CURRICULUM VITAE

Erik M. Summerside, Ph.D.

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EDUCATION:

2014-2018 **Ph.D. Integrative Physiology**
University of Colorado Boulder, Boulder, CO
Dissertation title: On the interactions of reward, time, and effort in human movement
Certificate in Cognitive Science
Certificate in College Teaching (expected Spring 2019)

2012-2014 **M.S. Integrative Physiology**
University of Colorado Boulder, Boulder, CO
Topic: Using cumulative prospect theory to measure the subjective valuation of physical effort costs

2007-2011 **B.A. Biology**
St. Olaf College, Northfield, MN
Honors research topic: The correlation of heart rate variability and performance in a maximal effort handgrip task
Certificate in Neuroscience

PROFESSIONAL EXPERIENCE:

2019 **Adjunct Faculty- Instructor**
Integrative Physiology (IPHY) 4540: Biomechanics
University of Colorado Boulder, Boulder, CO

2018 **Post-Doctoral Research Associate**
Neuromechanics Laboratory
University of Colorado Boulder, Boulder, CO
Director, Alaa Ahmed, PhD

2013-2018 **Graduate Research Assistant**
Neuromechanics Laboratory
University of Colorado Boulder, Boulder, CO
Director, Alaa Ahmed, PhD

2012-2016 **Graduate Teaching Assistant**
Department of Integrative Physiology
University of Colorado Boulder, Boulder, CO
Courses: Human Anatomy, Biomechanics, Exercise Physiology

2014-2017 **Instructor**
Science Discovery
University of Colorado, Boulder, CO
Director, Anjali Maus

2011-2012	**Youth Alpine Ski Coach** Steamboat Springs Winter Sports Club Steamboat Springs, CO Director, Blair Seymour
2009-2011	**Sports Medicine Assistant** Aurora Baycare Sports Medicine Center Green Bay, WI Director, Karen Goebel, DPT
2009-2010	**Emergency Room Technician** Aurora Baycare Medical Center Green Bay, WI Director, Cory Vogel, MD
2009-2010	**Undergraduate Teaching Assistant** Department of Biology St. Olaf College, Northfield, MN Course: Introductory Biology

HONORS AND AWARDS:

2018	New Investigator Scholarship, Society for the Neural Control of Movement
2018	United Government of Graduate Students Travel Grant, University of Colorado, Boulder, CO
2018	Best Doctoral Podium Presentation Award, American Society for Biomechanics- Rocky Mountain Regional Conference, Estes Park, CO.
2016-2017	Elected Student Representative, Institute of Cognitive Neuroscience Executive Committee, University of Colorado, Boulder, CO
2016	Scholarship Recipient, Summer School in Computational Sensory-Motor Neuroscience (CoSMo)
2014	Department of Integrative Physiology Graduate Student Travel Award, University of Colorado, Boulder, CO
2011	NuRhoPsi Undergraduate Neuroscience Honors Society, St. Olaf College, Northfield, MN

PUBLICATIONS:

1. **Summerside E.M.,** Shadmehr R., Ahmed A.A. (2018) Vigor of reaching movements: reward discounts the cost of effort. Journal of Neurophysiology, 119(6), 2347-2357.

2. **Summerside E.M**., Kram R., Ahmed A.A. (2018) Contributions of metabolic and temporal costs in human gait selection. Journal of the Royal Society Interface 15(143), 20180197.

3. Yoon T., Reppert T., **Summerside E.M.**, Ahmed A.A., Shadmehr R. (2019) Movement vigor as a behavioral proxy of subjective economic utility. Trends in Neurosciences

4. **Summerside E.M.,** Ahmed A.A. Using metabolic cost to quantify the subjective value of effort and its role in movement decision making. Plos Biology (in review)

5. **Summerside E.M.,** Shadmehr R.**,** Ahmed A.A. "Aging reduces sensitivity to reward in a reaching task." (in preparation)

SELECTION OF PUBLISHED CONFERENCE ABSTRACTS

1. **Summerside E.M.**, Shadmehr, R., Ahmed A.A. "Effort cost of reaching increases with age" (Podium) Motor Learning and Motor Control Annual Conference 2018
2. **Summerside E.M.**, Shadmehr, R., Ahmed A.A. "Aging reduces sensitivity to reward in a reaching task" (Podium) Society for the Neural Control of Movement 2018
3. **Summerside E.M.**, Shadmehr, R., Ahmed A.A. "Vigor of reaching movements: reward discounts effort" (Poster) American Society of Biomechanics 2017
4. **Summerside E.M.**, Kram, R., Ahmed A.A. "To walk or to run: metabolic cost is not the answer" (Podium) Rocky Mountain American Society of Biomechanics Regional Conference 2017
5. **Summerside E.M.**, Ahmed A.A. "The Subjective Value of Effort Explains Preferred Movement Speed" (Podium) Neural Control of Movement 2016
6. **Summerside E.M.,** Ahmed A.A. "Preferred Movement Speed Tracks the Subjective Value of Effort" (Podium) Rocky Mountain American Society of Biomechanics Regional Conference 2015
7. **Summerside E.M.,** O'Brien M.K., Ahmed A.A. "Using Cumulative Prospect Theory to Quantify the Subjective Value of Effort." (Podium) Society for Neuroscience 2014
8. **Summerside E.M.,** Ahmed A.A. "Quantifying the Subjective Value of Metabolic Effort Cost." (Poster) Society for Neuroeconomics 2014
9. **Summerside E.M.,** Ahmed A.A. "Quantifying the subjective value of effort in movement decision making" (Podium) Dynamic Walking 2014
10. **Summerside E.M.,** Ahmed A.A. "The Price of Effort: A Neuroeconomic Study of Metabolic Cost in Movement Decision Making." (Poster) Society for Neuroscience 2013

GRADUATE TEACHING EXPERIENCE:

2013-2016	IPHY: 4540: Biomechanics Lecture/Laboratory Lead TA Lectured/Organized lab activities Undergraduate students
2014	IPHY: 4650: Exercise Physiology Laboratory Organized lab activities Undergratuate students
2012	IPHY 3515: Human Anatomy Laboratory Lectured/Organized lab activities Undergraduate students

UNDERGRADUATE TEACHING EXPERIENCE:

2010	Biology 106: Evolutionary Biology Undergraduate Teaching Assistant

PROFESSIONAL AFFILIATIONS & MEMBERSHIPS:

2017- Present Society for the Neural Control of Movement
2014- Present American Society of Biomechanics
2014- Present Society for Neuroeconomics
2013- Present Society for Neuroscience

RESEARCH SKILLS:

- Design experimental protocols according to Institutional Review Board standards for human testing
- Subject recruitment, scheduling, and advertising
- Perform and analyze indirect calorimetry data via metabolic cart
- Informed consent briefings
- Supervise and train undergraduate research assistants
- Scientific literature review and preparation of scientific manuscripts
- Subject documentation and record keeping procedures
- MATLAB, R Studio, Adobe Illustrator
- Collect and analyze EMG/accelerometer data using Delsys hardware and software
- Statistical analysis
- Organizing scientific and social programs for academic conferences
- Head public lab visits for K-12 students as well as general public

EXPERIENCE IN CURRICULUM DEVELOPMENT:

2016-2017 *Biomedical Experience*- Vocational development course aimed at teaching informational interview skills to high-school students through interactions with community members across a range of careers in health sciences.

2014 *Field Day Phiz*- Introduces elementary school students to the scientific method using topics in human biomechanics and physiology framed through common playground activities.

REFERENCES:

Alaa A. Ahmed, Ph.D.
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Dept. of Integrative Physiology
University of Colorado
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