

Annie C. Gilbert

speech production | speech perception | bilingualism
annie.c.gilbert@mail.mcgill.ca

Current position

2017 - Research associate
McGill Neurolinguistics Laboratory,
School of Communication Sciences and Disorders

Education

2014 - 2017 Postdoctoral researcher in speech communication,
Neurolinguistics laboratory,
School of communication sciences and disorders, McGill University

2012 - 2014 Postdoctoral Fellowship in psychology of language,
Language and Memory Laboratory, McGill University.

2012 PhD in linguistics, specialized in neuro-phonetics,
Laboratoire de Sciences Phonétiques & Laboratoire de Neurosciences et
Électrophysiologie Cognitive, Université de Montréal.

2006 MA in linguistics, specialized in phonetics,
Laboratoire de Sciences Phonétiques, Université de Montréal.

2003 BA in linguistics,
Université de Montréal.

Funding and awards (*selection*)

Research grants

2022 - 2027 *Insight Grants* [288,050 \$]
Social Sciences and Humanities Research Council of Canada (SSHRC).
“*Online processing of phonetic and prosodic cues to code-switching in bilingual.*”

2016 - 2018 *Insight Development Grants* [74,970 \$]
Social Sciences and Humanities Research Council of Canada (SSHRC).
“*The role of phrase final lengthening in speech parsing and its interaction with stress-timed, syllable-timed, and mora-timed language structure.*”

Fellowships

2012 - 2014 *Bourse postdoctorale ('Postdoctoral award')* [60,000 \$]
Fonds Québécois de Recherche sur la Société et la Culture (FQRSC).

2008 *Arsène David scholarship* [8,000 \$]
Faculté des études supérieures et postdoctorales, Université de Montréal.

2007 - 2010 *Canada Graduate Scholarship Program: Doctoral Scholarship* [105,000 \$]
Social Sciences and Humanities Research Council of Canada (SSHRC).

2006 – 2008 *Bourse de doctorat en recherche* [60,000 \$]
Fonds Québécois de Recherche sur la Société et la Culture (FQRSC).

2004 *Canada Graduate Scholarship Program: Master's Scholarship* [17,500 \$]
Social Sciences and Humanities Research Council of Canada (SSHRC).

Awards

2010 *Prix 2010 d'Excellence en Enseignement ('Excellence in teaching award')*,
Université de Montréal.

Publications

Peer reviewed papers

Gilbert A.C., Lee, J.G., Wolpert, M.A., & Baum, S.R. (in press). Phrase parsing in a second language as indexed by the Closure Positive Shift: The impact of language experience and acoustic cue salience. *European Journal of Neuroscience*

Sares A. G., **Gilbert A. C.**, Zhang Y., Iordanov M., Lehmann A., Deroche M. L. D. (2023) Grouping by time and pitch facilitates free but not cued recall for word lists in normally-hearing listeners. *Trends in Hearing*, 27, doi:[10.1177/23312165231181757](https://doi.org/10.1177/23312165231181757)

Grant, A., Kousaie, S., Coulter, K., **Gilbert, A. C.**, Baum, S. R., Gracco, V., Titone, D., Klein, D., & Phillips, N. A. (2022). Age of acquisition modulates alpha power during bilingual speech comprehension in noise. *Frontiers in Psychology*, doi: [10.3389/fpsyg.2022.865857](https://doi.org/10.3389/fpsyg.2022.865857)

Gilbert, A.C., Honda, C.T., Phillips, N.A., & Baum, S.R. (2021). Near native-like stress pattern perception in English-French bilinguals as indexed by the mismatch negativity. *Brain and Language*, 213, 104892. doi : [10.1016/j.bandl.2020.104892](https://doi.org/10.1016/j.bandl.2020.104892).

Gilbert, A.C., Lee, J.G., Coulter, K., Wolpert, M.A., Kousaie, S., Gracco, V., Klein, D., Titone, D., Phillips, N.A., & Baum, S.R. (2021). Spoken word segmentation in first and second language: When ERP and behavioral measures diverge. *Frontiers in Psychology: Language Sciences*, 12, 3974. doi : [10.3389/fpsyg.2021.705668](https://doi.org/10.3389/fpsyg.2021.705668)

Morningstar, M., **Gilbert, A.C.**, Burdo, J., Leis, M., & Dirks, M.A. (2021). Recognition of vocal socio-emotional expressions at varying levels of emotional intensity. *Emotion*, 21(7), 1570-1575. doi : [10.1037/emo0001024](https://doi.org/10.1037/emo0001024)

Coulter, K., **Gilbert, A.C.**, Kousaie, S., Baum, S.R., Gracco, V.L., Klein, D., Titone, D., & Phillips, N.A. (2021). Bilinguals benefit from semantic context while perceiving speech in noise in both of their languages: Electrophysiological evidence from the N400 ERP. *Bilingualism: Language and Cognition*, 24 (2), 344-357. doi : [10.1017/S1366728920000516](https://doi.org/10.1017/S1366728920000516).

Gullifer, J.W., Kousaie, S., **Gilbert, A.C.**, Grant, A., Giroud, N., Coulter, K., Klein, D., Baum, S., Phillips, N., & Titone, D. (2021). Bilingual language experience as a multidimensional spectrum: Associations with objective and subjective language proficiency. *Applied Psycholinguistics*, 42 (2), 245-278. doi : [10.1017/S0142716420000521](https://doi.org/10.1017/S0142716420000521).

Gilbert, A. C., Cousineau-Perrusse, M., & Titone, D. (2020). L2 exposure modulates the scope of planning during first and second language production. *Bilingualism: Language and Cognition*, 1-13. doi:[10.1017/S1366728920000115](https://doi.org/10.1017/S1366728920000115)

Giroud, N., Baum, S. R., **Gilbert, A. C.**, Phillips, N. A., & Gracco, V. (2020). Earlier age of second language learning induces more robust speech encoding in the auditory brainstem in adults, independent of amount of language exposure during early childhood. *Brain and Language*, 207, 104815. doi:<https://doi.org/10.1016/j.bandl.2020.104815>

Boucher, V. J., **Gilbert, A. C.**, Jemel, B. (2019). The role of low-frequency neural oscillations in speech processing: Revisiting delta entrainment. *Journal of Cognitive Neuroscience*, 31 (8), 1205-1215. doi:[10.1162/jocn_a_01410](https://doi.org/10.1162/jocn_a_01410)

Boucher, V. J., **Gilbert, A. C.**, & Rossier-Bisaillon, A. (2018). The structural effects of modality on the rise of symbolic language: A rebuttal of evolutionary accounts and a laboratory demonstration. *Frontiers in Psychology*, 9 (2300). doi:[10.3389/fpsyg.2018.02300](https://doi.org/10.3389/fpsyg.2018.02300)

Gilbert, A. C., Boucher, V. J. & Jemel, B. (2015). The perceptual chunking of speech: a demonstration using ERPs. *Brain Research*, 1603, 101-113.

Gilbert, A. C., Boucher, V. J. & Jemel, B. (2014). Perceptual chunking and its effect on memory in speech processing: ERP and behavioral evidence. *Frontiers in Psychology*, 5(220), 1-9.

Peer reviewed proceedings (*selection, last 10 years*)

Gilbert, A. C., Honda, C. T., & Baum, S. R. (accepted 2023). Prosodic cue weighting in the perception of lexical stress by French-English bilinguals: Preliminary behavioural data, *Proceedings of the 20th International Congress of Phonetic Sciences*,

Musiliyu, O., **Gilbert, A. C.**, Baum, S. R., & Oliveira, M. (2019). Electrophysiological correlates of prosodic boundaries at different levels in Brazilian Portuguese. In Sasha Calhoun, Paola Escudero, Marija Tabain & Paul Warren (eds.) *Proceedings of the 19th International Congress of Phonetic Sciences*, Melbourne, Australia 2019 (pp. 2951-2955). Canberra, Australia: Australasian Speech Science and Technology Association Inc.

Gilbert, A. C., Wolpert, M., Kousaie, S., & Baum, S. R. (2017). Producing appropriate prosodic cues in a non-dominant language: preliminary results from French-English bilinguals. In Botinis, A. (Ed.) *Proceedings of 8th Tutorial and Research Workshop on Experimental Linguistics*. Heraklion, Greece: University of Athens.

Boucher, V. J., **Gilbert, A. C.**, & Jemel, B. (2017). The entrainment of EEG delta oscillations in speech listening. In Botinis, A. (Ed.) *Proceedings of 8th Tutorial and Research Workshop on Experimental Linguistics*. Heraklion, Greece: University of Athens.

Gilbert, A. C., Itzhak, I., & Baum, S. (2016). A cross-language investigation of word segmentation by bilinguals with varying degrees of proficiency: Preliminary results. *Proceedings of Speech Prosody 2016*.

Gilbert, A. C., Boucher, V. J., & Jemel, B. (2015). Individual differences in working memory capacity and their effect on speech processing. In The Scottish Consortium for ICPhS 2015 (Ed.), *Proceedings of the 18th International Congress of Phonetic Sciences*. University of Glasgow : Glasgow, United Kingdom.

Selected Communications

Talks (*selection of talks not previously listed in Proceedings section, last 10 years*)

Gilbert, A. C., Gullifer, J., Wolpert, M., Saito, H., Kousaie, S., Gracco, V. L., Klein, D., Phillips, N. A., Titone, D., Baum, S. R. (2023). Effect of linguistic environment on second language speakers' prosodic production over and above proficiency effects, *The 84th Annual National Convention of the Canadian Psychological Association*, Toronto, On.

Rossier-Bisaillon, A, Boucher, V.J., Martin, P., **Gilbert, A.C.**, & Jemel, B. (2021). Effects of chunking on eye movements in text recitation. *Eighth annual Summer Neurolinguistics School*, Moscou, Russie. (*en ligne*)

Gilbert, A. C., Gullifer, J., Wolpert, M., Saito, H., Kousaie, S., Itzhak, I., Gracco, V. L., Klein, D., Phillips, N. A., Titone, D., & Baum, S. R. (2019). Language dominance and entropy as predictors of word segmentation cue production in bilinguals. 60th Annual Meeting of the Psychonomic Society, Montréal, Qc.

Morningstar, M., **Gilbert, A. C.**, Burdo, J., Leis, M., & Dirks, M. A. (2017). *Recognition of vocal socio-emotional expressions at varying levels of emotional intensity*. Association for Psychological Science Conference, Boston, MA.

Gilbert, A. C., Itzhak, I., Koussaie, S., Baum, S. R. (2016). *Localisation des frontières lexicales chez les locuteurs bilingues : résultats préliminaires*. Impacts cognitifs et neurophysiologiques du bilinguisme, 84^e Congrès de l'ACFAS, Montréal, Qc

Gilbert, A. C. (2013). *How do L2 ability and Cognitive Capacity Modulate L1 vs. Acoustic-Phonetic Realization*. CRBLM/McGill Psychology DataStorm 2013, Montréal, Canada.

Gilbert, A. C., Pivneva, I. & Titone, D. (2013). *Individual Differences in Executive Control and Second Language Ability Modulate Voice Onset Time During Bilingual Speech*. Intl. Conference on Multilingualism, Montréal, Canada.

Invited talks (*selection, last 10 years*)

Gilbert, A. C., Honda, C. T., & Baum, S. R. (2023). Impact de l'expérience linguistique sur l'utilisation des indices prosodiques associés à l'accent lexical en anglais. Colloque « Perspective multidisciplinaire sur le bilinguisme : aspects socioculturels et développementaux », 90^e Congrès de l'Acfas, Montréal, Qc.

Gilbert, A. C. & Gullifer, J. (2019). Language dominance and entropy as predictors of fundamental frequency modulations in bilingual production. *Language Science: The Next Generation*, Montréal, Qc.

Gilbert, A. C., Wolpert, M., Saito, H., Kousaie, S., & Baum, S. R. (2019). Use of syllable duration and fundamental frequency as word segmentation cues among French-English bilinguals. *Montreal Bilingual Brain Initiative 2019 Symposium*, Montréal, QC.

Gilbert, A. C. (2018). *Bilingual speech production*. In PSYC341 : Psychology of bilingualism, Université McGill.

Gilbert, A. C., Kousaie, S., Wolpert, M., Klein, D. & Baum, S. R. (2017). *Exploration du lien entre la production d'indices prosodiques chez les bilingues français-anglais et la connectivité fonctionnelle cérébrale : résultats préliminaires*. Présenté à VocUM, Montréal.

Gilbert, A. C. (2016). *La prosodie comme outil de segmentation de la parole : Du chunking perceptif à la détection des frontières lexicales*. Conférence linguistique de l'UQÀM, Montréal, Canada.

Boucher, V. J. & **Gilbert, A. C.** (2013). Brain waves and prosodic structure: Recent results and perspectives. Université Paris 7, France.

Poster presentations (*selection of poster presentations not previously listed in Proceedings section, last 10 years*)

Gilbert, A. C., Honda, C. T., & Baum, S. R. (accepted 2023). Prosodic cue weighting by French-English bilinguals when assigning lexical stress in English: Preliminary ERP and behavioural results. *The 15th Annual Meeting of the Society for the Neurobiology of Language*,

Gilbert, A. C., Honda, C. T., & Baum, S. R. (accepted 2023). Prosodic cue weighting in the perception of lexical stress by French-English bilinguals: Preliminary behavioural data, *20th International Congress of Phonetic Sciences*,

Gilbert, A.C., Gullifer, J., Wolpert, M., Saito, H., Kousaie, S., Itzhak, I., Gracco, V. L., Klein, D., Phillips, N.A., Titone, D., Baum, S.R. (2021). Predictors of word segmentation cue production in bilinguals: Language dominance, exposure, and entropy. *Annual Meeting of the Canadian Society for Brain, Behaviour and Cognitive Science*, Montréal, Qc.

Gilbert, A. C., Lee, J., Coulter, K., Wolpert, M., Kousaie, S., Gracco, V., Klein, D., Titone, D., Phillips, N., & Baum, S. (2020). Addressing the discrepancy between online and offline measures of word segmentation in L2: ERP and accuracy measures. *Twelfth Annual Meeting of the Society for the Neurobiology of Language*, Philadelphia, PA.

Honda, C. T., **Gilbert, A. C.**, Phillips, N. A., & Baum, S. R. (2020). Electrophysiological correlates of lexical stress perception in bilinguals. *12th International Seminar on Speech Production*, Providence, RI.

Lee, J., **Gilbert, A. C.**, Kousaie, S., Klein, D., & Baum, S. R. (2020) Exploring the relationship between prosodic cue production and functional connectivity in the bilingual brain. *12th International Seminar on Speech Production*, Providence, RI.

Lee, J. G., **Gilbert, A. C.**, Kousaie, S., Klein, D., & Baum, S. R. (2020) Language production in English-French bilinguals: Structural findings beyond the cortex. *Annual Meeting of the Organization for Human Brain Mapping (OHBM)*, Montréal, Qc.

Gullifer, J., Kousaie, S., **Gilbert, A. C.**, Grant, A., Giroud, N., Coulter, K., Klein, D., Baum, S. R., Phillips, N., & Titone, D. (2020). Quantifying bilingual language experience as a complex, socially dynamic spectrum. *26th Architectures and mechanisms for language processing conference*, Potsdam, Germany.

Gullifer, J. W., Kousaie, S., **Gilbert, A. C.**, Grant, A., Giroud, N., Coulter, K., Klein, D., Baum, S. R., Phillips, N., & Titone, D. (2020). Quantifying bilingual language experience as a complex and dynamic spectrum: Associations with objective and subjective language proficiency. *61st Annual meeting of the Psychonomic Society*, Austin, TX.

Grant, A., Kousaie, S., Coulter, K., **Gilbert, A. C.**, Baum, S. R., Gracco, V., Klein, D., Titone, D., Phillips, N. (2019). From structure to function: A multimodal analysis of bilingual speech in noise processing. *Eleventh Annual Meeting of the Society for the Neurobiology of Language*, Helsinki, Finland.

- Gilbert, A. C.**, Itzhak, I., Wolpert, M., Lee, J., & Baum, S. R. (2019). Phrase-Final Lengthening as a Word Segmentation Cue in French: A Bilingual ERP Investigation. *Eleventh Annual Meeting of the Society for the Neurobiology of Language*, Helsinki, Finland.
- Gullifer, J., Kousaie, S., **Gilbert, A. C.**, Giroud, N., Grant, A., Coulter, K., Klein, D., Baum, S. R., Phillips, N., & Titone, D. (2019). Language entropy: A novel quantification of language experience among bilinguals. *Eleventh Annual Meeting of the Society for the Neurobiology of Language*, Helsinki, Finland.
- Morin-Lessard, E., **Gilbert, A. C.**, Titone, D. & Byers-Heinlein, K. (2019). *Production of speech disfluencies in English-French bilingual adults*. Présenté à 12th International Symposium on Bilingualism, Edmonton, Canada.
- Gilbert, A. C.**, Lee, J., Wolpert, M., & Baum, S. R. (2018) Perceptual processing of pre-boundary lengthening during phrase segmentation in English: Preliminary ERP evidence. Présenté à *Tenth Annual Meeting of the Society for the Neurobiology of Language*, du 16 au 18 août 2018, Québec, QC.
- Gilbert, A. C.**, & Titone, D. (2018). Second-Language Exposure Impacts the Scope of Speech Planning During First- and Second-Language Picture Naming. Présenté à *59th annual meeting of the psychonomic society*, du 15 au 18 novembre 2018, Nouvelle-Orléans, LA.
- Gilbert, A. C.**, Kousaie, S., Wolpert, M., Klein, D. & Baum, S. R. (2017). *How experience with different prosodies shapes the bilingual brain: preliminary connectivity analyses from English-French bilinguals*. 9th Annual Meeting of the Society for the Neurobiology of Language, Baltimore, MD.
- Gilbert, A. C.**, Cousineau-Perusse, M., & Titone, D. (2016). *Are Bilinguals More "Risk-Averse" in their Scope of Planning During Second vs. First Language Production?* Mental Lexicon 2016, Ottawa, Canada.
- Gilbert, A. C.**, Itzhak, I, & Baum, S. (2016). *Bilingual word segmentation: A cross-language ERP investigation*. 23rd Annual Meeting of the Cognitive Neuroscience Society, New York, NY.
- Boucher, V. J., **Gilbert, A. C.**, & Jemel, B. (2016). *The impact of eurhythmic structures on speech processing: ERPs attest to effects on sensory memory*. 23rd Annual Meeting of the Cognitive Neuroscience Society, New York, NY.
- Gonzalez, E., Itzhak, I., **Gilbert, A. C.**, & Titone, D. (2016). *How does Word Concreteness and Cognate Status Independently Affect Bilingual Semantic Processing?* Mental Lexicon 2016, Ottawa, Canada.
- Gilbert, A. C.**, Pivneva, I., & Titone, D. (2015). *Individual Differences in Executive Control and Second Language Exposure Modulate the Acoustic Realization of Phonological Cues in Highly Proficient Bilingual Speakers*. 56th Annual Meeting of the Psychonomic Society, Chicago, É.U.
- Gilbert, A. C.**, Pivneva, I., & Titone, D. (2014). *Lexical quality and the acoustic-phonetic realization of bilingual speech*. 9th International Conference on the Mental Lexicon, Niagara on the Lake, On.
- Gilbert, A. C.**, Boucher, V. J. & Jemel, B. (2013). *Input chunking and its effect on speech processing*. 11th Symposium of Psycholinguistics, Tenerife, Spain.
- Gilbert, A. C.**, Pivneva, I. & Titone, D. (2013). *Individual Differences in Second Language Ability and Executive Control Modulate Voice Onset Time During Bilingual Speech*. 2013 Psychonomic Society Annual Meeting, Toronto, Canada.
- Khawajkie, Y., **Gilbert, A. C.**, Pivneva, I. & Titone, D. (2013). *Cross-Language VOT Differences in Spontaneous Speech, L2 Proficiency, and Cognitive Control*. 2013 Auditory Cognitive Neuroscience Workshop, Hamilton, Canada.

Technical skills and software

Software

- Acoustical analysis: *KayLab* suite (*CSL*, *Multi-Speech*, *ASL*, *MDVP*.), *Praat*, *Wavesurfer*, *WinPitch*.
- Electrophysiological signal analysis: *BrainVision Analyzer*, *Matlab* (*EEGLab*, *FieldTrip*), *BioProc*, *EEProbe*, *Cognitrace*.
- Stimuli design and presentation: *Goldwave*, *E-Prime*, *Inquisi*, *KayLab ASL*.
- Statistics: *SPSS*, *R*.
- Graphics: *Photoshop*, *Illustrator*, *Grapher*

Lab techniques

- Electroencephalography (EEG), Event-Related Potential (ERP).
- Monopolar and bipolar electromyography (EMG).
- Studio recording and audiometric screening.

Teaching

Courses

2015; 2018. Lecturer *LSV716 : Phonétique et phonologie*, Département des lettres et communications, Faculté des lettres et des sciences humaines, Université de Sherbrooke.

2006 - 2011. Lecturer *LNG1400 : Notions de phonétique et de phonologie*, Département de linguistique et de traduction, Université de Montréal.

2011, 2022 - 2023. Lecturer *LNG2400 : Phonétique instrumentale du français*, Département de linguistique et de traduction, Université de Montréal.

*** Teaching training and evaluations available upon request ***

Services

Event organization

2022-2023. *Perspective multidisciplinaire sur le bilinguisme : aspects socioculturels et développementaux*, held during the 90^e congrès de l'ACFAS, Université de Montréal.

2016-2017. *Plasticité, musique et langage*, held during the 85^e congrès de l'ACFAS, McGill University.

2016. Third Annual Postdoctoral Research Day (McGill representative).

2015 – 2016. *Impacts cognitifs et neurophysiologiques du bilinguisme*, held during the 84^e Congrès de l'ACFAS, Université du Québec à Montréal.

2012 – 2013. Student coordinator of the Cognitive Area Brownbag, Department of Psychology, McGill University.

Ad-hoc reviewer

Paper reviews: *Applied Linguistics, Applied Psycholinguistics, Bilingualism, Language, and Cognition, Brain and Language, Clinical Linguistics and Phonetics, Cognitive Processing, Frontiers in Communication, Frontiers in Neuroscience, Journal of Applied Linguistics, Journal of Memory and Language, Journal of Phonetics, Journal of Psycholinguistic Research, Journal of Speech, Language, and Hearing Research, Neuropsychologia, Neuroscience Letters, PLoSOne, Psychophysiology, Second Language Research*

Grant review: *Insight Grant, Social Sciences and Humanities Research Council of Canada, National Science Foundation research grant*

Conference proceedings review: *21st INTERSPEECH Conference, 24th INTERSPEECH Conference, 10th International Conference on Speech Prosody, 11th International Conference on Speech Prosody*

Book review: *Cognitive Neuroscience of Language*, Routledge Psychology | Taylor & Francis.

Languages

French: Native

English: Fluent (written, spoken)

Spanish: Basic comprehension (written and spoken)

German: Basic comprehension (written and spoken)