

# Esti Blanco-Elorrieta

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Updated: October, 2022

## ACADEMIC EMPLOYMENT

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**Assistant Professor:** **New York University** (2023 - )  
Department of Psychology

**Post-doctoral fellow:** **Harvard University** (2020 – 2023)  
Cognitive Neuropsychology Lab (PI: Alfonso Caramazza)  
Department of Psychology

## EDUCATION

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**Ph.D.:** **New York University** (2015 – 2020)  
Psychology (Supervisor: Liina Pykkänen)  
Thesis: *Towards an ecologically valid neuroscience of bilingualism.*

**Harvard University** (research 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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**2021:** Glushko dissertation award: Cognitive Science Society.

**2021:** NYU-wide Outstanding dissertation award in the basic sciences.

**2021:** Graduate School of Arts and Sciences: Outstanding dissertation award.

**2020:** Ben Barres fellowship for post-doctoral research.

**2020:** Coons/Leibowitz graduate student teaching award.

**2019:** Forbes 30 under 30 in Science.

**2019:** Martin Braine Fellowship in Psychology.

**2018:** Dingwall Foundation Award in the Cognitive, Clinical, and Neural Foundations of Language.

**2018:** New York University: Dean's Student Travel Award.

**2017:** Society of the Neurobiology of Language: Predoctoral fellow merit award.

**2017:** Woodcock Institute Award for the advancement of neurocognitive research.

**2016:** Helmsley Fellowship for cross-disciplinary research.

**2016:** New York University: Dean's Student Travel Award.

**2015:** Neurobiology of Language Conference: Travel Award.

**2015:** New York University: MacCracken Fellowship for doctoral studies.

**2014:** La Caixa Foundation: fellowship for graduate studies in North America (4% success rate).

**2012:** BCBL: academic scholarship (awarded to the 5% most promising incoming students).

**2011:** Basque Government fellowship for undergraduate research projects.  
**2010:** University of Deusto: Dean's fellowship for undergraduate research projects.  
**2008:** Basque Government: Distinguished Academic scholarship (top 1% students graduating high school in the country).

## CURRENT FUNDING

### **Language-specific and language-general mechanisms in bilingual aphasic individuals (\$1,003,338)**

**Funding Agency:** NIH/NIDCD (type: K99/R00, 1K99DC019973-01)

**Award Period:** June 2022 - May 2027 // **Role:** PI

## MANUSCRIPTS AND PUBLICATIONS

19. Zhu, J., **Blanco-Elorrieta, E.**, Sun, Y., Szakay, A., & Sowman, P. (2022). Natural vs. forced language switching: free selection and consistent choices eliminate significant performance costs and cognitive demands in the brain. *NeuroImage*, 247, 188797.
18. **Blanco-Elorrieta, E.\***, Hauptman, M.\*, & Pykkänen, L. (2021). Inflection across categories: Tracking abstract morphological processing in language production with MEG. *Cerebral Cortex*, 309.
17. **Blanco-Elorrieta, E.** & Caramazza, A. (2021). On the need of theoretically guided approaches to possible bilingual advantages: an evaluation of the potential loci in the language and executive control systems. *Neurobiology of Language*, 1-16.
16. Honari-Jahromi, M., Chouinard, B., Fyshe, A., **Blanco-Elorrieta, E.**, & Pykkänen, L. (2021). Neural representation of words within phrases: Temporal evolution of color-adjectives and object-nouns during simple composition. *Plos One*, 16(3), e0242754.
15. **Blanco-Elorrieta, E.** & Caramazza, A. (2021). A common selection mechanism at each linguistic level in bilingual and monolingual language production. *Cognition*, 104625.
14. **Blanco-Elorrieta, E\*.,** Gwilliams, L\*., Marantz, A., & Pykkänen, L. (2020). Adaptation to mis-pronounced speech: evidence for a prefrontal-cortex repair mechanism. *Nature Scientific Reports*, 11, 97.
13. **Blanco-Elorrieta, E.**, Ding, N., Pykkänen, L., & Poeppel, D. (2020). Understanding requires tracking: Noise and knowledge interact in bilingual language comprehension. *Journal of Cognitive Neuroscience*. 32(10), 1975-1983.
12. 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.
11. **Blanco-Elorrieta, E.**, & Pykkänen, L. (2018). Ecological validity in bilingualism research and the bilingual advantage. *Trends in Cognitive Sciences*, 22(12), 1117-1126
10. **Blanco-Elorrieta, E.**, Emmorey, K., & Pykkänen, L. (2018). Language switching decomposed through MEG and evidence from bimodal bilinguals. *Proceedings of the National Academy of Sciences*, 115(39), 9708-9713.
9. **Blanco-Elorrieta, E.**, Kastner, I., Emmorey, K., & Pykkänen, L. (2018). Shared neural correlates for building phrases in signed and spoken language. *Nature Scientific Reports*, 8, 5492.

8. **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)*.
7. Fyshe, A., **Blanco-Elorrieta, E.** & Pylkkänen, L. (2017). The neural representation of concepts during composition. *Cognitive Computational Neuroscience (CCN)*.
6. **Blanco-Elorrieta, E.**, Ferreira, V.S., Del Prato, P., & Pylkkänen, L. (2017). The priming of basic combinatory responses in MEG. *Cognition*, 70, 49-63.
5. **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.
4. **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.
3. **Blanco-Elorrieta, E.** & Pylkkänen, L. (2016). Composition of complex numbers: Delineating the computational role of the left anterior temporal lobe. *NeuroImage*, 124, 194 - 203.
2. **Blanco-Elorrieta, E.** & Pylkkänen, L. (2015). Brain bases of language selection: MEG evidence from Arabic-English bilingual language production. *Frontiers in Human Neuroscience*, 9.
1. 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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27. **Blanco-Elorrieta, E. (2022).** Towards a more diverse cognitive neuroscience of language. *Cognitive Sciences Program Weekly Speaker Series*, Dartmouth University, USA.
26. **Blanco-Elorrieta, E. (2022).** Towards a more inclusive neurobiology of language. *Psychology Department Seminar*, New York University, USA.
25. **Blanco-Elorrieta, E. (2022).** Towards a more inclusive neurobiology of language. *Cognitive Science Seminar*, Johns Hopkins University, USA.
24. **Blanco-Elorrieta, E. (2022).** Towards a more inclusive neurobiology of language. *Language and Cognitive Science Seminar*, Delaware University, USA.
23. **Blanco-Elorrieta, E. (2022).** Towards a more inclusive neurobiology of language. *Princeton Neuroscience Institute Seminar Series*, Princeton University, USA.
22. **Blanco-Elorrieta, E. (2022).** The bilingual brain. *Neuroscience Research Research Seminar Series*, University of Texas Rio Grande Valley, USA.
21. **Blanco-Elorrieta, E. (2022).** Towards an inclusive neurobiology of language. *Cognitive Area Talk*, University of Michigan, Ann Arbor, USA.
20. **Blanco-Elorrieta, E. (2022).** Gender non-conformity, inclusivity, and academia. *Intersectional Experiences in Academia*, University of Oslo, Norway.

19. **Blanco-Elorrieta, E. (2021).** Language-specific and language-general neural mechanisms in bilingual aphasic patients. *Aphasia Community Group*, Boston University, USA.
18. **Blanco-Elorrieta, E. (2021).** Towards an inclusive neurobiology of language. *Language and Brain Colloquium*, University of Florida, USA.
17. **Blanco-Elorrieta, E. (2021).** Towards an ecologically valid neurobiology of bilingualism. *Department of Language Science Colloquium*, University of California Irvine, USA.
16. **Blanco-Elorrieta, E. (2021).** Towards and ecologically valid neurobiology of bilingualism. *Plenary speaker: Young Scholar Speaker Series*, Pennsylvania State University, USA.
15. **Blanco-Elorrieta, E. (2021).** Bilingualism and Cognitive Reserve and Resilience. *NIH National Institute on Aging's Virtual Workshop*, USA.
14. **Blanco-Elorrieta, E. (2020).** The true bilingual advantage. *TEDx Talk*, Tarragona, Spain.
13. **Blanco-Elorrieta, E. (2020).** Towards and ecologically valid neurobiology of bilingualism. *MIT*, Cambridge, USA.
12. **Blanco-Elorrieta, E. (2020).** Bilingualism: questions, answers, and future directions. *Dartmouth University*, New Hampshire, USA.
11. **Blanco-Elorrieta, E. (2020).** Bilingualism, language and cognition. *Meet the author series*, Linguistics Department, NYU, USA.
10. **Blanco-Elorrieta, E. (2020).** Bilingual speech comprehension. *Mesgarani lab*. Columbia University, New York, USA.
9. **Blanco-Elorrieta, E. (2020).** Growth in times of crisis. *Entre cuatro paredes*. Expatriados & Co., New York, USA.
8. **Blanco-Elorrieta, E. (2020).** The Neurobiology of Multilingualism. *Linguistics Colloquium*. Cornell University, USA.
7. **Blanco-Elorrieta, E. (2019).** The challenges of understanding bilingual speech in noise. *British Academy for Cognitive Neuroscience*. University of Cambridge, UK.
6. **Blanco-Elorrieta, E. (2018).** The neurobiology of bilingualism: Insight from MEG. *The bilingual mind seminars*. University of the Basque Country, Basque Country.
5. **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.
3. **Blanco-Elorrieta, E. (2017).** The neurocognition of bilingualism. *Young Leaders of the Americas Initiative*, New York, USA.
2. **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.

1. **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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7. **Blanco-Elorrieta, E.** Emmorey, K., & Pylkkänen, L. (2018). Task switching decomposed: MEG evidence from bimodal language switching. Cognitive Neuroscience Society (CNS), Boston, USA.
6. **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.
5. **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 Sentence Processing, Florida, USA.
3. **Blanco-Elorrieta, E. & Pylkkänen, L.** (2015). Switch mechanisms revealed by MEG: What is special about language switching?. Neuroscience of Language Workshop, Abu Dhabi, UAE.
2. **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.
1. **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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18. **Blanco-Elorrieta, E.,** Hauptman, M., Pylkkänen, L. (2020). Planning production: Morphological, semantic, and syntactic representations. Society for the Neurobiology of Language. Virtual Conference
17. Lang, B., Gwilliams, L., **Blanco-Elorrieta, E.,** and Marantz, A. (2020). Do bilinguals better discriminate novel vowel contrasts? Neural correlates of perceptual assimilation using MEG decoding. Society for the Neurobiology of Language. Virtual Conference.
16. **Blanco-Elorrieta, E.,** Hauptman, M., Pylkkänen, L. (2020). Planning production: Morphological, semantic, and syntactic representations. Cognitive Neuroscience Society (CNS) Conference, Boston, USA.
15. **Blanco-Elorrieta, E.,** Gwilliams, L., Pylkkänen, L., & Maranz, A. (2019). Prefrontal cortex aids adaptation to accented speech. Society for the Neurobiology of Language Conference, Helsinki, Finland.
14. **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.
13. **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.

12. **Blanco-Elorrieta, E.**, Ding, N., Pykkänen, 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.
11. **Blanco-Elorrieta, E.** Emmorey, K., & Pykkänen, L. (2018). Task switching decomposed: MEG evidence from bimodal language switching. Cognitive Neuroscience Society (CNS) Annual Conference, Boston, USA.
10. **Blanco-Elorrieta, E.** Emmorey, K., & Pykkänen, L. (2017). Decoding Language Switching in the Bilingual Brain: evidence from simultaneous speech and sign production. Cognitive Computational Neuroscience (CCN), New York, USA.
9. Fyshe, A., **Blanco-Elorrieta, E.** & Pykkänen, 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., & Pykkänen, L. (2016). The priming of basic combinatory responses in MEG. Society for the Neurobiology of Language (SNL) Annual Conference, London, UK.
7. **Blanco-Elorrieta, E.** & Pykkänen, 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.
6. **Blanco-Elorrieta, E.**, Ferreira, V.S., Del Prato, P., & Pykkänen, L. (2016). The priming of basic combinatory responses in MEG. Cognitive Neuroscience Society (CNS) Conference, New York, USA.
5. **Blanco-Elorrieta, E.** & Pykkänen, 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.
4. **Blanco-Elorrieta, E.** & Pykkänen, 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.
3. **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.
2. 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.
1. **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.

## 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:**

- 2020: *Cognitive Psychology*. Lecture on bilingualism and sign language cognition (Darmouth).  
2019: *Neural bases of Language*: Lecture on the neurobiology of bilingualism (NYU).  
2017: *Neurolinguistics*. Lecture on bilingualism and aging (Young Leaders of the Americas Initiative).  
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

- 2020 – present Accessibility and Diversity Committee, Society for the Neurobiology of Language  
2018 – 2021 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) Departmental service:**

Cognitive Neuropsychology colloquium organizer (Harvard University, 2020-2022).

### **b) Journal editor:** *Frontiers in Language Sciences*

### **c) Ad hoc journal reviewer:**

Nature Reviews Psychology; Neurobiology of Language; 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; Cerebral Cortex; Journal of Cognitive Neuroscience.

### **d) Ad hoc grant reviewer:**

Polish Ministry of Science and Higher Education, Polish National Centre for Research and Development, Rochester Neuroscience Grant Program.

### **e) Conference organization:**

Program committee (Society for the Neurobiology of Language annual meeting; 2020, 2021).

## **f) Elected Representative:**

Society for the Neurobiology of Language (2019-2022); Linguistics student body (University of Deusto; 2008-2012).

## **SCIENTIFIC OUTREACH**

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- 2022: Interview on multilingualism and language policies in El Español newspaper (available [here](#), in Spanish).
- 2022: Interview at 'Gure artean' podcast, EITB.
- 2021: Panelist and Organizer, Early Career Event, Society for the Neurobiology of Language.
- 2021: Speaker, Doctoral Student Welcome Event, New York University.
- 2021: TED en Español Podcast episode (available [here](#), in Spanish).
- 2021: Interview in Archiletras bi-monthly scientific magazine (available [here](#), in Spanish).
- 2021: Baipasa: weekly contribution to science radio program (available [here](#), in Basque).
- 2020: Interview in a TV episode of 'The brain hunter' (available [here](#), in Spanish).
- 2020: TED Talk in Spain, 2020 (available [here](#), in Spanish).
- 2020: Interview on the Neurobiology of multilingualism on COPE radio (available [here](#), in Spanish).
- 2020: Interview on the architecture of the multilingual brain in RTVE Spanish radio (available [here](#), in Spanish).
- 2019: 'How to build a career in Science' panelist; Young Leaders of the America Initiative (YLAI).
- 2019: 'How does switching between languages impact your body?' Inspire series by Euronews ([here](#) in English).

## **(TRANS)GENDER ADVOCACY**

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- 2022: University of Oslo: Intersectional Experiences in Academia workshop. Panelist and workshop leader.
- 2021: Spanish ministry for Gender Equality: advisory committee.
- 2021: 'Identity, language, and the future' Twitch interview for 'The Future Game' (available [here](#), in Basque).
- 2021: Bayer pharmaceutical Latin-American branch: Pride event panelist.
- 2021: 'Non-binary' feature documentary on trans experience (available [here](#), English subtitles).
- 2020: ELA Basque Trade Union: Pride event panelist.
- 2020: National Organization of Gay and Lesbian Scientists and Technical Professionals: Speaker, career panel.
- 2020: Harvard Women in STEM Initiative, Mentor.
- 2019: The Lesbian, Gay, Bisexual & Transgender Community Center: Panelist, 'Being trans\* in Academia.'

## **MEDIA COVERAGE (selected)**

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- 2020: 'Bilingual individuals' interview in El Pais newspaper (available [here](#), in Spanish)
- 2020: 'Genius of a thousand languages' interview in Deia newspaper (available [here](#), in Spanish)
- 2020: Interview on Multilingualism and being a Forbes Scientist, on EITB radio (available [here](#), in Basque)
- 2020: 'How does one become a Forbes Scientist?' interview on ONDA CERO radio; [here](#) in Spanish)
- 2019: Coverage and Interview in the Inspire series by Euronews (available [here](#) in English)
- 2018: 'When we sign, we build phrases with similar neural mechanisms as when we speak' (American Association for the Advancement of Science, available [here](#) in English)
- 2018: 'Uno stesso circuito per lingua parlata e lingua dei segni', Le Scienze magazine, available [here](#), in Italian)
- 2018: 'Four amazing discoveries you probably didn't hear about this week', NSF podcast, [here](#), in English)
- 2018: 'How we turn on and off languages', Science Daily (available [here](#), in English)
- 2017: 'Chatting makes it easy to switch languages', Futurity news (available [here](#), in English)
- 2017: 'Is changing languages effortful for bilingual speakers?', Science Daily (available [here](#), in English)



2016: ‘*Bilinguals are smarter than you think*’, Khaleej Times (available [here](#), in English).

## 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/Spanish:** Native speaker. **English:** Near native. **German:** Conversational.