
CONTACT	brandontylerpaul.com brandon.paul@utoronto.ca	
EDUCATION	Ph.D., Psychology, McMaster University	2016
	M.A., Speech and Hearing Science, Ohio State University	2012
	B.Mus., Music Theory, Ohio State University	2010
RESEARCH EXPERIENCE	Postdoctoral Fellow, Sunnybrook Research Institute Evaluative Clinical Sciences Platform	2017-Present
	Postdoctoral Fellow, Université de Montréal School of Speech Therapy and Audiology	2016-2017
CONSULTING EXPERIENCE	External Academic Consultant Decibel Therapeutics (Boston, MA)	2018-2019
GRANTS	<i>As Co-Investigator</i> American Tinnitus Association Research Grant (50k USD) McMaster LIVE Lab Grant (2.6k CAD)	2018-2019 2015-2016
FELLOWSHIPS AND SCHOLARSHIPS	Harry Barberian Memorial Scholarship (8.6k CAD) McMaster Institute of Aging Research Fellowship (declined; 50k CAD) NSERC-CREATE Fellowship, Auditory Cognitive Neuroscience (42k CAD) McMaster Graduate Scholarship (24k CAD) The Patrick-McConnell Buckeye Foundation Scholarship (60k USD)	2019-2020 2017-2018 2013-2015 2012, 2016 2005-2009
AWARDS	École d'Orthophonie et d'Audiologie Junior Researcher Award MRC Institute of Hearing Research Early Career Award McMaster International Excellence Award	2016 2016 2015
PEER-REVIEWED PUBLICATIONS [9]	Paul, B. T. , Schoenwiesner, M., & Hébert, S. (2018). Towards an objective test of chronic tinnitus: Properties of auditory cortical potentials evoked by silent gaps in tinnitus-like sounds. <i>Hearing Research</i> , 366, 90-98. doi:10.1016/j.heares.2018.04.005	
	Paul, B. T. , Waheed, S., Bruce, I. C., & Roberts, L. E. (2017). Subcortical amplitude modulation encoding deficits suggest evidence of cochlear synaptopathy in normal-hearing 18-19 year olds with higher lifetime noise exposure. <i>Journal of the Acoustical Society of America, Express Letters</i> , 142 (5), November 2017. doi: 10.1121/1.5009603	
	Paul, B. T. , Bruce, I. C., & Roberts, L. E. (2017). Evidence that hidden hearing loss underlies amplitude modulation encoding deficits in individuals with and without tinnitus. <i>Hearing Research</i> , 344, 170-82. doi: 344 10.1016/j.heares.2016.11.010	
	Roberts, L. E., Bosnyak, D. J., Bruce, I. C., Gander, P. E., & Paul, B. T. (2015). Evidence for differential modulation of primary and nonprimary auditory cortex by forward masking in tinnitus. <i>Hearing Research</i> , 327, 9-27. doi: 10.1016/j.heares.2015.04.011	

Paul, B. T., Sederberg, P. B., & Feth, L. L. (2015). Imagined temporal groupings tune oscillatory neural activity for processing rhythmic sounds. *Timing & Time Perception*, 3, 172-88. doi:10.1163/22134468-03002042

Paul, B. T., Bruce, I. C., Bosnyak, D. J., Thompson, D. C., & Roberts, L. E (2014). Modulation of electrocortical brain activity by attention in individuals with and without tinnitus. *Neural Plasticity*, Vol. 2014, Article ID 127824. doi:10.1155/2014/127824

Broze, Y., **Paul, B. T.**, Allen, E., & Guarna, K. (2014). Polyphonic Voice Multiplicity, Numerosity, and Musical Emotion Perception. *Music Perception*, 32 (2), 143-159.

Paul, B., & Huron, D. (2010). An association between breaking voice and grief-related lyrics in Country Music. *Empirical Musicology Review*, 5 (2), 27-35.

Paul, B. (2008). Bilateral Keyboard Symmetry in the Music of Einojuhani Rautavaara. *The Ohio State University Online Music Journal*, 1 (2).

MANUSCRIPTS IN
PREPARATION

Paul, B. T. and Dimitrijevic, A. Neural alpha oscillations in left inferior frontal gyrus reflect subjective ratings of listening effort during speech-in-noise perception. To be submitted to NeuroImage Clinical.

MAGAZINE
ARTICLES [2]

Paul, B. T. (September 2019). In memory of Larry Roberts. *Canadian Audiologist*, Volume 6 Issue 5.

Paul, B. T. (July 2019). Why is tinnitus so hard to measure? *Canadian Audiologist*, Volume 6 Issue 4.

Hébert, S. & **Paul, B. T.** (August 2018). Using electroencephalography (EEG) to track brain responses to gaps embedded in soft sounds: A stepping stone towards an objective measure of tinnitus. *Tinnitus Today, Summer 2018 Edition*, 30-32.

CONFERENCE
PROCEEDINGS [2]

Broze, Y., & **Paul, B.** (2012). Voice Multiplicity Influences the Perception of Musical Emotions. Proceedings of the 12th International Conference on Music Perception and Cognition, Thessaloniki, Greece.

Paul, B. (2010). Nostalgia-inducing music and perceived social support satisfaction. *Demorest, S. ed.* Proceedings of the 11th International Conference on Music Perception and Cognition, 790-793, Seattle, WA.

INVITED TALKS [6]

Paul, B. T. (February 22 2020). Understanding Tinnitus with a Normal Audiogram. Seminars in Audition, Toronto, ON, Canada.

Paul, B. T. (January 2020). Measures of tinnitus-related plasticity in humans. Symposium, *Neuroplasticity and Tinnitus - In memory of Dr Larry E. Roberts*; the 43rd Annual MidWinter Meeting for the Association for Research in Otolaryngology, San Jose, USA.

Paul, B. T. (September 10, 2017). "Hidden" hearing loss in individuals with tinnitus and normal audiograms. Jos Eggermont Tinnitus Symposium ("JosFest"), 6th International Conference on Auditory Cortex, Banff, Canada.

Paul, B. T. (January 18, 2017). Electrophysiology for detecting "hidden" hearing loss: methods, applications, and challenges in research and clinical use. Beaux-Midis Conference Series, University of Montreal, Canada.

Paul, B. T., Bruce, I. C., & Roberts, L. E. (May 24, 2016). Hidden Hearing Loss in Tinnitus Subjects with Normal Hearing Thresholds. Invited Session: "Acoustics Outreach to Budding Scientists: Planting Seeds for Future Clinical and Physiological Collaborations." 171st meeting of the Acoustical Society of America, Salt Lake City, USA.

Paul, B. T., Bruce, I. C., & Roberts, L. E. (February 22, 2016). Cochlear damage related to tinnitus. Invited Session: "Active auditory processing: Basic mechanisms, individual differences and clinical applications (Part II)." Young Investigators Symposium; the 37th Annual MidWinter Meeting for the Association for Research in Otolaryngology, San Diego, USA.

CONFERENCE
TALKS [8]

Paul, B. T., Chen, J., Lin, V., Le, T., & Dimitrijevic, A. (July 16, 2019). Neural correlates of selective attention predict speech streaming performance in bilateral CI users. 2019 Conference on Implantable Auditory Prostheses (CIAP), Lake Tahoe, CA.

Paul, B. T., Chen, J., Lin, V., Le, T., & Dimitrijevic, A. (June 30, 2018). EEG Alpha Activity as a Neural Marker of Listening Effort during speech-in-noise perception in cochlear implant users. 15th International Conference on Cochlear Implants, Antwerp, Belgium.

Paul, B. T. & Dimitrijevic, A. (May 23, 2018). Single-Trial EEG Alpha Activity as a Correlate of Listening Effort During Speech-In-Noise Perception in Cochlear Implant Users. 2018 Auditory EEG Signal Processing symposium, KU Leuven, Leuven, Belgium.

Paul, B. T., Bruce, I. C., & Roberts, L. E. (November 15, 2016). Evidence for Hidden Hearing Loss in Tinnitus Subjects with Normal Hearing Thresholds. 60e Congr s international en orthophonie et en audiologie, Montreal, Canada

Paul, B. T., Bruce, I. C., & Roberts, L. E. (March 17, 2016). Evidence for Hidden Hearing Loss in Tinnitus Subjects with Normal Hearing Thresholds. 10th annual meeting of the Tinnitus Research Initiative, Nottingham, UK.

Paul, B. T., Roberts, L. E., Bruce, I. C., Bosnyak, D. J., & Thompson, D. C. (June 8, 2015). Cochlear Neuropathy in Tinnitus. 9th annual meeting of the Tinnitus Research Initiative, Ann Arbor, USA.

Paul, B. T., Roberts, L. E., Bruce, I. C., Bosnyak, D. J., & Thompson, D. C. (August 8, 2014) Modulation of auditory evoked potentials by top-down auditory attention is modified in tinnitus. 2014 Annual NSERC-Create Auditory Cognitive Neuroscience Workshop, Montreal, Canada.

Paul, B. T., Sederberg, P. B., & Feth, L. L. (August 09, 2013). Patterns of neural activation and suppression that underlie musical meter. Society for Music Perception and Cognition 2013. Ryerson University, Toronto, Canada.

POSTER
PRESENTATIONS
(AS PRESENTING
AUTHOR) [22]

Graber, E., **Paul, B. T.**, Chan, E., & Dimitrijevic, A (September 17, 2019). The relationship between EEG alpha oscillations and pupillometry during speech in noise

perception – which measure tracks listening effort?. 2018 Auditory EEG Signal Processing symposium, KU Leuven, Leuven, Belgium.

Paul, B. T., Chen, J., Lin, V., Le, T., & Dimitrijevic, A (May 6, 2019). Brain correlates of speech streaming in bilateral cochlear implant users predict selective attention performance. International Hearing Loss Conference, Niagara-on-the-Lake, Canada.

Paul, B. T., Tran, N., Murdoch, K., Robberts, L. E., & Bruce, I.C. (May 6, 2019). Testing for evidence of cochlear synaptopathy using amplitude modulation encoding tasks in the presence of background noise. International Hearing Loss Conference, Niagara-on-the-Lake, Canada

Paul, B. T., Sajeniouk, V., Chen, J., Lin, V., Le, T., & Dimitrijevic, A. ((February 10-14, 2019). EEG Oscillations and Entrainment in Cochlear Implant Users While Watching "The Office": Neural Correlates of Listening Effort and Speech Encoding with Continuous, Naturalistic Stimuli. The 42nd Annual MidWinter Meeting for the Association for Research in Otolaryngology, Baltimore, MD.

Paul, B. T., Chen, J., Lin, V., Le, T., & Dimitrijevic, A. (February 10-14, 2019). Intra-Individual Correlations Between EEG Alpha Oscillations and Self-Reported Listening Effort Ratings During a Speech-in-Noise Task in Cochlear Implant Users. The 42nd Annual MidWinter Meeting for the Association for Research in Otolaryngology, Baltimore, MD.

Paul, B. T., Chen, J., Lin, V., Le, T., & Dimitrijevic, A. (October 12, 2018). EEG Alpha Activity as a Candidate Neural Marker of Listening Effort During Speech-In-Noise Perception in Cochlear Implant Users. The 10th International Symposium on Objective Measures in Auditory Implants, Tel Aviv, Israel.

Paul, B. T., Bruce, I. C., Tran, N., Waheed, S., & Roberts L. E. (May 7, 2018). Testing for Evidence of Cochlear Synaptopathy in Normal-Hearing Young Adults with Varying Noise Exposure History. 175th meeting of the Acoustical Society of America, Minneapolis, Minnesota, USA.

Paul, B. T., Hébert, S, & Schoenwiesner, M. (February 11, 2018). Towards human validation of gap detection for objective tinnitus measurement: Estimating acoustical properties of tinnitus and recording gap-evoked potentials in tinnitus-like sounds. The 41st Annual MidWinter Meeting for the Association for Research in Otolaryngology, San Diego, CA.

Paul, B. T., Bruce, I. C., Waheed, S., & Roberts L. E. (February 13, 2018). Subcortical Amplitude Modulation Encoding Deficits in Young Adults with Greater Noise Exposure History Suggest Evidence of Cochlear Synaptopathy, The 41st Annual MidWinter Meeting for the Association for Research in Otolaryngology, San Diego, CA.

Paul, B. T., Hébert, S, & Schoenwiesner, M. (March 17, 2017). Towards an objective measure of tinnitus: properties of cortical potentials evoked by weak acoustic events. 25ième Journée Scientifique Centre de Recherche en Neuropsychologie et Cognition. Montreal, QC

Paul, B. T., Bruce, I. C., Waheed, S., & Roberts L. E. (February 11-15, 2017). Inter-subject differences in amplitude modulation encoding correlate with history of noise exposure. The 40th Annual MidWinter Meeting for the Association for Research in Otolaryngology, Baltimore, MD.

Paul, B. T., Roberts, L. E., Bruce, I. C. (October 21-23, 2015). Cochlear factors related to tinnitus. Tenth anniversary symposium of the international laboratory for Brain, Music, and Sound Research (BRAMS), Montreal, QC, Canada

Paul, B. T., Roberts, L. E., Bruce, I. C., Bosnyak, D. J., & Thompson, D. C. (February 22-26, 2015). Top-Down Attention Modulates the Frequency of the 40-Hz Auditory Steady State Response during Gap-Induced Resets. The 38th Annual MidWinter Meeting for the Association for Research in Otolaryngology, Baltimore, MD.

Paul, B. T., Roberts, L. E., Bruce, I. C., Bosnyak, D. J., & Thompson, D. C. (April 25, 2014) Modulation of auditory cortical representations by top-down auditory attention is modified in tinnitus. The Erasmus Mundus Symposium on Auditory Cognitive Neuroscience, Leipzig, Germany.

Paul, B. T., Bruce, I. C., Bosnyak, D. J., Thompson, D. C. & Roberts, L. E. (March 16, 2014). Electrophysiological Effects of Attention in Normal Hearing and in Tinnitus. 8th International TRI Conference on Tinnitus, Auckland, New Zealand.

Paul, B. T., Roberts, L. E., Bruce, I. C., Bosnyak, D. J., & Thompson, D. C. (February 22, 2014). Attention Modulates the Reset of the Auditory Steady State Response. The 37th Annual MidWinter Meeting for the Association for Research in Otolaryngology, San Diego, CA.

Paul, B. T. & Roberts, L. E. (May 16, 2013). Modulation of auditory cortical responses by attention inside and outside of the tinnitus frequency region. 7th International TRI Conference on Tinnitus, Valencia, Spain.

Paul, B., Sederberg, P. B., & Feth, L. (July 25, 2012). The Influence of Imposed Meter on Temporal Order Perception in Rhythmic Sequences. 12th International Conference on Music Perception and Cognition. Aristotle University of Thessaloniki, Thessaloniki, Greece.

Paul, B., Sederberg, P. B., & Feth, L. (July 20, 2012). The influence of metric organization on temporal order judgments in isochronous sequences. Perspectives on Rhythm and Timing Workshop, The University of Glasgow, Glasgow, UK.

Paul, B., Broze, Y., & Plazak, J. (August 13, 2011). Listener-defined Rhythmic Timing Deviations in Drum Set Patterns. Society for Music Perception and Cognition 2011. Eastman School of Music, Rochester, NY.

Paul, B. (August 26, 2010). Nostalgia-Inducing Music and Social Support Satisfaction. 11th International Conference on Music Perception and Cognition. University of Washington, Seattle, Washington.

Paul, B. & Huron, D. (August 6, 2009). Breaking voice and grief-related content in Country music. Society of Music Perception and Cognition Conference 2009. University of Indianapolis-Purdue University, Indianapolis, IN.

SEMINAR
PRESENTATIONS

Paul, B. T. (January 26, 2017) Finding “hidden” hearing loss: research approaches and evidence for cochlear damage in humans with “normal” hearing. BRAMS 3rd Scientific Social, Montreal, Canada.

Paul, B. T. (September 23, 2016). Ringing Ears: hidden hearing loss and the role of attention in tinnitus. Cognition and Perception Seminar, McMaster University, Hamilton, Canada.

SYMPOSIUM ORGANIZATION Symposium Organizer, "The Neuroscience of Tinnitus in Humans: a Symposium in Memory of Dr. Larry E. Roberts". 2020. 13th International Meeting of the Tinnitus Research Initiative, Vancouver, Canada.

WORKSHOP LEADERSHIP Advanced techniques in EEG analysis: temporal response functions. International Evoked Response Audiometry Study Group (IERASG) Biennial Symposium, Sydney, Australia. June 29, 2019.

Using envelope following responses to find evidence of "hidden" hearing loss. Centre for Research on Brain, Language and Music Frequency Following Response Workshop, Montreal, Canada. February 24, 2017

PUBLIC OUTREACH **Paul, B. T.**, Shanahan, D., Broze, Y., Horn, K., & Albrecht, J. (June 05, 2012). Music Cognition and Emotion. Columbus Science Pub, The Shrunken Head, Columbus, USA.

PEER REVIEWING Articles reviewed: 18
Scientific Reports *NeuroImage*
Journal of Neurophysiology *Neuroscience*
European Journal of Neuroscience *Frontiers In Neuroscience/Psychology*
Ear and Hearing *Trends in Hearing*
Hearing Research *PLOS ONE*
Brain & Behavior
Transactions in Neural Systems & Rehabilitation Engineering

PROFESSIONAL AFFILIATIONS Association for Research in Otolaryngology 2012-Present
Acoustical Society of America 2011-Present
Society for Music Perception and Cognition 2009-2015
Society for Music Theory, Member 2007-2009

TEACHING AND MENTORSHIP McMaster University Teaching Assistant
Basic & Clinical Neuroscience Spring 2016
Audition (1 guest lecture) Autumn 2014, 2015
Human Behaviour and Evolution Spring 2015
Cognitive Neuroscience Laboratory Spring 2014
Integrative Psychology, Neuroscience, & Behaviour Spring 2013
Cognitive Neuroscience (2 guest lectures) Autumn 2012, 2013