

ALEXANDRE HERBAY, Ph.D.

Researcher at the convergence between computer science, data science and cognitive neurosciences

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[aherbay](https://github.com/aherbay)

PROFESSIONAL EXPERIENCE

R package developer

2019 -

- Creation and development of the new R package *ERPscope* allowing to easily visualize and analyze event-related potentials (a neuroimaging technique based on EEG). The code and the documentation are available on www.erpscope.org

Mobile application developer

2016 - 2022

[Child Phonology Lab & DIALSpeech](#)

- Design, full development, maintenance and management on the AppStore Connect of two iPad applications, based on *Ionic*, *Angular*, and *HTML-CSS-Javascript* technologies
 - ➔ Phophlo and SAILS available on iOS for iPad
- Development of the www.dialspeech.com website to present the applications and user guides
- Design of logos and visual identity for the apps and the website
- Creation of user interfaces compatible with clinical constraints and those of a school environment
- Supervision of a student for the development of an application based on *Flutter* technology

Researcher - PhD candidate

2014 - 2022

[McGill University](#)

- Definition, implementation, and execution of experimental protocols to study brain processing of word and sentence meaning in real time; statistical analyses, interpretation of results, writing, editing and submission of scientific articles
- Management of projects over several years and collaboration with researchers of different specialties leading to 5 articles published in scientific journals and 19 conference presentations on brain processing of language, language development in children and immunology (complete list [available on my website](#))

Research projects supervisor

2014 - 2021

[Université de Montréal & McGill University](#)

- Training and supervision of 22 undergraduate students and one graduate student in research projects in neuroscience, speech-language pathology and developmental psychology
- Supervision in the definition of their research project, compilation, cleaning and analysis of data, statistical models, preparation of scientific abstracts and posters; training in conference presentations and supervision in the writing of a final report in the form of a scientific article
- Training in the use of online experimentation platforms, recruitment & management of participants in scientific experiments (online and electroencephalography)

EDUCATION

Ph.D. in Communication Sciences & Disorders

[McGill University, Canada](#)

2014 - 2022

Thesis in neurolinguistics
tinyurl.com/herbay-thesis

B.Sc. in Linguistics & Psychology

[Université de Montréal, Canada](#)

2010 - 2014

B.Sc. in Fundamental Computer Science

[Université Paul Sabatier, France](#)

2007 - 2011

SKILLS

Languages

French (native language)

English (professional)

Software development

HTML / CSS / JavaScript

Angular / Ionic / Flutter / Xcode

Unix, git & Github

Data science

R / Shiny R / Matlab / Python / Excel

Mixed linear regression models & bayesian approaches

Scientific research

EEG Experiment & analyses

Online experiments (Gorilla.sc)

Scientific communication

Professional

Excellent communication skills

Team player

Developed autonomy & self-training

I PROFESSIONAL EXPERIENCE (CONT.)

Lecturer

2018

[School of Communication Sciences & Disorders - McGill University](#)

- Teaching the 'Research Methods and Measurement' seminar of the Master of Speech-Language Pathology program
- Created new course materials, organized practical activities and evaluations over 13 weeks
- Introduction to R programming and the use of statistics in clinical research

MITACS Intern

2015

[Computer Research Institute of Montreal \(CRIM\)](#)

- Complete development of an online application running on tablets and computers, and based on an online database (*Angular, CouchDB, PouchDB & Express JS*)

Research Assistant

2013-2014

[Laboratoire d'Acquisition et Traitement du Langage - Université de Montréal et iLanguage Lab](#)

- HTML programming for an online application project based on the MontageJS framework.
- Mentoring of a speech-language pathology student

Teaching Assistant

2011- 2014

[Linguistics & Translation Department - Université de Montréal](#)

- Weekly tutorials, preparation of methodological worksheets, exercises, exams & correction for 5 linguistics and translation courses: Computer Tools for Translators (2011 to 2012), Language and Technology (2011), Notions of Syntax (2012 to 2014), Syntax (2013) and Lexicology, Semantics & Morphology (2013)

I COMMUNITY SERVICE

Scientific Communicator

2017-2019

[Brain Reach & 24 hours of Science](#)

- Organization of monthly presentations and interactive activities to introduce neuroscience to elementary and high school students.

Organizer of scientific journal clubs

2017-2018

[McGill University & Center for Research on Brain, Music and Language](#)

- Creation of the program, selection of the articles to be read and animation of the discussion for some sessions for the groups '[Artificial Intelligence & Cognitive Sciences](#)' and '[Syntex: the experimental syntax](#)'.

Student Representative

2016-2021

- Member of the scientific activity committee of the *Centre for Research on Brain, Music and Language* (2016-2021)
- Departmental representative to the *Post Graduate Student Society of McGill University* (2017-2019)

AEGEE-Toulouse Vice-President

2008-2010

[Association des Etats Généraux de l'Europe \(European Students' Forum\)](#)

- In charge of welcoming foreign students at Paul Sabatier University
- Administrative assistance to newcomers and organization of social and cultural events

I AWARDS

Doctoral Research Fellowship

- Ranked 1st

[Fond de Recherche du Québec
Société et culture](#)

2018-2022

Oral Presentation Award

[VocUM International symposium](#)

2019

Editor's Award

- best published article in 2017

[Canadian Journal of Speech-Language
Pathology and Audiology](#)

2018

Graduate Student Excellence Award

[Center for Research on Brain, Music and
Language](#)

2018

Best Scientific Poster

[Symposium Plasticité, musique et
langage - 85ème congrès de l'ACFAS](#)

2017

Lucie Besner Fellowship for the Study of Human Communication Neuroscience

[School of Communication Sciences &
Disorders - McGill University](#)

2017

Bourse Accélération

[MITACS](#)

2015-2016

Departmental Nomination for the Governor General's Award

[Linguistics & Translation Department,
Université de Montréal](#)

2014

Dean's Award Recipient - twice

[Faculty of Arts and Sciences,
Université de Montréal](#)

2011 et 2012

I HOBBIES

Climbing / Travel / Cooking