

MARCO BEDINI

PERSONAL INFORMATION



born January 17, 1992, in Umbertide (Perugia), Italy
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social [LinkedIn](#)

RESEARCH

I am interested in understanding the neural mechanisms and pathways underlying visual attention and oculomotor control, and how the prefrontal cortex (PFC) mediates these functions. In my PhD, I used diffusion MRI and fMRI meta-analytic methods to investigate the structural and functional connectivity of the frontal eye field and inferior frontal junction, providing tractography evidence that the two visual stream architecture extends into the PFC. After my Fulbright at UCSD, where I gained more research experience with fMRI methods, I joined the Institut de Neurosciences de la Timone as a postdoc in the InVibe team. Here, thanks to a fellowship awarded by the Fondation pour la Recherche Médicale, I'm working on a project that investigates the visual topography and structural/functional connectivity of prefrontal eye fields using multimodal MRI.

POSITION

Oct 2024–
present
Aix-Marseille University
Postdoc, INSTITUT DE NEUROSCIENCES DE LA TIMONE
FRM project title: "Unraveling the Topography of Human Prefrontal Eye Fields: Anatomic-functional Organization and Connectivity explored with high-field MRI". In this project, I am combining fMRI methods (pRF modeling and GLM) and diffusion MRI to gain a comprehensive understanding of eye fields. Specifically, I aim to understand their localization relative to the underlying sulcal morphology, and characterize their connectivity patterns using resting-state fMRI and tractography to chart their short association fibers.
PIs: Dr. Guillaume MASSON · guillaume.masson@univ-amu.fr & Dr. Martin SZINTE · martin.szinte@univ-amu.fr

EDUCATION

Oct 2022–
Sept 2023
University of California, San Diego
Fulbright visiting graduate (ended April 2023) / Visiting Scholar (since May 2023), DEPARTMENT OF PSYCHOLOGY
Research project: I investigated spatial and color representations by designing a novel working memory task using auditory retro-cues. Later, I worked on optimizing the task design for fMRI acquisition
PI: Prof. John T. SERENCES · jserences@ucsd.edu

Nov 2018–
May 2023
University of Trento
PhD student, CENTER FOR MIND/BRAIN SCIENCES
Graduated cum laude. Dissertation title: "The connectivity fingerprints of the frontal eye field and the inferior frontal junction." I carried out a comprehensive review and localized these prefrontal regions via a coordinate-based fMRI meta-analysis. I then characterized their connectivity fingerprints using a multimodal approach to uncover how they support their specialization in spatial versus non-spatial top-down control
Supervisor: Prof. Daniel BALDAUF · +39 0461 283040 · daniel.baldauf@unitn.it

Aug 2017–
Jan 2018
Ghent University
Postgraduate Internship, DEPARTMENT OF EXPERIMENTAL PSYCHOLOGY
Research project: Effects of irrelevant peripheral faces on oculomotor selection in a visual search paradigm
Reference: Prof. Lara BARDI · lara.bardi@ugent.be

Feb – July
2017
University of Perugia
Postgraduate Internship, DEPARTMENT OF HUMAN AND EDUCATION SCIENCES
Research project: Modulation of objects' location recall induced by scene context and semantically-related auditory cues. doi: [10.3390/brainsci11091206](https://doi.org/10.3390/brainsci11091206)
Reference: Prof. Valerio SANTANGELO · valerio.santangelo@unipg.it

2014–2016 Master in Cognitive Psychology

University of
Padua

GPA: 29 · 110/110 *cum laude* · Dept. of General Psychology

Thesis title: "A study on saccade trajectories in response to social stimuli: evidence of a greater distractor-induced effect by faces with open eyes relative to faces with closed eyes". doi: [10.1080/13506285.2017.1290727](https://doi.org/10.1080/13506285.2017.1290727)

Advisors: Prof. Giovanni Galfano & Prof. Mario Dalmaso (co-advisor)

2011–2014 Bachelor in Clinical Psychology

University of
Padua

GPA: 28.65 · 110/110 *cum laude* · Dept. of Social and Developmental Psychology

Thesis title: "Reconsidering lag-1 sparing under RSVP conditions". Advisor: Prof. Roberto Dell'Acqua

JOURNAL ARTICLES AND PRE-PRINTS

Cortex

Mar 2026 Surface-based Tractography uncovers 'What' and 'Where' Pathways in Prefrontal Cortex. doi: [10.1016/j.cortex.2026.03.016](https://doi.org/10.1016/j.cortex.2026.03.016)

Authors: Marco Bedini, Emanuele Olivetti, Paolo Avesani, Daniel Baldauf

The Journal of
Neuroscience

Feb 2025 The Inferior Frontal Junction Jointly Encodes Target Identity and Feature Uncertainty. doi: [10.1523/JNEUROSCI.0459-24.2024](https://doi.org/10.1523/JNEUROSCI.0459-24.2024)

Authors: Marco Bedini

Brain Structure
and Function

April 2023 Accurate localization and coactivation profiles of the frontal eye field and the inferior frontal junction: an ALE and MACM meta-analysis.

doi: [10.1007/s00429-023-02641-y](https://doi.org/10.1007/s00429-023-02641-y)

Authors: Marco Bedini, Emanuele Olivetti, Paolo Avesani, Daniel Baldauf

European Journal
of Neuroscience

Aug 2021 Structure, function and connectivity fingerprints of the frontal eye field versus the inferior frontal junction: a comprehensive comparison. doi: [10.1111/ejn.15393](https://doi.org/10.1111/ejn.15393)

Authors: Marco Bedini, Daniel Baldauf

Neuron

June 2021 Brainhack: Developing a culture of open, inclusive, community-driven neuroscience. doi: [10.1016/j.neuron.2021.04.001](https://doi.org/10.1016/j.neuron.2021.04.001)

Authors: GAU et al. and the Brainhack Community

SELECTED CONFERENCE PROCEEDINGS

Journal of Vision

July 2025 Unveiling the Functional Architecture of Human Eye Fields

doi: [10.1167/jov.25.9.2369](https://doi.org/10.1167/jov.25.9.2369)

Authors: Marco Bedini, Uriel Lascombes, Sina M. Kling, Guillaume S. Masson, Martin Szinte

Journal of Vision

Aug 2023 Connectomic Investigation of the Frontal Eye Field and Inferior Frontal Junction. doi: [10.1167/jov.23.9.5884](https://doi.org/10.1167/jov.23.9.5884)

Authors: Marco Bedini, Emanuele Olivetti, Paolo Avesani, Daniel Baldauf

COMPUTER & PROGRAMMING SKILLS

GitHub

github.com/mbedini

MRI methods

High-field MRI, Surface-based analyses, Resting-state Functional Connectivity, Tractography

Imaging software

Connectome Workbench, FSL, FreeSurfer, BrainVISA, MNE-Python, GingerALE

Data & computing

Python, Git, shell scripting, Linux, HPC workflows (Slurm), Docker/Singularity

OTHER INFORMATION

Awards and
Grants

Postdoctoral fellowship from the Fondation pour la Recherche Médicale (SPF202409019664; 36 months, 159000€)

Marseille Imaging Institut - Young Researcher 2026 (20000€)

Fulbright Visiting Student Researcher (6 months, \$6000 + J1 visa & benefits)

Traineeship in non-European countries from UniTrento (6 months, 4200€)
 Human Brain Project lab visit initiative at CIMeC (March 5–16, 2018)
 Erasmus+ for traineeship at Ghent University (University of Padua - 4 months)

Memberships

Organization for Human Brain Mapping (2026)
 International Society for Tractography (2024–present)
 Vision Sciences Society (2021–2023, 2025)
 Society for Neuroscience (2022–2023)

Talks

May 2025 · Guest lecture hosted by the Pestilli lab at UT Austin
 Sep 2021 · International Conference on Spatial Cognition in Rome (virtual)
 Jan 2021 · Selected talk at CIMeC doctoral student day

Selected Conference and Workshop presentations

June 2026 · Poster at the Organization for Human Brain Mapping (OHBM) in Bordeaux (France)
 Oct 2025 · Power pitch and poster at the International Society for Tractography (IST) in Bordeaux (FR)
 May 2025 · Poster at the Vision Sciences Society annual meeting (VSS) in St. Pete beach (USA)
 May 2023 · Poster at the Vision Sciences Society annual meeting (VSS) in St. Pete beach (USA)
 Nov 2022 · Poster at the Society for Neuroscience 2022 meeting (SfN) in San Diego (USA)

Summer/Winter Schools

Sep 2020 · Pattern Recognition in Neuroimaging (PRNI) virtual summer school – Vienna (AT)
 Sep 2019 · Summer school on Brain Connectomics – Verona (IT)

Languages

ENGLISH · Advanced (IELTS band score 8.0 in 2022 - equivalent to the C2 level)
 FRENCH · Intermediate (DELTA B2 in 2011)
 ITALIAN · Native
 CROATIAN · Fluent

August 31, 2026