# Esti Blanco-Elorrieta

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### **EDUCATION**

**Ph.D.:** New York University (expected May 2020)

Psychology (Supervisor: Liina Pylkkänen)

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

**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 ( $\in 3,300$ ).

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

- 1. Honari-Jahromi, M., Chouinard, B., Fyshe, A., **Blanco-Elorrieta**, E., & Pylkkänen, L. (*under review*). 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. (*under review*). Understanding requires tracking: Noise and knowledge interact in bilingual language comprehension.
- 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

- 1. **Blanco-Elorrieta, E. (2019).** The challenges of understanding bilingual speech in noise. *British Academy for Cognitive Neuroscience*. University of Cambridge, UK.
- 2. **Blanco-Elorrieta, E. (2018).** The neurobiology of bilingualism: Insight from MEG. *The bilingual mind seminars*. University of the Basque Country, Basque Country.
- 3. **Blanco-Elorrieta**, E. (2018). The neurobiology of bilingualism: Insight from MEG. *Language and Cognition Colloquium*. Harvard University, USA.
- 4. **Blanco-Elorrieta, E. (2018).** The neurobiology of bilingualism: insight from MEG. *Psychology Cognitive Brown Bag.* University of California San Diego (UCSD), USA.
- 5. **Blanco-Elorrieta**, E. (2017). The neurocognition of bilingualism. *Young Leaders of the Americas Initiative (YLAI)*, New York, USA.
- 6. **Blanco-Elorrieta, E. (2017).** Bilingual language switching in the lab vs. in the wild: The spatiotemporal dynamics of adaptive language control. *Summer school on Bilingualism and Multilingualism*, Barcelona, Spain.
- 7. **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

- 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 combinatory responses in MEG. 29<sup>th</sup> CUNY Conference on Human 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. 5th Linguistics in the Gulf Conference, Doha, Qatar.
- 7. **Blanco-Elorrieta, E. &** Pylkkänen, L. (2015). Brain bases of language selection: MEG evidence from Arabic-English bilingual language production. NYUAD Annual Research Conference, Abu Dhabi, U.A.E.

## POSTER PRESENTATIONS

- 1. **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.
- 2. **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.
- 3. **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.
- 4. **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.
- 5. **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.

- 6. **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.
- 7. Fyshe, A., **Blanco-Elorrieta**, E. & Pylkkänen, L. (2017). The neural representation of concepts during composition. Cognitive Computational Neuroscience (CCN), New York, USA.
- 8. **Blanco-Elorrieta, E.**, Ferreira, V.S., Del Prato, P., & Pylkkänen, L. (2016). The priming of basic combinatory responses in MEG. Society for the Neurobiology of Language (SNL) Annual Conference, London, UK.
- 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.
- Blanco-Elorrieta, E., Ferreira, V.S., Del Prato, P., & Pylkkänen, L. (2016). The priming of basic combinatory responses in MEG. Cognitive Neuroscience Society (CNS) Annual Conference, New York, USA.
- 11. **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.
- 12. **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.
- 13. **Blanco-Elorrieta**, E. & Pylkkänen, 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.
- 14. 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.
- 15. **Blanco-Elorrieta**, E. & Pylkkänen, 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.
- 16. 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**

## 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 language switching

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

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**

### a) Ad hoc reviewer for:

Journals: Cognition; Scientific Reports; Human Brain Mapping; Proceedings of the National Academy of Sciences, Plos Biology; 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).

# RESEARCH EXPERIENCE

2013- 2015: Research assistant.

Institution: New York University Abu Dhabi (Neuroscience of Language Lab).

Supervisors: Alec Marantz and Liina Pylkkänen.

2012 – 2013: Research assistant.

Institution: Basque Center on Cognition, Brain and Language (BCBL).

2011 - 2012: Research assistant.

Institution: University of Deusto (Tesitek Linguistics Research Group).

Supervisor: Rosa Miren Pagola.

# OTHER EDUCATION

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

(2016).

Summer University: German language and literature. Westfälische Wilhems-Universität. Münster,

Germany (2011).

Summer University: German language and literature. Heinrich-Heine Universität. Düsseldorf,

Germany (2010).

# LANGUAGES

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).