THEA KNOWLES

Buffalo, NY theaknow@buffalo.edu

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CURRENT EMPLOYMENT

Assistant Professor (tenure system) Communicative Disorders & Sciences University at Buffalo Buffalo, NY	2019 - Present
EDUCATION	
Western University, London, ON MClSc/PhD Health & Rehabilitation Sciences (Speech & Language Sciences) Communication Sciences & Disorders (Speech-Language Pathology)	2014 - 2019
McGill University, Montréal, QC B.A. Honours, Linguistics First Class Honours, Distinction	2008 - 2012
HONOURS & AWARDS	
Graduate Student Conference Travel Subsidy (Summer) Western University Society of Graduate Students	2018
· Value: \$500.00	
Graduate Student Conference Travel Award Western University Faculty of Health Sciences	2018
· Value: \$250.00	
Graduate Student Conference Travel Subsidy (Spring) Western University Society of Graduate Students	2018
· Value: \$300.00	
Graduate Student Teaching Award Nominee (not awarded) Western University	2018
Ontario Graduate Scholarship	2018-2019
· Value: \$15,000	
Ontario Graduate Scholarship · Value: \$15,000	2017-2018
Graduate Student Research Program Award Parkinson Society Southwestern Ontario	2017-2018

· Value: \$20,000

Vanier Scholarship Nominee (not awarded) Nominated by Western University Faculty of Health Sciences	2016
Western University "3 Minute Thesis" First Place Winner Western University	2016
Value: \$1,000	
Harmonize for Speech Graduate Student Award Harmonize for Speech Ontario	2016
Value: \$750	
Graduate Student Conference Travel Subsidy (Spring) Western University Society of Graduate Students	2016
Value: \$500.00	
Graduate Student Conference Travel Award Western University Health & Rehabilitation Sciences	2016
Value: \$400.00	
Graduate Student Conference Travel Award Western University Faculty of Health Sciences	2016
Value: \$300.00	
Student Achievement Award Ontario Association of Speech-Language Pathologists & Audiologists	2015
Value: OSLA Membership	
Acoustical Society of America Student Poster Honorable Mention Meeting of the 170th Acoustical Society of America, Jacksonville	2015
Best PhD Student Poster Award Health & Rehabilitation Sciences Graduate Research Conference, Western University	2015
Graduation with First Class Honours & Distinction $McGill\ University$	2012
Dean's Honour List McGill University	2010

PUBLICATIONS

Sonderegger, M., Stuart-Smith, J., Macdonald, R., **Knowles, T.**, & Rathcke, T. (2019). Structured heterogeneity in Scottish stops. *Language*.

Abeyesekera, A., Adams, S., Mancinelli, C., **Knowles, T.**, Gilmore, G., Delrobaei, M., Jog, M. (2019). Effects of deep brain stimulation of the subthalamic nucleus settings on voice quality, intensity, and prosody in Parkinson's disease: preliminary evidence for speech optimization. *Canadian Journal of Neurological Sciences*, 46(3), 287-294. doi: 10.1017/cjn.2019.16

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*, 61(10), 2487-2501. 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 multitalker 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

Adams, S. Kumar, N., Rizek, P., Hong, A., Zhang, J., Abeyesekera, A., Mancinelli, C., **Knowles, T.** and Jog, M. (Submitted). Efficacy and acceptance of a Lombard-response device for hypophonia in Parkinson's disease.

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).

Knowles, T. (unpublished). Publicly available Praat scripts.

- · https://github.com/thealk/PraatScripts
- · Includes Visual Analog Scale administration tool, interactive tutorials, and various scripts designed to facilitate speech analysis.

CONFERENCE & WORKSHOP PRESENTATIONS

Refereed conference presentations

Knowles, T., Adams, S., Page, A., Cushnie-Sparrow, D., & Jog, M. Evaluating the efficacy of speech amplification and personal communication devices in Parkinson's disease. American Speech-Language-Hearing Association (ASHA) Conference. Boston, MA. 11/2018. *International poster presentation*

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. Speech amplification clinic: Speech-language pathology in-service. H.A. Leeper Speech & Hearing Clinic. Western University, London, ON. 1/2019.

Knowles, T. Louder but not clearer: Exploring underpinnings of speech intelligibility in dysarthria through acoustic, clinical, and technological lenses. Job talk presented at the University of Minnesota Twin Cities. Minneapolis, MN. 1/2019.

Knowles, T. Louder but not clearer: Exploring underpinnings of speech intelligibility in dysarthria through acoustic, clinical, and technological lenses. Job talk presented at the University at Buffalo. Buffalo, NY. 11/2018.

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-forweb-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 - August 2019

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 - June 2017

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

McGill University

August 2013 - June 2014 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

 $Montr\'eal,\ QC$

· 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

Speech-language pathologist

November 2019 - present

UB Speech and Hearing Clinic

Buffalo, NY

· Lead LOUD Crowd therapy sessions for people with Parkinson's disease.

Student Clinician: Hospital

July 2019 - August 2019

Grand River Hospital

Kitchener, ON

· Provided swallowing and communication assessments on a stroke unit.

Student Clinician: Speech Amplification Clinic

September 2018 - June 2019

H.A. Leeper Speech & Hearing Clinic

London, ON

· Developed policies and procedures for and led assessments of individuals with hypophonia seeking a speech amplification device

· Coordinated meetings with speech-language pathologists, audiologists, neurologists and clinic staff to ensure timely prescription of appropriate devices

Student Clinician: Schoolboard

May 2018 - June 2018

Thames Valley District Schoolboard

London, ON

· Conducted assessment and intervention for school-aged children

Student Clinician: Fluency disorders

August 2017 Holton, MI, USA.

Camp ShoutOut

· Provided individual and group intervention to children with fluency disorders

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

Instructor

Anatomy and Physiology of the Speech Mechanism (CDS288)

Fall 2019

University at Buffalo

Teaching Assistant

Speech Science (COMMSCI9615)

Fall 2016, 2017

Communication Sciences & Disorders

Western University

· Conducted three weekly labs on healthy and disordered speech acoustics for graduate SLP and Audiology students

Voice Disorders (COMMSCI9631)

Spring 2017

Communication Sciences & Disorders

Western University

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

Guest Lectures

"Introduction to phonetics"

September 2017, 2018

Speech Science (COMMSCI9615)

Western University

"Treatment trends in hypokinetic dysarthria"

March 2018

Motor Speech Disorders (SLP714)

Central Michigan University

"Pursuing a PhD in communication sciences and disorders"

November 2017

Professional Practice Issues (COMMSCI9636)

Western University

Workshops & tutorials

"RMarkdown and Bookdown for academic writing"

January 2020

R-Ladies, London, Ontario Chapter

"Dissertating with RMarkdown and Bookdown"

April 2019

R-Ladies, London, Ontario Chapter

"Figuring out figures in R"

October 2018

R-Ladies, London, Ontario Chapter

"Using RMarkdown to generate reports and manuscripts"

March 2018

R-Ladies, London, Ontario Chapter

"Introduction to Praat Scripting"

Spring 2014

Department of Linguistics

McGill University

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

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

· Passed IAL examination which confirmed acquisition of basic and intermediate levels of knowledge in postlaryngectomy rehabilitation

Aphasia Retreat Day Volunteer

May 2015

Western University

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

January 2013 - July 2014

Speech Therapy Montréal

Montréal, QC

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

Software Carpentry Bootcamp Attendee

January 2013

McGill University

Montréal, QC

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

Nor'Easter Marketing Street Team

August 2008

Nor'Easter Outdoor Festival

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

ACADEMIC SERVICE & LEADERSHIP

Co-founder R-Ladies London, Ontario Chapter	$\begin{array}{c} 2017 - 2019 \\ London, \ ON \end{array}$
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	$\begin{array}{c} 2016 \\ London, \ ON \end{array}$
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	$\begin{array}{c} 2015 \\ London, \ ON \end{array}$

TECHNICAL STRENGTHS

Computer Languages

R, Praat, LATEX, MatLab, Python

PROFESSIONAL AFFILIATIONS

- American Speech-Language-Hearing Association (ASHA): Member 2019 present
- Movement Disorders Society (MDS): Member 2016 present
- Academy of Neurologic Communication Disorders and Sciences (ANCDS): Member 2018 present
- American National Student Speech-Language-Hearing Association (NSSLHA): Member 2016 2019
- Ontario Association of Speech-Language Pathologists and Audiologists (OSLA): Student Member 2014 - 2019
- American Speech-Language-Hearing Association (ASHA) Special Interest Groups 2, 19

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

Entirel (1) (1) (2)

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