

Sarah Colby

Department of Linguistics
University of Ottawa, Ottawa, ON

scolby@uottawa.ca
sarahcolby.ca

Education

- 2013 - 2018 Ph.D., Communication Sciences & Disorders
McGill University, Montreal, QC
- 2012 - 2013 M.A., Linguistics
University of Ottawa, Ottawa, ON
- 2008 - 2012 B.A., Linguistics & Psychology (Joint Honours)
University of Ottawa, Ottawa, ON

Academic Positions

- 2024 - Present Research Fellow
Department of Linguistics
University of Ottawa, Ottawa, ON
- 2018 - 2024 Postdoctoral Research Scholar
Department of Psychological and Brain Sciences
University of Iowa, Iowa City, IA

Peer-reviewed Publications

Manuscripts in Preparation

- Colby, S.E.** & McMurray, B. (in prep). Test-retest reliability for indices of spoken word recognition derived from the Visual World Paradigm.
- Colby, S.E.** & McMurray, B. (in prep). Lexical access and listening effort in the face of unexpected talker information.

Journal Articles

- Colby, S.E.** & McMurray, B. (2025, accepted). Engaging effort improves efficiency during spoken word recognition in cochlear implant users. *Quarterly Journal of Experimental Psychology*.
- McMurray, B., Smith, F.X., Huffman, M., Roof, K., Muegge, J., Jeppsen, C., Kutlu, E., & **Colby, S.E.** (2024). Underlying dimensions of real-time word recognition in cochlear implant users. *Nature Communications*, 18 (7382), 1-19.
- Colby, S.E.**, Smith, F.X., & McMurray, B. (2024). The role of inhibitory control in spoken word recognition: Evidence from cochlear implant users. *Language, Cognition, & Neuroscience*, 39 (8), 1059–1071.
- Choi, I., Gander, P.E., Berger, J.I., Woo, J., Choy, M., Hong, J., **Colby, S.E.**, McMurray, B., & Griffiths, T.D. (2023). Spectral grouping of electrically encoded sound predicts speech-in-noise performance in cochlear implant users. *Journal of the Association for Research in Otolaryngology*, 24, 607-617.
- Colby, S.E.** & McMurray, B. (2023). Efficiency of spoken word recognition slows across the adult lifespan. *Cognition*, 240.
- McMurray, B., Apfelbaum, K.S., **Colby, S.**, & Tomblin, J.B., (2023). Understanding language processing in variable populations on their own terms: Towards a functionalist psycholinguistics of individual differences, development and disorders. *Applied Psycholinguistics*, 44 (4), 565-592.
- Colby, S.**, Seedorff, M., & McMurray, B. (2023). Audiological and Demographic Factors that Impact the Precision of Speech Categorization in Cochlear Implant Users. *Ear and Hearing*, 44 (3), 572-587.
- Colby, S.** & Orena, A. (2022). Recognizing voices through a cochlear implant: A systematic review of talker identification, discrimination, and perception. *Journal of Speech, Language, and Hearing Research*, 65, 3165-3194.

Colby, S. & McMurray, B. (2021). Cognitive and physiological measures of listening effort during degraded speech perception: Relating dual-task and pupillometry paradigms. *Journal of Speech, Language, and Hearing Research*, 64 (9), 3627–3652.

Colby, S., Shiller, D., Clayards, M., & Baum, S. (2019). Lexical bias in older and younger adults: Different responses to altered auditory feedback. *Journal of Speech, Language, and Hearing Research*, 62 (4S), 1144-1151.

Colby, S., Clayards, M. A., & Baum, S. R. (2018). The role of lexical status and individual differences for perceptual learning in younger and older adults. *Journal of Speech, Language, and Hearing Research*, 61 (8), 1855–1874.

Proceedings

Colby, S., Poulton, V., & Clayards, M. (2017). The role of inhibition in older and younger adults' lexical competition. *Canadian Acoustics*, 45 (3), 174-175.

Refereed Conference Presentations

Oral Presentations

Colby, S., & McMurray, B. (2023, November). *Online language processing and listening effort in the face of unexpected talker information*. Oral presentation at the 22nd Auditory Perception, Cognition, and Action Meeting (APCAM), San Francisco, CA, U.S.A.

Colby, S., & McMurray, B. (2022, June). *Efficiency of Spoken Word Recognition Declines Across the Adult Lifespan*. Oral presentation at 6th International Conference on Cognitive Hearing Science for Communication, Linköping, Sweden.

Colby, S., Seedorff, M., & McMurray, B. (2022, February). *Audiological and Demographic Factors that Impact Phonetic Categorization by Cochlear Implant Users*. Oral presentation at 45th Midwinter Meeting of the Association for Research in Otolaryngology (Virtual).

Colby, S., Smith, F., Roof, K., & McMurray B. (2022, February). *The Effects of Language Experience and Inhibitory Control on Spoken Word Recognition for Cochlear Implant Users*. Oral presentation at the 45th Midwinter Meeting of the Association for Research in Otolaryngology (Virtual).

Colby, S., Shiller, D., Clayards, M., & Baum, S. (2019, December). *The lexical bias in older adults' compensation to altered auditory feedback*. Oral presentation at 178th Meeting of the Acoustical Society of America, San Diego, CA, U.S.A.

Colby, S., Poulton, V., Clayards, M. (2017, October). *The role of inhibition in older and younger adults' lexical competition*. Oral presentation at Acoustics Week in Canada 2017, Guelph, ON, Canada.

Colby, S., Clayards, M., & Baum, S. (2017, April). *Top-down and bottom-up perceptual learning for speech is maintained in older adults*. Oral presentation at Workshop on Speech Perception and Production across the Lifespan (SPPL 2017), University College London, London, U.K.

Poster Presentations

Colby, S., Smith, F.X., Huffman, M., Jeppsen, C., Muegge, J., Kutlu, E., & McMurray, B. (2024, May). *Fundamental dimensions of real-time spoken word recognition in cochlear implant users*. Poster presented at the 186th Meeting of the Acoustical Society of America, Ottawa, Canada.

Colby, S., Smith, F.X., Huffman, M., Jeppsen, C., Muegge, J., Kutlu, E., & McMurray, B. (2023, November). *The dimensions of real-time spoken word recognition in cochlear implant users*. Poster presented at Psychonomic Society's 64th Annual Meeting, San Francisco, CA, U.S.A.

Colby, S., Huffman, M., & McMurray, B. (2022, December). *Engaging effort improves efficiency during word recognition in cochlear implant users*. Poster presented at the 183rd Meeting of the Acoustical Society of America, Nashville, TN, U.S.A.

Smith, F.X., **Colby, S.**, Geller, J., Choi, I., & McMurray, B. (2022, February). *Neural correlates of effortful listening with vocoded speech*. Poster presented at the 45th Midwinter Meeting of the Association for Research in Otolaryngology (Virtual).

Colby, S., Smith, F.X., Roof, K., & McMurray, B. (2020, November). *Cognitive control and the resolution of lexical competition in cochlear implant users*. Poster presented at Psychonomic Society's 61st Annual Meeting (Virtual).

- Colby, S., & McMurray, B.** (2019, December). *The role of listening effort during degraded speech recognition: A comparison of the dual-task and pupillometry paradigms*. Poster presented at 178th Meeting of the Acoustical Society of America, San Diego, CA, U.S.A.
- Colby, S., Poulton, V., & Clayards, M.** (2018, May). *Inhibitory and lexical frequency effects in younger and older adults' spoken word recognition: Evidence from eye-tracking*. Poster presented at Cognitive Aging Conference, Atlanta, Georgia, U.S.A.
- Colby, S., Poulton, V., & Clayards, M.** (2017, December). *Inhibitory and lexical frequency effects in younger and older adults' spoken word recognition*. Poster presented at 174th Meeting of the Acoustical Society of America, New Orleans, Louisiana, U.S.A.
- Colby, S., Shiller, D., Clayards, M., & Baum, S.** (2017, November). *Lexical effects in older adults' sensorimotor adaptation for speech*. Poster presented at 7th International Conference on Aging and Speech Communication Research, University of South Florida, Tampa, U.S.A.
- Colby, S., Poulton, V., & Clayards, M.** (2017, April). *Inhibition predicts lexical competition in older adults' spoken word recognition*. Poster presented at Workshop on Speech Perception and Production across the Lifespan (SPPL 2017), University College London, London, U.K.
- Colby, S., Clayards, M., & Baum, S.** (2016, November). *Top-down and bottom-up learning for speech in younger and older adults*. Poster presented at Congrès international en orthophonie et en audiologie (International Conference on Speech Language Pathology and Audiology). Université de Montréal, Montreal, Canada.
- Clayards, M. & **Colby, S.** (2015, December). *Individual differences in cue weights are correlated across contrasts*. Poster presented at Workshop on Individual Differences in Language Processing Across the Lifespan. Max Planck Institute for Psycholinguistics, Nijmegen, Netherlands.
- Colby, S. & Niembro, A.S.** (2013, February). *Lexical Competition as Affected by Subcategorical Cues: A project proposal*. Poster presented at Psychoshorts 2013. University of Ottawa, Ottawa, Canada.

Funding

- | | |
|-------------|--|
| 2023-2025 | NIH Exploratory/Developmental Research Grant Program (R21), National Institutes of Health - National Institute of Aging (NIH NIA)
<i>Project title: The real-time dynamics of language processing across the lifespan</i>
<i>Role: MPI</i>
<i>Total amount: \$427,625</i> |
| 2015 - 2018 | Bourse de doctorat en recherche, Fonds de recherche du Québec – Société et culture (Doctoral Research Fellowship, Quebec Research Fund – Society and Culture) |
| 2013 - 2015 | Graduate Excellence Award, McGill University, Montreal, QC |
| 2013 - 2014 | Max Stern Recruitment Fellowship, McGill University, Montreal, QC |

Awards

- | | |
|------|---|
| 2022 | Early-Career Acoustician Retreat Travel Award, 183 rd Meeting of the Acoustical Society of America, Nashville, USA |
| 2022 | ARO Midwinter Meeting Travel Award, 45 th Annual Midwinter Meeting of the Association for Research in Otolaryngology (Virtual) |
| 2017 | Speech Communication Student Poster Competition (2 nd place), 174 th Meeting of the Acoustical Society of America, New Orleans, USA |
| 2017 | Student Presentation Prize, Acoustics Week in Canada 2017 (Canadian Acoustical Association), Guelph, ON |
| 2017 | Alexander Graham Bell Prize in Speech Communication and Hearing, Canadian Acoustical Association |

- 2016 Prix d'excellence en recherche, Congrès international en orthophonie et en audiologie (Prize for excellence in research, International Conference on Speech Language Pathology and Audiology), Université de Montréal, Montreal, Canada
- 2013 Dean's Scholarship, University of Ottawa, Ottawa, ON

Teaching Experience

- Winter 2022 Guest Lecturer, Villanova University, Philadelphia, PA
 - Cognitive & Behavioral Neuroscience
 "Age-related changes to cognition"
- Fall 2021 Guest Lecturer, Rutgers University, New Brunswick, NJ
 - 185:320 Research Methods in Cognitive Science
 "Understanding Cognition Through the Eyes: Introduction to Pupillometry"
- Winter 2018 Guest Lecturer, McGill University, Montreal, QC
 - SCSD 631: Speech Science
 "Speech perception in adverse conditions"
 - LING 602: Graduate Seminar
 "Introduction to eye-tracking"
- Fall 2017 Lab Instructor, McGill University, Montreal, QC
 - SCSD 619: Phonological Development
 Phonetic Transcription Lab
- Winter 2017 Guest Lecturer, McGill University, Montreal, QC
 - SCSD 631: Speech Science
 "Speech perception in adverse conditions"
- Fall 2016 - Winter 2017 Co-supervisor, McGill University, Montreal, QC
 - COGS 444: Honours Research in Cognitive Science
- Summer 2016 Co-instructor, McGill University, Montreal, QC
 - LING 488: Independent Study I
- Winter 2016 Guest Tutorial, McGill University, Montreal, QC
 - SCSD 631: Speech Science
 Hands-on SPIN & HINT tutorial
- Winter 2013 Teaching Assistant, University of Ottawa, Ottawa, ON
 - LIN 1320: Introduction to Linguistics II
- Fall 2012 Teaching Assistant, University of Ottawa, Ottawa, ON
 - LIN 1310: Introduction to Linguistics I

Service

Departmental Service

- 2016 - 2018 Research Training Enrichment Committee Member, School of Communication Sciences & Disorders, McGill University
- 2016 - 2018 Co-organizer, PhD Reading Group, School of Communication Sciences & Disorders, McGill University
- 2015 - 2017 Research Representative, Communication Sciences & Disorders Graduate Students' Society (CSDGSS), McGill University
- 2015 - 2017 Communication Sciences & Disorders Representative, Post-graduate Students' Society (PGSS), McGill University
- 2012 - 2013 Steward, Canadian Union of Public Employees (CUPE) 2626 (representing University of Ottawa's Teaching Assistants & Research Assistants)

Conference & Other Association Service

- 2024 Judge, Speech Communication Student Poster Competition, 186th Meeting of the Acoustical Society of America, Ottawa, Canada
- 2022 Poster Session Chair, "Healthcare Settings and Clinical Populations" Speech Communication Session, 183rd Meeting of the Acoustical Society of America, Nashville, TN
- 2022 Judge, Speech Communication Student Poster Competition, 183rd Meeting of the Acoustical Society of America, Nashville, TN
- 2016 - 2017 Science Outreach Volunteer, Let's Talk Science, McGill University, Montreal, QC
- 2013 - 2014 Eureka Festival Committee, Brain Awareness Montreal, Montreal, QC
- 2013 Organizing Committee, Psychoshorts 2013, University of Ottawa, Ottawa, ON

Ad hoc Journal and Grant Review

- 2025 1 total:
Language and Speech (1)
- 2024 4 total:
American Journal of Audiology (1); Ear & Hearing (2); Journal of Experimental Psychology: Human Perception and Performance (1)
- 2023 9 total:
American Journal of Audiology (1); Applied Psycholinguistics (1); Cognition (1); Ear & Hearing (2); Journal of Speech, Language, and Hearing Research (3); National Science Foundation (1)
- 2022 4 total:
Applied Psycholinguistics (1); Cognition (1); Journal of Communication Disorders (1); Journal of Speech, Language, and Hearing Research (1)
- 2021 6 total:
American Journal of Audiology (2); Brain and Language (1); Journal of Communication Disorders (1); Journal of Speech, Language, and Hearing Research (1); Mitacs Accelerate Proposal (1)
- 2020 1 total:
Journal of Speech, Language, and Hearing Research (1)
- 2019 2 total:
Cognition (1); Journal of Experimental Psychology: Learning, Memory, and Cognition (1)