# Filippo Gambarota



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Last Update: September 27, 2024

I am a **postdoctoral researcher** at the University of Padova, department of Developmental Psychology and Socialization (DPSS) and **licensed psychologist**. I am interested in meta-analysis, Monte Carlo simulations for power and design analysis and multiverse analysis.

# **CURRENT POSITION**

# Post-doctoral researcher (2 year research grant - type B)

2024 - ongoing

Department of Developmental Psychology and Socialization, University of Padova, Italy

**Project:** Multiverse meta-analysis (M-PSI/03)

Supervisor: Prof. Gianmarco Altoè

#### **ACADEMIC ROLES**

# Expert (Cultore della Materia) of Psychometrics (M-PSI/03)

2023 - ongoing

Department of Developmental Psychology and Socialization, University of Padova, Italy

# **RESEARCH**

# Post-doctoral researcher (1 year research grant - type B)

2023 - 2024

Department of Developmental Psychology and Socialization, University of Padova, Italy

Project: Multiverse meta-analysis (M-PSI/03) Supervisor: Prof. Gianmarco Altoè

# **EDUCATION**

# PhD in Psychological Sciences

2019 - 2023

University of Padova, Italy

**Project:** The relationship between visual working memory and consciousness.

Supervisor: Professor Paola Sessa,

Co-supervisor: Professor Massimiliano Pastore

# Licensed Psychologist (Esame di Stato)

2020

University of Padova, Italy

**Internship** 2018 - 2019

Department of Developmental Psychology and Socialization - University of Padova
Research project about visual consciousness and sensorimotor simulation

Research project about social cognition during pregnancy Supervision of internship students in EEG laboratory

University of Padova, Italy

Thesis: Visual Working Memory representations of infant faces during pregnancy as an adaptive mechanism. An EEG study.

Supervisor: Professor Paola Sessa

Internship 2018

Department of Developmental Psychology and Socialization - University of Padova Research project about social cognition during pregnancy with EEG data collection

### B.S. in Psychology - 110 cum laude

2016

University of Padova, Italy

Thesis: Psychosocial well-being of adolescents with oncoemathological disease.

Supervisor: Professor Ughetta Moscardino

Internship 2016

Hospital of Padova - Pediatrics Oncology

Educational activities with in-patients children and their families Research about the psychosocial well-being of inpatients adolescents Discussing about clinical cases in regular supervisions

#### **AWARDS**

# Award for the best scientific article of 2024 - Italian Psychological Association (AIP), 2024 Developmental and Educational Psychology

The paper Montuori, C., Gambarota, F., Altoé, G., & Arfé, B. (2023). The cognitive effects of computational thinking: A systematic review and meta-analytic study. Computers & Education, 210(104961), 104961. https://doi.org/10.1016/j.compedu.2023.104961 won the award for the best scientific article of 2024, by the Italian Psychological Association (AIP), Developmental and Educational Psychology

# Reproducibility Award - Italian Reproducibility Network (ITRN)

2024

I won the **Reproducibility Award** from the Italian Reproducibility Network (ITRN) for the paper: Gambarota, F., & Altoè, G. (2024). Understanding meta-analysis through data simulation with applications to power analysis. Adv. Methods Pract. Psychol. Sci., 7(1). https://doi.org/10.1177/25152459231209330

# Mission Award to Psicostat by the Society for the Improvement of Psychological Science (SIPS)

2023

As an active member of the Psicostat research group (https://improvingpsych.org/mission/awards/)

# **TRAINING**

# Meta-Analysis with Metafor (3 days)

2021

Maastricht University

Intensive course about meta-analysis with the metafor package held by Professor Wolfgang Viechtbauer

# Bayesian Regression Modeling with BRMS (5 days)

2020

2019

Potsdam University

Summer School in Bayesian Statistics for Cognitive Psychology

# Bayesian Statistical Analyses for the Human, Social and Cognitive Sciences (5 days)

University of Verona

#### **TEACHING**

#### > PHD

# Replicability crisis in science? (5 hrs.)

2024

University of Padova

Specialist Course for the XXXIX Cycle of the PhD course in Statistics, Department of Statistical Sciences, University of Padova

# **Generalized Linear Models - PhD Course in Psychological Sciences (15 hrs.)**

2023

University of Padova

I held the Generalized Linear Models course (Part A and B) within the PhD program in Psychological Sciences, University of Padova

# > LECTURES ON CONTRACT (DOCENZE A CONTRATTO)

# Psicometria per le Neuroscienze Cognitive [planned] (44 hrs., 6 CFU)

2025

University of Padova

Professor (titolare del corso) for the Master's degree in Statistical Sciences, Department of Statistical Sciences, University of Padova

# Statistical Methods and Data Analysis in Developmental Psychology [M-PSI/03] (21 2023 hrs., 3 CFU)

University of Padova

Lecturer (titolare di modulo) for the Master's degree in Developmental and Educational Psychology, University of Padova [Materials]

#### > SEMINARS

Introduction to R 2021 - ongoing

University of Padova

Intensive course about programming in R as part of the **ARCA** courses, Department of Developmental Psychology and Socialization, University of Padova [Materials]

- March 2024 (20 hrs.)
- March 2023 (20 hrs.)
- November 2022 (20 hrs.)
- October 2021 (20 hrs.)

#### > INTEGRATIVE TEACHING (DIDATTICA INTEGRATIVA)

#### Data Analysis in Developmental Psychology [M-PSI/03]

2022 - 2023

University of Padova

Lectures about R programming and data analysis of the course "Data Analysis in Developmental Psychology" (Prof. Massimilano Pastore), Master's degree in Psychology of Community, Wellness Promotion, and Social Change, University of Padova

- March 2023 (15 hrs.)
- March 2022 (20 hrs.)

# Psychological Testing [M-PSI/03] (14 hrs.)

2022

University of Padova

Lectures about R programming and data analysis of the course "Psychological Testing" (Prof. Gianmarco Altoè), Bachelor's degree in Developmental, Personality and Interpersonal Relationships Psychology, University of Padova

# > METHODOLOGICAL SCHOOLS

# Replicability Crisis in Science? (5 hrs.)

2023

University of Padova

I held a series of workshops about statistical methods to assess replicability during the summer school **Replicability Crisis in Science?** organized at the Department of Statistical Sciences (University of Padova)

# Introduction to Visual Consciousness [M-PSI/01] (2 hrs.)

2021

University of Padova

Lecture during the course "General Psychology" (Prof. Roberto Dell'Acqua), Bachelor's degree in Developmental, Personality and Interpersonal Relationships Psychology, University of Padova [Materials]

#### Visual Working Memory in Social Cognition [M-PSI/01] (2 hrs.)

2021

University of Padova

Lecture during the course "General Psychology" (Prof. Paola Sessa), Bachelor's degree in Techniques and Methods in Psychological Science, University of Padova [Materials]

#### **Neural Correlates of Consciousness [M-PSI/01] (2 hrs.)**

2020 - 2023

University of Padova

I regularly held a two hours lecture during the course "Mechanism of Consciousness" (Prof. Roberto Dell'Acqua), Master's degree in Applied Cognitive Psychology, University of Padova [Materials]

# **SUPERVISION**

- I have co-supervised **7 Master's degree** dissertations and **2 Bachelor's degree** dissertations (Department of Developmental Psychology and Socialization, University of Padova, Italy).
- From 2017 to 2019 I supervised and coordinated the students during EEG training in the laboratory (Department of Developmental Psychology and Socialization, University of Padova, Italy)

# **PUBLICATIONS**

Journal impact factors and quartiles are taken from Journal Citation Reports considering the last available data

I published **14 papers** on journals with an **average impact factor of 5.9923077**. In terms of quartiles, I published **10 papers in Q1 journals**, **2 papers in Q2 journals**, **1 paper in Q3 journals**.

# Google Scholar

Last Update: 2024-10-02

H-index: 6Citations: 115

# Scopus

Last Update: 2024-10-02

H-index: 5Citations: 50

#### > PUBLISHED (14)

Del Popolo Cristaldi, F., G. Buodo, F. **Gambarota**, S. Oosterwijk, and G. Mento (2024). "How previous experience shapes future affective subjective ratings: A follow-up study investigating implicit learning and cue ambiguity". En. In: *PloS one* 19 (2), p. e0297954. [IF: 3.7, Quartile: Q1]

Di Rosa, E., F. Masina, A. Pastorino, E. Galletti, F. **Gambarota**, G. Altoè, N. Edelstyn, and D. Mapelli (2024). "Mood moderates the effects of prefrontal tDCS on executive functions: A meta-analysis testing the affective state-dependency hypothesis". En. In: *Journal of affective disorders* 351, pp. 920-930. ISSN: 0165-0327,1573-2517. DOI: 10.1016/j.jad.2024.02.009.

http://dx.doi.org/10.1016/j.jad.2024.02.009. [IF: 6.6, Quartile: Q1]

**Gambarota**, F. and G. Altoè (2024a). "Ordinal regression models made easy: A tutorial on parameter interpretation, data simulation and power analysis". En. In: *International journal of psychology: Journal international de psychologie*. ISSN: 1464-066X,0020-7594. DOI: 10.1002/ijop.13243.

https://onlinelibrary.wiley.com/doi/abs/10.1002/ijop.13243 (visited on Oct. 02, 2024). [IF: NA, Quartile: NA]

**Gambarota**, F. and G. Altoè (2024b). "Understanding meta-analysis through data simulation with applications to power analysis". En. In: *Advances in methods and practices in psychological science* 7 (1). ISSN: 2515-2459,2515-2467. DOI: 10.1177/25152459231209330.

http://dx.doi.org/10.1177/25152459231209330. [IF: 13.6, Quartile: Q1]

Maffei, A., F. **Gambarota**, M. Liotti, R. Dell'Acqua, N. Tsuchiya, and P. Sessa (2024). "Conscious perception of fear in faces: Insights from high-density EEG and Perceptual Awareness Scale with threshold stimuli". In: *Cortex*. ISSN: 0010-9452,1973-8102. DOI: 10.1016/j.cortex.2024.02.010. http://dx.doi.org/10.1016/j.cortex.2024.02.010. [IF: 3.6, Quartile: Q1]

Toffalini, E., F. **Gambarota**, A. Perugini, P. Girardi, V. Tobia, G. Altoè, D. Giofrè, Psicostat Core Team, and T. Feraco (2024). "Clusters that are not there: An R tutorial and a Shiny app to quantify a priori inferential risks when using clustering methods". En. In: *International journal of psychology: Journal international de psychologie*. ISSN: 0020-7594,1464-066X. DOI: 10.1002/ijop.13246. https://pubmed.ncbi.nlm.nih.gov/39300789/. [IF: 2.6, Quartile: Q2]

Del Popolo Cristaldi, F., F. **Gambarota**, and S. Oosterwijk (2023). "Does your past define you? The role of previous visual experience in subjective reactions to new affective pictures and sounds". En. In: *Emotion (Washington, D.C.)* 23 (5), pp. 1317-1333. ISSN: 1528-3542,1931-1516. DOI: 10.1037/emo0001168. http://dx.doi.org/10.1037/emo0001168. [IF: 4.2, Quartile: Q1]

Montuori, C., F. **Gambarota**, G. Altoé, and B. Arfé (2023). "The cognitive effects of computational thinking: A systematic review and meta-analytic study". En. In: *Computers & education* 210 (104961), p. 104961. ISSN: 0360-1315,1873-782X. DOI: 10.1016/j.compedu.2023.104961. http://dx.doi.org/10.1016/j.compedu.2023.104961 (visited on Dec. 03, 2023). [IF: 12, Quartile: Q1]

Pezzetta, R., F. **Gambarota**, V. Tarantino, M. Devita, Z. Cattaneo, G. Arcara, D. Mapelli, and F. Masina (2023). "A meta-analysis of non-invasive brain stimulation (NIBS) effects on cerebellar-associated cognitive processes". En. In: *Neuroscience and biobehavioral reviews* 157 (105509), p. 105509. ISSN: 0149-7634,1873-7528. DOI: 10.1016/j.neubiorev.2023.105509.

http://dx.doi.org/10.1016/j.neubiorev.2023.105509. [IF: 8.2, Quartile: Q1]

Quettier, T., A. Maffei, F. **Gambarota**, P. F. Ferrari, and P. Sessa (2023). "Testing EEG functional connectivity between sensorimotor and face processing visual regions in individuals with congenital facial palsy". En. In: *Frontiers in systems neuroscience* 17, p. 1123221. ISSN: 1662-5137. DOI: 10.3389/fnsys.2023.1123221. http://dx.doi.org/10.3389/fnsys.2023.1123221. [IF: 3, Quartile: Q3]

**Gambarota**, F., N. Tsuchiya, M. Pastore, N. Di Polito, and P. Sessa (2022). "Unconscious Visual Working Memory: A critical review and Bayesian meta-analysis". En. In: *Neuroscience and biobehavioral reviews* 136 (104618), p. 104618. ISSN: 0149-7634,1873-7528. DOI: 10.1016/j.neubiorev.2022.104618. http://dx.doi.org/10.1016/j.neubiorev.2022.104618. [IF: 8.2, Quartile: Q1]

Verroca, A., C. M. de Rienzo, F. **Gambarota**, and P. Sessa (2022). "Mapping the perception-space of facial expressions in the era of face masks". En. In: *Frontiers in psychology* 13, p. 956832. ISSN: 1664-1078. DOI: 10.3389/fpsyg.2022.956832.

https://www.frontiersin.org/articles/10.3389/fpsyg.2022.956832. [IF: 3.8, Quartile: Q1]

Quettier, T., F. **Gambarota**, N. Tsuchiya, and P. Sessa (2021). "Blocking facial mimicry during binocular rivalry modulates visual awareness of faces with a neutral expression". En. In: *Scientific reports* 11 (1),

p. 9972. ISSN: 2045-2322. DOI: 10.1038/s41598-021-89355-5. http://dx.doi.org/10.1038/s41598-021-89355-5. [IF: 4.6, Quartile: Q2]

**Gambarota**, F. and P. Sessa (2019). "Visual working memory for faces and facial expressions as a useful 'tool' for understanding social and affective cognition". En. In: *Frontiers in psychology* 10 (OCT), p. 2392. ISSN: 1664-1078. DOI: 10.3389/fpsyg.2019.02392.

https://www.frontiersin.org/article/10.3389/fpsyg.2019.02392/full. [IF: 3.8, Quartile: Q1]

# > ACCEPTED (2)

Grassi, Altoè, Brattico, [...] **Gambarota**, [...] Zentner - Do musicians have better short-term memory than nonmusicians? A multi-lab study - *Advances in Methods and Practices in Psychological Science* [Registered Replication Report - Provisional Acceptance]

**Gambarota** & Altoè - Ordinal regression models made easy. A tutorial on parameter interpretation, data simulation, and power analysis - *International Journal of Psychology* [In press]

# **CONFERENCES**

# > INVITED TALKS (1)

Gambarota [P] and Altoè

2024

Understanding meta-analysis through data simulation with applications to power analysis - [Material]

Cognitive Science Arena (CSA) - Bressanone, Italy

# > TALKS (12)

[P] means that I was the presenting author [accepted] means that the talk has been accepted but not delivered yet

Gambarota [P], Vesely, Finos, Altoè

2024

Inference on multiverse meta-analysis. [accepted]

META-REP - Munich, Germany

Gambarota [P], Toffalini

Gambarota [P]

2024

Are most interactions false? The importance of the appropriate distribution and link function with non-normal data. - [Slides]

Italian Psychological Association (AIP), Developmental Psychology - Cagliari, Italy

Perugini, Gambarota, Toffalini, Sità, Lakens, Pastore, Finos, Psicostat, Altoè

2024

Critical effect size values and why to report them.

Italian Psychological Association (AIP), Developmental Psychology - Noto, Italy

Girardi, Vesely, Gambarota, Altoè, Pastore, Finos

2024

Exploring the Dark Side of the Multiverse: Pitfalls and Possibilities in Applications
Association for Applied Statistics (ASA) - Rome, Italy

2024

Inferenza nella meta-analisi multiverse. Un approccio multivariato basato sulle permutazioni

La Psicometria tra Oggi e Domani: Sfide E Nuovi Orizzonti - Firenze, Italy

**Gambarota** [P] 2024

| Gambarota [P], Luria and Sessa Conscious and unconscious information processing in visual working memory - [Slides] Italian Psychological Association (AIP) - Padova, Italy   | <i>2022</i><br>I    |
|---|---------------------|
| del Popolo Cristaldi, <b>Gambarota</b> and Oosterwijk <b>The role of past experience in subjective ratings to affective predictions: cross-modalite effects</b> Cognitive Science Arena (CSA) - Bressanone, Italy   | 2022<br>t <b>y</b>  |
| del Popolo Cristaldi, <b>Gambarota</b> and Oosterwijk <b>The role of past visual experience in subjective reactions to new affective pictures and sounds</b> Annual Conference of the Society for Affective Science (SAS) - Virtual   | 2022                |
| Gambarota [P], Tsuchiya, Pastore, Di Polito and Sessa Meta-analysis in Consciousness Research Conscious Brain Concepts Workshop - University of Oslo - Virtual  | 2021                |
| del Popolo Cristaldi, <b>Gambarota</b> and Oosterwijk <b>The role of previous probabilistic learning on the subjective affective experience</b> <i>Italian Psychological Association (AIP) - Lecce, Italy</i>   | 2021                |
| Gambarota [P], Zandonella Callegher, Linkersdörfer, Ling and Kothe trackdown - Collaborative writing through literate programming in R - [Slides] Towards Advanced Scientific Knowledge (TASK4) - Virtual   | 2021                |
| > POSTERS (8)  [P] means that I was the presenting authors [accepted] means that poster has been accepted but has not taken place yet   | 2024                |
| Brosche, Gambarota, Altoè, Rugani  Effects of Domestication and Selection for Productivity on Numerical Cognition in Chicks  [planned]  |                     |
| European Conference on Behavioural Biology (ECBB) - Zurich, Switzerland   |                     |
| Gambarota [P], Vesely, Finos, Altoè  Joinmeta - An Inferential approach to multiverse meta-analysis - [Poster]  Society for the Improvement of Psychological Science (SIPS) - Padova, Italy   | 2023                |
| del Popolo Cristaldi, <b>Gambarota</b> and Oosterwijk <b>Cross-modality effects in affective prediction construction: the role of past visual experience in subjective reactions to new affective pictures and sounds</b> Annual Conference of the European Society for Cognitive and Affective Neuroscience (ESCAN) - Vi             | 2022<br>irtual      |
| Pezzetta, <b>Gambarota</b> , Tarantino, Devita, Cattaneo, Arcara, Mapelli and Masina <b>Probing cerebellar involvement in cognition through neuromodulation: A meta-analysis the effectiveness of non-invasive cerebellar stimulation</b> <i>Transcranical Brain Stimulation in Cognitive Neuroscience Workshop - Rovereto, Italy</i> | 2022<br><b>5 on</b> |

Cosa accade al di fuori della consapevolezza visiva? [Italian] - [Slides]

Brain Awareness Week - Padova, Italy

Gambarota [P], Zandonella Callegher, Linkersdörfer, Ling and Kothe

trackdown - An R package for collaborative writing and editing - [Video], [Slides]

Society for the Improvement of Psychological Science (SIPS) - Virtual

**Gambarota** [P], Zandonella Callegher, Linkersdörfer, Ling and Kothe 2021

trackdown - A simple framework for collaboration in a literate programming workflow - [Video], [Slides]

useR - Virtual

**Gambarota** [P], Pastore, Luria, Ferrari and Sessa 2020

Visual Working Memory Precision for Emotional Faces in Moebius Patients

Cognitive Science Arena - Bressanone, Italy

Quettier, **Gambarota** and Sessa 2019

Look at others' smile: Sensorimotor modulation of visual awareness

Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF) - Ferrara, Italy

#### > SYMPOSIA (1)

[P] means that I was the proponent [accepted] means that symposium has been accepted but has not taken place yet.

Gambarota [P], Crepaldi, Liuzza, Calignano, Finos, Scandola

2024

The Multiverse of Multi-labs. Methodological and Statistical Aspects of Multi-Lab and Multiverse Studies. - [Material]

Italian Psychological Association (AIP), Experimental Psychology - Noto, Italy

### **PEER REVIEWS**

See my Publons Profile

Ad-hoc reviewer for:

- International Journal of Psychology
- PLoS ONE
- Neuroscience of Consciousness

# **PROFESSIONAL MEMBERSHIPS**

Italian Reproducibility Network (ITRN) from: 2024 - ongoing

The Society for the Improvement of Psychological Science (SIPS) from: 2023 - ongoing

**Associazione Italiana di Psicologia, Sezione Sperimentale** (AIP) from: 2022 - ongoing

Associazione Italiana di Psicologia, Sezione Sviluppo (AIP) from: 2024 - ongoing

# **ORGANIZATION**

Italian Association of Psychology (AIP)

2022

I was part of the organizing committee of the XXX edition of the Italian Association of Psychology (AIP) conference and editor of the Book of Abstract https://www.padovauniversitypress.it/it/publications/9788869383168

#### **MRInference Winter School**

2021

University of Padova

I was part of the organizing committee of the "MRInference: from data to knowledge" winter school organized by the University of Padova

# THIRD MISSION (TERZA MISSIONE)

# Sito web https://psicostat.dpss.psy.unipd.it/ del gruppo di ricerca multidisciplinare "Psicostat".

2023 - ongoing

Online

Il sito <a href="https://psicostat.dpss.psy.unipd.it/">https://psicostat.dpss.psy.unipd.it/</a> raccoglie e condivide in modo open le attività del gruppo a favore degli utenti interessati [Iris ID: PEN-3397]

# Sostenibilità umana: superare la società della performance e immaginare nuovi modelli - by TLON

2023

Padova

Sensibilizzazione di tutto i personale del DPSS relativamente alle tematiche sulla società performante. Si è trattato di un workshop interattivo all'interno del retreat del dipartimento. La parte teorica è stata aperta alla cittadinanza attraverso la diretta fb, mentre la parte pratica è stata rivolta solo al personale dpss [Iris ID: PEN-2435]

#### **RESEARCH GROUPS**

### Psicostat - psicostat.dpss.psy.unipd.it

2019 - ongoing

We are an interdisciplinary research group working in areas related to quantitative psychology, psychometrics, psychological testing and statistics.

# Colab colab.psy.unipd.it

2019 - ongoing

The CoLab, established at the Department of Developmental Psychology of the University of Padova in the 2000, hosts a variety of research projects, which focus primarily on exploring the functional and neural mechanisms subserving attention and language abilities in human adults.

#### **RESEARCH SKILLS**

Rated as ••••• (basic knowledge) to •••• (advanced knowledge).

#### > **OS**

- Linux ●●●●●
- Windows ●●●●

MacOS ●●●○○

# > PROGRAMMING LANGUAGES

- R •••••
- MATLAB ••••

- Python ••••
- Javascript •••••

# > WRITING

- LaTeX ●●●●
- HTML ••••
- CSS ••••

- Pandoc ••••
- (R)Markdown
- Quarto ••••

# > EXPERIMENTS

- Psychopy
- Eprime ••••

# > EEG/ERP

- EEGlab ●●●○○
- ERPlab ●●●○○

- Presentation ••••
- Psychtoolbox ••••
- Brainstorm •••••
- Brainvision Analyzer •••••

Filippo Gambarota