

CURRICULUM VITAE

NAME: Heidi Haavik

PREVIOUS NAME: Heidi Haavik Taylor

CURRENT POSITIONS: Director of Research
New Zealand College of Chiropractic, 6 Harrison Road, Mt Wellington, [Auckland](#), New Zealand

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

World Federation of Chiropractic Research Council Member

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

PREVIOUS POSITIONS HELD:

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.

EDUCATIONAL QUALIFICATIONS:

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

SIGNIFICANT DISTINCTIONS / AWARDS:

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.
2009	Two award winning papers at the Association of Chiropractic Colleges Research Agenda Conference, Las Vegas, USA.
2009	Research Poster Award at the World Federation of Chiropractic's 10 th 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.
2008	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
2008	New Zealand Chiropractor's Association Chiropractor of the Year
2007	Original Research Award (3 rd Prize). World Federation of Chiropractic's 9 th Biennial Congress in Vilamoura, Portugal.
2007 – present	Editorial board member for Journal of Chiropractic Education
2003	University of Auckland Doctoral Scholarship.
2003 – 2006	Top Achievers Doctoral Scholarship from the New Zealand Tertiary Education Commission.
2002 – 2003	Foundation for Chiropractic Education and Research Fellowship.
2000 – 2001	Department of Sport & Exercise Science-University of Auckland Summer Research scholarship.

GRANTS:

2012	NZ\$ 44,500	Chiropractic Care and the Cortical Silent Period	Australian Spinal Research Foundation
2012	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
2010	AU\$79,926	The effect of chiropractic care on cerebellar function	Australian Spinal Research Foundation
2010	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
2010	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*	Australian Spinal Research Foundation
2009	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
2009	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
2008	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
2007	NZ\$7,000	The effects of a lumbopelvic adjustment on heart rate variability: A controlled crossover trial.	Hamblin Chiropractic Research Fund Trust
*	Returned	May 2012	

PROFESSIONAL SOCIETIES / SERVICES / OTHER

Service

- Article referee for “Journal of Chiropractic Education” May 2014
- MSc thesis external examiner. Unitec, Auckland, New Zealand, May 2014
- 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
- 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
- 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
- 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
- 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
- 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
- New Zealand Registered Chiropractor 1999-present

Memberships

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

PROFESSIONAL SPECIALTIES / CAREER

- Mother of two children, aged 15 and 11.
- 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, 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

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”.

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”.

Theses and Dissertations

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 SPECIALTIES / CAREER

Summary statement:

My PhD is in human neurophysiology. 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 of sensory input by the brain, electromyography to measure electrical activity in muscles, and transcranial magnetic 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 vertebral subluxations, chiropractic adjustments and conditions such as occupational overuse syndrome. My current line of research explores these central neural effects of chiropractic care and its impact on human function and quality of life.

RESEARCH PUBLICATIONS (BOOKS).

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

RESEARCH PUBLICATIONS (MANUSCRIPTS).

- Lelic D, **Haavik H**, Niazi IK, Murphy B, Jochumsen M & Dremstrup K & Drewes AM. (2014) Reorganization of brain networks in subclinical pain patients following spinal manipulation. *Clinical Neurophysiology*. In prep.
- Jochumsen M, Niazi IK, , Farina D, Dremstrup K & **Haavik H**. (2014) Influence of spinal manipulation on the corticospinal excitability by combining electrical stimulation in association with motor imagery. *Frontiers of Neuroscience*. In prep.
- Haavik H**, Niazi IK & Murphy B, (2014). The effect of 3 months of spinal manipulation on central integration of dual somatosensory input in chronic pain population: a pilot study. *Experimental Brain Research*, In prep.
- Haavik H**, Niazi IK, Jochumsen M, Sherwin D, Flavel S, Farina D & Dremstrup K. (2014) Spinal manipulation: Central plastic effects of chiropractic care. *Journal of Neuroscience*. In prep.
- Thomson J, Holt K, Bossenger N, Yelder P & **Haavik H**. (2014) The effects of lumbopelvic manipulation on heart rate variability: A controlled cross- over study. *Journal of Manipulative and Physiological Therapeutics*. In prep.
- Holt K, **Haavik H**, Lee ACL, 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. *British Medical Journal*. In prep.
- Haavik H**, Niazi IK, Duehr J, Kinget M, Ugincius P, Sebik O, Yılmaz G & Türker KS. (2014) Chiropractic alters TMS induced I-wave excitability and the cortical silent period duration. *Journal of physiology*. In prep.
- Haavik H**, Kruger J & Murphy B. (2014) Pelvic floor functional changes with spinal manipulation in pregnant and non-pregnant women: A pilot study. *Ultrasound in Obstetrics & Gynecology*. In prep.
- Jochumsen M, Niazi IK, Wiberg Nedergaard R, **Haavik H**, Farina D & Dremstrup K. (2014) Induction of long-term depression-like plasticity by pairings of motor imagination and peripheral electrical stimulation. *Journal of Neuroscience*. In prep.
- Jochumsen M, Niazi IK, Mrachacz-Kersting N, Farina D, **Haavik H** & Dremstrup K. (2014). Pairing of motor imagination with single pulse and repetitive electrical stimulation induces plasticity. *Clinical Neurophysiology*. In prep.
- Niazi IK, Türker KS, Flavel S, Kinget M, Duehr J & **Haavik H**. (2014) Changes in H-reflex and V waves following spinal manipulation. *Experimental Brain Research*. Submitted.
- Barker I, Yelder P, **Haavik H** & Murphy BA. (2014). The effect of 12 weeks of chiropractic care on the Cervical Flexion Relaxation Response: A Pilot Study. *Journal of Manipulative and Physiological Therapeutics*. Submitted.

- Andrew D, **Haavik H**, Dancey E, Yielder P & Murphy B. (2014) Somatosensory evoked potentials show plastic changes following a novel motor training task with the thumb *Clinical Neurophysiology*. In press.
- Baarbé J, Yielder P, Daligadu J, Behbahani H, **Haavik H** & Murphy BA (2013) A Novel Protocol to Investigate Motor Training-Induced Plasticity and Sensorimotor Integration in the Cerebellum and Motor Cortex . *Journal of Neurophysiology*. Volume 111, pp 715-721, 2014. First published 20 November 2013; doi:10.1152/jn.00661.2013
- Haavik H** & Murphy BA (2013). Selective changes in cerebellar-cortical processing following motor training. *Experimental Brain Research*, Volume 231, Issue 4, pp 397-403.
- Daligadua J, **Haavik H**, Yielder P, Baarbe J & Murphy BA. (2013). Alterations in cortical and cerebellar motor processing in subclinical neck pain patients following spinal manipulation. *Journal of Manipulative and Physiological Therapeutics*. 2013;36:527-537.
- Holt KR, **Haavik H**. (2012). Chiropractic Care in New Zealand: Theories, Practice and Research. *New Zealand Journal of Natural Medicine*, Issue 6 Aug-Nov.
- Haavik H** and Murphy B (2012). The role of spinal manipulation in addressing disordered sensorimotor integration and altered motor control. *Journal of Electromyography and Kinesiology*, in press. doi:10.1016/j.jelekin.2012.02.012
- Holt, K. R., **Haavik, H.**, & Elley, C. R. (2012). The Effects of Manual Therapy on Balance and Falls: A Systematic Review. *Journal of Manipulative and Physiological Therapeutics*. 35(3), 227-234. doi: 10.1016/j.jmpt.2012.01.007
- Haavik Taylor H** and Murphy B. (2011). Association of Chiropractic Colleges Research Agenda Conference 2010 Award Winning Paper: Subclinical neck pain and the effects of cervical manipulation on elbow joint position sense. *Journal of Manipulative and Physiological Therapeutics*. 34:88-97.
- Holt KR, Noone PL, Short K, Elley CR & **Haavik H** (2011) Falls risk profile of older chiropractic patients. *Journal of Manipulative and Physiological Therapeutics*. 34:78-87
- Holt K, Beck R, Sexton S, **Haavik Taylor H**. (2010) Chiropractors' Association of Australia Scientific Symposium 2009 third prize award winning paper: Reflex effects of a spinal adjustment on blood pressure. *Chiropractic Journal of Australia*. 40:85-9.
- Haavik Taylor H**, Holt KR, Murphy B. (2010). Chiropractors' Association of Australia Scientific Symposium 2009 first prize award winning paper: Exploring the neuromodulatory effects of the vertebral subluxation and chiropractic care. *Chiropractic Journal of Australia*, 40(1): 37-44.
http://www.chiro.org/research/FULL/Exploring_the_Neuromodulatory_Effects.pdf
- Postles A, **Haavik Taylor H**, Holt K. (2010). Changes in asthma symptoms and bedwetting in a four year old child receiving chiropractic care. *Chiropractic Journal of Australia*, 40(1): 34-6.

- Haavik Taylor H** and Murphy B. (2010). Association of Chiropractic Colleges Research Agenda Conference 2009 Award Winning Paper: The effects of spinal manipulation on central integration of dual somatosensory input observed after motor training: A crossover study. *Journal of Manipulative and Physiological Therapeutics*, 33(4): 261-272.
- Murphy B, Marshall P and **Haavik Taylor H**. (2010). Association of Chiropractic Colleges Research Agenda Conference 2009 Award Winning Paper: The effect of spinal manipulation on exercise rehabilitation neuromuscular outcome measures for patients with chronic neck pain: a pilot study. *Journal of Manipulative and Physiological Therapeutics*, 33(3): 168-177.
- Murphy B, Marshall P and **Haavik Taylor H**. (2010). The cervical flexion-relaxation ratio: Reproducibility and comparison between neck pain patients and controls. *SPINE*, 35(24): 2103-2108
- Haavik Taylor H** and Murphy B. (2010). Association of Chiropractic Colleges Research Agenda Conference 2008 Award Winning Paper (1st Prize Basic Science Category): Altered Central Integration of Dual Somatosensory Input Following Cervical Spine Manipulation. *Journal of Manipulative and Physiological Therapeutics*, 33(3): 178-188.
- Holt K, Kelly B and **Haavik Taylor H**. (2009). Practice characteristics of chiropractors in New Zealand. *Chiropractic Journal of Australia*, 39(3):103-9.
- Holt KR, Russell DG, Hoffmann NJ, Bruce BI, Bushell PM, **Haavik Taylor H**. (2009). Interexaminer reliability of a leg length analysis procedure among novice and experienced practitioners. *Journal of Manipulative and Physiological Therapeutics*, 32(3): 216-22.
- Haavik Taylor H** and Murphy B. (2008). World Federation of Chiropractic's 9th Biennial Congress Award Winning Paper (3rd Prize): Altered sensorimotor integration with cervical spine manipulation. *Journal of Manipulative and Physiological Therapeutics*, 31 (2): 115-126.
- Haavik Taylor H** and Murphy B. (2007). Transient modulation of intracortical inhibition following spinal manipulation. *Chiropractic Journal of Australia*, 37: 106-116.
- Haavik-Taylor, H.** & Murphy, B.A. (2007) Cervical spine manipulation alters sensorimotor integration: A somatosensory evoked potential study *Clinical Neurophysiology*, 118 (2): 391- 402.
- Haavik Taylor H**, Murphy B. (2007). Altered cortical integration of dual somatosensory input following the cessation of a 20 minute period of repetitive muscle activity. *Experimental Brain Research*, 178: 488-498.
- Murphy BA, **Haavik Taylor H**, Wilson SA, Knight JA, Mathers KM, and Schug S. (2003). Changes in median nerve somatosensory transmission and motor output following transient deafferentation of the radial nerve in humans. *Clinical Neurophysiology*, 114: 1477-1488.
- Murphy BA, **Haavik Taylor H**, Wilson SA, Oliphant G, and Mathers KM. (2003). Rapid reversible changes to multiple levels of the human somatosensory system following the cessation of repetitive contractions: a somatosensory evoked potential study. *Clinical Neurophysiology* 114: 1531-1537.

CONFERENCE ABSTRACTS

Niazi I, Jochumsen M, Duehr J, Kinget M, Dremstrup K & **Haavik H**. (2014) Chiropractic, cortical excitability and BCI. The International Conference on NeuroRehabilitation, June 2014, Aalborg, Denmark.

Haavik H, Niazi IK, Duehr J, Kinget M, Ugincius P, Sebik O, Yılmaz G & Türker KS (2014). Chiropractic alters TMS induced motor neuronal excitability: Preliminary findings. The International Conference on NeuroRehabilitation, June 2014, Aalborg, Denmark.

Murphy B & **Haavik H**. (2014) The role of spinal manipulation in modulating neuroplasticity and sensorimotor integration. The International Conference on NeuroRehabilitation, June 2014, Aalborg, Denmark.

Holt K, **Haavik H**, Lee ACL, 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.

Baarbé J, Debison Larabie C, **Haavik H**, Yielder 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**, Yielder 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**, Yielder P, Baarbe J & Murphy BA. (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 IK, 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 IK, 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, Yielder P, **Haavik H** & Murphy BA. (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, Yielder P, **Haavik H** & Murphy BA. (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 IK & **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.
- Thompson J, Holt K, Yielder 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 IK, Dremstrup K, Jochumsen M, Niemeier MJ, Jensen AA, Van TD, **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 IK. (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.
- 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 CR. (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 CR. (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.
- Murphy BA, 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, Yielder 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.
- H Haavik Taylor**, B Murphy (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.
- K Holt, P Noone, K Short, **H Haavik Taylor** (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.
- K Holt, R Beck, S Sexton, **H Haavik Taylor** (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.
- D Russell, G Ellis, R Kashmiri, K Holt, **H Haavik Taylor** (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.
- Haavik Taylor H**, Holt KR, 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 KR, Beck RW, 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 KR, 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 KR. (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 and **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** and 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 KR, Russell DG, Hoffmann NJ, Bruce BI, Bushell PM, **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** and 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.
- Murphy, B, **Haavik-Taylor, H**. (2008). Increased intra-cortical facilitation following fatiguing closed kinetic chain exercise. Neuroscience 2008, Washington, DC, USA, November 15 –19.
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INVITED AND KEYNOTE PRESENTATIONS

- Haavik H.** The past, present and future of chiropractic research. *Invited speaker at the New Zealand College of Chiropractic Lyceum, Auckland, September 20th, 2014*
- Haavik H.** How to communicate the new science of chiropractic. *Invited CPD speaker at the New Zealand College of Chiropractic Lyceum, Auckland, September 21st, 2014*
- Haavik H.** Spinal function impacts your brain! *Invited speaker at The Wave, San Francisco, 5th August 2014.*
- Haavik H.** How to confidently communicate the science of chiropractic. *Invited full day workshop presenter, Aalborg, Denmark 14th June 2014.*
- Haavik H.** What are the neurophysiological effects of adjusting the spine? *Syddansk Universitet, Odense, Denmark 22nd May 2014.*
- Haavik H.** What are the neurophysiological effects of adjusting the spine? *Invited speaker at Oslo Chiropractic Symposium, Oslo, Norway, 26th April 2014.*
- Haavik H.** How to confidently communicate the science of chiropractic. *Invited full day workshop presenter, Dynamic Growth Congress, February 22nd 2014.*
- Haavik H.** The changing world of chiropractic. *Invited speaker at the New Zealand College of Chiropractic Lyceum, Auckland, September 21st, 2013*
- Haavik H.** Chiropractic alters the Matrix of your brain! *Invited speaker at Vikersund Kurbad (Vikersund Rehabilitation Centre), Vikersund, Norway, June 24th, 2013*
- Haavik H.** The chiropractic challenge. *Invited speaker at the Edinburgh Lectures, Edinburgh, Scotland, June 8th 2013*
- Haavik H.** Chiropractic alters the Matrix of your brain! *Invited speaker at KUSOM Research Meeting, Koç University, Istanbul, Turkey, May 28th, 2013*
- Haavik H.** The Evolving Science of Chiropractic. *Invited speaker at the New Zealand Chiropractic Associations Annual General Meeting, Rotorua, May 2013.*
- 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 13-14th, 2012.*
- Haavik H.** The Science of Adjusting Subluxations. *Keynote speaker at the Swedish Chiropractic Association's Annual General Meeting, Stockholm, Sweden, October 5th-7th 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 26-29, 2012*
- Haavik H.** Communicating the Science of Chiropractic. *Invited speaker for the New Zealand College of Chiropractic Lyceum, Auckland, September 15th 2012.*
- Haavik H.** The science of adjusting subluxations. *Keynote speaker for the Chiropractic Association of Australia – South Australia AGM. 25-26 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 24th 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 24th 2012*

- Haavik H.** Chiropractic Care with Confidence Clarity and Charisma. *Invited speaker for New Zealand Chiropractic Association Annual General Meeting and Conference. May 18th 2012*
- Haavik H.** The neurophysiology of chiropractic. *Invited speaker for World Congress of Chiropractic Students (WCCS) inaugural United States regional congress; San Francisco, May 4th 2012.*
- Haavik H.** Zap into life with real Chiropractic science. *Invited speaker for 'Spring for Life', Life West Chiropractic College, San Francisco, May 3rd 2012.*
- Haavik H.** The Science of Adjusting Subluxations. *Keynote speaker for Scottish Chiropractic Association, April 21st 2012.*
- Haavik H.** Forsknings oppdatering fra New Zealand (Research update from New Zealand). *Invited speaker for Norwegian Chiropractors Association, Oslo, 17th 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 23rd 2012.*
- 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 14 – 16, 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 2nd 2011.*
- Haavik H.** Success through science. *Invited speaker for Australian Spinal Research Foundation's Dynamic Growth Congress, Brisbane, Australia 21-23 February 2011.*
- 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 22nd - 23rd, 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 15th, 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 14th, 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, 13th 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, 14th August, 2010*
- Haavik Taylor, H.** Make the Connection! *Invited speaker for Dynamic Growth New Zealand, Tauranga, New Zealand, May, 2010*
- 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*
- 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 18-20, 2008*
- Haavik Taylor, H.** New Zealand College of Chiropractic Research. *Invited speaker for Lyceum, Auckland, New Zealand, September, 2007*
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