

# Esti Blanco-Elorrieta

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## ACADEMIC EMPLOYMENT

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**Post-doctoral fellow:** **Harvard University** (2020 – present)  
Cognitive Neuropsychology Lab  
Department of Psychology

## EDUCATION

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**Ph.D.:** **New York University** (2020)  
Psychology (Supervisor: Liina Pykkänen)  
Thesis: *Towards an ecologically valid neuroscience of bilingualism.*

**Harvard University** (visiting fellow, 2018-2019)  
Psychology (Supervisor: Alfonso Caramazza)

**M.Sc.:** **Basque Center on Cognition, Brain and Language** (Honors, 2013)  
Cognitive Neuroscience of language.

**B.A.:** **University of Deusto** (Honors, 2012)  
Basque philology and Linguistics

## FELLOWSHIPS AND AWARDS

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**2020:** Coons/Leibowitz graduate student teaching award  
**2019:** Forbes 30 under 30 in Science  
**2019:** Martin Braine Fellowship in Psychology (awarded to the best student in the department).  
**2018:** Dingwall Foundation: Dissertation Award in the Cognitive, Clinical, and Neural Foundations of Language (\$30,000).  
**2018:** New York University: Dean's Student Travel Grant.  
**2017:** Predoctoral fellow merit award: Society of the Neurobiology of Language (SNL).  
**2017:** Woodcock Institute for the advancement of neurocognitive research (\$9,951).  
**2016:** Helmsley Fellowship for cross-disciplinary research (\$2,350).  
**2016:** New York University: Dean's Student Travel Grant.  
**2015:** Neurobiology of Language Conference: Travel Award.  
**2015:** New York University: MacCracken Fellowship (full funding of tuition and maintenance).  
**2014:** La Caixa Foundation: fellowship for Graduate Studies in North America (4% success rate).  
**2012:** BCBL: academic scholarship waiver of M.Sc. tuition fees (awarded to the most promising incoming students).  
**2011:** Basque Government: grant for undergraduate research projects (€3,300).

- 2010:** University of Deusto: grant for undergraduate research projects (€3,000).
- 2008:** Basque Government: Distinguished Academic scholarship (top 1% students graduating high school in the country).

## MANUSCRIPTS AND PUBLICATIONS

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1. Honari-Jahromi, M., Chouinard, B., Fyshe, A., **Blanco-Elorrieta, E.**, & Pylkkänen, L. (*in prep.*). Machine learning semantics indicate differential encoding of adjective and nouns in simple compositional phrases.
2. **Blanco-Elorrieta, E.\***, Gwilliams, L\*, Marantz, A., & Pylkkänen, L. (*under review*). Neural bases of perceptual adaptation to foreign accents.
3. **Blanco-Elorrieta & Caramazza, A.** (*under review*). A selection-by-activation model of bilingual lexical access.
4. **Blanco-Elorrieta, E.**, Ding, N., Pylkkänen, L., & Poeppel, D. (2020). Understanding requires tracking: Noise and knowledge interact in bilingual language comprehension. *Journal of Cognitive Neuroscience*.
5. Liu, H., Zhang, Y., **Blanco-Elorrieta, E.**, Hea, Y., Chen, B. (2019). Role of proactive control on subcomponents of language control: Evidence from trilinguals. *Cognition*, 194, 104055.
6. **Blanco-Elorrieta, E.**, & Pylkkänen, L. (2018). Ecological validity in bilingualism research and the bilingual advantage. *Trends in Cognitive Sciences*, 22(12), 1117-1126
7. **Blanco-Elorrieta, E.**, Emmorey, K., & Pylkkänen, L. (2018). Language switching decomposed through MEG and evidence from bimodal bilinguals. *Proceedings of the National Academy of Sciences*, 115(39), 9708-9713.
8. **Blanco-Elorrieta, E.**, Kastner, I., Emmorey, K., & Pylkkänen, L. (2018). A shared neurobiology for building phrases in signed and spoken language. *Scientific Reports*, 8, 5492.
9. **Blanco-Elorrieta, E.** Emmorey, K., & Pylkkänen, L. (2017). Decoding Language Switching in the Bilingual Brain: evidence from simultaneous speech and sign production. *Cognitive Computational Neuroscience (CCN)*.
10. Fyshe, A., **Blanco-Elorrieta, E.** & Pylkkänen, L. (2017). The neural representation of concepts during composition. *Cognitive Computational Neuroscience (CCN)*.
11. **Blanco-Elorrieta, E.**, Ferreira, V.S., Del Prato, P., & Pylkkänen, L. (2017). The priming of basic combinatory responses in MEG. *Cognition*, 70, 49-63.

12. **Blanco-Elorrieta, E. & Pylkkänen, L. (2017).** Bilingual language switching in the lab vs. in the wild: The spatio-temporal dynamics of adaptive language control. *The Journal of Neuroscience*, 37: 9022-9036.
13. **Blanco-Elorrieta, E. & Pylkkänen, L. (2016).** Bilingual language control in perception vs. action: MEG reveals comprehension control mechanisms in anterior cingulate cortex and domain-general production control in dorsolateral prefrontal cortex. *The Journal of Neuroscience*, 36(2): 290 – 301.
14. **Blanco-Elorrieta, E. & Pylkkänen, L. (2016).** Composition of complex numbers: Delineating the computational role of the left anterior temporal lobe. *NeuroImage*, 124, 194 - 203.
15. **Blanco-Elorrieta, E. & Pylkkänen, L. (2015).** Brain bases of language selection: MEG evidence from Arabic-English bilingual language production. *Frontiers in Human Neuroscience*, 9.
16. Pylkkänen, L., Bemis, D.K. & **Blanco-Elorrieta, E. (2014).** Building phrases in language production: An MEG study of simple composition. *Cognition*, 133, 371-384.

## INVITED TALKS

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1. **Blanco-Elorrieta, E. (2020).** Bilingual speech comprehension. *Mesgarani lab*. Columbia University, New York, USA.
2. **Blanco-Elorrieta, E. (2020).** Growth in times of crisis. *Entre cuatro paredes*. Expatriados & Co., New York, USA.
3. **Blanco-Elorrieta, E. (2020).** The Neurobiology of Multilingualism. *Linguistics Colloquium*. Cornell University, USA.
4. **Blanco-Elorrieta, E. (2019).** The challenges of understanding bilingual speech in noise. *British Academy for Cognitive Neuroscience*. University of Cambridge, UK.
5. **Blanco-Elorrieta, E. (2018).** The neurobiology of bilingualism: Insight from MEG. *The bilingual mind seminars*. University of the Basque Country, Basque Country.
6. **Blanco-Elorrieta, E. (2018).** The neurobiology of bilingualism: Insight from MEG. *Language and Cognition Colloquium*. Harvard University, USA.
7. **Blanco-Elorrieta, E. (2018).** The neurobiology of bilingualism: insight from MEG. *Psychology Cognitive Brown Bag*. University of California San Diego (UCSD), USA.
8. **Blanco-Elorrieta, E. (2017).** The neurocognition of bilingualism. *Young Leaders of the Americas Initiative (YLAI)*, New York, USA.

9. **Blanco-Elorrieta, E. (2017).** Bilingual language switching in the lab vs. in the wild: The spatio-temporal dynamics of adaptive language control. *Summer school on Bilingualism and Multilingualism*, Barcelona, Spain.
10. **Blanco-Elorrieta, E. (2016).** Brain bases of bilingual language selection and switching: Evidence from production and comprehension. *Neurolinguistics Supper Colloquium*. Graduate Center of the City University of New York, New York, USA.

## CONFERENCE TALKS

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1. **Blanco-Elorrieta, E.** Emmorey, K., & Pylkkänen, L. (2018). Task switching decomposed: MEG evidence from bimodal language switching. Cognitive Neuroscience Society (CNS), Boston, USA.
2. **Blanco-Elorrieta, E.** Emmorey, K., & Pylkkänen, L. (2017). Turning a language “off” is cognitively effortful, but turning a language “on” is not: MEG evidence from bimodal language switching. Society for the Neurobiology of Language (SNL) Annual Conference, Baltimore, USA.
3. **Blanco-Elorrieta, E.** & Pylkkänen, L. (2016). While language-switching in the lab localizes in anterior cingulate cortex, comprehending code-switches in the wild engages the auditory cortex: MEG evidence from Arabic-English bilinguals. 22<sup>nd</sup> AMLaP Conference in Bilbao, Basque Country.
4. **Blanco-Elorrieta, E.,** Ferreira, V.S., Del Prato, P., & Pylkkänen, L. (2016). The priming of basic combinatorial responses in MEG. 29<sup>th</sup> CUNY Conference on Sentence Processing, Florida, USA.
5. **Blanco-Elorrieta, E.** & Pylkkänen, L. (2015). Switch mechanisms revealed by MEG: What is special about language switching?. Neuroscience of Language Workshop, Abu Dhabi, UAE.
6. **Blanco-Elorrieta, E.** & Pylkkänen, L. (2015). Bilingual language control: domain general in production but not comprehension? Evidence from MEG. Linguistics in the Gulf, Doha, Qatar.
7. **Blanco-Elorrieta, E.** & Pylkkänen, L. (2015). Brain bases of language selection: MEG evidence from Arabic-English bilingual language production. NYUAD Research Conference, Abu Dhabi.

## POSTER PRESENTATIONS

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1. **Blanco-Elorrieta, E.,** Hauptman, M., Pylkkänen, L. (2020). Planning production: Morphological, semantic, and syntactic representations. Cognitive Neuroscience Society (CNS) Conference, Boston, USA.
2. **Blanco-Elorrieta, E.,** Gwilliams, L., Pylkkänen, L., & Maranz, A. (2019). Prefrontal cortex aids adaptation to accented speech. Society for the Neurobiology of Language (SNL) Conference, Helsinki, Finland.

3. **Blanco-Elorrieta, E.,** Gwilliams, L., Pylkkänen, L., & Maranz, A. (2019). Prefrontal cortex aids adaptation to accented speech. Cognitive Neuroscience Society (CNS) Conference, San Francisco, USA.
4. **Blanco-Elorrieta, E.,** Ding, N., Pylkkänen, L., & Poeppel, D. (2018). The impoverished comprehension of non-native speech in noise. Society for Neuroscience (SfN) Annual Conference, San Diego, USA.
5. **Blanco-Elorrieta, E.,** Ding, N., Pylkkänen, L., & Poeppel, D. (2018). The impoverished comprehension of non-native speech in noise. Society for the Neurobiology of Language (SNL) Annual Conference, Quebec City, Canada.
6. **Blanco-Elorrieta, E.** Emmorey, K., & Pylkkänen, L. (2018). Task switching decomposed: MEG evidence from bimodal language switching. Cognitive Neuroscience Society (CNS) Annual Conference, Boston, USA.
7. **Blanco-Elorrieta, E.** Emmorey, K., & Pylkkänen, L. (2017). Decoding Language Switching in the Bilingual Brain: evidence from simultaneous speech and sign production. Cognitive Computational Neuroscience (CCN), New York, USA.
8. Fyshe, A., **Blanco-Elorrieta, E.** & Pylkkänen, L. (2017). The neural representation of concepts during composition. Cognitive Computational Neuroscience (CCN), New York, USA.
9. **Blanco-Elorrieta, E.,** Ferreira, V.S., Del Prato, P., & Pylkkänen, L. (2016). The priming of basic combinatorial responses in MEG. Society for the Neurobiology of Language (SNL) Annual Conference, London, UK.
10. **Blanco-Elorrieta, E.** & Pylkkänen, L. (2016). While language-switching in the lab localizes in anterior cingulate cortex, comprehending code-switches in the wild begins in auditory cortex: MEG evidence from Arabic-English bilinguals. Society for the Neurobiology of Language (SNL) Conference, London, UK.
11. **Blanco-Elorrieta, E.,** Ferreira, V.S., Del Prato, P., & Pylkkänen, L. (2016). The priming of basic combinatorial responses in MEG. Cognitive Neuroscience Society (CNS) Annual Conference, New York, USA.
12. **Blanco-Elorrieta, E.** & Pylkkänen, L. (2016). Bilingual language control in perception vs. action: MEG reveals comprehension control mechanisms in anterior cingulate cortex and domain-general production control in dorsolateral prefrontal cortex. 29<sup>th</sup> Annual CUNY Conference on Human Sentence Processing, Gainesville, USA.
13. **Blanco-Elorrieta, E.** & Pylkkänen, L. (2015). Switching in perception vs. action revealed by MEG: Reactive control in the ACC and proactive control in the dorsolateral PFC. Society for the Neurobiology of Language (SNL) Annual Conference, Chicago, USA.

14. **Blanco-Elorrieta, E.** & Pykkänen, L. (2015). Composition of Complex Numbers: Delineating the computational role of the left anterior temporal lobe. Society for the Neurobiology of Language (SNL) Annual Conference, Chicago, USA.
15. Oseki Y., Gwilliams, L., Gaston, P., **Blanco-Elorrieta, E.**, Pykkänen, L. & Marantz, A. (2015). Neural dynamics of morphological and phrasal composition. Society for the Neurobiology of Language (SNL) Annual Conference, Chicago, USA.
16. **Blanco-Elorrieta, E.** & Pykkänen, L. (2014). Brain bases of language selection: MEG evidence from Arabic-English bilingual language production. Society for the Neurobiology of Language (SNL) Annual Conference, Amsterdam, The Netherlands.
17. Martin, C.D., **Blanco-Elorrieta, E.**, & Duñabeitia, J.A. (2013). An alternative explanation to asymmetrical switch-costs in unbalanced bilinguals. Annual Psychonomics Conference, Toronto, Canada.

## TEACHING

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### Teaching assistant (NYU):

- 2019: Psychology and Linguistics: *Neurolinguistics*. (Graduate and Undergraduate).
- 2018: Psychology: *Introduction to Psychology*. (Undergraduate).
- 2018: Psychology: *Cognition* (Undergraduate).
- 2017: Psychology: *Cognition* (Undergraduate).
- 2016: Psychology and Linguistics: *Neural Bases of Language*. (Graduate and Undergraduate).

### Guest lectures:

- 2019: *Neural bases of Language*: Lecture on the neurobiology of bilingualism
- 2017: *Neurolinguistics*. Lecture on bilingual language control, bilingualism and aging (Young Leaders of the Americas Initiative (YLAI at NYC).
- 2017: *Cognition*. Lecture on language and cognition (NYU).
- 2016: *Neural Bases of Language*. Lecture on the neurobiology of bilingualism (NYU).
- 2016: *Neural Bases of Language*. Lecture on the neural bases of perceptual attunement (NYU).

## MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

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- 2020 – present Accessibility and Diversity Committee, Society for the Neurobiology of Language
- 2018 – present Elected Board Member, Society for the Neurobiology of Language
- 2016 – present Member, Society for Neuroscience
- 2015 – present Member, Cognitive Neuroscience Society
- 2014 – present Member, Society for the Neurobiology of Language

## ACADEMIC SERVICE

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### **a) Ad hoc reviewer for:**

*Journals:* Cognition; Scientific Reports; Human Brain Mapping; Proceedings of the National Academy of Sciences, PLOS Biology; PLOS One; Journal of Neuroscience; NeuroImage; Brain and Language; Language, Cognition and Neuroscience; Journal of Cognitive Psychology; Journal of Neurolinguistics, Bilingualism: Language and Cognition.

*Grants:* Polish Ministry of Science and Higher Education, Polish National Centre for Research and Development.

### **b) Elected Student Representative.**

Society for the Neurobiology of Language (2019-2022)

Undergraduate linguistics program (2008 –2012).

## OTHER EDUCATION

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Summer Course: Genetics & Neurobiology of Language Course. Cold Spring Harbor Laboratories (2016).

Summer University: German language and literature. Westfälische Wilhelms-Universität. Münster, Germany (2011).

Summer University: German language and literature. Heinrich-Heine Universität. Düsseldorf, Germany (2010).

## LANGUAGES

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Basque: Native speaker. Certificate of Proficiency in Basque (EGA).

Spanish: Native speaker.

English: Cambridge Certificate of Proficiency in English (CPE), 113 internet Based Test TOEFL.

German: Upper Intermediate (B2 European Framework of Reference).

Galician: Elementary (A2 European Framework of Reference).

French: Elementary (A1 European Framework of Reference).