

Nikki Catherine Aitcheson-Huehn, MKin
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Education

University of North Carolina at Chapel Hill, Chapel Hill, NC

Doctor of Philosophy in Human Movement Science

August 2019 – present, expected graduation May 2024

Specialization: Behavioural dynamics in sport for performance enhancement and injury prevention

Mentor: Adam Kiefer, PhD

Wilfrid Laurier University, Waterloo, ON, Canada

Masters of Kinesiology

September 2017 – October 2019

Specialization: Neuro-mechanics of Balance and Gait

Thesis: “Spinal Motor Neuron Excitability and Balance Control Changes Following Downslope Walking”

Committee: Michael Cinelli, PhD, Jayne Kalmar, PhD, CATA, Stephen Perry, PhD

Bachelor of Science Honours Kinesiology and Physical Education

Minor Chemistry

September 2013 – June 2017

Undergraduate Thesis: “Stone-Stepping Task: Measuring Accuracy and Dynamic Stability in Young Adults and Individuals with Multiple Sclerosis”

Research Experience

University of North Carolina at Chapel Hill, Department of Allied Health Sciences

Doctoral Research Assistant

STAR Heel Performance Laboratory

August 2021 – Present

- Oversee the day-to-day operations of a federally funded study employing virtual reality to assess on-field movement responses in athletes following injury and assist with the organization of other studies occurring in the lab, including a study using mobile eye tracking technology to assess perceptual-motor control during basketball shooting.

Independent Study

August 2019 – December 2019

- Performed a literature review on behavioural dynamics and ecological dynamics in sport, and the persisting perceptual-motor deficits in athletes cleared to return to play following concussion to better understand if their behaviour could be modelled.

- Learned how to develop in Unity3D and ran a variety of simulations to test a research hypothesis regarding the Steering Dynamics model.

Wilfrid Laurier University, Department of Kinesiology & Physical Education

Master's Researcher

September 2017 – October 2019

- Completed a master's thesis project researching the effect of an acute bout of downslope walking on spinal excitability and balance control in neurotypical young adults.
- Studied areas of interest regarding static and dynamic balance control with kinematic and kinetic data collection, as well as the Hoffman reflex and reciprocal inhibition.

Undergraduate Research Assistant

May 2017 – August 2017

- Extended undergraduate thesis project by including an additional participant group and condition, whereby young adults completed a visual-motor stone-stepping task while walking on a compliant surface.

Undergraduate Thesis Researcher

September 2016 – April 2017

- Completed an undergraduate thesis project researching the accuracy and dynamic stability during a stone-stepping task in individuals with Multiple Sclerosis compared to age-matched controls.

Publications

Published Abstracts

Aitcheson-Huehn NC, Cinelli ME (2017). Research Poster Abstracts, Stone-Stepping Task: Measuring target accuracy and dynamic stability in Multiple Sclerosis. *International Journal of MS Care*, 19(6):329-330.

Presentations & Conference Attendance

Conference Attendance

Digital NeuroHealth, Chapel Hill, NC (Mar 2022).

Human Movement Performance Summit 2021, Las Vegas, NV (Nov 2021).

Southern Ontario Motor Behaviour Symposium, Guelph, ON (May 2018).

Canadian Society for Psychomotor Learning and Sport Psychology, Waterloo, ON (October 2016).

See the Line: Concussion Research and Awareness, London, ON (August 2016).

Provincial Presentations

Aitcheson-Huehn NC, Kalmar J, Cinelli ME (2019). Neural mechanisms of balance and gait adaptations following downslope walking. *Exercise Neuroscience Group*. Oral Presentation. Hamilton, ON.

Aitcheson-Huehn NC, Kalmar J, Cinelli ME (2019). Neural mechanisms of balance and gait adaptations following downslope walking. *Ontario Biomechanics Conference*. Poster Presentation. Alliston, ON.

Aitcheson-Huehn NC, Kalmar J, Cinelli ME (2019). Neural mechanisms of balance and gait adaptations following downslope walking. *Southern Ontario Motor Behaviour Symposium*. Oral Presentation. Toronto, ON.

International Presentations

Aitcheson-Huehn NC, Kalmar J, Cinelli ME (2019). Neural mechanisms of balance and gait adaptations following downslope walking. *International Society of Posture and Gait Research*. Poster Presentation. Edinburgh, UK.

Aitcheson-Huehn NC, Cinelli ME (2018). Stone-stepping task: Measuring target accuracy and dynamic stability in young adults. *North American Society for Psychology of Sport and Physical Activity*. Poster Presentation. Denver, CO.

Aitcheson-Huehn NC, Cinelli ME (2017). Stone-stepping task: Measuring accuracy and dynamic stability in Multiple Sclerosis. *International Symposium of Gait and Balance in Multiple Sclerosis*. Poster Presentation. Portland, OR.

Teaching Experience

University of North Carolina at Chapel Hill, Department of Allied Health Sciences

Graduate Teaching Assistant

EXSS273 Research in Exercise and Sport Science, *Winter 2021*

Responsible for lecturing on performing literature searches and conducting a literature review, overseeing work periods, and marking assignments of a 2nd year exercise science course.

EXSS380 Neuromuscular Control and Learning, *Fall 2021*

Responsible for lecturing on spinal reflexes and inhibition, holding weekly office hours, and marking examinations of a 3rd year exercise science course.

Wilfrid Laurier University, Department of Kinesiology & Physical Education

Graduate Teaching Assistant

KP 222 Human Physiology, *Winter 2019*

Instructed tutorials, answered student questions, marked reports, and assisted with laboratory experiments of a 2nd year kinesiology course.

KP221 Functional Anatomy, *Fall 2018*

Instructed tutorials, answered student questions, proctored laboratory bell ringers and examinations, and assisted with dissections of a 2nd year kinesiology course.

KP465 Balance, Posture, and Gait, *Fall 2018*

Provided feedback on student's final presentations, marked midterm examinations, and marked final papers of a 4th year kinesiology course.

KP161 Fundamentals of Motor Learning and Control, *Winter 2018*

Taught a weekly tutorial and assisted students when needed, and marked weekly lab reports, midterm examinations, and final examinations of a 1st year kinesiology course.

KP221 Functional Anatomy, *Fall 2017*

Instructed tutorials, answered student questions, proctored laboratory bell ringers and examinations, and assisted with dissections of a 2nd year kinesiology course.

Professional Service

Mentorship

Master's Thesis Committee Member and Mentor

Student: Connor Oates

Department of Exercise and Sports Science | University of North Carolina at Chapel Hill

August 2021 – Present

Undergraduate Honours Thesis Committee Member and Mentor

Student: Kat Sublett

Department of Exercise and Sports Science | University of North Carolina at Chapel Hill

August 2021 – Present

Undergraduate Research Assistants Mentor

Department of Exercise and Sports Science | University of North Carolina at Chapel Hill

January 2022 – April 2022

Honours & Awards

September 2018 – August 2019

CGS-M: Canadian Institute of Health Research Scholarship
Dean of Graduate Studies Scholarship

September 2017 – August 2018

OGS: Ontario Graduate Scholarship
Dean of Graduate Studies Scholarship
Graduate Masters Studentship

Committee Memberships

April 2019 – September 2020

International Society of Posture & Gait Research (ISPGR),
Member

January 2018 – December 2018

North American Society for Psychology of Sport and
Physical Activity (NASPSPA), Member

Community & Volunteer Activities

American Society of Biomechanics Student Chapter Member | University of North Carolina at Chapel Hill

August 2021 - Present

Kinesiology Graduate Student Association President | Wilfrid Laurier University

September 2018 – August 2019

Facilitated meetings with the Kinesiology Graduate Student Association to fundraise for the department and organize events for the Kinesiology graduate students, while also acting as a liaison between faculty and students through attendance at monthly department meetings.

Director of Team Up Against Concussions | Wilfrid Laurier University

September 2016 – August 2019

Led a concussion education team comprised of undergraduate students in providing free, tailored 45-minute concussion presentations to groups of students throughout the community in grades 3 through 12 and student-athletes at Wilfrid Laurier University. Facilitated meetings with school board representatives, coaches, and teachers with an end goal of enrolling approximately 2500 students over 3 years. Activities were overseen by Concussion Legacy Foundation Canada.