

CURRICULUM VITAE ET STUDIORUM

Name: Giulia Barbati
Place and date of birth: Rome, 28 February 1976
Nationality: Italian
Marital status: Married
Languages: Italian (mother tongue), English, French
Present Position: Associate Professor in Medical Statistics, University of Trieste
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Research Interests

I am a biostatistician and I work in estimation of clinical prognostic models and the assessment of their performance. In particular, my contribution is in the design, conduct and analysis of observational studies in the fields of chronic diseases, interacting with investigators from various academic, hospital and industry institutions. My research interests are mainly focused on survival analysis methods and joint models for longitudinal and time-to-event data. Moreover, I am interested in statistical methods and tools for exploiting informational content of health administrative data and in machine learning (ML) algorithms for risk prediction in large datasets; in particular I am working on the interpretability aspect of the ML applications in the health care context.

During my PhD studies, I was involved in experimental research in the neuroscience field and my contribution focused on exploiting the statistical structure of the cerebral sources with the aim of optimizing their estimation from time series of non-invasively electrophysiological recordings.

I am familiar with several statistical packages, in particular: R and IBM-SPSS; in addition, I also have a basic knowledge of SAS Enterprise Guide.

Education and Degrees

September 1989 - June 1994: High school at the *Louis Pasteur Institute*, Rome (Italy). Diploma in scientific studies in July 1994, with full marks 60/60.

October 1994 - October 1999: Undergraduate studies in Statistics at the University *La Sapienza*, Rome (Italy).

October 1999: Degree in Statistics 110/110, University *La Sapienza*, Rome (Italy).

Title of the thesis: *Robust methods for the identification of outliers, estimate and comparison of mean length of stay in DRG (Diagnosis Related Groups)*, Supervisor: Prof. A. Rizzi.

September 2003 - December 2006: PhD studies in *Functional Neuroimaging: from cell to systems*, at the University of Chieti (Italy), Institute for Advanced Biomedical Technologies (ITAB).

February 2007: *Doctor Philosophiae* at the University of Chieti.

Title of the Thesis: *Sources separation algorithms from magnetoencephalographic signals*, Supervisor: Prof. V. Pizzella and Dr. F. Tecchio.

The PhD title obtained correspond to the European Research Council (ERC) sectors LS5_10 (“Neuroimaging and computational neuroscience”) and LS7_1 (“Medical engineering and technology”).

Previous Positions

March 2000 - February 2002: Post Lauream research contract at the Institute for Social and Preventive Medicine (IUMSP) in Lausanne (Switzerland).

March 2002 - December 2006: Research contract at the *Fatebenefratelli* Hospital, Rome (Italy). Also statistical consultant for different hospital departments (in particular anesthesiology and gynecology).

January 2007 - April 2009: Post-doctoral position at the Department of Public Health of University of Turin (Italy).

May 2009 - August 2011: Post-doctoral position at the Department of Environmental Medicine and Public Health of University of Padova (Italy).

September 2011-October 2016: Post-doctoral position at the Department of Medicine of University of Trieste (Italy).

November 2016 – November 2019: RTD-B MED/01 at the Department of Medicine of University of Trieste (Italy).

Continuing education course

May 2002: *Analysis of Correlated data in Epidemiological Research* by Prof. D.G. Kleinbaum, University of Lausanne (Switzerland).

March 2011: *Longitudinal Data Analysis with Time-Dependent covariates for Inference and Prediction* by Prof. P.J. Heagerty, University of Milano Bicocca (Italy).

March 2014: *Survival and event history analysis* by Profs. O.O. Aalen, Ø. Borgan and H.K. Gjessing, University of Milano Bicocca (Italy).

September 2018: *Extended use of regression models for new epidemiologic designs and analyses* by Profs. M. Reilly and C. S. Tan, University of Milano Bicocca (Italy).

September 2024: *Regression Modeling Strategies*, by Prof. Frank Harrell, University of Milano Bicocca (Italy).

Research appointments

August 1999: Pre Lauream position at the *Institute for Social and Preventive Medicine* (IUMSP) in Lausanne (Switzerland).

May-June 2006: Invited scientist at the *Wellcome Trust Laboratory for MEG Studies*, Aston University, Birmingham (United Kingdom).

Academic Appointments

January 2014: Qualification for associate professor in Medical Statistics (06/M1) at the Italian national level.

February 2017 – March 2021: Member of the Scientific Board of the PhD course in Biostatistics and Clinical Epidemiology, University of Padova, Italy.

November 2020: Qualification for full professor in Medical Statistics (06/M1) at the Italian national level <https://asn18.cineca.it/pubblico/miur/esito-abilitato/06%252FM1/1/5>

April 2021– Member of the Scientific Board of the PhD course in Applied Data Science and Artificial Intelligence, University of Trieste, Italy.

Coordinator of the Medicine, Life Sciences, and Environment curriculum.

Academic/Institutional Service

September 2025 –

Rector's Delegate for Data Reporting (University of Trieste)

Funded Projects

With coordination role

April-December 2018: Project manager for the statistical plan of the study: “*EAGLE study: Evidence of Anti-VEGF use in real Life Experience - A retrospective cohort study from secondary data source in Italy - Chart Review*”, funded by Novartis Farma S.p.A.

November 2018-December 2019: Project manager for the statistical analyses of the study: “*EAGLE study: Evidence of Anti-VEGF use in real Life Experience - A retrospective cohort study from secondary data source in Italy - Chart Review*”, funded by Novartis Farma S.p.A.

January 2019-December 2020: Project coordinator for: “*Machine Learning in cardiovascular data: applications and interpretation*”, funded by University of Trieste [Bando FRA 2018].

October 2020-December 2021: Project coordinator for: “*Artificial iNTelligence ExpLorIng genoType-phenoType Risk strATification in cardioMyopathies. The ANTE LITTERAM study*”, funded by University of Trieste [Bando FRA 2020].

January 2021-December 2021: Project coordinator for: “*Dyskalemia in chronic heart failure: prevalence, predictors and outcome. An observational cohort study from community setting*”, funded by Vifor Pharma.

June 2021-December 2021: Project manager for the statistical plan and analyses of the study: “*Prevalence, characteristics and outcome of hypercholesterolemia in patients with or without atherosclerotic (cardiovascular) diseases stratified by cardiovascular risk*”, funded by Novartis Pharma.

December 2021- December 2022: Project coordinator for: “*Type 2 diabetics at highest risk for heart failure: a deep learning predictive model*”, funded by Biovalley Investment Partner S.r.l.

June 2022- December 2022: Project coordinator for: “*Prevalence, characteristics, and outcome of patients eligible for treatment with PCSk9i*”, funded by AMGEN Pharma.

With participant role

February-December 2017: In charge for the statistical plan and analyses of the project: “*Chronic Heart Failure: A silently progressing disease. A retrospective cohort study from secondary data source in Italy, EMR linked to Administrative DB*”, funded by Novartis Farma S.p.A.

March 2019-February 2020: In charge for the statistical plan and analyses of the project: “*Asymptomatic patients with chronic heart failure: assessing risk of adverse outcome and disease progression in community setting*”, funded by Novartis Farma S.p.A.

April 2023 - March 2028: In charge for the statistical analyses of the project “*Elucidating the Origin of Sudden Cardiac Death in Dilated Cardiomyopathy: from Phenotype Predictors to Therapeutic Targets*” funded by NIH (National Institute of Health) R01HL164634.

Scientific Societies

2015-2019: Member of the Executive Board of the Italian Society of Medical Statistics and Clinical Epidemiology (SISMEC).

December 2017--: Member of the Executive Board of the Healthcare Research and Pharmacoepidemiology Consortium (CHRP)

From April 2022: Member of the Research Committee of the SISMEC

I am currently a member of SISMEC, Italian Society of Medical Statistics and Clinical Epidemiology, SIB, Italian Region of the International Biometrical Society (IBS), ISCB, International Society of Clinical Biostatistics and SIS, Italian Statistical Society (SIS).

Associate Editor:

Epidemiology, Biostatistics and Public Health, EBPH (2017-2019)
Statistical Methods & Applications (2019-2023)

Other Professional Services

March - August 2001: Collaboration with the *Institut de Police Scientifique et Criminologie (IPSC)* at the Lausanne University (Switzerland) for a project aimed to develop statistical methods to evaluate the link between two or more heroine seizures.

April 2009 - December 2010: Collaboration with the Department of Occupational Medicine, University of Trieste (Italy) to elaborate data of the Mesothelioma Registry of the Friuli-Venezia-Giulia region.

September 2011 - March 2013: Collaboration with the Department of Medicine and Biology at the University of Udine (Italy) for the research project *EPIAIR-2*, to elaborate data on the effects of air pollution on human health.

October 2020-May 2024 Member of the Advisory Board of Rachael S.r.l. (Big Data research start-up).

October 2021 – Member of the Data and Safety Monitoring Committee (DSMC) of the MYTHS - MYocarditis THERapy With Steroids (MYTHS) trial (NCT number: NCT05150704).

June 2024 -- President of the Advisory Board of Rachael S.r.l. (Big Data research start-up, <https://rachael.swg.it/home-en>).

Teaching experience

2005-06 and 2006-07: Lecturer for a Bachelor course on Medical Statistics for the Nursing School at the University of Rome Tor Vergata, Department of Medicine and Surgery (30 hours each year).

2008-09 and 2009-10: Lecturer for a Master course on Medical Statistics for the Nursing School at the Universities of Trieste and Udine, Department of Medicine (35 hours each year).

2010-11 and 2011-12: Lecturer for a Master course on Statistics for the School on Occupational Safety and Health at the Universities of Trieste and Udine, Department of Medicine (25 hours each year).

From 2008-09 to 2012-2013: Lecturer for a Bachelor course on Medical Statistics for the Nursing School at the University of Trieste, Department of Medicine (30 hours each year).

Since 2009--: Lecturer for a Bachelor course on Medical Statistics for the School on Occupational Safety and Health at the Universities of Trieste and Udine, Department of Medicine (20 hours each year).

Since 2016--: Lecturer for a Bachelor course on Medical Statistics for the Nursing School at the University of Trieste, Department of Medicine (36 hours each year).

Since 2016--: Lecturer for a Master course on Medical Statistics for the School of Medicine at the University of Trieste, Department of Medicine (20 hours each year).

From 2016 to 2018: Lecturer for a Bachelor course on Medical Statistics for the Physiotherapy School at the University of Trieste, Department of Medicine (20 hours each year).

Since 2018--: Lecturer for a Bachelor course on Medical Statistics for the Chemistry and Pharmaceutical Technology Department at the University of Trieste, (16 hours each year).

Since 2018--: Lecturer for a Bachelor course on Medical Statistics for Dentistry School at the University of Trieste, Department of Medicine (16 hours each year).

Since 2019--: Lecturer for a Master course in Health Data Analytics, master degree in Data Science and Scientific Computing, University of Trieste, (48 hours each year).

Since 2022--: Lecturer for a PhD course in Statistical methods for clinical prediction models, PhD in Data Science and Artificial Intelligence, University of Trieste, (6-12 hours each year).

PhD Theses (Supervisor)

AA 2020-2021

Statistical methods for estimating personalized risk profiles based on precision medicine tools in oncological patients.

Dr. Fabiola Giudici, PhD in Translational Specialistic Medicine “G.B. Morgagni”, Curriculum in Biostatistics and Clinical Epidemiology, University of Padua (Supervisor).

AA 2022-2023

Toward a dynamic approach to decision-making in chronic illness: a statistical framework using real-world longitudinal data.

Dr.ssa Caterina Gregorio, PhD Programme In Mathematical Methods and Models in Engineering, Politecnico di Milano, Dipartimento di Matematica (Co-Supervisor), XXXVI Cycle.

AA 2023-2024

Machine learning applications in cardiology.

Dr. Giovanni Baj, PhD Programme in Data Science and Artificial Intelligence, University of Trieste (Supervisor), XXXVII Cycle.

MD Theses (Advisor/Co-Advisor)

AA 2018-2019

Marginal structural joint models to estimate the effect of a time-varying treatment on recurrent events and survival: an application on arrhythmogenic cardiomyopathy.

Caterina Gregorio, Master Degree in Statistics, University of Padua (co-advisor).

AA 2019-2020

Clinical prediction models: a comparison between machine learning and classical techniques.

Michela Venturini, Master Degree in Data Science and Scientific Computing, University of Trieste (advisor).

AA 2020-2021

Generating Synthetic Health Tabular Data with GANs.

Matilde Castelli, Master Degree in Data Science and Scientific Computing, University of Trieste (advisor).

Publications

I have authored more than 200 peer-reviewed papers in international journals since 2003.

Key publications

Prevalence and prognostic significance of left ventricular reverse remodeling in dilated cardiomyopathy receiving tailored medical treatment. J Am Coll Cardiol. 2011 Mar 29;57(13):1468-76. <https://pubmed.ncbi.nlm.nih.gov/21435516/>

Optimization of an independent component analysis approach for artifact identification and removal in magnetoencephalographic signals. Clin Neurophysiol. 2004 May;115(5):1220-32.

<https://pubmed.ncbi.nlm.nih.gov/15066548/>

Ictal clinical and scalp-EEG findings differentiating temporal lobe epilepsies from temporal 'plus' epilepsies. Brain. 2007 Jul;130(Pt 7):1957-67.

<https://pubmed.ncbi.nlm.nih.gov/17535836/>

Genetic Risk of Arrhythmic Phenotypes in Patients With Dilated Cardiomyopathy. J Am Coll Cardiol. 2019 Sep 17;74(11):1480-1490.

<https://pubmed.ncbi.nlm.nih.gov/31514951/>

Excess of nonceruloplasmin serum copper in AD correlates with MMSE, CSF [beta]-amyloid, and h-tau. Neurology. 2006 Jul 11;67(1):76-82.

<https://pubmed.ncbi.nlm.nih.gov/16832081/>

Scopus H-index: 43 [October 2025]

Web of Science ResearcherID : N-8418-2014

<https://www.webofscience.com/wos/author/record/593048>

ORCID ID: 0000-0001-8942-5686

<https://orcid.org/0000-0001-8942-5686>

Scopus Author ID: 8888542500

<https://www.scopus.com/authid/detail.uri?authorId=8888542500>

For the complete and up-to-date list of my publications, please check the UniTS website:

<https://www.units.it/persona/index.php/from/abook/persona/13474>

Trieste, October 12, 2025

