



DR. MARIA JULIA CARBAJAL, PHD

Research Scientist
Data Analysis

33 rue des Panoyaux, 75020 Paris
carbaljal.mjulia@gmail.com
(+33) 07 85 12 70 14
Born on July 31st, 1987 / Argentina

EDUCATION

SKILLS

Software

R
Python
Matlab
SQL (beginner)
Github:
/juliacarbaljal
Praat
MS Office
LaTeX
Inkscape

Scientific

Data analysis
Experimental
design
Bibliographic
research
Scientific writing
Oral presentation

Languages

Spanish (native)
English (proficient)
French (advanced)
Japanese (basic)

INTERESTS & HOBBIES

Origami
Graphic design
Illustration
Ukulele
Cooking

2014 - 2018 **PhD in Cognitive Science**

Ecole Normale Supérieure (Paris, France)
Teams: Cognitive Machine Learning & Language (LSCP, UMR 8554).
Thesis supervisors: Dr. Emmanuel Dupoux & Dr. Sharon Peperkamp.

July 2015 **Summer School in Linguistics - Linguistics Society of America**

University of Chicago (Chicago, USA).

2013 - 2014 **Masters in Cognitive Science (M2)**

Université Paris-Descartes - ENS - EHESS (Paris, France)
Final Grade Average: 16.33/20 (Honours: "Mention Très bien").

2007 - 2013 **Masters in Physics ("Licenciatura en Cs. Físicas", 5-year degree)**

University of Buenos Aires (Bs. As., Argentina)
Final Grade Average: 9.82/10.

EXPERIENCE IN RESEARCH & DATA ANALYSIS

12/2018 - 03/2019 **Linguistic Project Manager (Adecco, in mission at Google France).**

In charge of experimental design, audio recordings and data analysis for dialogue research project.

10/2014 - 09/2018 **Doctoral Research. LSCP (UMR 8554, CNRS), ENS Paris, France.**

"Separation and acquisition of two languages in early childhood: a multidisciplinary approach"

- ♦ Computational models of perceptual distance between languages, based on Machine Learning techniques (speech processing, i-vectors, unsupervised clustering).
- ♦ Design and data analysis of socio- and psycho-linguistic studies on language development and phonological perception in bilingual children and adults.

07/2014 - 09/2014 **Summer Internship. LSCP (UMR 8554, CNRS), ENS Paris, France.**

Corpus analysis of phonological contexts in transcribed parent-to-child conversations.

10/2013 - 06/2014 **Masters Internship. Neurospin (UMR 992, Inserm), CEA Saclay, France.**

Project on visual memory in infants: Development of code to synchronise visual stimuli with electroencephalographic (EEG) recordings; EEG data collection and analysis.

02/2011 - 03/2013 **Research Internship. LNI, University of Buenos Aires, Argentina.**

- ♦ 1-year project on the cumulative effect of word frequency on reading times. Collection and analysis of eye-tracking data (LMEM) and corpus analysis (frequency, entropy, and grammatical properties of words).
- ♦ 1-year project on the perception of reaching distance. Design and construction of an electronic circuit to control visual stimuli in a psychophysics experiment; analysis of behavioral data (2AFC).

OTHER EXPERIENCE

- 10/2016 - 02/2017** Co-supervision of Masters' student (M2, Master EdTech, CRI, Paris).
- 01/2016 - 03/2017** Student Representative, Ecole des Neurosciences de Paris.
- 02/2016 - 06/2016** Co-supervision of Masters' student (M1, Master LLTS, Paris 3).
- 03/2013 - 07/2013** Teaching assistant. Physics Department, University of Buenos Aires.
- 05/2011 - 03/2012** Teaching assistant. Physics Department, University of Buenos Aires.
- 09/2007 - 09/2009** Founding member of the civil association Wikimedia Argentina.

PUBLICATIONS

- Carbajal, M.J.**, Bouchon, C., Dupoux, E. & Peperkamp, S. (2018) A toolbox for phonologizing French infant-directed speech corpora. URL: https://github.com/juliacarbajal/french_phonologizer
- Fort, M., Brusini, P., **Carbajal, M.J.**, Sun, Y. & Peperkamp, S. (2017). A novel form of perceptual attunement: Context-dependent perception of a native contrast in 14-month-old infants. *Developmental Cognitive Neuroscience*, 26, 45-51.
- Carbajal, M.J.**, Dawud, A., Thiollière, R. & Dupoux, E. (2016). The “language filter” hypothesis: A feasibility study of language separation in infancy using unsupervised clustering of I-vectors. In *Proceedings of the 2016 Joint IEEE International Conference on Development and Learning and Epigenetic Robotics*, Cergy-Pontoise, France, 195-201.
- Carbajal, M.J.**, Fér, R. & Dupoux, E. (2016). Modeling language discrimination in infants using i-vector representations. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*, Philadelphia, USA.
- Kamienkowski, J.E., **Carbajal, M.J.**, Bianchi, B., Sigman, M. & Shalom, D. (2016). Cumulative repetition effects across multiple readings of a word: evidence from eye movements. *Discourse Processes*, 1–16.
- Petroni, A., **Carbajal, M.J.** & Sigman, M. (2015). Proprioceptive body illusions modulate the visual perception of reaching distance. *PLoS ONE*, 10(6).
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- Carbajal, M.J.**, Chartofylaka, L., Hamilton, M., Fiévet, A.C. & Peperkamp, S. (*In revision*) Compensation for phonological assimilation in bilingual children.
- Carbajal, M.J.** & Peperkamp, S. (*In revision*) Dual language input and the impact of language separation on early lexical development.
- Peperkamp, S., Hegde, M. & **Carbajal, M.J.** (*Submitted*) Liquid deletion in French child-directed speech.

POSTERS AND PRESENTATIONS IN CONFERENCES

- Carbajal, M.J.**, & Peperkamp, S. (2018). An exploration of language input in preverbal bilingual infants [Poster]. *43rd Annual Boston University Conference on Language Development*, Nov. 2-4, 2018, Boston, USA.
- Carbajal, M.J.**, Chartofylaka, L., Hamilton, M., Fiévet, A.C. & Peperkamp, S. (2018). Compensation for phonological assimilation in bilingual children [Oral presentation]. *16th Conference on Laboratory Phonology (LabPhon16)*, Jun. 19-22, 2018, Lisbon, Portugal.
- Carbajal, M.J.**, Chartofylaka, L., Hamilton, M., Fiévet, A.C. & Peperkamp, S. (2017). Compensation for phonological assimilation in bilingual children [Poster]. *42nd Annual Boston University Conference on Language Development*, Nov. 3-5, 2017, Boston, USA.
- Carbajal, M.J.**, & Peperkamp, S. (2017). Testing word-form recognition in 11-month-old infants: New data and a metaanalysis [Poster]. *Workshop on Infant Language Development*, Jun. 15-17, 2017, Bilbao, Spain.
- Carbajal, M.J.**, Fér, R. & Dupoux, E. (2016). Modeling language discrimination in infants using i-vector representations [Poster]. *38th Annual Conference of the Cognitive Science Society*, Aug. 11-13, 2016, Philadelphia, USA.
- Carbajal, M.J.**, Dawud, A., Thiollière, R. & Dupoux, E. (2016). The “language filter” hypothesis: A feasibility study of language separation in infancy using unsupervised clustering of I -vectors [Oral presentation]. *Joint IEEE Int. Conf. on Development and Learning and Epigenetic Robotics*, Sep. 20-22, 2016, Cergy-Pontoise, France.
- Carbajal, M.J.**, Kamienkowski, J.E., Sigman, M. & Shalóm, D.E. (2012) The Emergence of Frequency Effects in Natural Reading [Poster]. *XXVII Annual Meeting of the Argentine Society for Research in Neuroscience (SAN)*, Oct. 3-5, 2012, Córdoba, Argentina.