

UMEÅ

RYGG & LEDKLINIK

KURSINBJUDAN

HEIDI HAAVIK

15-16 FEBRUARI 2020

I UMEÅ

Europaturnén fortsätter!

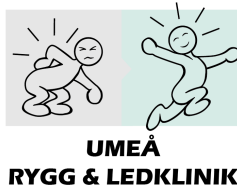
DET LOVAS EN FULLSPÄCKAD TEORETISK HELG MED EFFEKTER AV BEHANDLINGAR, NEURO-PLASTICITET, SPINAL FUNKTION OCH DYS-FUNKTION, SOMATOSENSORISK PÅVERKAN, VAD HÄNDER NÄR VI JUSTERAR? DET OCH MYCKET MYCKET MER...!



Datum: 15-16 Februari 2020
Tid: Lördag 08.30 - 17.00, Söndag 08.30 - 13.00
Plats: Hotell Dragonen - Västra Norrlandsgatan 5, 903 27 Umeå
Pris: 4800:- exkl moms (*i priset ingår fika, lunch samt 2-rätters middag på lördagen*)
Boende: Vid bokning på First Hotel Dragonen, använd bokningskoden "Umeå Rygg"

Anmälan

- Anmäl er genom att skicka ett mail med namn, faktureringsadress och mobilnr till robin@umearygg.se. Meddela även om ni har födoallergier eller specialkost.
- Betalning sker via faktura som kommer på mail.
- Anmälan är bindande och återbetalas ej.



HEIDI HAAVIK, UMEÅ 15-16 februari 2020

Kursschema och Beskrivning

Lördag 15/11

08.30 – 12.00

This first session will start with a brief look at some key 'old' chiropractic theories of the past and what evidence there is pro or against such theories. The Neuroplasticity model will then be introduced, and a brief introduction will follow about how the brain works, and how it creates inner maps of the body and of the world, and how important these are for your experience of reality. How the brain changes in response to internal and external stressors of everyday life and what this means to our health and function will also be covered, so will the impact that spinal function or dysfunction has on this. Heidi will explain the differences between good healthy brain adaptations and maladaptive brain changes, and what impact spinal dysfunction vs chiropractic adjustments have on brain adaptations. What you (and your patients) can do to help your brain adapt in a healthy direction will also be discussed. Heidi will also cover the latest contemporary understanding about pain, and in particular chronic pain; How pain is always 100% of the time created in the brain, due to either tissue damage, or even just the potential for tissue damage. She will cover how this changes and adapts over time depending on the persons experiences. We now know that for a lot of chronic pain there may no longer be any tissue damage present at all – it has become a learnt problem within the brain itself. Physiological and psychological stress, sleep disturbance, pain and the microbiome all play a major role in this maladaptive process, and Heidi will cover this as well. And she will explain how the latest understanding about the mechanisms of an adjustment, based on the latest relevant scientific research studies, explains how we are likely altering the way a person's brain is 'feeling' pain. We use to think we were 'fixing' problems locally in the spine, when it now turns out we are more likely to be 'fixing' problems at the level of the brain, by improving spinal movement patterns when we adjust. And that we are therefore turning down or switching off the sensation of pain directly in the brain.

Lunch 12.00 – 13.30

13.30 – 15.00

Spinal function and dysfunction will be covered, including what neuroscientists know about how the brain controls spinal movement patterns. The point of doing scientific studies will also be discussed, and Heidi will share how research works and what types of 'evidence' you can get from various types of studies. She will then cover the many studies that have been done that show spinal dysfunction negatively affects brain function, ie has a maladaptive neural plastic effect on the brain. In this session Heidi will also cover exactly what happens from a neurophysiological perspective when we adjust the spine. And after this she will discuss the many studies that have shown adjustments have a neural plastic effect on somatosensory processing. She will also cover the prefrontal cortex, the part of the brain where these somatosensory processing changes have been shown to take place. And she will discuss what this might mean for our patients in practice. This session will also cover how chiropractic adjustments have been shown to change movement control of both arms and legs as well as other muscles of the body. Many different studies have shown this. Heidi will also explain what this means, practically, for our patients, and for us. Then Heidi will cover the evidence we have

showing our adjustments also change multimodal sensory integration, and the practical implications of this. Heidi will then cover the evidence that shows that spinal dysfunction negatively impacts brain function, and that chiropractic adjustments can reverse this. One particular part of the brain that we now know we impact when we adjust the spine is the prefrontal cortex. This literally is the Chiropractors Dream, because the prefrontal cortex is vital for one's intelligence, movement control, pain processing, mental health, immune system and inflammation (thus most chronic diseases)! Heidi will explain all of this and will share a summary of where we are at today with the neurophysiological understanding of the impact of spinal function on brain function, and will discuss what future implications this has for us as a profession.

Söndag 16/11
08.30 – 13.00

In this final session Heidi will cover how easily all the latest scientific information can be communicated to the public and other health care providers, and how to do this in an honest, patient centred and ethical way. This step is an important part of evidence based practice, how to communicate the science, your clinical experience and then to engage with the patient about their values, beliefs and wishes. Heidi will cover how to communicate this research ethically and honestly and in a language that makes sense to your audience. She will provide you with simple tools and resources you can implement on Monday morning.

CURRICULUM VITAE

NAME: Heidi Haavik
PREVIOUS NAME: Heidi Haavik Taylor



CAREER STATEMENT:

I am a chiropractor (New Zealand College of Chiropractic 1999) who has also gained a PhD in human neurophysiology (University of Auckland 2008). I have been the Director of Research at the New Zealand College of Chiropractic since 2006. At the College I am part of the top administrative team where I take part in the strategic plan development and implementation. I also run the Centre for Chiropractic Research at the College, which is internationally renowned for the research programme I have developed and conducted. I have been an integral part of designing, developing, coordinating and teaching multiple courses within the curriculum at the College. Knowledge translation is also passion of mine, and I have authored a book called 'The Reality Check: A quest to Understand Chiropractic from the inside out' (www.heidihaavik.com). This book describes in easy to understand language what happens in the brain when a chiropractor adjusts dysfunctional segments in the spine. I am also the director of a company called Haavik Research Ltd which is aimed at practicing clinicians to become better consumers of the relevant scientific literature. I maintain an Adjunct Professor position at the University of Ontario, Institute of Technology in Oshawa, Canada and have strong collaborative relationships with multiple scientists in the fields of neurophysiology, bioengineering, and spinal pain. I have received numerous research awards and has published a number of papers in chiropractic and neurophysiology journals and I have presented my work to both chiropractic and neuroscience communities around Australasia, Africa, North America and Europe. I have become one of the most sought after speakers within the chiropractic profession. I am on the Editorial Board of the Journal of Manipulative and Physiological Therapeutics and Journal of Chiropractic Education and am a Review Editor in Movement Science and Sport Psychology for Frontiers in Psychology and Sports Science. I was named Chiropractor of the year in 2007 by both the New Zealand Chiropractic Association and the New Zealand College of Chiropractic Alumni Association. I am highly motivated and have a strong inner drive and passion for my work. I have a natural ability to lead and work well independently and in group settings.

CURRENT POSITIONS:

Director of Research, New Zealand College of Chiropractic, 6 Harrison Road, Mt Wellington, Auckland, New Zealand

Director of Haavik Research Limited.

Adjunct Professor, Master of Health Sciences Program, University of Ontario Institute of Technology, Ontario, Canada.

Part-time Chiropractic practice at Haavik Research, Browns Bay, Auckland, New Zealand

PREVIOUS POSITIONS HELD:

- 2009 – 2018** World Federation of Chiropractic Research Council Member
- 2007 – 2012** Head of Neuroscience Department, New Zealand College of Chiropractic
- 2011- 2013** Associate Graduate Faculty Member, Master of Health Sciences Program, University of Ontario Institute of Technology, Ontario, Canada.
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EDUCATIONAL QUALIFICATIONS:

- 2017** Auckland University of Technology, Certificate in Adult Education
- 2008** University of Auckland PhD
- 2003** University of Auckland, PG Dip (Science) (A+ grade average)
- 2000** New Zealand School of Chiropractic, BSc (Chiropractic)
- 1999** University of Auckland, BSc, Physiology and Psychology
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SIGNIFICANT DISTINCTIONS / AWARDS

- 2016** First place award winning paper at The Parker Experience Seminar in Las Vegas, USA.
- 2015** Scott Haldeman Research Award (prize money of USD \$12,000): Award winning paper at the World Federation of Chiropractic's 13th Biennial Congress in Athens, Greece.
- 2013** Research Poster Award at the World Federation of Chiropractic's 12th Biennial Congress in Durban, South Africa.
- 2011** Research Poster Award at the World Federation of Chiropractic's 11th Biennial Congress in Rio de Janeiro, Brazil.
- 2010** Award winning paper at the Association of Chiropractic Colleges Research Agenda Conference, Las Vegas, USA.
- 2009** First, second and third prize award winning papers at the Chiropractors' Association of Australia Scientific Symposium, Melbourne, Australia, 22nd November.
- Two award winning papers at the Association of Chiropractic Colleges Research Agenda Conference, Las Vegas, USA.
- Research Poster Award at the World Federation of Chiropractic's 10th Biennial Congress in Montreal, Canada.
- 2009 - present Editorial board member of Journal of Manipulative and Physiological Therapeutics
- 2008** First Prize Award winning paper Basic Science Category at the Association of Chiropractic Colleges Research Agenda Conference, Washington DC, USA.
- Award in recognition of outstanding contribution to the chiropractic literature during 2007, awarded by the Editorial Board of the Chiropractic Journal of Australia.
- 2008** New Zealand College of Chiropractic Alumni Association Chiropractor of the Year

	New Zealand Chiropractor's Association Chiropractor of the Year
2007	Original Research Award (3 rd Prize). World Federation of Chiropractic's 9th Biennial Congress in Vilamoura, Portugal.
	2007 – present Editorial board member for Journal of Chiropractic Education
2003 – 2006	Top Achievers Doctoral Scholarship from the New Zealand Tertiary Education Commission.
2003	University of Auckland Doctoral Scholarship.
2002 – 2003	Foundation for Chiropractic Education and Research Fellowship.
2000 – 2001	Department of Sport & Exercise Science-University of Auckland Summer Research scholarship.

GRANTS:

2018 NZ \$20,000	The effects of a chiropractic care on functional outcomes, somatosensory processing and motor control in patients who have suffered from a stroke. A pilot study.	The Rubicon Group
2017 AU \$19,911	Grant application to fund master's project as co-principal investigator: The accuracy, reliability, and validity of the sacral leg check.	Australian Spinal Research Foundation
2016 NZ \$56,532.94	The effects of a chiropractic care on functional outcomes somatosensory processing and motor control in patients who have suffered from a stroke. A pilot study.	United Chiropractic Association
NZ \$22,460.50	Grant application to fund master's project for: Dr Alice Cade. Project title: Chiropractic care and the control of eye movement in children with attention deficit hyperactivity disorder: A pilot study.	Kids Summit
	Dr Aisha Strand: Project title: Can chiropractic adjustments change multisensory integration and sensorimotor integration in children with autism? A feasibility study.	
	Jenna Salmons: Project Title: Chiropractic care and motor control in children with cerebral palsy.	
NZ \$20,000	The effects of a chiropractic care on functional outcomes somatosensory processing and motor control in patients who have suffered from a stroke. A pilot study.	The Rubicon Group
NZ\$ 4276	The effects of a chiropractic care on functional outcomes somatosensory processing and motor control in patients who have suffered from a stroke. A pilot study.	Scottish Chiropractic Association

NZ \$4121	The effects of a chiropractic care on functional outcomes somatosensory processing and motor control in patients who have suffered from a stroke. A pilot study.	Hasla Care
2015		
AUD \$19,600	Grant application to fund master's project for Dr Alice Cade. Project title: Chiropractic care and the control of eye movement in children with attention deficit hyperactivity disorder: A pilot study.	Australian Spinal Research Foundation
NZ \$30,000	Grant application to fund research: Brain source localisation Project Collaboration AAL & NZCC	Hamblin Chiropractic Research Trust
NZ \$58,000	Grant application to fund master's project for: Dr Alice Cade. Project title: Chiropractic care and the control of eye movement in children with attention deficit hyperactivity disorder: A pilot study. Dr Aisha Strand: Project title: Can chiropractic adjustments change multisensory integration and sensorimotor integration in children with autism? A feasibility study. Jenna Salmons: Project Title: Chiropractic care and motor control in children with cerebral palsy.	Kids Summit
NZ \$33,725	The effects of a single session of chiropractic care on power, strength and cortical drive in athletes	University of Southern Denmark
2014		
NZ \$,6251	Chiropractic care and the control of eye movement in children with attention deficit hyperactivity disorder: A pilot study.	College of Chiropractic Neurodevelopmental Paediatrics
NZ \$6,251	Can chiropractic adjustments change multisensory integration and sensorimotor integration in children with autism? A feasibility study.	College of Chiropractic Neurodevelopmental Paediatrics
NZ \$67,800	The effects of chiropractic care on pelvic floor muscle function.	Australian Spinal Research Foundation
NZ \$30,000	The effects of a single session of chiropractic care on brain source connectivity	Hamblin Chiropractic Research Fund Trust
2012		
NZ \$44,500	Chiropractic care and the cortical silent period	Australian Spinal Research Foundation
NZ \$15,000	Chiropractic care and the cortical silent period	Hamblin Chiropractic

		Research Fund Trust
2010		
AU \$36,300	The effect of chiropractic care on synchronised pelvic floor muscle contraction	Australian Spinal Research Foundation
AU \$79,926	The effect of chiropractic care on cerebellar function	Australian Spinal Research Foundation
AU \$36,200	Randomised Controlled Trial of the Effects of Sixteen Weeks of Chiropractic Care on Objective Markers of Sensorimotor Function in Older People	Australian Spinal Research Foundation
NZ \$7,500	The effects of cervical adjustments on motor cortical drive to the elbow flexors	Hamblin Chiropractic Research Fund Trust
2009		
AU \$23,886.50	Do Chiropractic Spinal Adjustments Modulate Brain Derived Neurotrophic Factor Levels in the Brain – A Study in the Rodent* Returned May 12	Australian Spinal Research Foundation
NZ \$11,721.35	The effects of a single session of cervical adjustments on stimulus-response curves in two upper limb muscles.	Hamblin Chiropractic Research Fund Trust
NZ \$20,000	The effects of lumbopelvic adjustments on the function of the pelvic floor muscles	Australian Spinal Research Foundation
2008		
AU \$39,315	The effect of chiropractic care on objective markers of sensorimotor integration and falls in the elderly	Australian Spinal Research Foundation
AU \$45,550	The effect of Chiropractic care on central somatosensory processing and sensorimotor integration utilizing the dual peripheral nerve stimulation somatosensory evoked potential technique.	Australian Spinal Research Foundation
2007		
NZ \$25,600	The effect of spinal adjustments on the accuracy of joint position sense	Australian Spinal Research Foundation
NZ \$7,000	The effects of a lumbopelvic adjustment on heart rate variability: A controlled crossover trial.	Hamblin Chiropractic Research Fund Trust

PROFESSIONAL SOCIETIES / SERVICES / OTHER

Service

2018

- Article referee for “Frontiers in Psychology, section Movement Science and Sport Psychology” August 2018
- Article referee for ‘BMC Neurology’ June 2018
- Article referee for “Brain Sciences” April 2018
- Article referee for “Journal of Pain Research” March 2018
- Article referee for “Brain Sciences” March 2018

2017

- Article referee for “Journal of Bodywork and Movement Therapies” December 2017
- Article referee for “Frontiers in Psychology, section Movement Science and Sport Psychology” October 2017
- Article referee for “Journal of Manipulative and Physiological Therapeutics” September 2017
- Article referee for “Journal of Manipulative and Physiological Therapeutics” July 2017
- Article referee for “Frontiers in Psychology, section Movement Science and Sport Psychology” June 2017
- Article referee for “Journal of Manipulative and Physiological Therapeutics” June 2017
- Article referee for the “Journal of Chiropractic Medicine” May 2017
- Article referee for the “Journal of Bodywork and Movement Therapies” January 2017

2016

- Article referee for the “Journal of Advanced Research” November 2016
- Article referee for “Frontiers in Human Neuroscience” October 2016
- Article referee for the “Journal of Manipulative and Physiological Therapeutics” October 2016
- Article referee for the “Journal of Advanced Research Journal” September 2016
- Article referee for “Journal of Manipulative and Physiological Therapeutics” July 2016
- Moderator at the Association of Chiropractic Colleges Research Agenda Conference in Orlando, USA March 2016
- Article referee for the journal “Pain”, February 2016
- Peer reviewer and judge for the Parker Experience scientific session in Las Vegas, USA January 2016

2015

- Article referee for “Chiropractic Journal of Australia”, November 2015
- Review editor for “Movement Science and Sport Psychology” of the journal “Frontiers in Psychology and Sport Science”, October 2015
- Article referee for “Journal of Manipulative and Physiological Therapeutics” April 2015
- Editorial board member of the “Chiropractic Journal of Australia”, April 2015
- Article referee of 13 papers for WFC conference Research Congress Awards Competition 2015
- Moderator for basic science research session at the Association of Chiropractic Colleges Research Agenda Conference in Las Vegas, USA March 2015
- Article referee for “Scientific Reports” March 2015
- Article referee for “Experimental Brain Research” February 2015
- Article referee for “Neuroscience Letters” February 2015
- Article referee for “Neuroscience Letters” January 2015

2014

- Article referee and Grader of over 200 papers as WFC Research Council Member for WFC conference 2014

- Grant review for ‘Canada Foundation for Innovation’ December 2014
- Article referee for “Clinical Biomechanics” November 2014
- Article referee for “Neuroscience Letters” November 2014
- PhD thesis external examiner for University of Ontario Institute of Technology, Canada, July 2014
- Article referee for “Journal of Chiropractic Education” May 2014
- MSc thesis external examiner for Unitec, Auckland, New Zealand, May 2014

2013

- Article referee for “Journal of Chiropractic Education” October 2013
- Article referee for “Clinical Interventions in Aging” September 2013
- Article referee for “Journal of Manipulative and Physiological Therapeutics” May 2013
- External Examiner for the University of Wales validated MSc in Chiropractic (Paediatrics) at McTimoney College of Chiropractic 2013 - present
- Article referee for “Journal of Pain Research” April 2013
- World Federation of Chiropractic (WFC) Scientific Reviewer for research awards for the 12th Biennial WFC Congress in Durban, South Africa 2013
- Moderator for original research session at the 12th Biennial World Federation of Chiropractic Congress in Durban, South Africa 2013

2012

- Article referee for “Medical Engineering & Physics” June 2012
- University of Ontario Institute of Technology, Canada, MSc Thesis External Reviewer 2012
- Article referee for “Journal of Manipulative and Physiological Therapeutics” June 2012
- Article referee for “Journal of Chiropractic Education” May 2012
- Article referee for “Experimental Brain Research” April 2012
- Article referee for “Journal of Manipulative and Physiological Therapeutics” April 2012
- Moderator for original research session at the Association of Chiropractic Colleges Research Agenda Conference, March 2012

2011

- Article referee for “Medical Engineering & Physics” November 2011
- Article referee for “Journal of Chiropractic Education” April 2011
- Article referee for “Journal of Manipulative and Physiological Therapeutics” April 2011

2010

- Norwegian Chiropractors' Association's 75th Anniversary International Conference & Research Symposium Research Committee Member 2010
- University of Auckland MSc Thesis External Reviewer 2010
- Article referee for “Journal of Chiropractic Education” May 2010
- Article referee for “Chiropractic & Osteopathy” May 2010
- Association of Chiropractic Colleges Research Agenda Conference Manuscript Reviewer 2010

2009

- Article referee for “BMC Musculoskeletal Disorders” December 2009
- Article referee for “Chiropractic & Osteopathy” November 2009
- Article referee for “Journal of Manipulative and Physiological Therapeutics” May and April 2009

1999-2008

- Article referee for “Journal of Chiropractic Education” July 2008
- Article referee for “Journal of Manipulative and Physiological Therapeutics” March, April and August 2008
- New Zealand College of Chiropractic Research Committee Chair 2007 - present

Memberships

- Society for Neuroscience 2006 - present
- Australian Neuroscience Society 2007 – present
- International Society for Applied Kinesiology 2000 - 2010
- New Zealand Chiropractors’ Association member 1999 – present
- New Zealand College of Chiropractic Alumni member 1999 – present
- New Zealand Registered Chiropractor 1999-present

PROFESSIONAL SPECIALTIES / CAREER

- Mother of two children, aged 19 and 15.
- Language experience: fluent in English and Norwegian and comprehensive understanding of Danish and Swedish.
- Part-time clinical practice; Calder Chiropractic Clinic, Browns Bay, Auckland (1999 - 2009), and Haavik Chiropractic, Browns Bay, Auckland (2009 - present).
- Chiropractic technique specialization includes: Applied Kinesiology, Sacro-Occipital-Technique, Neuro-Emotional-Technique, Neuro-Organisational Technique and Acupuncture.
- Honorary Research Fellow Department of Sport and Exercise Science-University of Auckland (2007 – 2008).

TEACHING (at the New Zealand College of Chiropractic):

Undergraduate Level

2012- present **Lecturer for Evidence Based Chiropractic Course, and Guest Lecture in Neuroscience courses and Professional Practice Courses**

The aim of these lectures is to teach the research results obtained at the Centre for Chiropractic Research to the Chiropractic students at the College across a variety of courses, to translate this evidence, discuss its strengths and weaknesses and to compare these findings with current neuroscience research and understanding.

2006 - 2011 **Co-ordinated, developed and taught two Research Methodology courses**

The aim of these two courses is to develop chiropractors that are competent consumers of the research literature and to develop their critical evaluation skills. The courses use a combination of didactic classroom lecturing, and case-based lab tutorials. These courses have received good student evaluations the past few years.

2007 - 2011 Co-ordinated, developed and taught three Neuroscience courses

These courses cover neuroanatomy, neuroembryology and neurophysiology at NZQA Level 6 and 7. The courses have both a lab and lecture component. These courses have received top student evaluations. Current research regarding the neurophysiological effects of chiropractic care are incorporated, evaluated and discussed within these courses.

2008 - 2011 Co-ordinated Visceral Physiology course

This course covers the gross anatomy of the cardiovascular, respiratory and renal systems; Respiratory physiology including lung mechanics, gas transfer and transport, and respiratory regulation; Cardiovascular physiology including heart mechanics and excitation, and vascular system, regulation; and Renal physiology including kidney function, water and electrolyte balance, and pH regulation. The course has both a lab and lecture component. 2008 and 2009 student feedback on lecturing was not good. A new lecturer took over the lecturing in 2010 which resulted in improved student feedback.

Previous teaching experience

2001: Part time teaching physical examination (orthopaedic and neurological) and clinic preparation classes at the New Zealand College of Chiropractic.

1995-1999: While completing my Chiropractic studies, I worked as a teacher at Norwegian primary and secondary schools during NZCC summer breaks.

Post-graduate Research supervision, Theses and Dissertations

2016

2016 Supervisor for one Health Science MSc student (Aisha Strand) from Auckland University of Technology, Auckland, currently in process for the project titled “Can chiropractic adjustments change multisensory integration and sensorimotor integration in children with autism? A feasibility study”

2016 Supervisor for one Health Science MSc student (Jenna Salmons) from Auckland University of Technology, Auckland, currently in process for the project titled “Chiropractic care and motor control in children with cerebral palsy”. Successfully defended 2018. A grade.

2016 Supervisor for one Health Science MSc student (Alice Cade) from Auckland University of Technology, Auckland, currently in process for the project titled “Chiropractic care and the control of eye movement in children with attention deficit hyperactivity disorder: A pilot study”. Successfully defended 2018. A grade.

2016 Supervisor for one Bioengineering PhD student (Thomas Momme Christensen) from Biomedical Engineering & Science, Auckland University of Technology, Auckland, currently in process for the project titled “Analysis of movement related cortical potentials during human locomotion and evaluation of their potential for driving a brain-computer interface rehabilitation protocol”. Successfully defended 2017

2016 Supervisor for one bioengineering PhD student (Muhammad Samran Navid) from The Doctoral School of Medicine Biomedical Science and Technology, Aalborg University, Denmark for one semester for project titled “The Effects of Chiropractic Care on Brain Activity”

2016 Supervisor for three Bioengineering MSc students (Anne Krogh Nøhr, Bolette Dybkjær Hansen, Louise Pedersen Pilgaard) from Department of Health Science and

Technology, Aalborg University, Denmark for one semester for project titled “Automatic method to measure cervical intervertebral kinematics”. Successfully defended 2017

2016 Supervisor for four Bioengineering MSc students (Mark Hummeluhr Christensen, Mathias Brønd Sørensen, Rune Kongsgaard Sørensen, Albert Cid Royo) from Department of Health Science and Technology, Aalborg University, Denmark for one semester for project titled “The effects of chiropractic skill level on neurophysiological markers”. Successfully defended 2017

2015

2015-2016 Supervisor for one Bioengineering MSc student (Vivian Schlup) from Hamburg University for Applied Sciences, Germany for 9 months for project titled “The effects of six weeks of chiropractic care on the H-reflex”. Successfully defended 2016

2014

2014 Supervisor of two Bioengineering MSc students (Astrid Clausen Nørgaard and Karina Faber Østergaard Pedersen) from Department of Health Science and Technology, Aalborg University, Denmark for one semester for project titled “The Effect of Chiropractic Care on Upper Limb Force Production, Fatigue, and Proprioception”.

2014 Supervisor of three Bioengineering MSc students (Andreas Egmose, Mads Nibe Stausholm and Thomas Momme Christensen) from Department of Health Science and Technology, Aalborg University, Denmark for one semester for project titled “Investigating the effects of electrical stimulation modalities paired with cortical potentials generated by motor imagination and motor execution”.

2014 Supervisor of two Bioengineering MSc students (Mette Vandborg Lauridsen and Marianne Enggaard) from Department of Health Science and Technology, Aalborg University, Denmark for one semester for project titled “The Motor Control of The Pelvic floor in Women with Non-synchronised Pelvic Floor Muscle Contractions after a Spinal Adjustment using High Density Surface EMG”.

2013-2011

2013 Supervisor for Bioengineering MSc student (Rasmus Wiberg Nedergaard) from Department of Health Science and Technology, Aalborg University, Denmark for one semester for project titled “Inducing long-term potentiation with motor imagining and peripheral electrical stimulation”.

2011 Supervisor of two Bioengineering MSc students (Mads Jochumsen and Asger Aagaard Jensen) from Department of Health Science and Technology, Aalborg University, Denmark for one semester for project titled “Inducing plasticity in the human central nervous system by using a brain-computer interface and spinal manipulation”.

2011 Supervisor of another two Bioengineering MSc students (Marko Niemeier and Thien Duy Van) from Department of Health Science and Technology, Aalborg University, Denmark for one semester for project titled “The effect of spinal manipulation on the morphology of movement-related cortical potentials”.

2009 - 2014 PhD co-supervisor for Kelly Holt “Effectiveness of Chiropractic Care in Improving Sensorimotor Function Associated with Falls Risk in Older People” University of Auckland, Auckland, New Zealand. Thesis submitted September 2013; defended successfully March 2014.

RESEARCH STATEMENT

My research interest lies in exploring how the human central nervous system adapts to its environment, a process known as neural plasticity. In order to measure altered neural function in humans, I have acquired skills in a number of non-invasive techniques which can be used to measure changes in neural processing and function in humans. This includes transcutaneous peripheral nerve stimulation, somatosensory evoked potential technique which is an electroencephalography method to measure processing and integration of sensory input by the brain, electromyography to measure electrical activity in muscles, and transcranial magnetic brain stimulation, which is a technique used to investigate alterations in the output of the human motor cortex. I have utilised these techniques to investigate alterations in somatosensory processing, sensorimotor integration and motor cortical output that may accompany mild spinal dysfunction (what chiropractors call vertebral subluxations). I have also used these skills to explore the mechanism of spinal manipulation of such dysfunctional spinal segments (what chiropractors call adjustments). My current line of research continues to explore these central neural effects of spinal dysfunction and chiropractic care and its impact on human function and quality of life. My research has led to a new understanding about the role that spinal dysfunction plays in the brain's ability to accurately perceive what is going on inside and outside of the body. My research has also led to a new understanding about the mechanisms of spinal manipulation, demonstrating a clear neuroplastic effect. I am interested in understanding how the human central nervous system adapts to the point of developing chronic musculoskeletal pain. And I am interested in understanding how chiropractic techniques can improve health and function. My research has both basic science and clinical applications. On the basic science side I am interested in understanding how altering afferent input from both trunk and limb muscles affects sensorimotor integration and motor control. Sensorimotor integration is the ability of the central nervous system to integrate incoming information from different body parts and formulate appropriate motor outputs to muscles. Effective sensorimotor integration is essential when learning new skills and when performing tasks at home and in the workplace. Impaired sensorimotor integration may partially explain why pain becomes chronic and why workers frequently injure themselves in jobs with a high level of repetitive activity and/or postural stress. My work explores the basic science of the interaction between afferent input from the spine and limbs and will contribute to a solid science foundation that underpins motor learning and performance enhancement as well as playing a role in injury prevention. On the clinical side my work aids in the understanding regarding the mechanisms why chiropractic actually works. By gaining a better understanding of the brain changes that take place with even mild spinal dysfunction right the way through to chronic musculoskeletal spinal pain effects and the impact of spinal manipulation (and other manual therapy techniques) on these populations I hope to help identify objective markers to better subgroup pain populations and better understand how mild dysfunction can for some become a chronic problem. I also hope to understand the role that chiropractic care plays in prevention and the rehabilitation of such conditions.

RESEARCH PUBLICATIONS (BOOKS).

Haavik H. (2014) *The Reality Check: A quest to understand chiropractic from the inside out.*
Haavik Research Ltd, Auckland, New Zealand

RESEARCH PUBLICATIONS (MANUSCRIPTS).

2018

- Amjad, Imran, Toor, Hamza, Niazi, Imran, Pervaiz, Sanna, Jochumsen, Mads, Shafique, Muhammad, **Haavik, Heidi**, Ahmed, Touqeer. (2018). Xbox 360 kinet cognitive games improve slowness, complexity of EEG and cognitive functions in subjects with mild cognitive impairment : A randomized control trail. *Games for Health Journal*. Submitted
- Barker, I., Yelder, P., **Haavik, H.**, & Murphy, B.A. (2017). The effect of 12 weeks of chiropractic care on the Cervical Flexion Relaxation Response: A Pilot Study. *Journal of Manipulative and Physiological Therapeutics*. Submitted.
- Amjad, I., Toor, H., Niazi, I., Afzal, H., Jochumsen, M., Shafique, M., Allen, K., **Haavik, H.**, Ahmed, T., (2018) Effect of aerobic exercise on electroencephalogram parameters and cognitive functions in patients with mild cognitive impairment. *European Archives of Psychiatry and Clinical Neuroscience*. Submitted.
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Holt, K., **Haavik, H.**, Lee, A.C.L., Murphy, B., & Raina Elley, R. (2014). Effectiveness of Chiropractic Care to Improve Sensorimotor Function Associated with Falls Risk in Older People: A Randomized Controlled Trial. Association of Chiropractic Colleges Research Agenda Conference, Meeting in Orlando, Florida, USA, March.

2013

Baarbé, J., Debison Larabie, C., **Haavik, H.**, Yelder, P., & Murphy, B. (2013). Differences in effects of cerebellar inhibition following motor learning in Subclinical neck pain patients. Society for Neuroscience, November 2013, San Diego, USA

Baarbé, J., Daligadu, J., Behbahani, H., **Haavik, H.**, Yelder, P., & Murphy, B. (2013). The effects of motor learning on the cerebellum and motor cortex. Submitted to Progress in Motor Control IX, July 2013, Montreal, Canada

Daligadua, J., **Haavik, H.**, Yelder, P., Baarbe, J., & Murphy, B.A. (2013). Alterations in cortical and cerebellar motor processing in subclinical neck pain patients following spinal manipulation. Platform presentation World Federation of Chiropractic's 12th Biennial Congress, April 6 – 9, Durban, South Africa. Proceedings p.142-143

Niazi, I.K., Türker, K., Flavel, S., Kingett, M., Duehr, J., & **Haavik, H.** (2013). Increased cortical drive and altered net excitability of low-threshold motor unit levels to the lower limb following spinal manipulation. Platform presentation World Federation of Chiropractic's 12th Biennial Congress, April 6 – 9, Durban, South Africa. Proceedings p.155-156.

Haavik, H., Niazi, I.K., Sherwin, D., & Flavel, S. (2013). Increased upper limb cortical excitability following spinal manipulation. Platform presentation World Federation of Chiropractic's 12th Biennial Congress, April 6 – 9, Durban, South Africa. Proceedings p.147.

Barker, I., Yelder, P., **Haavik, H.**, & Murphy, B.A. (2013). The effect of 12 weeks of chiropractic care on the Cervical Flexion Relaxation Response: A Pilot Study. Poster presentation World Federation of Chiropractic's 12th Biennial Congress, April 6 – 9, Durban, South Africa. Proceedings p.165.

Bosse, J., Passmore, S., Yelder, P., **Haavik, H.** & Murphy, B.A. (2013). The effect of spinal manipulation on sensorimotor integration and cortical effects of motor training in a cohort of participants with subclinical neck pain. Award winning poster presentation (Best student poster award, First Prize) World Federation of Chiropractic's 12th Biennial Congress, April 6 – 9, Durban, South Africa. Proceedings p.170-171.

Niazi, I.K., & **Haavik, H.** (2013). Increased lower limb cortical excitability and alterations to early Bereitschafts potential following spinal manipulation. Poster presentation World Federation of Chiropractic's 12th Biennial Congress, April 6 – 9, Durban, South Africa. Proceedings p.204-205.

2012

Thompson, J., Holt, K., Yelder, P., Bossenger, B., **Haavik, H.** (2012). The effects of lumbopelvic manipulation on heart rate variability: A controlled cross- over study. Chiropractic and Osteopathic College of Australasia (COCA) National Conference, October 13-14t, Sydney, Australia.

Lee, M., Kingett, M., Duehr, J., Calder, S., **Haavik, H.** (2012). Immediate increase in motor cortical drive after spinal adjustment. Chiropractic and Osteopathic College of Australasia (COCA) National Conference, October 13-14t, Sydney, Australia.

Niazi, I.K., Dremstrup, K., Jochumsen, M., Niemeier, M.J., Jensen, A,Å., Van, T.D., **Haavik, H.** (2012). Lower limb cortical excitability changes and alterations to early Bereitschafts potentials following spinal manipulation. The XIXth Congress of the International Society of Electrophysiology & Kinesiology, July 19-21, Brisbane, Australia, Proceedings SENS_O2.2, p. 245.

Haavik, H., Sherwin, D., Flavel, S., Dremstrup, K., Niazi, I.K. (2012). Neuroplastic changes in upper limb cortical excitability following spinal manipulation. The XIXth Congress of the International Society of Electrophysiology & Kinesiology, July 19-21, Brisbane, Australia, Proceedings SENS_O3.1 , p. 248.

2011

Haavik, H., Murphy, B. (2011). An approach using fast rate stimulation to investigate changes in cerebellar processing. World Federation of Chiropractic's 11th Biennial Congress, April 6 – 9, Rio de Janeiro, Brazil. Proceedings p.152 – 153.

Holt, K., **Haavik, H.**, Elley, C.R. (2011). The effects of manual therapy on balance and falls: A systematic review. World Federation of Chiropractic's 11th Biennial Congress, April 6 – 9, Rio de Janeiro, Brazil. Proceedings p.153 - 154.

Holt, K., **Haavik, H.**, Elley, C.R. (2011). Effect of manual therapy on balance and falls: A systematic review. Association of Chiropractic Colleges Research Agenda Conference, Meeting in Las Vegas, USA, March. Abstract published in The Journal of Chiropractic Education, 2011; 25 (1): p.83.

2010

Murphy, B.A., Passmore, S., Bosse, J., **Haavik Taylor, H.**, Lee, T. (2010). The effects of ulnar nerve paresthesia on sensorimotor integration. Neuroscience 2010, San Diego, November 13-17.

Haavik Taylor, H., Mrachacz-Kersting, N., Murphy, B. (2010). Selective changes of intracortical facilitation and inhibition following repetitive voluntary movement. The XVIII Congress of the International Society of Electrophysiology and Kinesiology. Aalborg, Denmark: the Department of Health Science and Technology, Aalborg University, June 16-19.

Haavik Taylor, H., Murphy, B. (2010). Joint dysfunction as a form of altered afferent input: part I: Sensory processing changes following spinal manipulation. The XVIII Congress of the International Society of Electrophysiology and Kinesiology. Aalborg, Denmark: the Department of Health Science and Technology, Aalborg University, June 16-19.

Murphy, B., **Haavik Taylor, H.** (2010). Joint dysfunction as a form of altered afferent input: part II: changes in motor control following spinal manipulation and exercise. The XVIII Congress of the International Society of Electrophysiology and Kinesiology. Aalborg, Denmark: the Department of Health Science and Technology, Aalborg University, June 16-19.

Murphy, B., Yields, P., Bosse, J., Daligadu, J., **Haavik Taylor, H.** (2010). Motor training changes processing of early cerebellar and cortical somatosensory evoked potentials. The XVIII Congress of the International Society of Electrophysiology and Kinesiology. Aalborg, Denmark: the Department of Health Science and Technology, Aalborg University, June 16-19.

Haavik Taylor, H., Murphy, B. (2010). Cervical adjustments improve elbow joint position sense. Association of Chiropractic Colleges Research Agenda Conference, Meeting in Las Vegas, USA, March. Abstract published in The Journal of Chiropractic Education, 2010; 24 (1): p.114.

Holt, K., Noone, P., Short, K., **Haavik Taylor, H.** (2010). Falls risk profile of elderly chiropractic patients. Association of Chiropractic Colleges Research Agenda Conference, Meeting in Las Vegas, USA, March. Abstract published in The Journal of Chiropractic Education, 2010; 24 (1): p.97.

Holt, K., Beck, R., Sexton, S., **Haavik Taylor, H.** (2010). Reflex effects of a spinal adjustment on blood pressure. Association of Chiropractic Colleges Research Agenda Conference, Meeting in Las Vegas, USA, March. Abstract published in The Journal of Chiropractic Education, 2010; 24 (1): p.129.

Russell, D., Ellis, G., Kashmiri, R., Holt, K., **Haavik Taylor, H.** (2010). A survey of the public perception of chiropractic and chiropractic spinal screenings. Association of Chiropractic Colleges Research Agenda Conference, Meeting in Las Vegas, USA, March. Abstract published in The Journal of Chiropractic Education, 2010; 24 (1): p.111.

2009

Haavik Taylor, H., Holt, K.R., Murphy, B. (2009). Exploring the neuromodulatory effects of the vertebral subluxation and chiropractic care. Chiropractors' Association of Australia Scientific Symposium, Melbourne, Australia, 22nd November.

Holt, K.R., Beck, R.W., Sexton, S., **Haavik Taylor, H.** (2009). Reflex effects of a spinal adjustment on blood pressure. Chiropractors' Association of Australia Scientific Symposium, Melbourne, Australia, 22nd November.

Holt, K.R., Noone, P., Short, K., **Haavik Taylor, H.** (2009). Falls risk profile of elderly chiropractic patients. Chiropractors' Association of Australia Scientific Symposium, Melbourne, Australia, 22nd November.

Postles, A., **Haavik Taylor, H.,** Holt, K.R. (2009). Changes in asthma symptoms and bedwetting in a four year old child receiving chiropractic care. Chiropractors' Association of Australia Scientific Symposium, Melbourne, Australia, 22nd November.

Haavik Taylor, H. (2009). Effects of Cervical Adjustments on Elbow Joint Position Sense. World Federation of Chiropractic's 10th Biennial Congress Proceedings, Montreal, Canada, 30th April – 3rd May, p. 267.

Murphy, B., Marshal, P. & **Haavik Taylor, H.** (2009) Effects of spinal manipulation on exercise rehabilitation neuromuscular outcome measures for patients with chronic neck pain: a pilot study. Association of Chiropractic Colleges Research Agenda Conference, Meeting in Las Vegas, USA, March. Abstract published in The Journal of Chiropractic Education, 2009; 23 (1): p.83.

Haavik Taylor, H. & Murphy, B. (2009) Spinal manipulation alters central integration of dual somatosensory input observed following motor training. Association of Chiropractic Colleges Research Agenda Conference, Meeting in Las Vegas, USA, March. Abstract published in The Journal of Chiropractic Education, 2009; 23 (1): p.97.

Holt, K.R., Russell, D.G., Hoffmann, N.J., Bruce, B.I., Bushell, P.M., **Haavik Taylor, H.** (2009). Interexaminer reliability of a leg length analysis procedure among novice and experienced practitioners. Association of Chiropractic Colleges Research Agenda Conference, Meeting in Las Vegas, USA, March. Abstract published in The Journal of Chiropractic Education, 2009; 23 (1): p.73.

Haavik Taylor, H., & Murphy, B. (2009). Selective changes in cerebellar-cortical processing following motor training. Australian Neuroscience Society 29th Annual Meeting in Canberra, Australia, 27 – 30 January, p.81.

2008

Murphy, B., & **Haavik-Taylor, H.** (2008). Increased intra-cortical facilitation following fatiguing closed kinetic chain exercise. Neuroscience 2008, Washington, DC, USA, November 15 –19.

Murphy, B., & **Haavik-Taylor, H.** (2008). Selective changes of intracortical facilitation and inhibition following repetitive voluntary movement. Transcranial Magnetic Stimulation and Neuroimaging in Cognition and Behavior, Montréal, Canada, September 25-26, Poster 14, page 35.

Haavik Taylor, H., & Murphy, B. (2008). Altered Central Integration of Dual Somatosensory Input Following Cervical Spine Manipulation. Association of Chiropractic Colleges Research Agenda Conference, Meeting in Washington DC, USA, March. Abstract published in The Journal of Chiropractic Education, 22 (1): p.79.

2007

Murphy, B., Marshall, P., Govorko, D., & **Haavik Taylor, H.** (2007). The cervical flexion relaxation ratio, differences between neck patients and controls and changes with exercise. IBRO World Congress of Neuroscience Motor Control Satellite Meeting in Darwin, Northern Territory, Australia, 18-21 July 2007, p. 101.

Haavik Taylor, H., & Murphy, B. (2007). Selective changes in intracortical facilitation and inhibition following repetitive voluntary movement. IBRO World Congress of Neuroscience Motor Control Satellite Meeting in Darwin, Northern Territory, Australia, 18-21 July 2007, p. 87.

Haavik Taylor, H., & Murphy, B. (2007). Altered sensorimotor integration with cervical spine manipulation. IBRO World Congress of Neuroscience in Melbourne, Australia, 18-21 July 2007, p. 87.

Haavik Taylor, H., & Murphy, B. (2007). Altered sensorimotor integration with cervical spine manipulation. World Federation of Chiropractic's 9th Biennial Congress in Vilamoura, Portugal May 17-19, p. 227.

Haavik Taylor, H., Dobson, G., & Holt, K. (2007). Inter-examiner reliability of Chiropractic-specific upper cervical motion palpation. World Federation of Chiropractic's 9th Biennial Congress in Vilamoura, Portugal May 17-19, p. 344.

Murphy, B., Marshall, P., **Haavik Taylor, H.,** Govorko, D., Palmer, S. (2007). The cervical flexion-relaxation ratio: Reproducibility and Comparison between Chronic neck pain patients and controls. World Federation of Chiropractic's 9th Biennial Congress in Vilamoura, Portugal May 17-19, p. 187.

Haavik Taylor, H., & Murphy, B. (2007). Transient modulation of intracortical inhibition following spinal manipulation. World Federation of Chiropractic's 9th Biennial Congress in Vilamoura, Portugal May 17-19, p. 228.

2006

Haavik Taylor, H., & Murphy, B. (2006). Transient modulation of intracortical inhibition following spinal manipulation. ACA Scientific Symposium and Policy Forum, Sydney, Australia.

Taylor, H.H., & Murphy, B.A. (2006). The effect of cervical spine manipulation on the ability to integrate somatosensory input following repetitive movements. Proceedings of the Australian Neuroscience Society Annual Meeting, Sydney, 31 Jan-3 Feb 2006, p.28.

2005

Taylor, H.H., & Murphy, B.A. (2005). The effects of repetitive muscle activity on central integration of dual somatosensory input. Program Number: 41.12. Washington, DC: Society for Neuroscience, 2005. Online.

Murphy, B., & **Haavik-Taylor, H.** (2005). The effects of repetitive muscle activity on central integration of somatosensory input. 2nd International Conference on Movement Dysfunction: Pain and Performance: Evidence and Effect, Edinburgh, September 2005. p. P40.

Haavik, Taylor, H., Murphy, B. (2005). Cervical Spine Manipulation Alters Sensorimotor Integration: A combined somatosensory and motor evoked potential study. 8th Biennial Congress of the World Federation of Chiropractic, Sydney, 2005. p. 248.

Haavik-Taylor, H., Murphy, B.A. (2005). The effect of cervical spine manipulation on the ability to integrate somatosensory input following repetitive thumb movements. New Zealand Chiropractic Associations Annual General Meeting. Auckland, New Zealand.

2004

Murphy, B.A., **Haavik-Taylor, H.** (2004). Cervical spine manipulation alters central integration of dual somatosensory input following repetitive thumb abduction Abstracts from the 2nd Annual Adelaide Centre for Spinal Research Symposium, August 2004.

2003

Murphy, B.A., **Haavik-Taylor, H., Philip, F.** (2003). Transient and reversible cortical and subcortical changes in the sensorimotor system following cervical spine manipulation: a pilot study. Abstracts from Progress in Motor Control IV: Motor Control and Learning over the Life Span. Caen, France. p.133

INVITED AND KEYNOTE PRESENTATIONS

2018

Haavik, H. Effects of an Adjustment on Brain Function. *Invited Speaker for Association Française de Chiropraxie*, Paris, France, June 3rd 2018

Haavik, H. Pain, Plasticity & Chiropractic. *Invited Speaker for Institut Franco-Européen de Chiropractique*, Paris, France, June 2nd 2018

Haavik, H. The Neurophysiology of Spinal Manipulation – The Marvels of a Gentle Squeeze. *Invited Speaker at University of Valenciennes, France, May 30th 2018*

Haavik, H. The Neuroplasticity Model of Chiropractic Care. *Invited Keynote speaker at the South Dakota Chiropractic Association's annual Super Conference V. April 19-21 2018*

Haavik, H. The Neuroplasticity Model of Chiropractic Care. *Invited Keynote speaker at Michigan Association of Chiropractors' 2018 Spring Convention & Exhibition, Traverse City, Michigan, USA, April 27-29, 2018*

Haavik, H. Communicating the new understanding of the mechanisms of chiropractic care. *Invited speaker for the Annual Spring Convention of the New York Chiropractic Council, New York, USA, 3-5th May, 2018*

Haavik, H. The Neurophysiological Mechanisms of Chiropractic Care. *Invited Keynote Speaker for The Rubicon Group Event, Atlanta, Georgia, USA, 18-20 May, 2018*

Haavik, H. Pain and Plasticity and the role of Chiropractic. *Invited speaker for the French Chiropractic Association, Paris, France, June 1-3, 2018*

Haavik, H. The Neuroplasticity model of Chiropractic care. *Invited speaker for the World Congress of Chiropractic Students, Western Pacific Regional Event, March 24th 2018*

Haavik, H. Neuroplasticity Model of Chiropractic Care. *Invited Keynote speaker at New Hampshire Chiropractic Association event, Nasua, New Hampshire, USA, 10th March 2018*

2017

Haavik, H. The latest exciting scientific discoveries about chiropractic care *Invited Speaker for the Eureka Chiropractic Group, Oslo, Norway, November 2017*

Haavik, H. Chiropractic Adjustments Change and Improve Brain Function Beyond a Doubt *Invited Speaker for the Annual Super-Conference for the Masters Circle, United States of America for the 2017, USA, November 2017*

Haavik, H. Beyond a Doubt; Adjusting the Spine Changes Brain Function *Invited Keynote Speaker for the for the 2017 Washington State Chiropractic Association's Annual Conference, Seattle, USA, October 2017*

Haavik, H. Chiropractic Care Impacts Brain Function *Invited Keynote speaker for the 28th Annual Convention New York Chiropractic Council, New York, USA, October 2017*

Haavik, H. Progress in Neuroscience: A Chiropractors Dream *Invited speaker for the New Zealand College of Chiropractic Annual Lyceum, Auckland, NZ, September 2017*

Haavik, H. International Chiropractic Association *Invited Speaker at the Subluxation Summit: Cleveland Chiropractic College, Kansas, July 2017*

Haavik, H. Life West Chiropractic College *Invited speaker at Life West Chiropractic College, San Francisco, USA, July 2017*

- Haavik, H.** Life West Chiropractic College *Invited speaker at the WAVE: Life West Chiropractic College, San Francisco, USA, August 2017*
- Haavik, H.** World Congress of Chiropractic Students *Invited speaker for the WCCS held in San Francisco, USA, August 2017*
- Haavik, H.** The evidence about chiropractic care for kids *Invited speaker at The Kids Summit Annual Conference, Sydney, Australia, September 2017*
- Haavik, H.** The latest exciting scientific discoveries about chiropractic care, *Invited speaker at the Colorado Chiropractic Association's 2017 Centennial Celebration Convention, Colorado, USA, October 2017*
- Haavik, H.** Neurophysiological Mechanisms That Are Changing Our Understanding of the Chiropractic Adjustment *Invited Speaker for the Idaho Association of Chiropractic Physicians Annual Conference. Boise, Idaho, USA, April 2017*
- Haavik, H.** Essentials in Neurophysiology for The Chiropractor. *Invited Speaker for the Idaho Association of Chiropractic Physicians Annual Conference. Boise, Idaho, USA, April 2017*
- Haavik, H.** Why Optimal Spinal Function is Essential for Health Throughout Life. *Invited speaker at Life University's Life Vision Conference. Atlanta, Georgia, USA, April 2017*
- Haavik, H.** The Impact of Spinal Function on Brain Function. *Invited Speaker for the Neurology Club, Life University, Atlanta, Georgia, USA. April 2017*
- Haavik, H & Holt, K.** Advances in Neuroscience: A Chiropractor's Dream. *Invited Speakers at The Rubicon Groups Annual Convention. Melbourne, Australia, April 2017*
- Haavik, H.** Neurophysiological Mechanisms That Are Changing Our Understanding of the Chiropractic Adjustment. *Invited Plenary Speaker at DC2017, the joint Congress of the World Federation of Chiropractic, the Association of Chiropractic Colleges and the American Chiropractic Association. Washington DC, USA, March 2017*
- Haavik, H.** Essentials in Neurophysiology for The Chiropractor. *Invited Workshop Presenter at DC2017, the joint Congress of the World Federation of Chiropractic, the Association of Chiropractic Colleges and the American Chiropractic Association. Washington DC, USA, March 2017*
- Haavik, H.** Beyond a Doubt; Adjusting the Spine Changes Brain Function. *Invited Speaker at the California Jam, Anaheim, California, USA. February 2017*
- Haavik, H.** What the Latest Science Tells Us About the Mechanisms of Chiropractic and How to Communicate it with Confidence. *Invited speaker at Washington State Chiropractic Association Conference, Seattle, Washington, USA. January 2017*

2016

- Haavik, H.** 'A novel approach to unite the profession by bringing the science and philosophy together' and 'What the latest science tells us about the mechanisms of chiropractic'. *Invited speaker at the Congress of Chiropractic State Associations. Phoenix, Arizona, USA, November 2016*

- Haavik, H.** Chiropractic Research Update. *Invited speaker at the Leadership Summit. Phoenix, Arizona, USA, November 2016*
- Haavik, H.** The Neuroplasticity Model of Healing. *Invited Speaker at the Super Conference, for the Masters Circle, Lake Buena Vista, Florida, USA, September 2016*
- Haavik, H.** Swiss Chiropractic Association. *Invited speaker for Association of Swiss Chiropractors' Convention for Continuing Professional Development. Davos, Switzerland. September 2016*
- Haavik, H.** Rubicon Conference. *Invited speaker for Rubicon Conference Intensive European Conference, Geneva, Switzerland, September 2016*
- Haavik, H.** NZCC Lyceum. The FUNDamentals of sharing scientific facts. *Invited speaker for the New Zealand College of Chiropractic's Annual Lyceum Conference, Auckland, New Zealand, September 2016*
- Haavik, H.** Danish Chiropractic Association. *Invited speaker for Conference, Copenhagen Denmark, June 2016*
- Haavik, H.** Scottish Chiropractic Association. *Invited speaker for Edinburgh Lectures Conference, Edinburgh, Scotland, June 2016*
- Haavik, H.** The Science of Adjusting the Spine. *Invited speaker for the Ohio State Chiropractic Association, Columbus, Ohio, USA, June 2016*
- Haavik, H.** Tällberg Chiropractic Association. *Invited speaker at the Tällberg Chiropractic Symposium in, Tällberg, Sweden, for Conference, Copenhagen Denmark, May 2016*
- Haavik, H.** Optimal Health Performance Seminars. *Invited speaker at the "The designed to 2 move event" Hilversum, Netherlands, May, 2016*
- Haavik, H.** 'The Neurophysiological mechanisms of the adjustment' and 'The Science of Applied Kinesiology'. *Invited Keynote Speaker at the Annual Applied Kinesiology Conference for Australasia, Auckland, New Zealand, April 2016*
- Haavik, H.** CAA NSW. *Invited speaker at the Chiropractors Association of Australia NSW Annual meeting, Sydney, Australia, March 2016*
- Haavik, H.** Rubicon conference on neuroscience and chiropractic. *Invited speaker for the Rubicon Conference, London, England, March 2016*
- Haavik, H.** Highlights of Recent Chiropractic Research for Clinical Practice. Parker University. *Invited speaker at The Parker Experience, Las Vegas, USA, January 2016*
- 2015**
- Haavik, H.** Student Presentation. *Spinal Research Jumpstart Sydney initiative. Sydney, Australia, November 2015*
- Haavik, H.** The Reality Check: Understanding Chiropractic from the inside out –Part 1. *Full day workshop seminar, Australian Spinal Research Foundation, Sydney, Australia, December 2015*
- Haavik, H.** Sydney Spine Symposium presentation. *Spine Symposium, Sydney, Australia, December 2015*

- Haavik, H.** “How to communicate the latest science of Chiropractic”. *Life Roma Seminar, Rome, Italy, November 2015*
- Haavik, H.** Chiro Fest presentation, *Chiro Fest, Seattle, WA, USA, September 2015*
- Haavik, H.** The Kids Summit presentation, *Kids Summit, Sydney, Australia, September 2015*
- Haavik, H.** Australasian Academy of Functional Neurology, *Australasian Academy of Functional Neurology Sydney, Australia, August 2015*
- Haavik, H.** Chiropractic Association of Ireland. *Chiropractic Association of Ireland Conference, Dublin, Ireland., June 2015*
- Haavik, H.** The Reality Check: Understanding Chiropractic from the inside out –Part 1. *Full day workshop seminar, Chiropractors of Aalborg, Aalborg, Denmark, June 2015*
- Haavik, H.** ‘The power of Ten’. *Invited speaker for Edinburgh Lectures Conference, Edinburgh, Scotland, June 2015*
- Haavik, H.** School of Medicine presentation *Invited speaker at the School of Medicine, Koc University, Istanbul, Turkey, June 2015*
- Haavik, H.** Chiropractic and the Neuromatrix. *World Federation of Chiropractic’s 13th Biennial Conference, Athens, Greece, May 2015*
- Haavik, H.** The Reality Check Series. A Quest to Understand Chiropractic from the Inside Out – Part 1. *Invited speaker at the Chiropractors Association of Australia Annual meeting, Perth, WA, Australia, April 2015*
- Haavik, H.** “The reality check”: The Science behind the Art and Philosophy. *Key note speaker. British Chiropractic Association- Edinburgh, Scotland, March 2015*
- Haavik, H.** ‘Connecting the Dots’. *Key note speaker United Chiropractic Association conference, London, England, March 2015*
- Haavik, H.** “The reality check”: The Science behind the Art and Philosophy. *Key note speaker Lead to Success conference, British Chiropractic Association- Edinburgh, Scotland, March 2015*
- Haavik, H.** “The Facts”- The Scientific facts that give Chiropractic Philosophy Relevance. *Key note speaker ‘Dynamic Growth Congress’, Australian Spinal Research Foundation, Melbourne, Australia, February 2015*

2014

- Haavik, H.** The Clinical Implications of the Neurophysiology of Chiropractic Care. *Invited speaker at the Sydney Spine Symposium, Sydney, Australia, December 2014*
- Haavik, H.** The neurophysiology of chiropractic care. *Spinal Research Jumpstart Sydney initiative. Sydney, Australia December 2014*
- Haavik, H.** The Reality Check: Understanding Chiropractic from the inside out –Part 1, *Full day workshop seminar, Sydney, Australia, November 2014*

Haavik, H. Research in New Zealand and beyond. *Invited speaker at the Chiropractic Association of Australia National Development Forum, Adelaide, Australia, October 2014*

Haavik, H. The past, present and future of chiropractic research. *Invited speaker at the New Zealand College of Chiropractic Lyceum, Auckland, September 2014*

Haavik, H. How to communicate the new science of chiropractic. *Invited CPD speaker at the New Zealand College of Chiropractic Lyceum, Auckland, September 2014*

Haavik, H. Spinal function impacts your brain! *Invited speaker at The Wave, San Francisco, August 2014*

Haavik, H. How to confidently communicate the science of chiropractic. *Invited full day workshop presenter, Aalborg, Denmark, June 2014*

Haavik, H. What are the neurophysiological effects of adjusting the spine? *Syddansk Universitet, Odense, Denmark, May 2014*

Haavik, H. What are the neurophysiological effects of adjusting the spine? *Invited speaker at Oslo Chiropractic Symposium, Oslo, Norway, April 2014*

Haavik, H. How to confidently communicate the science of chiropractic. *Invited full day workshop presenter, Dynamic Growth Congress, February 2014*

2013

Haavik, H. The changing world of chiropractic. *Invited speaker at the New Zealand College of Chiropractic Lyceum, Auckland, September 2013*

Haavik, H. Chiropractic alters the Matrix of your brain! *Invited speaker at Vikersund Kurbad (Vikersund Rehabilitation Centre), Vikersund, Norway, June 2013*

Haavik, H. The chiropractic challenge. *Invited speaker at the Edinburgh Lectures, Edinburgh, Scotland, June 2013*

Haavik, H. Chiropractic alters the Matrix of your brain! *Invited speaker at KUSOM Research Meeting, Koç University, Istanbul, Turkey, May 2013*

Haavik, H. The Evolving Science of Chiropractic. *Invited speaker at the New Zealand Chiropractic Associations Annual General Meeting, Rotorua, May 2013*

2012

Haavik, H. Falls and the effects of manual therapy on multimodal integration. *Invited speaker at Chiropractic and Osteopathic College of Australasia (COCA) National Conference, Sydney, Australia, October 2012*

Haavik, H. The Science of Adjusting Subluxations. *Keynote speaker at the Swedish Chiropractic Association's Annual General Meeting, Stockholm, Sweden, October 2012*

Haavik, H. The Subluxation: The evidence and how do we instruct students about this entity? *Invited speaker at the World Federation of Chiropractic (WFC) Education Conference, Perth, Australia, September 2012*

Haavik, H. Communicating the Science of Chiropractic. *Invited speaker for the New Zealand College of Chiropractic Lyceum, Auckland, September 2012*

Haavik, H. The science of adjusting subluxations. *Keynote speaker for the Chiropractic Association of Australia – South Australia AGM, August 2012*

Haavik, H. The importance of becoming a competent critical consumer of chiropractic relevant research! *Invited presentation at academic research seminar series, Macquarie University, Sydney, Australia. May 2012*

Haavik, H. The importance of becoming a competent critical consumer of chiropractic relevant research! *Invited presentation for the Chiropractic Student Association at RMIT University, Melbourne, Australia. May 2012*

Haavik, H. Chiropractic Care with Confidence Clarity and Charisma. *Invited speaker for New Zealand Chiropractic Association Annual General Meeting and Conference. May 2012*

Haavik, H. The neurophysiology of chiropractic. *Invited speaker for World Congress of Chiropractic Students (WCCS) inaugural United States regional congress; San Francisco, May 2012*

Haavik, H. Zap into life with real Chiropractic science. *Invited speaker for ‘Spring for Life’, Life West Chiropractic College, San Francisco, May 2012*

Haavik H. The Science of Adjusting Subluxations. *Keynote speaker for Scottish Chiropractic Association, April 2012*

Haavik H. Forsknings oppdatering fra New Zealand (Research update from New Zealand). *Invited speaker for Norwegian Chiropractors Association, Oslo, April 2012*

Haavik, H. How Science can provide Clarity, Confidence and Certainty! *Invited speaker for Australian Spinal Research Foundation’s Dynamic Growth Congress, Brisbane, Australia February 2012*

Haavik, H. Research, Research, Research! *Invited speaker for Australian Spinal Research Foundation’s Dynamic Growth Jumpstart Congress, Brisbane, Australia February 2012*

Haavik, H. *Invited speaker for the World Congress of Chiropractic Students (WCCS) inaugural Western Pacific regional congress; Brisbane, February 2012*

2011

Haavik, H. Research update from NZ! *Chiropractic Association of Australia’s National Development Forum; Research Session, October 2011*

Haavik, H. How to effectively include science in your chiropractic toolbox (four 1 ½ hour sessions). *The keynote speaker at the Chiropractic Association of Australia’s National Development Forum, October 2011*

Haavik, H. Understanding research efforts and Subluxation. *Invited speaker for the LifeSource Octagon 2011 Conference Event: Contemporary Scientific Paradigms; A new model for Subluxation. Atlanta, Georgia, USA, April 2011*

Haavik, H. The science of chiropractic. *Invited speaker for World Congress of Chiropractic Students Conference, Rio de Janeiro, Brazil, April 2011*

Haavik, H. Inspiring Change. *Keynote speaker for the Chiropractic Association of Australia Victoria, Inspiring Change Conference, Melbourne, Australia, April 2011*

Haavik, H. Success through science. *Invited speaker for Australian Spinal Research Foundation's Dynamic Growth Congress, Brisbane, Australia, February 2011*

2010

Haavik, H. Chiropractic care alters CNS function in various ways - how does it affect the autonomic nervous system? - A report on human research work in New Zealand. *Keynote speaker at the Norwegian Chiropractors' Association's 75th Anniversary International Conference & Research Symposium, Bergen, Norway, October 2010*

Haavik, H. Exploring the Neuromodulatory Effects of the Vertebral Subluxation and Chiropractic Care. *Keynote speaker at the Chiropractic Association of Australia's National Development Forum, Cairns, Australia, October 2010*

Haavik, H. Effects of manipulation on cortical function. *Invited Research Presentation at the Chiropractic Association of Australia's National Development Forum, Cairns, Australia, October 2010*

Haavik, H. Believe it or not.....Chiropractic changes brain function. *Keynote Speaker at the Chiropractic Association of Australia – South Australia Annual General Meeting, Adelaide, Australia, 2010*

Haavik Taylor, H. The Power of Science. *Invited speaker for Jumpstart Dynamic Growth, Macquarie University, Sydney, Australia, August 2010*

Haavik Taylor, H. Current & Future Directions for Chiropractic Research in Australasia. *Invited speaker for Macquarie University Chiropractic Alumni annual research seminar, Sydney, Australia, August 2010*

Haavik Taylor, H. Make the Connection! *Invited speaker for Dynamic Growth New Zealand, Tauranga, New Zealand, May 2010*

2009

Haavik Taylor, H. The misalignment of heads, hearts and guts. *Invited speaker for World Congress of Chiropractic Students, Auckland, New Zealand, 2009*

Haavik Taylor, H. Research for Practice on Monday “An introduction to the research we do” *Invited speaker for Dynamic Growth Congress. Brisbane, Australia, February 2009*

Haavik Taylor, H. Research; Why should be bother? What sort of research should we do? *Invited speaker for New Zealand Chiropractic Association Annual General Meeting, Auckland, New Zealand, May 2009*

Haavik Taylor, H. Current & Future Directions for Chiropractic Research in Australasia. *Invited speaker for Australian Spinal Research Foundations Annual General Meeting, Sydney, Australia, November 2009*

2008

Haavik Taylor, H. Chiropractic relevant research in New Zealand. *Invited speaker for New Zealand Chiropractic Association Annual General Meeting, Rotorua, New Zealand, May 2008*

Haavik Taylor, H. New Zealand College of Chiropractic Pediatrics Relevant Research. *Invited speaker for International Chiropractors Association Council on Chiropractic Pediatrics Conference & Research Symposium on Chiropractic Pediatrics, Gold Coast, Australia, April 2008*

2007

Haavik Taylor, H. New Zealand College of Chiropractic Research. *Invited speaker for Lyceum, Auckland, New Zealand, September 2007*

REFEREES

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Relationship: Research collaborator