

# Heather F. Neyedli

6230 South Street • Halifax, Nova Scotia • B3L 2T3  
hneyedli@dal.ca • +1 (902) 494-6786

Citizenship: Canadian

## Research Keywords:

Human Kinetics, Motor Control, Cognitive Psychology, Decision Making, Attention, Neurofeedback, Human Factors, Ergonomics, Interface Design, Human-Automation Interaction.

## Current Positions

2014 - Present

Assistant Professor. Kinesiology, School of Health and Human Performance, Dalhousie University. Principal Investigator: Cognitive and Motor Performance Lab.

Cross Listings: Department of Industrial Engineering, Faculty of Engineering, Dalhousie

Department of Psychology and Neuroscience, Faculty of Science, Dalhousie

2014 – Present

Honorary Clinical Research Associate. Nuffield Department of Clinical Neurosciences, University of Oxford.

## Past Position:

2012- 2014

Marie Curie Post Doctoral Fellow - Plasticity Group  
Nuffield Department of Clinical Neurosciences – University of Oxford

## Education:

2009-2013

Ph.D., Action and Attention Lab,  
Faculty of Kinesiology and Physical Education, University of Toronto  
Supervisor: Dr. Timothy Welsh

2007-2009

Masters of Applied Science, Cognitive Engineering Laboratory  
Dept. of Mechanical and Industrial Engineering, University of Toronto  
Supervisors: Dr. Greg Jamieson, Dr. Justin Hollands

2003-2007

B.Sc. Kinesiology (First Class Honours), Action Lab,  
School of Health and Human Performance, Dalhousie University  
Supervisor: Dr. David Westwood

## Research Funding:

|           |   |               |
|-----------|---|---------------|
| 2016-2017 | Faculty of Health Professions Development Grant | \$5,000/year  |
| 2015-2020 | NSERC Discovery Grant                           | \$28,000/year |

## **Awards:**

- 2009-2011 Canadian Graduate Scholarship-Doctorate (NSERC)
- 2009 Glenn Carter Fellowship
- 2007-2011 Academic All Canadian Honour Role (Canadian Interuniversity Sport)
- 2007-2009 Canadian Graduate Scholarship-Masters (NSERC)  
Defence Research and Development Canada Graduate Scholarship
- 2007 Beatty Entrance Award (University of Toronto)  
Canadian Society of Exercise Physiology Science Award  
University Medal (Dalhousie University)
- 2006 Undergraduate Student Research Award (NSERC)
- 2005 Undergraduate Student Research Award (NSERC)
- 2003-2007 Dalhousie Renewable Entrance Scholarship  
Dalhousie Dean's List

## **Publications**

### *Refereed Journal Articles*

- Neyedli, H. F., & Welsh, T. N. (2015). The Preference of Probability over Negative Values in Action Selection. *Quarterly Journal of Experimental Psychology*, 68, 261-283
- Neyedli, H. F., & Welsh, T. N. (2015). Experience and Net Worth Affects Optimality in a Motor Decision Task. *Motor Control*, 19, 75-89.
- Welsh, T.N., Pacione, S.M., Neyedli, H.F., Ray, M. & Ou, J. (2015). Trajectory deviations in spatial compatibility task with peripheral and central stimuli. *Psychological Research*, 79, 650-657
- Neyedli, H. F., & Welsh, T. N. (2014). People are better at maximizing expected gain in a manual aiming task with rapidly changing probabilities than with rapidly changing payoffs. *Journal of Neurophysiology*, 111(5), 1016-26.
- Welsh, T. N., Neyedli, H., & Tremblay, L. (2013). Refining the time course of facilitation and inhibition in attention and action. *Neuroscience letters*, 554, 6-10.
- Welsh, T. N., Kiernan, D., Neyedli, H. F., Ray, M., Pratt, J., & Weeks, D. J. (2013). On Mechanisms, Methods, and Measures: A Response to Guagnano, Rusconi, and Umiltà. *Journal of Motor Behavior*, 45, 9-14.
- Welsh, T. N., Kiernan, D., Neyedli, H. F., Ray, M., Pratt, J., Potruff, A., & Weeks, D. J. (2013). Joint Simon Effects in Extrapersonal Space. *Journal of Motor Behavior*, 45, 1-5.

Neyedli, H. F., & Welsh, T. N. (2013). Optimal weighting of costs and probabilities in a risky motor decision-making task requires experience. *Journal of Experimental Psychology. Human Perception and Performance*, 39(3), 638–45.

Neyedli, H.F. & Welsh, T.N. (2012). The processes of facilitation and inhibition in a cue-target paradigm: Insight from movement trajectory deviations. *Acta Psychologica*, 139, 159-165.

Neyedli, H.F., Hollands, J.G. & Jamieson, G.A. (2011). Beyond identity: Incorporating system reliability information into an automated combat identification system. *Human Factors*, 53, 338-355

#### *Book Chapters:*

Welsh, T.N., Chandrasekharan, S., Ray, M., Neyedli, H.F., Chua, R., and Weeks, D.J. (2012). Perceptual-Motor Interaction: Some Implications for Human-Computer Interaction. In: J. A. Jacko, (Ed.), *Human Computer Interaction Handbook: Fundamentals, Evolving Technologies, and Emerging Applications*, Third Edition. CRC Press: Boca Raton, USA.

Hollands, J.G. & Neyedli, H.F. (2011). A Reliance Model for Automated Combat Identification Systems: Implications for Trust in Automation. In: N. Stanton, (Ed.), *Trust in Military Teams*. Ashgate: Aldershot, England.

Neyedli, H. F., Wang, L., Jamieson, G. A., & Hollands, J. G. (2009). Evaluating reliance on combat identification systems: The role of reliability feedback. In D. H. Andrews & T. Hull (Eds.), *Human factors issues in combat identification*. Ashgate: Aldershot, England.

#### *Technical Reports:*

Jamieson, G.A., Wang, L. & Neyedli, H.F. (2008) *Developing Human-Machine Interfaces to Support Appropriate Trust and Reliance on Automated Combat Identification Systems*. DRDC Toronto CR 2008-114

#### *Peer-Reviewed Conference Proceedings:*

Neyedli, H.F., Hollands, J.G., & Jamieson, G.A. Human Reliance on an Automated Combat Identification System: Effect of Display Format. In *Proceedings of the Human Factors and Ergonomics Society – 53rd Annual Meeting Santa Monica, CA: Human Factors and Ergonomics Society*. (Oct. 2009)

#### *Selected Conference Presentations:*

Huang, Y., Neyedli, H.F., De Vos, M., Debener, S. & Johansen-Berg, H. Using a mobile EEG system for neurofeedback training to enhance hemispheric lateralization in motor execution, *Real Time Functional and Neuroimaging Conference*, (Feb. 2015)

Neyedli, H.F., Lühns, M., Sampaio, C., Havard, D., Ramsden, K., Flitney, D., Goebel, R. & Johansen-Berg, H. Neurofeedback of a laterality index from motor cortices during hand movements using real-time fMRI. *Human Brain Mapping*, Hamburg, (June 2014)

Welsh, T.N., Pacione, S., & Neyedli, H.F. Trajectory deviations in individual and social aiming tasks. Progress in Motor Control IX meeting, Montreal, PQ. (July 2013).

Neyedli, H.F. & Welsh, T.N. Hit me with your best shot: Optimal movement planning with constantly changing decision parameters. Visual Science Society International Conference (May 2012)

Welsh, T.N. & Neyedli, H.F.. The time course of facilitation and inhibition in attention and Actions. SCAPPS National Conference, Winnipeg Manitoba (Oct. 2011).

Neyedli, H.F. & Welsh, T.N. Mo' Money Mo' Problems: The Effect Of Practice On Optimal Movement End Point During Rapid Aiming Under Risk. SCAPPS National Conference (Oct. 2011)

Neyedli, H.F., Ray, M., Weeks, D., Pratt, J. & Welsh, T.N. "Don't stand so close to me": Joint Simon effects are only observed when participants are in extra-personal space. Joint Action Meeting (July 2011)

Neyedli, H.F., Rosenbaum, D.A. & Welsh, T.N. Efficient planning and execution of object grasps: Insights from the end-state comfort effect. NASPSPA Conference (June. 2011)

Neyedli, H. F. & Welsh, T.N. The Effect of Varying Cue-Target Asynchronies on the Inhibition of Reach Trajectories. Psychonomics Conference (Nov. 2010)

Neyedli, H. F. & Welsh, T.N. Reducing Number Of Target Locations Mediates Trajectory Deviation Effects In An IOR Paradigm. SCAPPS National Conference (Oct. 2010)

Neyedli, H. F. & Westwood, D. A. Perceiving Weight: Insight Using a Modified Size-Weight Illusion Paradigm. SCAPPS National Conference (Nov. 2006)

## **Teaching and Mentoring Experience**

### *Undergraduate and Graduate Courses:*

KINE2430 – Motor Control and Learning

KINE4577 – Cognitive Ergonomics

KINE4705/KINE5572 – Senior Seminar: Advanced Motor Control

KINE5590 – Measurement and Instrumentation in Human Movement Analysis

KINE5503 – Intermediate Statistics for Health Sciences (Upcoming)

### *Students Supervision:*

Present: Justin Brooks, Undergraduate Honours Project: Effect of Blocked & Random Practice on the Learning of Predictive Cues in Response Selection.

Jessica Shannon, Undergraduate Honours Project: The Effects of Theta Power

Neurofeedback Training on Cognitive and Motor Outcomes.

Wheejae Kim, Masters, Industrial Engineering: Human Performance and Interface Design

Kevin LeBlanc, Ph.D. Comprehensive Exam Project: Influence of Positive and Negative Outcomes on Movement Trajectories

Sarah Kraeutner, Ph.D. Comprehensive Exam Project: Prospect Theory in Response Execution

2014: David Havard, Undergraduate Research Placement: Real-Time Neurofeedback of Cortical Motor Activation

Aurélie Gourgeon, Masters Research Project: Resting-State Connectivity Analysis of Neurofeedback of Motor Cortex in Older Adults

*Students Co-Supervised*

Present: Yun Ying Huang, DPhil, Clinical Neurosciences: Neurofeedback of Motor Cortex using Real-time fMRI and Mobile EEG

2014: Matthew Kirkman, Masters, Clinical Neurosciences: Real-time Neurofeedback for Motor Learning using Functional Magnetic Resonance Imaging in Healthy Older Adults

2013: Katie Ramsden, Undergraduate Research Project: The Effect of Neurofeedback on Modulating the Activation of the Motor Cortex Using Real-Time fMRI

2012: Sandra Pacione, Undergraduate Research Project: Trajectory Deviations in the Joint Simon Effect