***Claire Honeycutt, Ph.D.***  
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**CAREER OBJECTIVES**

My primary research objective is to enhance mobility and quality of life in older adults and stroke survivors. More specifically my research focuses on the neural control of balance, reaching, and grasp with the long-term goal of developing targeted therapies and interventions that increase mobility, decrease falls, and enhance functional arm control in the elderly and stroke survivors.

**POSITIONS**

***Assistant Professor*** Jan. 2015 – present

Arizona State University, Tempe, AZ, USA

***Research Associate*** August 2013 – Dec. 2014

Rehabilitation Institute of Chicago, Chicago IL

**EDUCATION**

***Postdoctoral Fellow*** April 2009 – July 2013Rehabilitation Institute of Chicago & Northwestern University, Chicago IL, USA

***Doctorate of Philosophy****,* Biomedical Engineering May 2009Georgia Institute of Technology / Emory School of Medicine, Atlanta GA, USA

***Bachelor of Engineering****,* Biomedical EngineeringMay 2003  
Vanderbilt University, Nashville TN, USA

**PUBLICATIONS**

* **Honeycutt CF**, Tresch UA, Perreault EJ (2015). Startling acoustic stimuli can evoke fast hand extension movements in stroke survivors. *Clinical Neurophysiology*. 126 (1), Jan. 160-164. In Press: PMID: 25002367.
* Tresch UA, Perreault EJ, **Honeycutt CF** (2014). Startle evoked movement is delayed in older adults: implications for brainstem processing in the elderly. *Physiological Reports*. Jun 6;2(6). PMID: 24907294.
* **Honeycutt CF** and Perreault EJ (2013). Deficits in startle-evoked arm movements increase with impairment following stroke. *Clinical Neurophysiology*. In Press: PMID: 24411525.
* **Honeycutt CF** and Nichols TR (2013). The mechanical actions of muscles predict the direction of muscle activation during postural perturbations in the cat hindlimb. Journal of Neurophysiology. PMID: 24304861
* **Honeycutt CF**, Kharouta M, and Perreault EJ (2013). Reticulospinal contributions to coordinated finger movement in humans. Journal of Neurophysiology. PMID: 23825395
* Ravichandran VJ**\***, **Honeycutt CF\***, Shemmell J, Perreault EJ (2013). Instruction-dependent modulation of the long-latency stretch reflex is associated with indicators of startle. Exp. Brain Research. Sep;230(1):59-69. PMID: 23811739 **\**authors contributed equally***
* Trumbower RD, Finely J, Shemmell J, **Honeycutt CF,** Perreault EJ (2012). Bilateral impairments in task-dependent modulation of the long-latency stretch reflex following stroke. Clinical Neurophysiology. 2013 Jul;124(7):1373-80. PMID: 23453250
* **Honeycutt CF** and Perreault EJ (2012). Movement planning and execution following stroke: insights from the startle reflex. Plos One 7(8): e43097. PMID: 22952634
* **Honeycutt CF**, Nardelli P, Cope TC, Nichols TR (2012). Muscle spindle responses to horizontal support surface perturbation in the anesthetized cat: Insights into the role of autogenic feedback in postural control. Journal of Neurophysiology 108(5): 1253-61. PMID: 22673334
* **Honeycutt CF** and Nichols TR (2010). Disruption of cutaneous feedback alters magnitude but not direction of muscle responses to postural perturbations in the decerebrate cat. Experimental Brain Research 203(4): 765-71. PMID: 20473753
* **Honeycutt CF** and Nichols TR (2010). The decerebrate cat generates the essential features of the force constraint strategy. Journal of Neurophysiology 103(6): 3266-73. PMID: 20089811
* **Honeycutt CF**, Gottschall JS, Nichols TR (2009). Electromyographic responses from the hindlimb muscles of the decerebrate cat to horizontal support surface perturbations. J Neurophysiolgy 101: 2751-2761. PMID: 19321638

**AWARDS AND HONORS**

***K99/R00 NIH/NICHD Pathway to Independence Award*** 2013 – 2018

Mechanisms underlying impaired postural corrections following stroke

***Baskin Award for Excellence in Research – First Place*** 2013

Rehabilitation Institute of Chicago

***Delsys Travel Assistance Grant*** July 2012

International Society for Electrophysiology and Kinesiology Conference, Brisbane, Australia

***Baskin Award for Excellence in Research – Third Place*** 2011

Rehabilitation Institute of Chicago

***First all trainee panel selected at the Neural Control of Movement Conference*** April 2011

Puerto Rico

***K-12 NU-START (Northwestern University Select Teaching and Research Training) Recipient***2009 – 2012

NIH funded Institutional Research and Career Development Award. Three year full salary support and funds for conference attendance and laboratory supplies.

***T-32 Training Grant Recipient***  April 2009 –January 2010

Full salary support – Northwestern University, Chicago, IL

***Neural Control of Movement Travel Scholarship*** April 2008

NCM conference, Naples FL

***Best Research by a Student Poster Presenter* *Award*** July 2007

International Society for Postureand Gait Conference, Burlington, VT

August 2001 – May 2003

**PRESENTATIONS AND INVITED TALKS** (out of 17)

* “The use of the startle reflex as a probe of movement planning and reticulospinal function in patient populations.” *IEEE – Engineering in Medicine and Biology Society.* Chicago, IL. August 2014.
* Panel: “Expanding our understanding of the brainstem’s role in movement: a perspective from mouse to human.” **Honeycutt CF**, Baker SN, Brownstone R, Deliagina T, Perreault EJ. *Neural Control of Movement*. Amsterdam, Netherlands. April 2014.
* “The influence of corticospinal and reticulospinal innervation on startle evoked movement of the hand.” *International Society of Electrophysiology and Kinesiology.* Brisbane, Australia. July 19, 2012.
* “Integration of active, student-driven learning into Biology: applying the skills I learned through IRACDA” *National IRACDA conference.* Philadelphia, PA June 20, 2012.
* “The reticulospinal tract contributions to coordinated finger movements in human: evidence from startle.” *Neural Control of Movement conference.* Venice, Italy. April 26, 2012.
* “Deficits in startle-evoked reaching increase with impairment following stroke leading to poor and inappropriate movement execution.” *Washington University.* St. Louis, MO. Mar 6, 2012.
* “Planning and execution of reaching movements following stroke: insights from the startle reflex.” *Clinical Leadership Team*: Rehabilitation Institute of Chicago. Chicago, IL. Nov 2011.
* Panel: “Examining the sophistication of fast feedback responses: reflexes as a window into voluntary control.” Pruszynski A, Franklin D, Selen L, **Honeycutt CF.** *Neural Control of Movement Conference.* San Juan, Puerto Rico. Apr 2011.
  + - First all-trainee panel selected at NCM conference
* “Use of startling sounds to help stroke patients recover reaching movement abilities.” *Northeastern Illinois University.* Chicago, IL Nov 2010.
* “Effect of cortical stroke on brainstem structures: Preliminary insights from startle induced release of pre-planned movements following stroke.” *Rehabilitation Institute of Chicago.* Chicago, IL. Jul 2010.
* “The sensory and neural mechanisms of postural control.” *Pennsylvania State University.*  State College, PA. Dec 10, 2009.
* “The effect of cutaneous feedback loss on tuned muscle responses to support surface postural perturbations.” *Neural Control of Movement Conference.* Naples, FL. Apr 2008.
* “The contributions of muscle spindle feedback to postural control and stability.” Rehabilitation Institute of Chicago. *Northwestern University.* Chicago, IL. Apr 17, 2008.
* “The role of length feedback on the production of the postural response.” Department of Physiology. *Emory University*. Atlanta, GA. Apr 2007.
* “Postural Mechanisms of the decerebrate cat.” Department of Physiology. *Emory University*. Atlanta GA. Dec 2006.

**CONFERENCE PROCEEDINGS (out of 18)**

* **Honeycutt CF,** Tresch UA, Perreault EJ (2014). Startling acoustic stimuli elicit rapid hand extension following stroke. International Conference on Neurorehabiliation, Aaloborg, Denmark.
* “Can startle be used to elicit rapid, coordinated arm movements following stroke?” Perreault EJ and **Honeycutt CF.** World Congress of Neurorehabilitation, Istanbul, Turkey.
* **Honeycutt CF,** Tresch UA, Perreault EJ (2013). The influence of age and stroke on startle elicited hand extension: Implications for therapy and neural control. *Society for Neuroscience*. San Diego, CA.
* **Honeycutt CF,** Tresch UA, Perreault EJ (2013). Startling stimuli elicit fast hand flexion and extension in stroke survivors: Implications for neural control and therapy. *Biomedical Engineering Society*. Seattle, WA.
* Chvatal SA, Macpherson JA, Torres-Oviedo G, **Honeycutt CF**, Ting LH (2012). Absence of postural muscle synergies for balance following spinal cord transection in cats. *Biomedical Engineering Society.* Atlanta, GA.
* Heckman RL, **Honeycutt CF**, Perreault EJ (2012). The intensity-dependent release of triggered reactions contributes to modulation of the long-latency stretch reflex. *International Society of Electrophysiology and Kinesiology.* Brisbane, Australia. July 19, 2012.
* Heckman RL, **Honeycutt CF**, Ravichandran V, Perreault EJ (2011). Influence of perturbation intensity on the rapid release of triggered reaction. *Society for Neuroscience.* Washington DC.
* **Honeycutt CF**, Heckman RL, Perreault EJ (2011). The impact of impairment level and side of lesion on startle induced movement following stroke. *Society for Neuroscience*. Washington DC.

**ACADEMIC SERVICE**

***Reviewer***

Journal of Neuroscience, Journal of Neurophysiology, Journal of NeuroEngineering and Rehabilitation, Biological Psychology, IEEE - Transactions on Neural Systems & Rehabilitation Engineering, Motor Control

***Movement and Rehabilitation in Science Training Day***

Rehabilitation Institute of Chicago, Chicago, IL, August 2011

***NEIU (Northeastern Illinois University) Student Symposium Discussant***

Chicago, IL, April 2011

***McNair Program presenter***

Northeastern Illinois University, Chicago, IL, March 2011

***Sensorimotor Integration and motor control social chair***

Society for Neuroscience, San Diego, CA, October 2009 and 2010

***Research in Review from the Neurology Section***

Online article review, October 2009 – present

***NUIN (Northwestern university interdepartmental neuroscience) recruitment***

***Professional Development Committee Chair***

Georgia Institute of Technology Biomedical Engineering Advisory Board

Managed 18 peer graduate students and organized the 2nd annual inter-department Career Fair

**MEMBERSHIPS**

***Biomedical Engineering Society.*** 2013 – present

***International Society for Electrophysiology and Kinesiology:*** 2012 – present

***Society for Neuroscience***: 2005 – present

***International Society for Posture and Gait:*** 2007 – 2010

***Neural Control of Movement***: 2007 – present

**TEACHING EXPERIENCE**

***Physiology – Gateway Science Workshop*** Fall 2012

Teaching Fellow: Biology department – Northwestern University

Undergraduates: Developed course materials aimed at driving critical thinking beyond the classroom. Managed and coordinated undergraduate student facilitators who led problem solving sessions.

***Vertebrate Physiology with laboratory*** Spring 2012Instructor: Biology department – Northeastern Illinois University

Senior undergraduates: Redesigned and taught lecture and laboratory that implemented active learning. Laboratory emphasized student-driven hypothesis creation, quantitative evaluation using statistics, and journal style written reports summarizing results.

***Bioethics – Responsible Conduct of Research*** Spring, Fall 2011Instructor: Biology department – Northeastern Illinois University

Freshman undergraduate module: Developed and implemented discussion-based seminar exposing students to the ethical considerations of animal and human experimentation.

***Quantitative Experimentation and Design with laboratory*** Spring 2010Instructor: Biomedical Engineering department– Northwestern University

Senior undergraduates: co-taught lecture and laboratory that instructs quantitative physiological measurement techniques, instrument design, and appropriate statistical design. Coordinated and managed four graduate student Teaching Assistants.

***Introduction to Neuroengineering*** Spring 2005

Laboratory Manager and Teaching Assistant: Biomedical Eng. – Georgia Inst. of Technology

Senior undergraduates: Assembled and coordinated laboratory materials and equipment in addition to educating students on diverse topics in neuroengineering including intracellular electrophysiology, electromyography, electroencephalogram, multi-electrode arrays, and neuron cell culture

***Engineering Science II*** Fall 2004

Graduate level: Teaching Assistant: Biomedical Engineering – Georgia Institute of Technology