

# Stephanie Cheung

✉ hello@stephaniecheung.ca • 📧 stephaniecheung.ca • 🐦 steph\_tc

## Research Interests

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

## Education

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**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

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**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

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**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

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### Volunteer Supervisor

PEARL Lab, Bloorview Research Institute

Toronto, ON

Dec, 2015 – present

- E. Yin (December, 2015 - present)
- S. Seerala (January, 2016 - present)

### Teaching Assistant, “Cellular Bioelectricity”

Dept. of Electrical & Computer Engineering, McMaster University

Hamilton, ON

Jan, 2013 – April, 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

- Topics include: biomaterials; biocompatibility; biomechanics; physiological fluid mechanics; artificial organs; medical imaging.

## Invited Talks

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**Cheung, S.T.** (April, 2016). “Music-making technology for arm and hand rehabilitation.” at *Cerebral Palsy Awareness Day, University of Toronto*, Toronto, ON.

**Cheung, S.T.** (Feb, 2016). “Merging music and technology for paediatric rehabilitation.” at *Science of Music Seminar Series, Vanderbilt University*, Nashville, TN.

## Contributed Conference Presentations

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**Cheung, S.T.** (March, 2016). “MusicMaster: Movement through Music” at *CP-NET Workshop 2016*, Toronto, ON.

**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.

## Extracurricular Service

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### Co-Founder

All About Kids Research (<http://www.allaboutkidsresearch.ca>)

Toronto, ON

Jan, 2016 – present

### Co-Director/Coordinator

Collaborative Program in Neuroscience Joint Undergraduate Mentorship Program

Toronto, ON

Feb, 2016 – present

### Rounds Coordinator

Bloorview Research Institute Trainee Executive

Toronto, ON

October, 2015 – present

## Memberships

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

*Last updated Mar 21<sup>st</sup>, 2016.*