

Saima Malik Moraleda

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EDUCATION

Harvard University , Cambridge, MA, USA Graduate School of Arts and Sciences, Division of Medical Sciences PhD Candidate in Speech and Hearing Bioscience and Technology (SHBT)	2018- <i>present</i>
Basque Center on Cognition, Brain and Language , San Sebastián, Spain Master in the Cognitive Neuroscience of Language	2014-2015
Autonomous University of Barcelona , Barcelona, Spain B.Sc. in Psychology	2010-2014
University of California, San Diego , San Diego, CA, USA Study abroad program	2012- 2013

FELLOWSHIPS AND AWARDS

MIT BCS Diversity, Equity, Inclusion & Justice Award	2023
McGovern Institute Graduate Fellowship	2021-2022
Dingwall Foundation Dissertation Fellowship	2021-2022
Cognitive Neuroscience Society: Graduate Student Award	2020
'La Caixa' Fellowship for Postgraduate Studies in North America	2018-2020
Fulbright Fellowship for Postgraduate Studies in the United States (<i>declined</i>)	2018-2020
UPV/EHU Scholarship for Master Students	2014-2015
BCBL Academic Scholarship Waiver of M.Sc. Tuition Fees	2014-2015
Spanish Ministry of Education, Collaboration in Investigation Grant	2013-2014
Autonomous University of Barcelona, Study Abroad Scholarship	2012-2013

RESEARCH EXPERIENCE

Fedorenko's Language Lab Role: Graduate Student PI: Evelina Fedorenko, PhD <ul style="list-style-type: none">fMRI research on the neurobiology of language across a diversity of languages and speakers	2018- <i>present</i>
Gibson's MIT Language Lab Role: Graduate Student PI: Edward Gibson, PhD <ul style="list-style-type: none">Field research on language processing in a farmer-forager community in Bolivia: the Tsimane'Behavioral research on decoding the meaning of linguistic input corrupted by noise	2018- <i>present</i>
Basque Center on Cognition, Brain and Language Role: Project Coordinator PI: Manuel Carreiras, PhD <ul style="list-style-type: none">Coordinated a longitudinal project in India in collaboration with the National Brain Research Center (Manesar, India), seeking to look at the neural impact of literacy acquisition in adult illiterates	2015-2018

National Brain Research Centre, India 2014-2018
Role: Visiting Researcher PI: Nandini Singh, PhD
• See above

Speech Production and Bilingualism Lab, Barcelona 2013-2014
Role: Research Assistant PI: Albert Costa, PhD

- Research on bilingual language control and executive control, looking at the processing of linguistic and non-linguistic switch tasks using electroencephalography (EEG).
- Behavioral research regarding the foreign language effect on decision-making.

UCSD's Language and Development Lab 2012-2013
Role: Research Assistant PI: Dr. David Barner

- Behavioral research on time word acquisition in children.
- Behavioral research on the effect of English-Spanish bilingualism on the 'Give a number' task.
- Behavioral research on word extension and quantity judgments in English monolingual speakers.

PUBLICATIONS

In prep:

Malik-Moraleda, S., Cucu, T.[^], & Fedorenko, E. (in prep) *The language and executive functions networks are distinct in bilinguals.*

Kline, M.*, **Malik-Moraleda, S.***, Taliaferro, M.[^], Gallée, J., Balewski, Z., Fedorenko, E. (in prep) *Understanding jokes draws on the Theory of Mind network more than the language and domain-general Multiple-Demand brain networks.*

Submitted:

Poliak, M., **Malik-Moraleda, S.**, Gibson, E. (submitted) *Structural and meaning priors shape language comprehension in flexible-word-order languages*

Pre-prints:

Malik-Moraleda, S., Taliaferro, M. [^], Shannon, S., Jhingan, N., Swords, S., Peterson, D. J., Frommer, P., Okrand, M., Sams, J., Cardwell, R., Freeman, C., Fedorenko, E. (2023). *Constructed languages are processed by the same brain mechanisms as natural languages.* biorXiv. doi: <https://doi.org/10.1101/2023.07.28.550667>

Malik-Moraleda, S. *, Jouravlev, O. *, Mineroff, Z., Cucu, T. [^], Taliaferro, M. [^], Mahowald, K., Blank, I. A., et al. (2023). *Functional characterization of the language network of polyglots and hyperpolyglots with precision fMRI.* biorXiv. doi: <https://doi.org/10.1101/2023.01.19.524657>

In press:

Malik-Moraleda, S., Mahowald, K., Conway, B., & Gibson, E. (In Press). *Concepts are restructured during language contact: the birth of "blue" and other color concepts in Tsimane'-Spanish bilinguals.*

Published:

Conway, B. R., **Malik-Moraleda, S.**, & Gibson, E. (2023). *Color appearance and the end of Hering's Opponent-Colors Theory*. Trends in Cognitive Science. doi: <https://doi.org/10.1016/j.tics.2023.06.003>

Chen, X., Affourtit, J., Ryskin R., Regev, T.I., Norman-Haignere, S. , Jouravlev, O., **Malik-Moraleda, S.**, Kean, H., McDermott, J., †, Varley, R., †, Fedorenko, E. † (2023) *The human language system, including its inferior frontal component in "Broca's area," does not support music perception*. Cerebral Cortex. doi: <https://doi.org/10.1093/cercor/bhad087>

Conway, B., **Malik-Moraleda, S.**, Gibson, E. (2022). *Hering's opponent-colors theory fails a key test in a non-Western culture*. Proceedings of the Annual Meeting of the Cognitive Science Society.

Malik-Moraleda, S., Roca, M., Gibson, E. (2022). *Color naming in Tsimane'-Spanish bilinguals indicates that differential experience with content domains affects lexical access*. Scientific Reports. doi: <https://doi.org/10.1038/s41598-022-18461-9>

Malik-Moraleda, S.*, Ayyash, D*, Gallée, J., Mineroff, Z., Jouravlev, O., & Fedorenko, E. (2022) *The universal language network: A cross-linguistic investigation spanning 41 languages and 10 language families*. Nature Neuroscience. doi: <https://doi.org/10.1038/s41593-022-01114-5>

Malik-Moraleda, S., Cucu, T.^, Lipkin, B., & Fedorenko, E. (2021) *The domain-general Multiple Demand network is more active in bilinguals than monolinguals during executive processing*. Neurobiology of Language. doi: https://doi.org/10.1162/nol_a_00058

Malik-Moraleda, S., Orihuela, K., Carreiras, M., & Duñabeitia, J.A. (2017). *The consequences of literacy and schooling for parsing strings*. Language, Cognition and Neuroscience. doi: 10.1080/23273798.2017.1313436

* denotes co-first authorship

^ denotes student mentee

† denotes co-senior authors

CONFERENCES

Peer-Reviewed Oral Presentation:

Malik-Moraleda, S., Mahowald, K., Conway, B., & Gibson, E. (2022). *Concepts are restructured during language contact: color concepts in Tsimane'-Spanish bilinguals*. AMLAP 2022 (Delivered virtually)

Malik-Moraleda, S, Ayyash, D, Gallée, J, Mineroff, Z, Jouravlev, O, & Fedorenko, E (2019) *The universal language network*. Neuroscience of Language Conference NYU Abu Dhabi, April 22, 2018

Malik-Moraleda, S, Tillman, K, Barner, D. (2013) *Time Words Acquisition in Children*. 3rd Berkeley Interdisciplinary Research Conference, May 4, 2013

Malik-Moraleda, S, Tillman, K, Barner, D. *The Acquisition of Time Words in Children*. 23rd Psychology Undergraduate Research Conference (UCLA), May 10, 2013

Peer-Reviewed Poster Presentation:

Malik-Moraleda, S, & Gibson, E (2023) *Bilingualism increases noise estimation during sentence processing*. Human Sentence Processing, March 10, 2023

Malik-Moraleda, S, Ayyash, D, Gallée, J, Mineroff, Z, Jouravlev, O, & Fedorenko, E (2019) The universal language network. Cognitive Neuroscience Society, May 3, 2020

Malik-Moraleda, S, Orihuela, K, Carreiras, M, Duñabeitia, J.A. (2016) The Impact of Literacy on Character Processing. 22nd Architectures and Mechanisms for Language Processing (AMLAP), June 1, 2016

Outreach:

Malik-Moraleda, S (2023). How does the brain process conlangs? Preliminary results. Brains on Conlangs Event MIT, November 11, 2023

Malik-Moraleda, S (2017). ¿Cómo aprende el cerebro a leer? Brain Awareness Week (BCBL) San Sebastián, Spain, March 17, 2016

Other:

Malik-Moraleda, S. (2014). *Neural Correlates of Language and Task Switching*. Congrés Psicologia i Logopèdia 2014, Autonomous University of Barcelona (UAB), May 18, 2014

TEACHING EXPERIENCE

Invited Guest Lecturer. *Bilingualism, Multilingualism and Polyglotism*. Course: “9.S52: Language in the Mind and Brain”, Massachusetts Institute of Technology, April 19, 2022

Invited Guest Lecturer. *Bilingualism, Multilingualism and Polyglotism*. Course: “9.S52: Language in the Mind and Brain”, Massachusetts Institute of Technology, May 4, 2021

Invited Guest Lecturer. *Theories on Language Acquisition*. Course: “Psychological Processes: Language and Thought”, Autonomous University of Barcelona, March 4, 2014

LEADERSHIP EXPERIENCE

The Pamposh Festival, Kashmir, *Founder and Organizer* 2013 – *present*
Organized an annual literary competition that seeks to promote the use of written Kashmiri among children and young adults in the Anantnag district of Kashmir.

Harvard Graduate Women in Science and Engineering, Harvard, *Board Member* 2020 – *present*
Coordinate the HGWISE mentorship program, which pairs graduate students with female mentors.

Biomedical Graduate Student Organization, Harvard, *Board Member* 2019 – 2020
Organize events to build community among the Division of Medical Sciences students at Harvard University.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Society for the Neurobiology of Language 2016-present
Society for Neuroscience 2016-present

TECHNICAL SKILLS

Computational: MATLAB, R, Python

Imaging: fMRI (SPM, CONN, Psychtoolbox), electroencephalography (Vision Analyzer)

LANGUAGES

Spanish – Native Speaker. Complete oral and written production and comprehension.

Kashmiri – Native Speaker. Complete oral production and comprehension.

Catalan – Complete oral and written production and comprehension. Schooling in Catalan until high school.

English – Complete oral and written production and comprehension. Cambridge Certificate of Proficiency.

French – Fluent oral and written production and comprehension (B2 European Framework of Reference).

Urdu – Good oral and written production and comprehension.

Hindi – Good oral production and comprehension.

Arabic – Beginner oral and written production and comprehension.