

# THEA KNOWLES

London, ON, Canada  
tknowle3@uwo.ca

*Last updated: October 5, 2018*

## EDUCATION

---

<b>Western University, London, ON</b> MCIsc/PhD Candidate Health & Rehabilitation Sciences (Speech & Language Sciences) Communication Sciences & Disorders (Speech-Language Pathology)	2014 - Present
<b>McGill University, Montréal, QC</b> B.A. Honours, Linguistics First Class Honours, Distinction	2008 - 2012

## HONOURS & AWARDS

---

<b>Graduate Student Conference Travel Subsidy (Summer)</b> <i>Western University Society of Graduate Students</i> · Value: \$500.00	2018
<b>Graduate Student Conference Travel Award</b> <i>Western University Faculty of Health Sciences</i> · Value: \$250.00	2018
<b>Graduate Student Conference Travel Subsidy (Spring)</b> <i>Western University Society of Graduate Students</i> · Value: \$300.00	2018
<b>Graduate Student Teaching Award Nominee (not awarded)</b> <i>Western University</i>	2018
<b>Ontario Graduate Scholarship</b> · Value: \$15,000	2018-2019
<b>Ontario Graduate Scholarship</b> · Value: \$15,000	2017-2018
<b>Graduate Student Research Program Award</b> <i>Parkinson Society Southwestern Ontario</i> · Value: \$20,000	2017-2018
<b>Vanier Scholarship Nominee (not awarded)</b> <i>Nominated by Western University Faculty of Health Sciences</i>	2016
<b>Western University “3 Minute Thesis” First Place Winner</b> <i>Western University</i> · Value: \$1,000	2016

<b>Harmonize for Speech Graduate Student Award</b> <i>Harmonize for Speech Ontario</i>	2016
· Value: \$750	
<b>Graduate Student Conference Travel Subsidy (Spring)</b> <i>Western University Society of Graduate Students</i>	2016
· Value: \$500.00	
<b>Graduate Student Conference Travel Award</b> <i>Western University Health &amp; Rehabilitation Sciences</i>	2016
· Value: \$400.00	
<b>Graduate Student Conference Travel Award</b> <i>Western University Faculty of Health Sciences</i>	2016
· Value: \$300.00	
<b>Student Achievement Award</b> <i>Ontario Association of Speech-Language Pathologists &amp; Audiologists</i>	2015
· Value: OSLA Membership	
<b>Acoustical Society of America Student Poster Honorable Mention</b> <i>Meeting of the 170th Acoustical Society of America, Jacksonville</i>	2015
<b>Best PhD Student Poster Award</b> <i>Health &amp; Rehabilitation Sciences Graduate Research Conference, Western University</i>	2015
<b>Graduation with First Class Honours &amp; Distinction</b> <i>McGill University</i>	2012
<b>Dean's Honour List</b> <i>McGill University</i>	2010

## PUBLICATIONS

**Knowles, T.**, Clayards, M., & Sonderegger, M. (2018). Examining factors influencing the viability of automatic acoustic analysis of child speech. *Journal of Speech, Language, and Hearing Research*, [Advance online publication], 1-15. doi: 10.1044/2018\_JSLHR-S-17-0275.

**Knowles, T.**, Adams, S., Abeyesekera, A., Mancinelli, C., Gilmore, G., & Jog, M. (2018). Deep brain stimulation of the subthalamic nucleus parameter optimization for vowel acoustics and speech intelligibility in Parkinson's disease. *Journal of Speech, Language, and Hearing Research*, 61(3), 510-524. doi: 10.1044/2017\_JSLHR-S-17-0157.

Cushnie-Sparrow, D., Adams, S.G., **Knowles, T.**, Leszcz, T.M., Jog, M. (2016). Effects of multi-talker noise on the acoustics of voiceless stop consonants in Parkinson's disease. *Western Papers in Linguistics*.

**Knowles, T.**, Clayards, M., Sonderegger, M., Wagner, M., Nadig, A., & Onishi, K. (2015). Automatic forced alignment on child speech: Directions for improvement. *Proceedings of Meetings on Acoustics*. doi: 25:060001.

Clayards, M. & **Knowles, T.** (2015). Prominence enhances voicelessness and not place distinction in English voiceless sibilants. *Proceedings of the 18th International Congress of Phonetic Sciences*. Glasgow, UK: the University of Glasgow.

- Little, C. & **Knowles, T.** (2012). Didja know? A comparative study of affrication across word boundaries in Canadian and American English. *Strathy Student Working Papers on Canadian English*.
- Cheng, J. & **Knowles, T.** (2012). Mandarin VP-Shell: Not as hard as you think. *McGill Cellar Door 1*, 4-20.

## CODE

---

Keshet, J., Sonderegger, M., & **Knowles, T.** (2014). AutoVOT, v. 0.93.

- A software package for automatic measurement of voice onset time (VOT), using the algorithm described in Sonderegger & Keshet (2012).

## CONFERENCE & WORKSHOP PRESENTATIONS

### *Refereed conference presentations*

**Knowles, T.**, Adams, S., Page, A., Cushnie-Sparrow, D., & Jog, M. A comparison of voice amplification devices in Parkinson's disease.

- American Speech-Language-Hearing Association (ASHA) CONNECT Conference. Baltimore, MD. 7/2018 (new data presented). *International poster presentation*
- Speech-Language Pathology and Audiology Canada (SAC) Conference. Edmonton, AB. 5/2018. *National poster presentation*

Mancinelli, C., Adams, S.G., Abeyesekera, A., **Knowles, T.**, Delrobaei, M., & Jog, M. Deep brain stimulation parameter optimization for rate of speech in Parkinson's disease. American Speech-Language-Hearing Association Convention. Philadelphia, PA. 11/2016. *International poster presentation, presented by first author.*

**Knowles, T.**, Adams, S.G., Abeyesekera, A., Mancinelli, C., & Jog, M. Deep brain stimulation parameter optimization for speech intelligibility and vowel acoustics in Parkinson's disease. International Clinical Phonetics and Linguistics Association Conference, Halifax, NS. 6/2016. *International oral presentation.*

Abeyesekera, A., Adams, S.G., **Knowles, T.**, Mancinelli, C., Delrobaei, M., & Jog, M. Deep brain stimulation and speech in Parkinson's disease: Effects of stimulator settings and electrode contact positions. Southern Ontario Neuroscience Association, Waterloo, ON. 5/2016. *Provincial poster presentation, presented by first author.*

**Knowles, T.**, Adams, S.G., Abeyesekera, A., Mancinelli, C., Delrobaei, & M., Jog., M. Deep brain stimulation parameter optimization for speech intelligibility and speech acoustics in Parkinson's disease. Motor Speech Conference, Newport Beach, CA. 3/2016. *International poster presentation.*

Abeyesekera, A., Adams, S.G., **Knowles, T.**, Mancinelli, C., Delrobaei, & M., Jog., M. Deep brain stimulation parameter optimization for voice quality, speech intensity and prosody of speech in Parkinson's disease. Motor Speech Conference, Newport beach, CA. 3/2016. *International poster presentation, presented by first author.*

**Knowles, T.**, Clayards, M., Sonderegger, M., Wagner, M., Nadig, A., & Onishi, K. Automatic forced alignment on child speech: Directions for improvement. Meeting of the Acoustical Society of America, Jacksonville, FL. 11/2015. *International poster presentation.*

Sonderegger, M., Stuart-Smith, J., Macdonald, R., **Knowles, T.**, & Rathcke, T. Stability and change in Scottish stops: A real-time study of three acoustic cues in Glaswegian vernacular. New Ways of Analyzing Variation 44, Toronto. 10/2015. *International oral presentation, presented by first author.*

Clayards, M., & **Knowles, T.** Prominence enhances voicelessness and not place distinction in English voiceless sibilants. 18th International Congress of Phonetic Sciences. Glasgow, Scotland. 8/2015. *International oral presentation, presented by first author.*

Stuart-Smith, J., Sonderegger, M., Macdonald, R., **Knowles, T.**, & Rathcke, T. (2014). The private life of stops: VOT in a real-time corpus of spontaneous Glaswegian. 14th Conference on Laboratory Phonology. Tokyo, Japan. 7/2014. *International oral presentation, presented by first author.*

Clayards, M., & **Knowles, T.** Sibilants, prominence, contrast and breathy voice. Phonetic Building Blocks of Speech. University of Victoria. Victoria, BC. 9/2014. *International poster presentation, presented by first author.*

Clayards, M. & **Knowles, T.** Prosodic strengthening and sibilants. Linguistic Institute Conference on Universality and Variability in segment-prosody interactions. Ann Arbor, MI. 6/2013. *International oral presentation, presented by first author.*

Fleischer, D., **Knowles, T.**, Cheng, J., Wagner, M., & Clayards, M. Syntactic effects on compensation for assimilation. Architectures and Mechanisms for Language Processing. Riva del Garda, Italy. 9/2012. *International oral presentation, presented by last author.*

Little, C. & **Knowles, T.** Didja Know? Affrication in North American English Dialects.

- Change and Variation in Canada 7. University of Toronto. Toronto, ON. 5/2012. *National oral presentation.*
- 2nd Annual Hunter Undergraduate Linguistics and Language Study. Hunter College. New York, NY. 5/2012. *International oral presentation.*
- International Linguistic Assoc. 58th Annual Conference. Kingsborough Community College. Brooklyn, NY. 4/2012. *International oral presentation.*
- 10th Annual Harvard Undergraduate Linguistics Colloquium. Harvard University. Cambridge, MA. 4/2012. *International oral presentation.*

**Knowles, T.** (2011). Gender and Lexical Variation: Coffee Tasting Descriptors.

- McGill Canadian Conference for Linguistics Undergraduates. Montréal, QC. 3/2011. *National oral presentation.*
- 9th Annual Harvard Undergraduate Linguistics Colloquium. Harvard University. Cambridge, MA. *International oral presentation.*

### *Invited presentations*

**Knowles, T.**, Adams, S., Page, A., Cushnie-Sparrow, D., & Jog, M. A comparison of speech amplification and personal communication devices for individuals with Parkinson's disease. Communicative Disorders & Sciences Research Colloquium. University at Buffalo, Buffalo, NY. 4/2018.

### *Local presentations*

**Knowles, T.**, Adams, S., Page, A., Cushnie-Sparrow, D., & Jog, M. Evaluating the efficacy of voice amplification and personal communication devices in Parkinson's disease. Speech & Language Seminar, Health & Rehabilitation Sciences, Western University. London, ON. 10/2018. *Local oral presentation.*

**Knowles, T.**, Adams, S., Page, A., Cushnie-Sparrow, D., & Jog, M. A comparison of voice amplification devices in Parkinson's disease.

- 5th Annual Movement Disorders Research Retreat. London, ON. 6/2018. *Local oral presentation.*
- Health & Rehabilitation Graduate Research Conference. Western University, London, ON. 2/2018. *Local oral presentation.*

**Knowles, T.** The effect of rate manipulation on acoustic distinctiveness and intelligibility in dysarthria: Prospectus.

- Speech & Language Seminar, Health & Rehabilitation Sciences, Western University. London, ON. 10/2017. *Local oral presentation.*
- 4th Annual Movement Disorders Research Retreat. London, ON. 6/2017. *Local oral presentation.*

**Knowles, T.,** Adams, S.G., Abeyesekera, A., Mancinelli, C., Gilmore, G., & Jog, M. Deep brain stimulation parameter optimization: Vowel acoustics in Parkinson’s disease. Health & Rehabilitation Graduate Research Conference. Western University, London, ON. 2/2017. *Local oral presentation.*

Cushnie-Sparrow, D., Adams, S.G., Leszcz, T., **Knowles, T.,** & Jog, M. Effects of multitalker noise on the acoustics of voiceless stop consonants in Parkinson disease. Western Interdisciplinary Student Symposium on Language Research, London, ON. 3/2016. *Local oral presentation, presented by first author.*

**Knowles, T.,** Adams, S., Leszcz, T., Jog, M. Acoustic correlates of noise-related speech intelligibility deficits in Parkinson’s disease. Health and Rehabilitation Sciences Graduate Research Conference. Western University, London, ON. 2/2016. *Local oral presentation.*

**Knowles, T.,** Adams, S.G., Abeyesekera, A., Mancinelli, C., Delrobaei, & M., Jog, M. Deep brain stimulation and speech.

- 3rd Annual Movement Disorders Research Retreat. Toronto, ON. 6/2016. *Local oral presentation.*
- 2nd Annual Movement Disorders Research Retreat. London, ON. 6/2015. *Local oral presentation.*

**Knowles, T.,** Adams, S.G., Abeyesekera, A., Mancinelli, C., Delrobaei, & M., Jog, M. Effect of deep brain stimulation parameters on speech intelligibility and speech acoustics in Parkinson’s disease.

- Health & Rehabilitation Sciences Graduate Research Conference. Western University, London, ON. 2/2015. *Local poster presentation.*
- Faculty of Health Sciences Research Day. Western University, London, ON. 3/2015. *Local poster presentation.*

Abeyesekera, A., Adams, S., **Knowles, T.,** Mancinelli, C., Delrobaei, M., & Jog, M. Effect of different deep brain stimulation parameters on voice quality, speech intensity, and prosody in Parkinson’s Disease. Health & Rehabilitation Sciences Graduate Research Conference, Western University, London, ON. 2/2015. *Local poster presentation, presented by first author.*

Mancinelli, C., Adams, S., Abeyesekera, A., **Knowles, T.,** Delrobaei, M., & Jog, M. Deep brain stimulation parameter optimization for rate of speech in Parkinson’s Disease. Health & Rehabilitation Sciences Graduate Research Conference, Western University, London, ON. 2/2015. *Local poster presentation, presented by first author.*

Clayards, M., Wonnacott, E., & **Knowles, T.** A case study of childhood L2 learning of phonological contrasts. McGill School of Communication Sciences and Disorders 50th Anniversary Open House. McGill University. Montréal, QC. 11/2013. *Local poster presentation, presented by first author.*

## MEDIA

“Speech in Parkinson’s disease: The potential role of amplification devices.” Article written for *The Parkinson’s Update (68)*. Parkinson Society Southwestern Ontario. Online. Summer/Fall 2018. <https://parkinsonsociety.ca/wp-content/uploads/2018/07/Parkinson-68-complete-for-web-Compressed-003-final.pdf>

“The R-Ladies Piece.” Interview by GradCast for *Radio Western*. Radio. 6/2017.

“Research fine-tunes Parkinson’s speech impact.” Interview by Paul Mayne for *Western News*. Online. 3/2016. <https://news.westernu.ca/2016/03/research-fine-tunes-parkinsons-speech-impact/>

## PROFESSIONAL EXPERIENCE: RESEARCH

---

### Research Assistant

November 2014 - Present

*Speech Movement Disorders Lab, Western University*

*London, ON*

- Assist with study design, ethics submission, data collection related to a comparison of assistive speech devices for individuals with Parkinson’s disease

### Lab Coordinator/Research Assistant

October 2014 - Present

*Language & Cognition Lab, Western University*

*London, ON*

- Assist with study design, ethics proposals, recruitment, data collection/analysis related to language comprehension in Parkinson’s disease
- Manage research assistants, coordinate meetings, ensure project deadlines are met

### Project Manager: Tools for Looking at Variability in Speech

August 2013 - June 2014

*McGill University*

*Montréal, QC*

- Multidisciplinary collaboration with Communication Sciences & Disorders, Linguistics, & Psychology investigating viability of automated analysis with large scale variable speaker populations
- Trained & managed 12+ research assistants in speech analysis

### Lab Manager: Speech Learning Lab

August 2013 - June 2014

*Linguistics Department, McGill University*

*Montréal, QC*

- Trained & managed research assistants in acoustic analysis
- Provided training materials and conducted tutorial on Praat scripting

### Lab Manager: Montréal Language Modeling Lab

June 2013 - June 2014

*Linguistics Department, McGill University*

*Montréal, QC*

- Developed automated scripts for speech analysis, performed data collection & acoustic analysis
- Trained & managed research assistants & coordinated meetings

### Research Assistant: CHILDES PhonBank Project

September 2012 - March 2014

*Linguistics Department, McGill University*

*Montréal, QC*

- Edited and maintained corpus of child phonological data
- Provided detailed feedback for ongoing development of PhonBank software

### Research Assistant: McGill Prosody Lab

June 2012 - June 2014

*Linguistics Department, McGill University*

*Montréal, QC*

- Performed data collection for a variety of speech production and perception experiments
- Assisted in data analysis using MatLab and Praat software

### Research Assistant: Speech Learning Lab

November 2011 - June 2014

*Linguistics Department, McGill University*

*Montréal, QC*

- Assisted in speech perception and production experimental design
- Conducted acoustic and statistical analysis

## PROFESSIONAL EXPERIENCE: CLINICAL

---

### **Student Clinician: Schoolboard**

*Thames Valley District Schoolboard*

May 2018 - June 2018

*London, ON*

- Conducted assessment and intervention for school-aged children

### **Student Clinician: Fluency disorders**

*Camp ShoutOut*

August 2017

*Holton, MI, USA.*

- Provided individual and group intervention to children with fluency disorders

### **Student Clinician: Acquired neurogenic language disorders**

*H.A. Leeper Speech & Hearing Clinic*

May 2015 - July 2015

*London, ON*

- Conducted assessment and intervention for adults with aphasia
- Provided individual & group therapy

### **Student Clinician: Voice disorders**

*H.A. Leeper Speech & Hearing Clinic*

May 2015 - June 2015

*London, ON*

- Delivered LSVT-LOUD to client with Parkinson's disease

### **Student Clinician: TykeTalk**

*H.A. Leeper Speech & Hearing Clinic*

January 2015 - April 2015

*London, ON*

- Conducted assessment and intervention for young children with suspected speech and/or language difficulties
- Assisted in providing Hanen Target Word intervention

## TEACHING EXPERIENCE

---

### **Invited guest lecturer: Motor Speech Disorders (SLP714)**

*Communication Sciences & Disorders*

March 2018

*Central Michigan University*

- Delivered lecture: "Treatment trends in hypokinetic dysarthria"

### **Tutorial: Using RMarkdown to generate reports and manuscripts**

*R-Ladies, London, Ontario Chapter*

March 2018

Conducted interactive presentation and tutorial on using the programming language and software environment R to produce integrated reports and manuscripts

### **Invited guest lecturer: Professional Practice Issues (COMMSCI9636)**

*Communication Sciences & Disorders*

November 2017

*Western University*

- Delivered lecture: "Thinking about pursuing a PhD in communication sciences and disorders?"

### **Teaching Assistant: Speech Science (COMMSCI9615)**

*Communication Sciences & Disorders*

Fall 2017

*Western University*

- Delivered lecture: "Introduction to phonetics"
- Conducted three weekly labs on healthy and disordered speech acoustics for graduate SLP and Audiology students

### **Teaching Assistant: Voice Disorders (COMMSCI9631)**

*Communication Sciences & Disorders*

Spring 2017

*Western University*

- Graded quizzes and exams related to healthy and disordered voice production for graduate SLP students

**Teaching Assistant: Speech Science (COMMSCI9615)***Communication Sciences & Disorders*

Fall 2016, 2017

*Western University*

- Delivered lecture: "Introduction to phonetics"
- Conducted three weekly labs on healthy and disordered speech acoustics for graduate SLP and Audiology students

**Tutorial: Introduction to Praat Scripting***Department of Linguistics*

Spring 2014

*McGill University*

- Conducted tutorials for various linguistics laboratory research assistants on automating aspects of acoustic analysis by writing scripts in Praat

---

**VOLUNTEER & RELATED EXPERIENCE**

---

**Pin Pals Volunteer***Autism Ontario*

February - March 2016

*London, ON*

- Weekly one-on-one bowling outings with children with autism spectrum disorder

**Operation Smile Volunteer***Western University*

September 2015 - June 2016

*London, ON*

- Assisted in fundraising for medical charity providing surgical training for doctors treating children born with cleft lip/palate in underfunded international locations

**IAL Voice Institute Attendee***International Association of Laryngectomees*

June 2015

*Baltimore, MD*

- Exposure to comprehensive issues related to laryngectomy and postlaryngectomy patient care
- Acquired direct, hands-on experience with all methods of alaryngeal speech
- Passed IAL examination which confirmed acquisition of basic and intermediate levels of knowledge in postlaryngectomy rehabilitation

**Aphasia Retreat Day Volunteer***Western University*

May 2015

*London, ON*

- Volunteered as "communication ramp" for adults with aphasia during full day retreat
- Facilitated communication using SCAA strategies during games and activities

**Speech-Language Pathology Assistant***Speech Therapy Montréal*

January 2013 - July 2014

*Montréal, QC*

- Assisted with early intervention language screenings
- Performed inventory of therapy materials, created client database

**Software Carpentry Bootcamp Attendee***McGill University*

January 2013

*Montréal, QC*

- Professional development related to programming skill enhancement with command line tools, GitHub, and Python

**Nor'Easter Marketing Street Team***Nor'Easter Outdoor Festival*

August 2008

*Burlington, VT*

- Led a Montréal-based team of volunteers responsible for advertising the "Nor'Easter," a large-scale outdoor sports and music festival powered by Eastern Mountain Sports and held in Vermont



**English Teacher***Private family*

September 2007 - July 2008

*Salamanca, Spain*

- Provided daily private English lessons to two Spanish-speaking children
- Created lesson materials including games and conversational practice

**ACADEMIC SERVICE & LEADERSHIP****Co-founder***R-Ladies London, Ontario Chapter*

January 2017 - present

*London, ON***Chair/Organizer***Health & Rehabilitation Sciences Alumni Speaker Series, Western University*

2016-2017

*London, ON***Sponsorship Subcommittee Leader***Health & Rehabilitation Sciences Graduate Research Conference, Western University*

2016-2017

*London, ON***Vice-President Finance***Health & Rehabilitation Sciences Graduate Student Society, Western University*

2016-2017

*London, ON***President***Health & Rehabilitation Sciences Graduate Student Society, Western University*

2015-2016

*London, ON***Co-organizer***Health & Rehabilitation Sciences Graduate Research Conference, Western University*

2016

*London, ON***Abstract Reviewer***Health & Rehabilitation Sciences Graduate Research Conference, Western University*

2015, 2016

*London, ON***Professional Program Preview Day Volunteer***School of Communication Sciences & Disorders, Western University*

2015

*London, ON***TECHNICAL STRENGTHS****Computer Languages**R, Praat, L<sup>A</sup>T<sub>E</sub>X, MatLab, Python**PROFESSIONAL AFFILIATIONS**

- Movement Disorders Society (MDS): Student Member
- Academy of Neurologic Communication Disorders and Sciences (ANCDS): Student Member
- American National Student Speech Language Hearing Association (NSSLHA): Student Member
- Ontario Association of Speech-Language Pathologists and Audiologists (OSLA): Student Member

**PERSONAL INTERESTS**

- Rock climbing: competed in three US National Championships and one North American Continental Championship
- Long-distance running: completed two marathons and two half marathons
- Coffee preparation science: former Director of Quality Control at Café Myriade, current hobbyist

**OTHER INFORMATION****Citizenship**

United States

**Permanent Residency**

Canada

**Languages**

English (native), Spanish (advanced), French (novice)