Marco Mingione

Curriculum Vitae

✉ *marco.mingione@uniroma3.it*
Born on 7th June 1994

Education

2018–2022 **Ph.D. in Methodological Statistics**, *"La Sapienza" - University of Rome*.
Thesis: *On the wide applicability of Bayesian hierarchical models*
Supervisor: Prof. Giovanna Jona Lasinio

2015–2017 **Master's degree in Statistics and Decision Sciences**, *"La Sapienza" - University of Rome*.
Thesis: *Measuring and modeling food losses and waste*
Supervisor: Prof. Giovanna Jona Lasinio. **Grade:** *110/110 cum laude*

2015–2017 **European Master in Official Statistics (EMOS)**, *"La Sapienza" - University of Rome*.
Label awarded by the European Statistical System Committee within the Master's degree program

2012–2015 **Bachelor's degree in Statistics for Management**, *"La Sapienza" - University of Rome*.
Thesis: *Quantitative analysis of the musictherapy effects on children with Personal Developmental Disorders*
Supervisor: Prof. Maria Grazie Pittau. **Grade:** *110/110 cum laude*

2007–2012 **Language High school Diploma**, *"Campus dei Licei M. Ramadù"*, Cisterna Di Latina (LT).
Grade: *100/100*

Academic experience

2022–2025 **Assistant Professor (RTD-A) in Statistics**, *Dpt. of Political Sciences, Roma Tre University*.

March 2023 **Visiting Researcher**, *School of Mathematics and Statistics, University of Glasgow*.

2023 **Research Associate**, *Institute of Applied Computing "M. Picone" (IAC – CNR)*.

2021–2022 **Postdoctoral Researcher**, *"La Sapienza" - University of Rome*.
Project: Record linkage of multiple data sources through a weighted least squares estimation model
Supervisor: Prof. Maurizio Vichi

2019 – 2020 **Visiting Graduate Researcher**, *University of California, Los Angeles (UCLA)*.
Project: Developing extensions to Nearest Neighbor Gaussian Processes models
Supervisor: Prof. Sudipto Banerjee

2019 – 2020 **Research Associate**, *Institute of Applied Computing "M. Picone" (IAC – CNR)*.

2018 **Research Fellow**, *Institute of Applied Computing "M. Picone" (IAC – CNR)*.
Supervisor: Massimo Bernaschi

Teaching experience

Lecturer

2022 **"Advanced Data Analysis"**, *"La Sapienza" - University of Rome*.
For the PhD programs of Biology and Statistics (English, 24 hours)

2022 – ongoing **"Data Analysis for Social Sciences"**, *LUISS "Guido Carli"*.
For "Global Management and Politics" Master program of the Dpt. of Business and Management (English, 6 CFU)

2021 **"Statistical Learning and predictive challenges"**, *"La Sapienza" - University of Rome*.
For "Percorso di Eccellenza" of Bachelor's students of the Dpt. of Statistical Sciences (1 CFU)

2021 – ongoing **"Introduction to Data Science"**, *University of Bari "A. Moro"*.
Multidisciplinary extra-curricular course introducing machine learning statistical methods (3 CFU)

Seminar

2022 **"A short introduction to supercomputing with `R`"**.
1° Workshop su Supercalcolo at the Dpt. of Statistical Sciences of "La Sapienza"

2022 **"Implementation of advanced interactive tools using `Shiny`"**.
Within the Master course in "Tecniche informatiche per la gestione dei dati" at LUMSA

2022 **"Exploiting parallel computing with `R` using TeraStat2"**.
Within the Ph. D. program of "Methodological Statistics" at the Dpt. of Statistical Sciences of "La Sapienza"

2021 **"Spatial statistics using `STAN`"**.
Within the Master course "Spatial statistics and statistical tools for environmental data" at "La Sapienza"

2020/21 **"Nearest Neighbour Gaussian Process estimation using `spNNGP` package"**.
Within the Master course "Spatial statistics and statistical tools for environmental data" at "La Sapienza"

2021 **"Generalized Bayes Quantification Learning under Dataset Shift"**.
Bayesian Reading Group organized by Dpt. of Economics at Università Tor Vergata

Work experience

2021 **Consultant**, *STAT4FUTURE S.R.L*, Timișoara (Romania).

2018 – 2021 **Consultant**, *Analisi-Statistiche.it*, di Alessandro Catini, Rome (Italy).

Aug 2017 **Case Study Analysis**, *Food-Service "Algida"*, Unilever, Rome (Italy).

2017 **Volunteer Assistant**, Fᴀᴏ - Fᴏᴏᴅ ᴀɴᴅ Aɢʀɪᴄᴜʟᴛᴜʀᴀʟ Oʀɢᴀɴɪᴢᴀᴛɪᴏɴ, Rome (Italy).
Studying methodology assessments applied worldwide towards the achievement of the SDG 12.3.

Awards and Scholarships

2022 **Progetti Medi di Ateneo**, *"La Sapienza" - University of Rome*.
Eco-routing decisions based on multiple objectives and limited memory

2021 **Progetti Medi di Ateneo**, *"La Sapienza" - University of Rome*.
Joint Cetacean Database and Mapping (JCDM) in Italian waters: a tool for knowledge and conservation

2021 **Tutoring Scholarship**, *"La Sapienza" - University of Rome*.
Scholarship within the PLS project to teach courses for the BSc students of the Dpt. of Statistical Sciences

2021 **Tutoring Scholarship**, *"La Sapienza" - University of Rome*.
Scholarship for tutoring students of the Dpt. di Ingegneria Automatica e Gestionale (DIAG)

2021 **Tutoring Scholarship**, *"La Sapienza" - University of Rome*.
Scholarship for the remedial course in Probability and statistics for the I3S Faculty

2020 **Tutoring Scholarship**, *Università degli studi "Roma Tre"*.
Scholarship for tutoring students of the Dpt. of Political Sciences

2019 **Initial Research Project grant**, *"La Sapienza" - University of Rome*.
Personal grant to carry on a research project, in the specific case based on the PhD thesis

2018 **Full three-year PhD scholarship**, *"La Sapienza" - University of Rome*.
Scholarship granted as a result of the 1st position in the open competitive admission exam

2018 **Full one-year fellowship**, *Institute of Applied Computing "M. Picone"*.

2017 **1st position at "Stats Under the Stars (SUS) 3"**, *University of Florence*.
Best prediction award at the 3rd edition of SUS, competition organized by the Italian Statistical Society

2016 **Best student of the Master program**, *"La Sapienza" - University of Rome*.
Selected as best student (higher average grade: 29.9) to represent "La Sapienza" for the EMOS program at the European Statistical Week in Eurostat

Extra-Curricular Activities and Projects

2022 – ongoing **Orientamento Next Generation EU**.
Active guidance in school-university transition.

2021 – ongoing **Joint Cetacean Database Mapping (JCDM)**.
Building a Shiny application for the monitoring and prediction of cetaceans sightings in the Mediterranean Sea.

2021 – ongoing **European Covid-19 Forecast Hub**.
Forecasts of Covid-19 cases and deaths across Europe, coordinated by the ECDC.

2020 **MyExposure**, Route planning Shiny application based on pollution exposure.

2020 – ongoing **Statgroup-19 for the monitoring COVID-19 epidemic in Italy**.
Correct statistical communication of the epidemic data. Invited guest on National TV (SkyTG24)

Sep 2018 **1st Summer School "Introduction to Bayesian Data Analysis with Stan"**, *University of Pavia*.

Jun 2018 **Applied Bayesian Statistics School 2018 - Statistical Modelling and Analysis in Sport**, *IMATI-CNR*.

Jul 2017	**Introduction to Complex Systems**, Utrecht Summer School, Utrecht (Netherlands).
Oct 2016	**European Statistical Week**, Eurostat, Luxembourg city (Luxembourg).

Conferences, Workshops, Seminars

Invited

2023 **GRASPA 2023**.
"Penalized multivariate hidden semi-Markov models for time series environmental data"

2023 **YES 2023 – Young Environmental Statistician International Meeting**.
"Modelling activity patterns using actigraph data"

2022 **SMPS 2022 – Soft Methods in Probability and Statistics**.
"Complex dimensionality reduction: ultrametric models for mixed-type data"

2022 **Statistics Webinar Series at University College of Dublin**.
'Spatio-temporal modeling of COVID-19 incident cases using the Richards' curve"

2021 **One World YoungStats – Recent advances in COVID-19 modelling**.
"Nowcasting Italian COVID-19 epidemic"

2021 **SIS 2021 – 50th Meeting of the Italian Statistical Society**.
"Modelling dirty surveillance data during the Italian epidemic outbreak of SARS- CoV-2"

2021 **ASMDA 2021 – International Conference and Demographics Workshop**.
"Bayesian hierarchical modeling and analysis of physical activity trajectories using Actigraph data"

2021 **Statistics Webinar Series at the Dpt. of Statistical Sciences of "La Sapienza"**.
"Modelling dirty surveillance data during the Italian epidemic outbreak of SARS- CoV-2"

Contributed

2023 **WSC 2023 – ISI World Statistics Congress**.
"A useful parametric specification to model epidemiological data"

2023 **SIS 2023 – Statistical Learning, Sustainability and Impact Evaluation**.
"A multivariate hidden semi-Markov model for the analysis of multiple air pollutants"

2022 **CESS 2022 – Conference of European Statistics Stakeholders**.
"Record Linkage of Multiple Data Sources"

2022 **ITACOSM 2022 – Survey Methods for Statistical Data Integration and New Data Sources**.
"Record Linkage of Multiple Data Sources"

2022 **SIS 2022 – 51th Meeting of the Italian Statistical Society**.
"Specification of informative priors for capture-recapture finite mixture models"

2021 **Spatio-Temporal Statistical Symposium 2021** .
"Bayesian hierarchical modeling and analysis of physical activity trajectories using Actigraph data"

2020 **IBC 2020 – 30th International Biometric Conference**.
"Temporal NNGP for actigraph data"

2020 **Giornata Giovani Ricercatori IAC (CNR)**.
"Efficient estimation of temporal Gaussian processes models for physical activity level in a large-scale population study"

2019 **SIS 2019 – Smart Statistics for Smart Applications**.
"Multivariate analysis and biodiversity partitioning of a demersal fish community: an application to Lazio coast"

Organizing committee

2022 **PopDays 2023**.
Scientific conference aimed at promoting the study and discussion of population research, organized by the Italian Association for Population Studies (Sis-Aisp)

2022 **CESS 2022**.
Conference of the European Statistics Stakeholders to enhance the dialogue between European methodologists, producers, and users of European Statistics

2021 **GRASPA 2021**.
Conference of the Italian research group for Environmental Statistics GRASPA-SIS

Journal referee

Journal of Statistical Computation and Simulation (JSCS), Metron (Tron), Biometrical Journal (BimJ), Statistical Methods & Applications (SMAp), Journal of Mathematics in Industry (JMII), Journal of Uncertainty Quantification (JUQ), Environmental and Ecological Statistics (EEST), Statistics & Probability Letters (STAPRO).

Personal information

Programming	R, RStudio, Shiny, Rmarkdown, LaTeX, Overleaf, C++, SQL, Postgres, HTML, PowerBI, Github, Slack
Languages	**Italian**: mother tongue; **English**: TOEFL - 98/120; **Spanish**: DELE - B1
Memberships	Società Italiana di Statistica (SIS), Young SIS (y-SIS), International Biometric Society (IBS), The International Environmetrics Society (TIES), Royal Statistical Society (RSS), GRASPA, International Society for Bayesian Analysis (ISBA), International Statistical Institute (ISI).

Publications

Peer-reviewed journals

2023 **Virtual and Reality: A Neurophysiological Pilot Study of the Sarcophagus of the Spouses**, *A. Giorgi, S. Menicocci, M. Forte, V. Ferrara, M. Mingione, P. Alaimo Di Loro, B. M. S. Inguscio, S. Ferrara, F. Babiloni, A. Vozzi, V. Ronca, G. Cartocci.*
Brain Sciences (2023), 13(4), 635;. DOI: `https://doi.org/10.3390/brainsci13040635`

2023 **Predictive performance of multi-model ensemble forecasts of COVID-19 across European nations**, *K. Sherratt, H. Gruson, R. Grah, H. Johnson, R. Niehus, et al.*
eLife (2023). DOI: 10.7554/eLife.81916

2023 **Bayesian hierarchical modeling and analysis for physical activity trajectories using actigraph data**, *P. Alaimo Di Loro, M. Mingione, J. Lipsitt, C. Batteate, M. Jerrett, S. Banerjee*, Accepted.
Annals of Applied Statistics

2022 **Two years of COVID-19 pandemic: The Italian experience of Statgroup-19**, *G. Jona Lasinio, F. Divino, G. Lovison, M. Mingione, P. Alaimo Di Loro, A. Farcomeni, A. Maruotti.*
Environmetrics (2022). DOI: `https://doi.org/10.1002/env.2768`

2022 **Short-term forecasts of Monkeypox cases in multiple countries: keep calm and don't panic**, *M. Mingione, M. Ciccozzi, M. Falcone, A. Maruotti.*
Journal of Medical Virology (2022). DOI: `https://doi.org/10.1002/jmv.28159`

2022 **Decreased severity of the Omicron variant of concern: further evidence from Italy**, *F. Divino, P. Alaimo Di Loro, A. Farcomeni, G. Jona Lasinio, G. Lovison, M. Ciccozzi, M. Mingione, A. Maruotti.*
International Journal of Infectious Diseases 119 (2022): 21-23. DOI: `https://doi.org/10.1016/j.ijid.2022.03.023`

2022 **Covid-19 in Italy: Modelling, communications, and collaborations**, *P. Alaimo Di Loro, F. Divino, A. Farcomeni, G. Jona Lasinio, G. Lovison, A. Maruotti, M. Mingione.*
Significance, 19(2). DOI: `https://doi.org/10.1111/1740-9713.01629`

2021 **Spatio-temporal modelling of COVID-19 incident cases using Richards' curve: an application to the Italian regions**, *M. Mingione, P. Alaimo Di Loro, A. Farcomeni, F. Divino, G. Jona Lasinio, G. Lovison, A. Maruotti.*
Spatial Statistics 2021. DOI: `https://doi.org/10.1016/j.spasta.2021.100544`

2021 **Capitoline Dolphins: Residency Patterns and Abundance Estimate of Tursiops truncatus at the Tiber River Estuary (Mediterranean Sea)**, *D. S. Pace, C. Di Marco, G. Giacomini, S. Ferri, M. Silvestri, E. Papale, E. Casoli, D. Ventura, M. Mingione, P. Alaimo Di Loro, G. Jona Lasinio, G. Ardizzone.*
Biology 2021, 10(4), 275. DOI: `https://doi.org/10.3390/biology10040275`

2021 **Nowcasting COVID-19 incidence indicators during the Italian first outbreak**, *P. Alaimo Di Loro, F. Divino, A. Farcomeni, G. Jona Lasinio, G. Lovison, A. Maruotti, M. Mingione.*
Statistics in Medicine, 40(10). DOI: `https://doi.org/10.1002/sim.9004`

2021 **Measuring and modeling food losses**, *M. Mingione, C. Fabi, G. Jona Lasinio.*
Journal of Official Statistics, Vol. 37, No. 1, 2021, pp. 171–211. DOI: `https://doi.org/10.2478/jos-2021-0008`

Proceedings

2023 **Penalized multivariate hidden semi-Markov models for time series environmental data**, *M. Mingione, P. Alaimo Di Loro, F. Lagona, A. Maruotti.*
Book of short paper GRASPA 2023. *To appear*

2023 **A multivariate hidden semi-Markov model for the analysis of multiple air pollutants**, *M. Mingione, P. Alaimo Di Loro, F. Lagona, A. Maruotti.*
Book of short paper SIS 2023. *To appear*

2023 **Complex Dimensionality Reduction: Ultrametric Models for Mixed-Type Data**, *M. Mingione, M. Vichi, G. Zaccaria.*
Advances in Intelligent Systems and Computing book series (volume 1433). DOI: 10.1007/978-3-031-15509-3_37

2022 **Specification of informative priors for capture-recapture finite mixture models**, *P. Alaimo Di Loro, G. Caruso, M. Mingione, G. Jona Lasino, L. Tardella.*
Book of short papers SIS 2022, pp. 1703-1708. ISBN: 9788891932310

2021 **Statistical communication of COVID-19 epidemic using widely accessible interactive tools**, *M. Mingione, P. Alaimo Di Loro.*
Book of short papers SIS 2021, pp. 1738-1743. ISBN: 9788891927361

2021 **Model-based clustering for estimating cetaceans site-fidelity and abundance**, *G. Jona Lasinio, D. S. Pace, M. Mingione, G. Caruso, P. Alaimo Di Loro, G. Panunzi, L. Tardella, S. Moro, E. Bompiani.*
Book of short papers (pp. 292-295). CLADAG 2021. ISBN: 978-88-5518-340-6

2020 **Compositional analysis of fish communities in a fast changing marine ecosystem**, *M. Mingione, P. Alaimo Di Loro, G. Jona Lasinio, S. Martino, F. Colloca.*
Book of short papers SIS 2020, pp. 834-839. ISBN: 9788891910776

2019 **Adversarial out-domain examples for generative models**, *D. Pasquini, M. Mingione, M. Bernaschi.*
Book of short papers (MaL2SeC 2019). ISBN: 978-1-7281-3026-2. DOI: 10.1109/EuroSPW.2019.00037

2019 **Multivariate analysis and biodiversity partitioning of a demersal fish community: an application to Lazio coast**, *M. Mingione, G. Jona Lasinio, S. Martino, F. Colloca.*
Book of short papers SIS 2019, pp. 985-990. ISBN: 9788891915108

Preprint and under review

2023 **Finite mixtures in capture-recapture surveys for modelling residency patterns in marine wildlife populations**, *G. Caruso, P. Alaimo Di Loro, M. Mingione, L. Tardella, D. S. Pace, G. Jona Lasinio.*
`https://arxiv.org/pdf/2304.06999.pdf`

2023 **A useful parametric specification to model epidemiological data: revival of the Richards' curve**, *M. Mingione, P. Alaimo Di Loro, A. Maruotti.*

2023 **West Nile Virus in Italy from 2012 to 2022: open data modelling, environmental factors and short-term forecasts**, *M. Mingione, F. Branda, M. Pierini, A. Maruotti, M. Ciccozzi, S. Mazzoli.*
`https://arxiv.org/pdf/2306.02727.pdf`

Working paper

2018 **Methodological proposal for monitoring SDG Target 12.3.1 Sub-Indicator 12.3.1. The Food Loss Index design, data collection methods and challenges**, *C Fabi, A English, M Mingione, G Jona Lasinio.*

R packages

2022 **overlapping: Estimation of Overlapping in Empirical Distributions**, *M. Pastore, P. Alaimo di Loro, M. Mingione, A. Calcagnì.*
`R CRAN: https://cran.r-project.org/web/packages/overlapping/index.html`

Ph.D. Thesis

2022 **On the wide applicability of Bayesian hierarchical models**, *M Mingione*, **Supervisor**: Prof. Giovanna Jona Lasinio.