

THEA KNOWLES

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Last updated: March 8, 2018

EDUCATION

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

HONOURS & AWARDS

Ontario Graduate Scholarship <i>Value: \$15,000</i>	2017-2018
Graduate Student Research Program Award: Parkinson Society Southwestern Ontario <i>Value: \$20,000</i>	2017-2018
Vanier Scholarship Nominee (not awarded) <i>Nominated by Faculty of Health Sciences, Western University</i>	2016
Western University “3 Minute Thesis” First Place Winner <i>Value: \$1,000</i>	2016
Harmonize for Speech/Barbershoppers Award <i>Value: \$750</i>	2016
Student Achievement Award: Ontario Association of Speech-Language Pathologists & Audiologists <i>Value: OSLA Membership</i>	2015
Acoustical Society of America Student Poster Honorable Mention <i>Meeting of the 170th Acoustical Society of America, Jacksonville</i>	2015
Best PhD Student Poster Award <i>Health & Rehabilitation Sciences Graduate Research Conference, Western University</i>	2015
Graduation with First Class Honours & Distinction <i>McGill University</i>	2012
Dean’s Honour List <i>McGill University</i>	2010

PUBLICATIONS

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*, [Advance online publication], 1-15. 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.

SUBMITTED MANUSCRIPTS

Knowles, T., Clayards, M., & Sonderegger, M. Automatic analysis of child speech: Implications for voiceless sibilant analysis. *In revision: Journal of Speech, Language, and Hearing Research*.

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

Knowles, T. Using R Markdown to generate summary reports and journal-ready manuscripts. R-Ladies, London, Ontario Chapter. London, ON. 3/2018. *Workshop tutorial*.

Knowles, T. The effect of rate manipulation on acoustic distinctiveness and intelligibility in dysarthria. Speech & Language Seminar, Health & Rehabilitation Sciences, Western University. London, ON. 10/2017. *Local oral presentation*.

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

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.*

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.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., 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., 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.*

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

- Third Annual Movement Disorders Research Retreat. Toronto, ON. 6/2016. *Local oral presentation.*
- Second 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.*

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., 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. Montreal, QC. 11/2013. *Local 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. Montreal, QC. 3/2011. *National oral presentation.*
- 9th Annual Harvard Undergraduate Linguistics Colloquium. Harvard University. Cambridge, MA. *International oral presentation.*

MEDIA

“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/>

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

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 *Montreal, 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 *Montreal, QC*

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

Lab Manager: Montreal Language Modeling Lab June 2013 - June 2014
Linguistics Department, McGill University *Montreal, 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 *Montreal, 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 *Montreal, 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 *Montreal, QC*

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

PROFESSIONAL EXPERIENCE: CLINICAL

Student Clinician: Fluency disorders August 2017
Camp ShoutOut *Holton, MI, USA.*

- Provided intervention to children with fluency disorders
- Provided individual & group therapy

Student Clinician: Acquired neurogenic language disorders

May 2015 - July 2015

*H.A. Leeper Speech & Hearing Clinic**London, ON*

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

Student Clinician: Voice disorders

May 2015 - June 2015

*H.A. Leeper Speech & Hearing Clinic**London, ON*

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

Student Clinician: TykeTalk

January 2015 - April 2015

*H.A. Leeper Speech & Hearing Clinic**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

Teaching Assistant: Speech Science (COMMSCI9615)

Fall 2017

*Communication Sciences & Disorders**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)

Spring 2017

*Communication Sciences & Disorders**Western University*

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

Teaching Assistant: Speech Science (COMMSCI9615)

Fall 2016, 2017

*Communication Sciences & Disorders**Western University*

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

VOLUNTEER & RELATED EXPERIENCE

Pin Pals Volunteer

February - March 2016

*Autism Ontario**London, ON*

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

Operation Smile Volunteer

September 2015 - June 2016

*Western University**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

June 2015

*International Association of Laryngectomees**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 Montreal

January 2013 - July 2014

Montreal, QC

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

Software Carpentry Bootcamp Attendee

McGill University

January 2013

Montreal, 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 Montreal-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 London, ON

2016-2017

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 London, ON

2016

Abstract Reviewer

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

2015

Professional Program Preview Day Volunteer

School of Communication Sciences & Disorders, Western University

2015

London, ON

PROFESSIONAL AFFILIATIONS

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

TECHNICAL STRENGTHS

Computer Languages R, Praat, L^AT_EX, Python, MatLab

LANGUAGES

- English (native)
- Spanish (fluent)
- French (proficient)

PERSONAL INTERESTS

- Rock climbing (three-time US national competitor)
- Long-distance running (two-time marathon runner)
- Playing guitar
- Coffee preparation science