

# Gorka Fraga González, PhD

Versatile researcher with a background in Experimental Psychology and Cognitive Neuroscience



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Code: <https://github.com/gorkafraga>  
Web: <https://gorka.science>

## Experience

### Postdoctoral Researcher

May 2022 - Present

Neurolinguistics Division, Psychology Institute, University of Zurich

*Project on brain states associated with speech-in-noise comprehension*

- Designed and implemented EEG and online experiments
- Performed machine learning classification of EEG data (Python/scikit-learn)
- Set up Github repository, website (markdown), guidelines (jupyter-book)

### Project Leader

Mar 2020 -Mar 2022

Department of Child and Adolescent Psychiatry, University of Zurich

*Project 'Grapholemo: grapheme-phoneme learning modeling'*

- Applied reinforcement learning and diffusion decision models (R-Stan)
- MRI data preprocessing and analysis (Matlab)
- Managed study database (Redcap)
- Support PhDs: scripts, statistics, documentation, troubleshooting, publishing

### Postdoctoral Researcher

May 2018 - Mar 2020

Department of Child and Adolescent Psychiatry, University of Zurich

*Longitudinal assessment of a digital app to support struggling readers*

- Created Matlab scripts for signal processing (filters, artifact correction, segmentation) and data analysis (neural time series from EEG and fMRI)
- Analyzed neural, digital game performance and cognitive tests (R, SPSS)
- Wrote funding proposals, mentored master and doctoral students

### Postdoctoral Researcher

Jan 2016 - Mar 2018

Developmental Psychology, University of Amsterdam.

*Using network analysis to examine brain function in dyslexia*

- Collected and analyzed electrophysiological and psychometric data
- Performed graph analysis (minimum spanning trees) on EEG data

### PhD candidate

Sept 2011 - Dec 2015

Developmental Psychology, University of Amsterdam.

*Examining neural and behavioral success factor of a dyslexia intervention*

- Coordinated a longitudinal neuroscientific study in 3rd grade children
- Psychometric and EEG data preprocessing and analysis (Matlab,SPSS)
- Clinical trial design, implementation, analysis and reporting

## Technical Skills

- Software:
  - Advanced programming: Python, R, Matlab
  - SPSS, MS Office, Github, neuroimaging (SPM, EEGLab, FSL, BrainVision), Redcap
- Statistics and machine learning:
  - regression, linear mixed models, reinforcement learning, drift diffusion, support vector machine, minimum spanning tree
- Experimental design: cross-sectional, longitudinal training studies, clinical trials
- Neuroscience methods: electroencephalography, electrocardiography, magnetic resonance imaging
- Audio signal processing: noise-vocoding, speech shaped-noise

## Education

- PhD in Developmental Psychology. University of Amsterdam, The Netherlands 2011 - 2015
- MSc in Psychology (cum laude). University of Groningen, The Netherlands 2010 - 2011
- BSc in Psychology. University of Deusto, Bilbao, Spain 2003 - 2008

## Scientific publishing

- 19 peer-reviewed publications (11 as first author). See complete list in <https://gorka.science/>
- Guest associated editor for Frontiers in Neuroscience (Research Topic)
- Frequent reviewer for international journals

## Further experience

- Organized multiple outreach activities (international symposiums, webinars)
- 2 Awarded postdoctoral personal grants
- Mentoring at Bachelor, Master and Doctoral level
- Best science poster, SIG22 Neuroscience and Education conference, London (2018)
- Oral communication in international conferences (USA and Europe)
- Voluntary work on psychosocial health (Kwintes, Almere, The Netherlands, Jan. 2010 - Jan. 2011)

## Additional training

- Advanced neural time series analysis with Matlab
- R programming for data science
- Human neuroanatomy

## Languages

- Spanish (native)
- English (full professional competence)
- German (pre-intermediate)
- Dutch (basic)

## Other Skills

- Excellent writing and proofreading
- Critical thinker and detail-oriented
- Ability to mediate between technical staff and researchers
- Fast learner of new software and programming, enthusiastic about data visualization and design
- I enjoy working in international and multidisciplinary teams