

Stephanie Cheung

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Research Interests

- paediatric rehabilitation; music-supported rehabilitation; interactive computer play; auditory neuroscience.

Education

Doctoral Student (Biomedical Engineering & Collaborative Program in Neuroscience) **Toronto, ON**
University of Toronto *Sept, 2015 - present*

Dissertation: Movement through Music: Video Games for Music-Supported Motor Rehabilitation.

Supervisors: Dr. Elaine A. Biddiss and Dr. Joyce L. Chen.

Master's of Applied Science (Electrical & Computer Engineering) **Hamilton, ON**
McMaster University *Sept, 2012 – Sept, 2014*

Thesis: Modelling the Neural Representation of Interaural Level Differences for Linked and Unlinked Bilateral Hearing Aids.

Supervisor: Dr. Ian C. Bruce.

Bachelor of Engineering (Electrical & Biomedical Engineering) **Hamilton, ON**
McMaster University *Sept, 2008 – April, 2012*

Capstone: "MACBot": A Robotic Toy for Children with Autism Spectrum Disorders.

Thesis: A Comparison of Wavelet and Short-Time Fourier Transform Techniques for Analysis of Auditory Cortex Beta-Band Activity.

Supervisors: Dr. Hubert de Bruin; Dr. Laurel Trainor; Dr. Takako Fujioka

Associate of The Royal Conservatory of Music (Piano Performance), First Class Honours **Toronto, ON**
The Royal Conservatory of Music *Conferred Jan, 2009*

Studied with Tanya Tkachenko and Boris Zarankin.

Awards & Scholarships

2015 – present: Wildcat Graduate Scholarship

2015 – present: Bloorview Research Institute Student Fellowship

2014: Certificate of Excellence for Outstanding Thesis

2014: International Hearing Aid Research Conference Student Scholarship

2012 – 2014: McMaster University Graduate Scholarship

2011: Ward Family Summer Student Scholarship

2008: The General Motors Entrance Scholarship

Research Experience

Research Assistant **Toronto, ON**
PEARL Lab, Bloorview Research Institute *Nov, 2014 – Aug, 2015*

- Developed sound processing algorithms and protocols for the design and evaluation of music-supported therapy video games.

Ward Family Research Summer Student **Toronto, ON**
PEARL Lab, Bloorview Research Institute *May, 2011 – Aug, 2011*

- Worked on a communication interface which converts physiological signals to music for anxiety detection (84% accuracy).

Research Assistant (Volunteer) & Database Developer **Hamilton, ON**
Infant Studies Group & McMaster Institute for Music and the Mind *May, 2010 – Jan, 2011*

- Conducted infant and adult EEG studies in music cognition. Developed a digital database for participant recruitment.

Teaching / Supervising Experience

Co-Supervisor to Volunteers

PEARL Lab, Bloorview Research Institute

Toronto, ON

Nov, 2015 – present

- With Dr. Elaine Biddiss, supervising volunteer contributors to Motion through Music project.

Teaching Assistant, “Cellular Bioelectricity”

Dept. of Electrical & Computer Engineering, McMaster University

Hamilton, ON

Jan, 2013 – April, 2014

- Sole teaching assistant to cohorts of 30-40 students each (Winter 2013; Winter 2014).
- Topics include: bioelectricity; ionic transport in cellular membranes; cardiac and neural physiology; electrical stimulation.

Teaching Assistant, “Structure of Biological Materials”

Dept. of Electrical & Computer Engineering, McMaster University

Hamilton, ON

Sept, 2012 – Dec, 2013

- Sole teaching assistant to cohorts of 30-40 students each (Fall 2012; Fall 2013).
- Topics include: biomaterials; biocompatibility; biomechanics; physiological fluid mechanics; artificial organs; medical imaging.

Contributed Conference Presentations

Cheung, S.T. & Bruce, I.C. (May, 2015). “Can auditory brainstem and midbrain processing of interaural level difference cues really explain perceptual performance?” at *169th Meeting of the Acoustical Society of America*, Pittsburgh, PA.

Cheung, S.T. & Bruce, I.C. (Aug, 2014). “Modeling the neural representation of interaural level differences for linked and unlinked bilateral hearing aids.” at *International Hearing Aid Research Conference*, Lake Tahoe, CA.

Other Presentations

Cheung, S.T. (Sept, 2015). “PEARL Lab: Interactive media for the home, clinic, and beyond.” at *Bloorview Research Trainee Rounds*, Bloorview Research Institute, Toronto, ON.

Cheung, S.T. & Bruce, I.C. (April, 2014). “Modelling the lateral superior olive response to sound localization cues in impaired and aided hearing.” at *Dept. of Electrical & Computer Engineering Seminar Series, McMaster University*, Hamilton, ON.

Cheung, S., Han, E., & Biddiss, E. (July, 2011). “Signals to songs: Sonification of physiological data for anxiety detection.” at *Ward Summer Student Research Day*, Bloorview Research Institute, Toronto, ON.

Extracurricular Service

Rounds Coordinator

Bloorview Research Institute Trainee Executive

Toronto, ON

October, 2015 – present

- Planning and organizing monthly rounds, writing workshops, and conference for Bloorview research trainees.

Director (various: Communications; External Communications; Member Learning)

McMaster University Chapter, Engineers Without Borders Canada

Hamilton, ON

May, 2009 – May, 2012

- Awards: Most Improved Chapter 2010. Chapter of the Year 2011.

Memberships

- Society for Music Perception and Cognition (student member)
- Canadian Partnership for Stroke Recovery National Trainee Association
- NeuroDevNet (associate trainee)

Last updated Jan 16th, 2016.