sydney in 2019 was pushed back by 12 months and diverted to Berlin, Germany to coincide with the 15th WFC Biennial Congress and 78th ECU Convention (EPIC 2019). CARL III would become the ‘extra residential’ the fellows secretly wanted, given the success of previous meetings. This CARL residential would be a little different, being only 3-day duration and there would be no guest speakers. This gave us all a chance to reflect on the previous 12 month’s work with a focus on personal and professional developments and challenges.

The hip Michelberger Hotel was the location and it was indeed a great destination for CARL III, conveniently located to get around Berlin. The hotel fit our needs perfectly with great facilities, a vibrant lobby and common coffee/bar area, plus a cool courtyard that was literally too cool to hang out given the low daily temperatures!

CARL was established for research leadership and capacity, allowing fellows to engage in an environment to help and support each other individually and as a group. From day one, CARL fellows have been committed to pushing existing boundaries of chiropractic research and leadership, as well as strengthening personal skills and performances along the way. To date, the output (i.e., publications, conference presentations) is impressive. Yet, we all encounter challenging circumstances and adversity throughout our careers. CARL III forced all fellows to reflect on a number of themes that emerged from our Berlin meeting, with the opportunity to trouble shoot and explore possible solutions as a group - considered critical to successful research capacity and leadership. Discussed themes included:

1. Time management as an early career researcher
2. Taking on too much as an early career researcher
3. Transition as an early career researcher

Building on the foundations of the Odense and Edmonton residential, CARL fellows were able to pause, reflect and trouble shoot solutions (with the mentors) as to what they could ‘give up’ and what they could continue to ‘pursue’. Important was to continue to dream big and pursue goals that make you happy.

Following CARL III, the fellows joined over 900 participants from 52 countries at the joint Biennial WFC Congress with the ECU Convention, which showcased the very best that chiropractic has to offer. This large conference included some inspiring keynote presentations, including our own mentors Jan and Greg. We also had our first ever CARL workshop with all CARL fellows, which was extremely well attended on the final day.

From 60 platform presentations and a touch over 120 posters from participating chiropractors globally, CARL fellows were in the thick of the awards too, including the most prestigious Scott Haldeman Award! A big congratulations goes to Andreas Eklund, who took out the top prize for his work on the impact of chiropractic maintenance care. Diana de Carvalho and colleagues, including Katie D, Martha, Alex, Arnold, Melker and mentors Jon, Greg and Jan, also took out top honours, awarded first prize for the NCMIC JMPT Award for

Highlights

* Congratulations to CARL fellows for their awards at the WFC / ECU Convention (EPIC 2019):
  * Andreas Eklund: the prestigious Scott Haldeman Award!
  * Diana De Carvalho, Katie de Luca, Martha Funabashi, Alex Breen, Melker Johansson, Arnold Wong and mentors Jon Adams, Greg Kawchuk and Jan Hartvingsen: NCMIC JMPT First Prize Award
  * Melker Johansson: ECRE Young Researcher of the Year Award 2019
  * Diana De Carvalho: First prize early career poster award
  * Arnold Wong: Best region poster award—Asia
  * Matt Fernandez: Best region poster award—Pacific
  * Congratulations to CARL Fellow Mike Swain for being on the finalists for the Scott Haldeman Award
  * Five more CARL papers accepted for peer-reviewed publication!
  * Four more CARL manuscripts have been submitted and are currently under review.
  * Six more CARL abstracts were accepted for conference presentations in 2019.
their work on sitting duration and its impact on back pain. Diana had a huge morning, as she was also runner up in the early career poster awards for her work on radiographic guidelines for low back pain. Melker received the ECRE Young Researcher of the Year Award 2019, while both Arnold and Matt, also tasted success, taking out the region posters awards for the Asia and Pacific regions respectively.

Mentorship is extremely important and it’s why most of us wanted to be a part of CARL. At the WFC/ECU EPIC 2019 it was awesome to see CARL fellows already taking on a mentoring role for other delegates present. Both Mike and Katie D supervised three final year Chiropractic students, who won 2nd prize at the International Federation of Sports Chiropractic conference, while Mike’s Master of Research student made the shortlist of finalists for the Haldeman prize for research excellence (as did Mike himself). Diana, Katie P, Michelle and Alex also had their students presenting their work. We hope this trend can continue!

The final residential awaits in Sydney ...

- Matt
Highlights from CARL fellows

Andreas Eklund
My absolute highlight of 2019 has been attending the joint CARL residential and WFC/ECU conference 20-23 March, Berlin, Germany. During the meeting my abstract/presentation (The Nordic Maintenance Care program: How does Maintenance Care work? Andreas Eklund, Jan Hagberg, Irene Jensen, Charlotte Leboeuf-Yde, Alice Kongsted, Peter Lövgren, Mattias Jonsson, Jakob Petersen-klingberg, Christina Calvert, Iben Axen) was awarded the Scott Haldeman Award for Outstanding Research. What a great honor and joy to see that the research my group is involved in of importance and relevance for the chiropractic profession.

Diana De Carvalho
Winning 1st Prize in the Louis Sportelli Research Awards for our CARL paper entitled, “Does exposure to prolonged durations of sitting result in immediate increases in back pain? A systematic review of studies with objectively measured sitting time.”, and 2nd place in the poster competition for early career researchers at the WFC convention in Berlin was definitely the highlight of this spring! I am also very proud to have three groups of undergraduate students successfully complete their honors research projects with me this past winter and two of my Master’s students’ theses accepted for convocation this May.

Katie Pohlman
The highlight of this winter was completion of my PhD (Pediatrics)! Research projects continue to move along, some with more ease than others. I continue to develop opportunities for Parker University faculty to be involved and understand research. These efforts have rolled into direct student opportunities, of which, I have brought in several CARL fellows to provide a world-view of impactful chiropractic research.

Mike Swain
My MRes (HDR) student and I presented research on podium at the WFC/ECU congress in Berlin; both presentations were shortlisted for the Scott Haldeman Award. My students won second Prize at the FICS Symposium in Berlin for their MChiro (coursework) research project. I had my PhD conferred at the University of Sydney, I was most proud to have my two kids at the ceremony (born during my PhD studies).

Arnold Wong
It was so exciting and inspiring to see CARL Fellows in our special residential and EPIC2019 in Berlin. Our CARL Fellow (Martha) and I were so humble to be awarded the Regional Poster Award (Asia) at EPIC2019. Additionally, I would like to thank the CARL fellows for involving me in various CARL projects that led to 3 publications in different peer-reviewed journals. Given that one of our roles is to nurture new researchers, I am so excited that my PhD student will present her posters for the first time at the upcoming OARSI meeting in Toronto.

Isabelle Pagé
Immediately following the CARL residential in Berlin (Germany), I had the pleasure to present, at the WFC-ECU 2019, my last PhD project (Pagé and Descarreaux, 2019) and a project I am currently collaborating on as part of my postdoctoral training. I also chaired one of the conference sessions which was a first experience for me and I enjoyed it! In the past weeks, I also started to work on a study evaluating the role of muscle activity on spinal stiffness. It feels great to be involved, once again, in hands-on work!
Alex Breen
Of course a huge highlight for this quarter was the annual CARL residential. While it was a short one this year, it gave the fellows and I the invaluable opportunity to work on collaborative projects and discuss our upcoming co-authored work that we presented that week at EPIC2019 in Berlin. EPIC2019 itself gave me the opportunity to present our work in both oral and poster form. Generating many interesting discussions, debates and opening the doors to further collaborations with researchers across the Chiropractic profession.

Michelle Holmes
After the CARL residential, I had the opportunity to present at WFC/ECU EPIC conference. Since being back, I have been working on my PhD project, recruiting for my final study. I have several projects ongoing, which should be coming out over the next year. I’m also looking forward to seeing my masters students starting their research this summer.

Katie de Luca
Attending CARL residential #3 in Berlin and getting to spend valuable time working on research projects and supporting CARL Fellows was the highlight of the last quarter. WFC EPIC was a highly successful conference for many of the CARL Fellows; my personal highlight was my participation in a panel discussion on “Moving Targets: Chiropractic’s Core Purpose” where I gave a 5min opinion piece and debated the future direction of the profession.

Martha Funabashi
CARL residential in Berlin was definitely a major highlight, for me: I had the opportunity to spend time working, learning and getting inspired by the amazing CARL fellows! I also feel very fortunate to have had the opportunity to present our current work at two podium presentations as well as see collaborators, support CARL fellows and CMCC faculty and students in their presentations at WFC/ECU EPIC 2019. I was also very pleased that preliminary results from the SafetyNET study was accepted to be presented at the main session of the 10th Interdisciplinary World Congress on Low Back and Pelvic Girdle Pain in October 2019.

Melker Johansson
The highlights for this round are the annual reunion with the other CARL Fellows during the Berlin residential, attending and presenting results at EPIC2019, and receiving the ECRE Young Researcher of the Year Award 2019 (very proud and honored!). All in all, highly motivated to submit my PhD-thesis in 2019!

Matt Fernandez
The highlight undoubtedly was the opportunity to once again catch up with the CARL fellows in Berlin. Another was winning the Pacific Regional Poster award at WFC / EPIC conference after our residential. It was also great to see a number of CARL projects (that I was involved with) published just a few weeks after our meeting.

Craig Moore
Highlights in recent months include invited keynote speaker for the ‘Integrative Therapies for Headache & Migraine’ conference March, 2019, Sydney, Australia and attending the joint CARL residential and WFC biennial conference in Berlin where I had the opportunity to present 2 research papers and convened one of the conference research sessions.

Katie Pohlman
CARL fellow Katie Pohlman moderating a session at the WFC/ECU EPIC 2019 panel discussion

CARL fellow Katie de Luca at the WFC/ECU EPIC 2019 panel discussion


1. De Carvalho D, De Luca K, Funabashi M, Breen A, Wong AYL, Johansson M, Ferreira M, Swab M, Adams J, Kawchuk G, Hartvigsen J. Does exposure to prolonged durations of objectively measured sitting time result in increased levels of perceived back pain: a systematic review. XVIth International Forum on Back and Neck Pain Research in Primary Care, Quebec City, Canada, July 3-6, 2019

2. Pohlman KA, Funabashi M. Patient safety and spinal manipulative therapy providers: Impact on back and neck pain patients. Speaker’s Corner at the XVIth International Forum on Back and Neck Pain Research in Primary Care, Quebec City, Canada, July 3-6, 2019

3. Wong AYL, Chung MT, Zheng YP, Samartzis D, Kawchuk G. Reliability of lumbar multifidus volumetric measurements using two software programs XVIth International Forum on Back and Neck Pain Research in Primary Care, Quebec City, Canada, July 3-6, 2019

4. Wong AYL, Chung YH, Lam HL, Lee HW, Lui AK, Wong SN, Kawchuk G. Short-term effects of manual massage, mechanical massage and sham therapy on patients with chronic low back pain: A randomized controlled trial. XVIth International Forum on Back and Neck Pain Research in Primary Care, Quebec City, Canada, July 3-6, 2019

5. Funabashi M, Pohlman KA, Mior S, Thiel H, Hill M, Cassidy D, Hogg-Johnson S, Westaway M, Yager J, Hurwitz E, Kawchuk G, OBeirne M, Vohra S. Preliminary findings from an active surveillance reporting system for spinal manipulative therapy regulated providers and low back pain patients. Main Session Platform at the 10th Interdisciplinary World Congress on Low Back & Pelvic Girdle Pain, Antwerp, Belgium, October 2019


Ongoing CARL Research Projects

SafetyNET Investigations – Advancing patient safety research for SMT providers

This work involves a series of projects, with current focus on the implementation of the data collection instruments. This has been done within a chiropractic teaching institute. Plans are to reach out to expand on the population, including other teaching institutions and practicing doctors on an international platform.

Title: Determine the incidence of mild, moderate, and serious adverse events following SMT administered by chiropractic interns using the SafetyNET active surveillance reporting paper-based system. Status: Manuscript being finalized.

Title: Determine the incidence of mild, moderate, and serious adverse events following SMT administered by chiropractic interns using the SafetyNET active surveillance reporting electronic system. Status: Data is being analyzed.

Title: Qualitative evaluation of open-ended questions on SafetyNET’s Survey to Support Quality Improvement, which was conducted at teaching institutions and among practicing SMT providers. Status: Manuscript in preparation

Title: Mitigation strategies for benign adverse events following SMT. Status: data collection will start in summer 2019

Title: Patient Safety Learning System implementation at teaching clinic. Status: data collection will start in summer 2019

Title: Active Surveillance Reporting System implementation at a teaching institution—

CARL residential #3 in Berlin 2019
### Ongoing CARL Research Projects (cont’d)

**Title:** The diagnosis and management of Headache: A survey of senior chiropractic students.  
Status: Data being analyzed  
Lead: Craig Moore  
Working group: Stephney Whiller, Diana De Carvalho, Martha Funabashi, Katie Pohlman, Matt Fernandez, Rosemary Giuriato, Michael Swain, Jon Adams

**Title:** Evidence-Based Practice Competencies: Evaluation of Progress.  
Status: Manuscript in under revision.  
Lead: Katie Pohlman  
Working group: Michelle Holmes, Anjum Odhwani, Dana Lawrence, Christopher Malaya

**Title:** Job Analysis of Chiropractors with a Pediatric Specialty.  
Status: Data analysis  
Lead: Katie Pohlman  
Working group: Michael Swain

**Title:** Adverse events following chiropractic treatment in the pediatric population: an active surveillance study.  
Status: Data is being analyzed.  
Lead: Katie Pohlman  
Working group: Michael Swain, Lise Hestbaek, Sunita Vohra, Linda Carroll

**Title:** Profiling Australian chiropractors who frequently discuss pain medication in practice: Analyses of chiropractors from the ACORN practice-based research network.  
Status: Protocol under development  
Lead: Matt Fernandez  
Working group: Michael Swain, Katie Pohlman, Jan Hartvingsen, Jon Adams

**Title:** Chiropractic student identity: a global secondary data analysis.  
Status: Data analysis underway.  
Lead: Michelle Holmes  
Working group: Katie de Luca, Mike Swain, Dave Newell, Jordan Gliedt

**Title:** The prevalence of physical activity promotion by Australian chiropractors: a cross sectional study  
Status: revised manuscript under review  
Lead: Matt Fernandez  
Working group: Craig Moore, Andreas Eklund, Michael Swain, Katie de Luca, David Sibbritt, Jon Adams, Wenbo Peng.

**Title:** Challenges and lessons for recruitment within chiropractic studies.  
Status: Manuscript preparation.  
Lead: Michelle Holmes  
Working group: Martha Funabashi, Isabelle Pagé, Craig Moore

**Title:** Practices of female and male chiropractors in Australia: secondary data analysis.  
Status: pooling data  
Lead: Michelle Holmes  
Working group: Diana De Carvalho, Isabelle Pagé, Martha Funabashi, Katie Pohlman, Katie De Luca, Craig Moore, Jon Adams

**Title:** Forcés retained in the body during spinal manipulation and mobilization: the influence of force-time characteristics on neuromuscular responses.  
Status: data collection to start in the summer 2019.  
Lead: Martha Funabashi  
Working group: Isabelle Pagé, Martin Descarreaux, Jeremie Mikhail.
Ongoing CARL Research Projects (cont’d)

Title: Risk stratification and long-term clinical course after an initial manual treatment package for patients with low back pain, a secondary analysis of a randomized clinical trial. Status: will commence in 2019
Lead: Andreas Eklund
Working group: Greg Kawchuck, Jan Hartvigsen, Jon Adams, Katie De Luca, Isabelle Pagé, Martha Funabashi, Diana De Carvalho, Arnold Wong, Michael Swain, Katie Pohlman, Melker Johansson

Title: Systematic Review and Meta-Analysis investigating the relationship between objectively measured sitting time and low back pain in adults. Status: Under review—First Prize Award winner
Lead: Diana De Carvalho
Working group: Katie de Luca, Martha Funabashi, Jan Hartvigsen, Arnold Wong, Alex Breen, Jon Adams, Greg Kawchuk, Manuela Ferreira, Michelle Swab, and Melker Johansson

Title: What’s behind the development of Transient Sitting-Induced Back Pain in Healthy Participants? Status: Statistical analysis and results figures have been completed, manuscript to move forward in the fall.
Lead: Diana De Carvalho
Working group: Alex Breen, Arnold Wong, Martha Funabashi, Isabelle Pagé, Greg Kawchuk

Title: Center of rotation location during lumbar spine movements: a scoping review. Status: protocol manuscript under review. Screening papers
Lead: Martha Funabashi
Working group: Diana De Carvalho, Isabelle Pagé, Alex Breen, Greg Kawchuk

Title: Force vectors during posterior-to-anterior Spinal Manipulative Therapy (SMT). Status: data is being analyzed
Lead: Martha Funabashi
Working group: Diana De Carvalho, Alex Breen, Isabelle Pagé, Greg Kawchuk

Title: Physical and psychosocial risk factors for low back pain among physiotherapy students. Status: manuscript preparation
Lead: Arnold Wong
Working group: Martha Funabashi, Greg Kawchuk

Title: The risk factors for low back pain in older adults. A systematic review. Status: data extraction
Lead: Arnold Wong
Working group: Martha Funabashi, Luciana Macedo, Susan Armijo Olivo.

Title: Radiographic phenotypes and spinal stiffness in people with and without low back pain. Status: manuscript preparation
Lead: Arnold Wong
Working group: Michelle Holmes

Title: A randomized controlled trial on the effects of manual massage, massage chair, and sham massage on physical responses of patients with chronic low back pain. Status: manuscript preparation
Lead: Arnold Wong
Working group: A. Lui, E. Chan, V. Chan, Greg Kawchuk.

Title: Life experience of older adults with low back pain.
Lead: Arnold Wong
Working group: Michelle Holmes

Congratulations to CARL fellow Mike Swain for his PhD graduation!

CARL at WFC/ECU EPIC conference 2019 gala dinner

CONGRATULATIONS TO CARL FELLOW MIKE SWAIN FOR HIS PHD GRADUATION!
Ongoing CARL Leadership Projects

Conference Organizing Committee:
Planning and coordinating the Research Symposium for the Australian Chiropractors Association, (ACA). Melbourne, Vic, Australia. October 2019
Led by: Matt Fernandez and Craig Moore

Conference organizing committee member for an Australian chiropractic associations conference in 2020... on the world stage! Enjoy this tease and watch this space!
Led by: Michael Swain

Conference Planning Committee Member, 50th Annual Conference of the Association of Canadian Ergonomists
Led by: Diana De Carvalho

ACA Women’s Health Council – Vice President. This council was just developed to evaluate Women’s Health throughout the lifespan.
Led by: Katie Pohlman

Invited presentations:
Presented the results from the Nordic Maintenance Care program in a webinar for students from Parker University, Dallas Texas, 12th February: Andreas Eklund
Presented the results from the Nordic Maintenance Care program at “Dansk Selskab For Kiropraktik” in Veijle, Denmark, 9th of March: Andreas Eklund

New editorial board positions:
Arnold Wong: Section Editor, Journal of Orthopaedics, Trauma and Rehabilitation

New Committee Membership:
Diana De Carvalho: Faculty of Medicine, Memorial University of Newfoundland, Destination Excellence Strategic Plan Implementation, Wellness Project

New student supervision:
Isabelle Page: undergraduate summer student
Michelle Holmes: student undertaking the Programme for Early Researchers in Chiropractic (PERC)

Leading independent research via a Macquarie University Grant:
GLA:D Back Australia - improving self-management for people with persistent or recurrent low back pain through the implementation of evidence-based patient education and exercises. This is a feasibility study, aiming to determine the feasibility, acceptability and fidelity of delivering GLA:D Back in Australia for the first time.
Led by: Matt Fernandez

Women in Chiropractic Research Mentorship Group
Increasing diversity on teams leads to creative problem solving and improved outputs. Currently, our group is developing the brand for this initiative and we are gathering statistics worldwide to better understand the current capacity of women in leadership, education and research roles.
Led by: Diana De Carvalho
Working group: Michelle Holmes, Katie Pohlman, Katie de Luca, Martha Funabashi, Michael Swain, Isabelle Pagé

Excitingly, I have organized the inaugural Women@CA breakfast to be held at the Chiropractic Australia National Conference, with female STEMM ambassador Dr. Carolyn Ee. My Masters of Chiropractic research student’s (co-supervised with Mike Swain) won second prize at the FICS Research Symposium in Berlin, and I was very proud of them receiving an award for their first even research presentation.
Led by: Katie de Luca

New podcast interviews:
Katie Pohlman: Connected Paediatrics
Martha Funabashi: Chiropractic Science
CARL Fellows - Individual Publications since January 2019


Gleberzon B, Russell E, Pohlman KA. Use of Chiropractic Terminology and Perception of Chiropractic’s Identity Part 2: A Comparison of Survey Results between the Canadian Memorial Chiropractic College and Parker University. J Can Chiropr Assoc (accepted)


Upcoming Events

The International Society for the Study of the Lumbar Spine, Kyoto, Japan, June 3-7, 2019


XVIth International Forum on Back and Neck Pain Research in Primary Care, Quebec City, Canada, July 3-6, 2019

50th Annual Conference of the Association of Canadian Ergonomists (ACE), Delta St. John’s Hotel and Conference Centre, St. John’s, NL, August 12-15, 2019.

Chiropractic Australia National Conference August 23-25 2019 Gold Coast, QLD, Australia. Abstract submission deadline: July 5th 2019

Health Enhancing Physical Activity (HEPA) Europe, 28-30 August 2019, Odense, Denmark. Abstract submission deadline: April 26 2019


10th Interdisciplinary World Congress on Low Back and Pelvic Girdle Pain, Antwerp, Belgium, October 28-31, 2019

ACC-RAC 27th Educational Conference and Research Agenda Conference, March 19-21, 2020 – San Diego, CA, USA. Abstract submission deadline September 06 2019