

PERSONAL INFORMATION

Maria Francesca Marino



Gender **Female** | Date of birth **28/12/1986** | Nationality **Italian**

POSITION

Associate Professor at University of Florence (Italy)

WORK EXPERIENCE

Since Mar 2023 **Associate Professor**

SSD: STAT-A/01

University of Florence. Department of Statistics, Computer Science, Applications "G. Parenti"

Viale Morgagni 59, 50134. Firenze (Italy)

Mar 2020 - Feb 2023 **Assistant Professor**

Type B

Ssd: SECS-S01

University of Florence. Department of Statistics, Computer Science, Applications "G. Parenti"

Viale Morgagni 59, 50134. Firenze (Italy)

May 2017 - Feb 2020 **Assistant Professor**

Type A

Ssd: SECS-S05

University of Florence. Department of Statistics, Computer Science, Applications "G. Parenti"

Viale Morgagni 59, 50134. Firenze (Italy)

May 2016 - February 2017 **Post-doc Researcher**

University of Perugia. Department of Political Science

Via Pascoli 20, 06123. Perugia (Italy)

Project Coordinator **M.G. Ranalli**

Project **Mixture and latent variable models for the analysis of socio-economic data**

May 2015 - May 2016 **Post-doc Researcher**

University of Perugia. Department of Economics

Via Pascoli 20, 06123. Perugia (Italy)

Project Coordinator **F. Bartolucci**

Project **Mixture and latent variable models for causal inference and analysis of socio-economic data**

May 2012 – July 2012 **Statistician**

Agenzia di Sanità Pubblica della Regione Lazio

Via di Santa Costanza 53, 00198. Roma (Italy)

Objective Data analysis for the project: "Osservatorio Regionale sulla Sicurezza e Prevenzione nei luoghi di Lavoro"

March 2011 – October 2011 **Data Manager and Biostatistician**

Dimensione Ricerca s.r.l.

Via Parioli 12, 00197. Roma (Italy)

Objective Management and analysis of data from clinical trials

November 2009 – May 2010 **Statistician**

Evabeta SPA

Viale Regina Margherita 169, 00165. Roma (Italy)

Objective Data analysis for "Direzione Vigilanza – Sede Centrale INPS"

EDUCATION AND TRAINING

February 2014 – August 2014 **Visiting PhD student**

University of Southampton

Department of Social Statistics and Demography. Faculty of Social Science

Southampton (UK)

Advisor N. Tzavidis

Research Latent variables in quantile regression for longitudinal data

February 2013 – May 2013 **Visiting PhD student**

University of St. Andrews

Centre for Research into Ecological and Environmental Modelling. School of Mathematics and Statistics

St Andrews(UK)

Advisor R. Langrock

Research Hidden Markov Models

October 2008 – January 2011 **MSc in "Scienze Statistiche per le Decisioni"**

"Sapienza", Università di Roma

Department of Statistics, Probability and Applied Statistics. Faculty of Statistical Science

P.le Aldo Moro 5, 00185. Roma (Italy)

Advisor E. D'Arcangelo

Thesis Frailty models for survival data

Score 110/110 cum laude

September 2010 – December 2010 **Visiting student**

University of Oslo.

Institute of Basic Medical Science. Faculty of Medicine

Oslo (Norway)

Advisor A.O. Odd

Research Frailty models for survival data

November 2011 – March 2015 **BSc in “Statistica e Informatica per la Gestione delle Imprese”**

University of Perugia

Economics, Finance and Statistics. Faculty of Economics

Via Pascoli 20, 06123. Perugia (Italy)

Score 110/110 cum laude

ACADEMIC AND RESEARCH AWARDS

Since September 2019 **National Scientific Qualification**
Abilitazione Scientifica Nazionale
Associate professor (Professore di II fascia)
Statistics (13/D1)

Since September 2019 **National Scientific Qualification**
Abilitazione Scientifica Nazionale
Associate professor (Professore di II fascia)
Statistics (13/D1)

RESEARCH INTERESTS

Mixture Models; Hidden Markov Models; Generalized Linear Models; Quantile and M-quantile Regression; Longitudinal and multi-level data analysis; Missing data analysis, Network Data Analysis and modeling, Variational inference, Small Area Estimation. Model-based clustering and biclustering.

PUBLICATIONS AND PROCEEDINGS

Journals

D. Failli, B. Arpino, M.F. Marino, F. Martella (2024). A biclustering approach via mixture of latent trait analyzers for the analysis of digital divide in Italy. In International Workshop on Statistical Modelling (pp. 102-108). Cham: Springer Nature Switzerland.

D. Failli, B. Arpino, M.F. Marino (Forthcoming). A finite mixture approach for the analysis of digital skills in Bulgaria, Finland and Italy: the role of socioeconomic factors. Forthcoming in Statistical Methods & Applications. ISSN: 1613-981X, Impact factor 2023: 1.1

D. Failli M.F. Marino, F. Martella. (2024). Finite mixtures of latent trait analyzers with concomitant variables for bipartite networks: an analysis of COVID-19 data. Multivariate Behavioral Research (2024): 1-17. <https://doi.org/10.1080/00273171.2024.2335391>. ISSN: 0027-3171. Impact factor 2022: 3.8.

M.F. Marino (2024). Applied Linear Regression for Longitudinal Data: With an Emphasis on Missing Observations: Frans ES Tan and Shahab Jolani, Boca Raton, FL: Chapman & Hall/CRC Press, 2023, xxi+ 226 pp., ISBN 978-0-367-63431-5. 128-129.

M. Alfó, M.F. Marino, F. Martella (2024). Biclustering multivariate discrete longitudinal data. Statistics and Computing 34, 42.

M.F. Marino, S. Pandolfi (2022). Hybrid maximum likelihood inference for Stochastic Block Models. COMPUTATIONAL STATISTICS AND DATA ANALYSIS. DOI: 10.1016/j.csda.2022.107449. ISSN: 0167-9473. Impact factor 2021: 2.035.

G.E. Montanari, M. Doretti, M.F. Marino (2022). Model-based two-way clustering of second-level units in ordinal multilevel latent Markov models. ADVANCES IN DATA ANALYSIS AND CLASSIFICATION. 16, 457-485. ISSN: 1862-5347. Impact factor 2021: 1.944.

- L. Grilli, M.F. Marino, O. Paccagnella, C. Rampichini (2022). Multiple imputation and selection of ordinal level 2 predictors in multilevel models: An analysis of the relationship between student ratings and teacher practices and attitudes. *STATISTICAL MODELING*, 22, 221-238. ISSN: 1471-082X. Impact factor 2021: 2.039.
- M. Alfo', M.F. Marino, M.G. Ranalli, N. Salvati, N. Tzavidis (2021). M-quantile regression for multivariate longitudinal data with an application to the Millennium Cohort Study. *JOURNAL OF THE ROYAL STATISTICAL SOCIETY. SERIE C - APPLIED STATISTICS*, 70, 122-146. Impact factor 2020: 1.864.
- M.F. Marino, M. Alfo' (2020). Finite mixtures of hidden Markov models for longitudinal responses subject to drop out. *MULTIVARIATE BEHAVIORAL RESEARCH*, 55, 647-663. ISSN: 0027-3171. Impact factor 2019: 2.750.
- C. Sacco, R. Donato, B. Zanella, G. Pini, L. Pettini, M.F. Marino, A. D. Rookmin, M. Marvasi (2020). Mycotoxins and flours: Effect of type of crop, organic production, packaging type on the recovery of fungal genus and mycotoxins. *INTERNATIONAL JOURNAL OF FOOD MICROBIOLOGY*. ISSN 0168-1605, doi: 10.1016/j.ijfoodmicro.2020.108808. Impact factor 2019: 4.187.
- S. Del Sarto, M.F. Marino, M.G. Ranalli, N. Salvati (2019). Using finite mixtures of M-quantile regression models to handle unobserved heterogeneity in assessing the effect of meteorology and traffic on air quality. *STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT*, 3, 1345-1359. ISSN: 1436-3259, doi: 10.1007/s00477-019-01687-x. Impact factor 2018: 2.807.
- E. Pirani, M. F. Marino, A. Petrucci (2019). Correlates of inter-districts migrations in Tanzania. a gravity-type modeling approach. *STATISTICA*. 79: 201-221. ISSN: 1973-2201, doi: 10.6092/issn.1973-2201/8538.
- M.F. Marino, M.G. Ranalli, N. Salvati, M. Alfó (2019). Semiparametric Empirical Best Prediction for small area estimation of unemployment indicators. *THE ANNALS OF APPLIED STATISTICS*. 13, 1187-1218. ISSN: 1932-6157. Impact factor 2018: 1.656.
- F. Bartolucci, M. F. Marino, S. Pandolfi (2018). Dealing with reciprocity in dynamic stochastic block models. *COMPUTATIONAL STATISTICS & DATA ANALYSIS*, 123, 86-100, ISSN: 0167-9473. Impact Factor 2017: 1.181.
- A. Spagnoli, M. F. Marino, and M. Alfo' (2018). A bi-dimensional finite mixture model for longitudinal data subject to dropout. *STATISTICS IN MEDICINE*, 37 2998-3011. ISSN: 1097-0258. Impact Factor 2017: 1.932.
- M.F. Marino, N. Tzavidis, M. Alfo' (2018 – first appeared 2016). Mixed hidden Markov quantile regression models for longitudinal data with possibly incomplete sequences. *STATISTICAL METHODS IN MEDICAL RESEARCH*, 27, 2231-2246. ISSN: 0962-2802. Impact Factor 2015: 4.634, Impact Factor 2017: 2.284.
- M.F. Marino, M. Alfó (2016). Gaussian quadrature approximations in mixed hidden Markov models for longitudinal data. *COMPUTATIONAL STATISTICS & DATA ANALYSIS*, 94, 193-209. ISSN: 0167-9473. Impact Factor 2015: 1.179.
- M.F. Marino, M. Alfó (2015). Latent drop-out based transitions in linear quantile hidden Markov models for longitudinal responses with attrition. *ADVANCES IN DATA ANALYSIS AND CLASSIFICATION*. 9, 483-502. ISSN: 1862-5347. Impact Factor 2014: 1.026.
- M.F. Marino, A. Farcomeni (2015). Linear quantile regression models for longitudinal experiments: an overview. *METRON*, 73, 229-247. ISSN: 0026-1424.

Dissertations

PhD Dissertation. Handling time-constant and time-varying unobserved heterogeneity in longitudinal data models. March 2015.

CONFERENCES, WORKSHOPS,
AND SEMINARS

- June 2024 52th Scientific Meeting on the Italian Statistical Society
University of Bari
Talk: "Finite mixtures of linear quantile regressions with concomitant variables: a simple solution to endogeneity in longitudinal data models"
- April 2024 Statistics and Data Science Conference
University of Palermo
Talk: "Biclustering of discrete data by extended finite mixtures of latent trait models"
- December 2022 15th International Conference of the ERCIM
King's College London
Talk: "A finite mixture model for biclustering longitudinal trajectories"
- August 2022 24th International Conference on Computational Statistics
University of Bologna
Invited Talk: "lqmix: an R package to model longitudinal data via mixtures of linear quantile regressions"
- June 2021 50th Scientific Meeting on the Italian Statistical Society
University of Bologna
Discussant for the session: "New issues on multivariate and univariate quantile regression"
- April 2019 CRoNoS & MDA 2019
Cyprus University of Technology and Frederick University, Cyprus
Invited Talk: "Model-based biclustering of multivariate longitudinal trajectories"
- April 2021 Seminar
Sapienza, University of Rome. Department of Statistical Science.
Talk: "Semi-parametric best prediction for unit-level small area proportions"
- April 2019 CRoNoS & MDA 2019
Cyprus University of Technology and Frederick University, Cyprus
Invited Talk: "Model-based biclustering of multivariate longitudinal trajectories"
- January 2019 Final Conference of the research project: "Advances in Multilevel and Longitudinal data modelling"
University of Padova, Padova (Italy)
Talk: "Dependence and sensitivity in regression models for longitudinal responses subject to dropout"
- December 2018 11th International Conference of the ERCIM
University of Pisa, Pisa (Italy)
Invited Talk: "M-quantile regression for multivariate longitudinal data"
- August 2018 23rd International Conference on Computational Statistics
Alexandru Ioan Cuza University of Iasi (Romania)
Invited Talk: "A non-homogeneous hidden Markov model for partially observed longitudinal responses"
- February 2018 Seminar
Freie Universität Berlin, Institut für Statistik und Ökonometrie, (Germany)
Talk: "Finite mixtures of quantile and M-quantile regressions for multivariate longitudinal data"
- June 2017 SIS 2017 Scientific Meeting, Statistics and Data Science: new challenges, new generations
University of Firenze, Firenze (Italy)
Talk: "Dynamic random coefficient based drop-out models for longitudinal responses"

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| June 2017 | ITACOSM 2017 University of Bologna. Bologna (Italy) Invited Talk: "NonParametric Maximum Likelihood for the estimation of small area unemployment rates from the Italian Labour Force Survey" |
| February 2017 | Workshop FIRB: Mixture and Latent Variable Models for Causal Inference and Analysis of Socio-Economic Data. University of Bologna. Bologna (Italy) Talk: "Stochastic block models for social network data: inferential developments" |
| September 2016 | "Model-Based Clustering and Classification" University of Catania. Catania (Italy) Talk: "Dynamic Stochastic Blockmodels for network data: a composite likelihood approach" |
| August 2016 | 22nd International Conference on Computational Statistics University of Oviedo. Oviedo (Spain) Invited Talk: "Small Area Estimation: a NonParametric Maximum Likelihood approach" |
| August 2016 | Small Area Estimation Conference 2016 University of Maastricht. Maastricht (Netherlands) Invited Talk: "Small Area Estimation: a NonParametric Maximum Likelihood approach" |
| July 2016 | Workshop "Recent Advances in Quantile and M-quantile Regression" University of Pisa. Pisa (Italy) Talk: "Latent drop-out classes in linear quantile hidden Markov models" |
| June 2016 | SIS 2016 Scientific Meeting University of Salerno. Salerno (Italy) Talk: "M-quantile regression for multivariate longitudinal data" |
| July 2015 | IMPS 2015: International Meeting of the Psychometric Society Beijing Normal University. Beijing (China) Talk: "A dynamic random coefficient based missing data model" |
| January 2015 | Workshop FIRB 2015: Mixture and latent variable models for causal inference and analysis of socio-economic data "Sapienza" Università di Roma. Roma (Italy) Talk: "Latent drop-out classes in linear quantile hidden Markov models" |
| December 2014 | ERCIM 2014, Computational and Methodological Statistics University of Pisa. Pisa (Italy) Talk: "Modelling unobserved heterogeneity in quantile regression for longitudinal data" |
| September 2014 | Workshop MBC2 2014: Model Based Clustering and Classification University of Catania. Catania (Italy) Talk: "Modelling informative missingness in longitudinal data via latent drop-out quantile regressions" |
| June 2014 | SIS 2014 Scientific Meeting University of Cagliari. Cagliari (Italy) Invited Talk: "Mixed hidden Markov models for quantiles" |
| June 2013 | SIS 2013 Scientific Meeting University of Brescia. Brescia (Italy) Invited Talk: "Latent drop-out hidden Markov model with random effects" |

COURSES AND SCHOOLS

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| April 2019 | CRoNoS COST Action (Cyprus Univ. of Technology) and the Frederick University, Cyprus Final CRoNoS Spring Course |
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| July 2016 | University of Pisa. Pisa (Italy) Department of Economics and Management. Faculty of Economics Tutorial: "Quantile and M-quantile regression" |
| July 2014 | University of Pisa. Pisa (Italy) Department of Economics and Management. Faculty of Economics Summer School: "Poverty and social exclusion in three dimensions: multidimensional, longitudinal and small area estimation" |
| June 2012 | "Sapienza", Università di Roma. Roma (Italy) Department of Statistics, Probability and Applied Statistics. Faculty of Statistical Science Course: "The best way to learn from data" – <i>Prof. A. Geelman</i> |
| June 2010 | Università degli Studi di Padova. Padova (Italy) Department of Statistical Science. Faculty of Statistics Course: "Nonparametric Bayes" – <i>Prof. D. Dunson</i> |
| April-May 2010 | "Sapienza", Università di Roma. Roma (Italy) Department of Statistics, Probability and Applied Statistics. Faculty of Statistical Science Course: "Introduzione all'utilizzo di R" |
| May 2009 | "Sapienza", Università di Roma. Roma (Italy) Department of Statistical Science. Faculty of Statistical Science Course: "Introduzione al SAS" |

ADDITIONAL INFORMATION

Editorial Work

Biometrical Journal (from 2015), Metron (from 2015), Computational Statistics and Data Analysis (from 2016), Statistics in Medicine (from 2016), Social Networks (from 2016), Statistics in Transition (from 2017), Statistical Methods and Applications (from 2017), Journal of the American Statistical Society (from 2018), International Statistical Review (from 2018), Journal of Applied Statistics (from 2018), Neurocomputing (from 2019), Journal of the Royal Statistical Society - Serie A (since 2019), Journal of Statistical Computation and Simulation (since 2021), Biostatistics (since 2021), Statistics and Computing (from 2022).

External examiner for PhD thesis

Thesis title: On quantile regression models for multivariate data
Year: 2021

PERSONAL DATA

I allow the use and processing of my personal data according to the D. lgs 196/2003 concerning the handling of personal data

October 29, 2024