

ANGELA ANDRELLA

Postdoctoral Researcher - [Università degli studi di Padova](#)

I am a Postdoctoral Researcher at the Department of Statistical Sciences of the University of Padova under the supervision of Professor [Bruno Scarpa](#) and [Livio Finos](#). We are studying the Procrustes methods in the context of high-dimensional data's functional alignment like fMRI, EEG and genetic data. In particular, we are developing an extension of the famous perturbation model to improve interpretability, inferential proprieties, model flexibility, and optimization of the computational effort.

I just finished also a Post-Doc at the Department of Science and Technology of the University of Insubria under the supervision of Professor [Antonietta Mira](#). The project was focused on modeling the data from emergency call centers across the Lombardy region in Italy. I finished my Ph.D. in Statistical Sciences under the supervision of Professor [Livio Finos](#) about statistical methods to analyze neuroscience data, e.g., fMRI data. Mainly, my interest is to connect the psychological and statistical fields improving both areas. For that, I am a member of the [Psicostat](#) group at the University of Padova.

One Ph.D. thesis project is about a spatial regularization of the Procrustes method used in the functional alignment of brain data, i.e., the ProMises (Procrustes von Mises-Fisher) model. I am collaborating with Professor [James Haxby](#) from the Department of Psychological and Brain Sciences at Dartmouth College and with the [Haxby Lab](#).

Another project of the Ph.D. thesis is about a permutation-based approach of the [All Resolution Inference](#) method under the supervision of Professor [Jelle Goeman](#) from the Department of Biomedical Data Sciences and Professor [Wouter Weeda](#) from the Department of Psychology at Leiden University.

I am also collaborating with [Paolo Brambilla](#) and [Giuseppe Delvecchio](#) on various psychiatric and psychological projects.

INTERESTS:

- High Dimensional Statistics in Neuroscience, and Medicine in general;
- Multiple Testing and Selective Inference in Psychology, Psychiatry, Neuroscience, and Medicine in general;
- Permutation Tests in Psychology, Psychiatry, Neuroscience, and Medicine in general;
- Procrustes Methods in Neuroscience;
- Multivariate analysis in Psychology, Psychiatry, Neuroscience and Medicine in general.

EDUCATION

| | | |
|--|--|---|
| 05/2021 – Now | University of Padova Postdoctoral Researcher |  Padova, Italy |
| Project: A Bayesian Approach to the Procrustes problem | | |
| 11/2020 – 05/2021 | Università degli studi dell'Insubria Postdoctoral Researcher |  Varese, Italy |
| Project: Progetto Tsunami - Previsione dell'Impatto dell'Ondata COVID-19 sul Sistema di Emergenza e Urgenza in Lombardia | | |



CONTACT INFO

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 [aangeella](https://twitter.com/aangeella)
 angelaandrealla.netlify.com

LANGUAGES

Professional proficiency: Italian (mother tongue), English, Spanish

Elementary proficiency: French, Catalan

COMPUTER SKILLS

Statistical Packages: R Software - SPSS - SAS - STATA

Languages: R - Python - Matlab - C++ - Markdown - SQL

Other software: LaTeX - Gimp - FSL - GIT - Moodle

- 10/2017 – 03/2021 • **University of Padova**
PhD Student in Statistical Science 📍 Padova, Italy
- Thesis: Challenges in Functional Magnetic Resonance Imaging (fMRI)
Data Analysis: From Functional Alignment to Selective Inference
- 10/2013 – 03/2016 • **University of Padova**
M.S. in Statistical Science - 104 📍 Padova, Italy
- Thesis: The Catalan National Movement analyzed by Twitter data.
- 10/2010 – 04/2013 • **University of Padova**
B.S. in Statistical Science - 110 📍 Padova, Italy
- Thesis: Twitter Sentiment Analysis in Monti's 2013 election campaign.

STUDY VISITS

- 10/2020 | • **Short Term Scientific Mission**
[Data Science Lab](#), Università della Svizzera Italiana. 📍 Lugano, Switzerland
- 10/2020 |
- 04/2019 | • **Visiting PhD Student**
[LUMC](#), Department of Biomedical Data Sciences. 📍 Leiden, Netherlands.
- 07/2019 |
- 01/2019 | • **Visiting PhD Student**
[Dartmouth College](#), Department of Psychological and Brain Sciences. 📍 Hanover, NH, USA.
- 04/2019 |
- 09/2013 | • **Erasmus Program**
[Universitat de Barcelona](#), Department of Mathematics and Statistics. 📍 Barcelona, Spain.
- 07/2014 |

TEACHING EXPERIENCE

- 04/2021 | • **Professor - Experimental Design - Bachelor Degree of Statistical Sciences**
[Department of Statistical Sciences](#) 📍 Padova, Italy
- 05/2021 |
- 03/2021 | • **Tutor - Psychometrics - Bachelor Degree of Psychological sciences and techniques**
[Department of Developmental Psychology and Socialization](#) 📍 Padova, Italy
- 04/2021 |
- 10/2020 | • **Tutor - Psychometrics - Bachelor Degree of Psychological Sciences of Development Personality and Interpersonal relations**
[Department of Developmental Psychology and Socialization](#) 📍 Padova, Italy
- 01/2021 |

- 06/2020 • **Master's Lesson about Permutation-based Cluster-Mass in EEG data**
Department of Statistical Sciences, University of Padova, Italy
📍 Padova, Italy

💻 RESEARCH AND INTERNSHIP EXPERIENCE

- 01/2016 • **Pre-Graduate Internship**
Stazione Zoologica Anton Dohrn
📍 Naples, Italy
- 03/2016 |
- 06/2014 • **Pre-Graduate Internship**
Universitat Politecnica de Catalunya
📍 Barcelona, Spain
- 06/2015 |

💼 WORKING EXPERIENCE

- 09/2015 • **Private Tutor**
Superprof
📍 Italy
- | now
- 06/2016 • **Data analyst**
Optima Italia
📍 Naples, Italy
- | 07/2017
- 05/2016 • **IT Consultant**
Atos S.r.l
📍 Rome, Italy
- | 06/2016
- 06/2013 • **Interviewer**
VALMON S.r.l spin-off projects with the University of Florence
📍 Veneto, Italy
- | 08/2013
- conducting interviews in the context of the international European Social Survey (ESS) Round 6 Italy, a survey designed to describe and explain the attitudes, opinions, and behaviors of different European populations

💻 EDUCATIONAL EXPERIENCE

- 2017 | Present • **Psicostat**
University of Padova
📍 Padova, Italy
- 2020 • **Proposal writing and writing Laboratory**
University of Padova
📍 Padova, Italy
- 2020 • **Image processing and computer vision with R**
eRum 2020 (virtual conference)
📍 Milan, Italy
- 2020 • **Statistical Consulting - COVID-19 analysis**
University of Padova, Department of Statistical Sciences
📍 Padova, Italy
- 2019 • **Interactive visualisation with R Shiny**
Leiden University
📍 Leiden, Netherlands
- 2018 • **Bayesian Data Analysis and Computation**
University of Padova, Department of Statistical Sciences
📍 Padova, Italy

- 2018 • **Variational Approximations in Statistics**
University of Padova, Department of Statistical Sciences
📍 Padova, Italy
- 2018 • **Sampling Theory**
University of Padova, Department of Statistical Sciences
📍 Padova, Italy
- 2018 • **Mortality : Empirical Analysis and Forecasting Models**
University of Padova, Department of Statistical Sciences
📍 Padova, Italy
- 2018 • **Regression Modelling with Large Data Sets**
University of Padova, Department of Statistical Sciences
📍 Padova, Italy
- 2018 • **Kalman Filter and State Space Models**
University of Padova, Department of Statistical Sciences
📍 Padova, Italy
- 2018 • **An Introduction to Missing Data Handling**
University of Padova, Department of Statistical Sciences
📍 Padova, Italy
- 2017 • **Programming with Python**
University of Padova, Department of Statistical Sciences
📍 Padova, Italy
- 2017 • **Statistical Learning and Data Science**
University of Padova, Department of Statistical Sciences
📍 Padova, Italy
- 2017 • **Stochastic calculus of variations and normal approximations**
27th Jyväskylä Summer School
📍 Jyväskylä, Finland
- 2017 • **Value of information analysis in spatial model**
27th Jyväskylä Summer School
📍 Jyväskylä, Finland
- 2017 • **Online Social Media Analytics**
27th Jyväskylä Summer School
📍 Jyväskylä, Finland

📁 PUBLICATIONS

- 2021 • **Valid Double-Dipping via Permutation-Based Closed Testing.**
[Preface XIX 1 Plenary Sessions](#)
Vesely, A., Finos, L., Goeman, J. J., & Andreella, A.
- 2021 • **Functional alignment by the ``light'' approach of the von Mises-Fisher-Procrustes model.**
[Preface XIX 1 Plenary Sessions](#)
Andreella, A., Finos, L.
- 2021 • **Permutation-based true discovery proportions for fMRI cluster analysis.**
To be submitted
Andreella, A., Goeman, J., Weeda, W., Hemerik, J., Solari, A., and Finos, L.

- 2021 ● **Procrustes Analysis for High-Dimensional Data**
Submitted
Andreella, A., and Finos, L.
- 2021 ● **Visualizing the structural neuroanatomy of functional aligned fMRI data: the von Mises-Fisher-Procrustes model.**
To be submitted
Andreella, A., Feilong, M., Halchenko, Y., Haxby, J. V. L., and Finos, L.
- 2020 ● **A Statistical Approach to the Alignment of fMRI Data.**
Book of short papers - SIS 2020
Andreella, A., Feilong, M., Halchenko, Y., Haxby, J. V. L., and Finos, L.
- 2020 ● **The Effect of DHA Supplementation on Cognition in Patients with Bipolar Disorder: An Exploratory Randomized Control Trial.**
Nutrients [doi: 10.3390/nu12030708](https://doi.org/10.3390/nu12030708)
Ciappolino, V. and DelVecchio, G. and Prunas, C. and **Andreella, A.** and Finos, L. and Caletti, E. and Siri, F. and Mazzocchi, A. and Botturi, A. and Turolo, S. and Agostoni, C. and Brambilla, P.
- 2019 ● **Altered syntactic abilities in first episode patients: An inner phenomenon characterizing psychosis.**
European Psychiatry [doi: 10.1016/j.eurpsy.2019.08.001](https://doi.org/10.1016/j.eurpsy.2019.08.001)
Delvecchio, G., Caletti, E., Perlini, C., Siri, F. M., **Andreella, A.**, Finos, F., Bellani, M., Fabbro, F., Lasalvia, A., Bonetto, C., Cristofalo, D., Scocco, P., D'Agostino, A., Torresani, S., Imbesi, M., Bellini, F., Veronese, A., Bressi, V., and Brambilla, P.
- 2018 ● **Prosody abilities in a large sample of affective and non-affective first episode psychosis patients.**
Comprehensive Psychiatry [doi: 10.1016/j.comppsych.2018.07.004](https://doi.org/10.1016/j.comppsych.2018.07.004)
Caletti, E., Delvecchio, G., **Andreella, A.**, Finos, L., Perlini, C., Tavano, A., Lasalvia, A., Bonetto, C., Cristofalo, D., Lamonaca, D., Ceccato, C., Pileggi, F., FaustoMazzi, F., Santonastaso, P., Ruggeri, M., Bellani, M., and Brambilla, P.

TALKS

- 07/2021 ● **pARI package: valid double-dipping via permutation-based All Resolutions Inference**
[useR 2021](https://useR2021.org)  Virtual conference
- 06/2021 ● **Functional alignment by the ``light'' approach of the von Mises-Fisher-Procrustes model.**
[SiS 2021](https://sis2021.sisstatistica.it)  Virtual conference
- 12/2020 ● **pARI package: valid double-dipping via permutation-based All Resolutions Inference**
[EuroBioC2020](https://eurobioc2020.org)  Virtual conference
- 02/2020 ● **Quot capita, tot sententiae. Don't Forget to Use Anatomical Features into the Alignment of fMRI Data**
[Cognitive Science Arena](https://cognitive-science-area.com)  Brixen, Italy

- 09/2019 • **A Statistical approach to the alignment of fMRI data**
6th European Student Conference on Behaviour & Cognition
📍 Padova, Italy
- 12/2019 • **First steps with Python**
Psicostat 3.1
📍 Padova, Italy
- 07/2019 • **A Statistical approach to the alignment of fMRI data**
12th IBS - Italian Region conference
📍 Naples, Italy
- 06/2019 • **How to improve the functional alignment of fMRI data using spatial brain information?**
HighDim reading club
📍 Leiden, Netherlands
- 04/2019 • **A Statistical approach to the alignment of fMRI data**
Psicostat 3.0
📍 Padova, Italy
- 02/2019 • **A Statistical approach to the alignment of fMRI data**
Haxby Lab
📍 Hanover, New Hampshire, USA

📁 POSTERS

- 06/2020 • **Improving the Functional Alignment of fMRI Data Using Spatial Brain Information**
Organization for Human Brain Mapping (OHBM) 📍 Virtual conference
- 06/2020 • **PRDA package: Enhancing Statistical Inference via Prospective and Retrospective Design Analysis**
European R users meeting (eRum) 📍 Virtual conference
- 10/2019 • **A Statistical approach to the alignment of fMRI data**
Zero Tre, Prospettive e Nuove Ricerche in Psicometria 📍 Padova, Italy

👤 MEMBERSHIPS

- **Member of the Italian Region of the International Biometrical Society**
Italian Region of the International Biometric Society
- **Member of Organization for Human Brain Mapping (OHBM)**
Organization for Human Brain Mapping
- **Member of Institute of Mathematical Statistics (IMS)**
Institute of Mathematical Statistics

🏆 HONOURS AND AWARDS

- 2020 • **Scholarship for Short Term Scientific Mission by COST Action**
- 2012 • **Scholarship for merit by the University of Padova**

CERTIFICATION

- 2016 • **SQL Fundamental Course**
[SoL - Society for Organizational Learning - Italy](#)
- 2015 • **Security training course**
[University of Padova](#)
- 2013 • **Certificate of Interviewer**
[VALMON S.r.l.](#)

AUTHOR/CONTRIBUTOR OF THE FOLLOWING PACKAGES FOR R/PYTHON

- [pARI](#)
- [PRDA](#)
- [ProMisesModel](#)
- [ProMises](#)
- [ARleeg](#)

Autorizzo il trattamento dei miei dati personali presenti nel curriculum vitae ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 e del GDPR (Regolamento UE 2016/679).