

LORENZO MORI

(+39) 3470660593 lorenzo.mori7@unibo.it

17/03/1996, Arezzo (AR) Italy

<https://www.unibo.it/sitoweb/lorenzo.mori7/en>

<https://orcid.org/0000-0003-4152-9712>

CURRENT POSITION

University of Bologna

Research fellow

February 2024 - Present

Bologna, Italy

- Supervisor: Professor Maria Rosaria Ferrante.
- Research theme: Small Area Estimation with Generalized Additive Models for Location, Scale and Shape.

Centro Camilo Dagum

Member

September 2024 - Present

Pisa, Italy

- Tuscany University Research Center. Advanced Statistics for the Equitable and Sustainable Development.

EDUCATION

University of Bologna

PhD Student

November 2020 - January 2024

Bologna, Italy

- PhD in Statistical Science.
- Supervisor: Professor Maria Rosaria Ferrante.
- Thesis: “Beyond Normality: Small Area Estimation based on Generalized Additive Models for Location, Scale and Shape”.

University of Siena

Student

October 2018 - July 2020

Siena, Italy

- Master’s degree in “Scienze statistiche per le indagini campionarie” LM-82.
- Thesis: “Geo-Marketing, a New Approach Using Fuzzy Clustering”. Supervisor: Professor Gianni Betti.
- Final grade: 110/110 cum laude.

University of Siena

Student

October 2015 - July 2018

Siena, Italy

- Degree in “Scienze economiche e bancarie. Curriculum: Statistico-quantitativo” L-33.
- Thesis: “Fertilità Maschil e Femminile: uno Studio Comparato”. Supervisor: Professor Andrea Menchiari.
- Final grade: 110/110 cum laude.

RESEARCH FIELDS OF INTEREST

- Small area estimation;
- Design-based inference for inequality indices;
- Generalized Additive Models for Location, Scale and Shape;
- Analysis of socioeconomic phenomena with fuzzy sets theory.

PROJECT RESEARCH ACTIVITIES

University of Bologna

Research Fellow

February 2024 - Present

Bologna, Italy

- Research Fellow within the project: European Union—NextGenerationEU, in the framework of the “GRINS -Growing Resilient, INclusive and Sustainable project” (PNRR - M4C2 - I1.3 - PE00000018 CUP J33C22002910001). Prof. Maria Rosaria Ferrante (University of Bologna).

University of Bologna

Data analyst

September 2025 - October 2025

Bologna, Italy

- Support for the construction of pseudo-weights from a non probabilistic sample survey (Progetto PRIN 2022 NP2022R248L-002 - CUP J53D23015470001,). Prof. Natalia Montinari (University of Bologna).

University of Siena

Data analyst

July 2024 - September 2024

Siena, Italy

- Support for the development of a comprehensive database on corruption in Italy based on administrative sources (Progetto PRIN 2022 N. 2022E9C3ZE-002 SETTORE ERC SH1). Prof. Riccardo Mussari (University of Siena).

RESEARCH ACTIVITIES

World Bank

Data analyst

November 2020 - December 2021

Morocco

- Development of methods for Cross-Survey imputation. Vasco Molini (World Bank).

Unione dei comuni montani della Lunigiana

Data analyst

January 2020 - July 2020

Massa-Carrara, Italy

- Development of questionnaire and analysis of results. Prof. Giulio Ghellini (University of Siena).

ACADEMIC TEACHING ACTIVITIES

Adjunct Professor—University of Bologna

Laurea in Scienze statistiche

2025-2026

30 hours - 4 CFU

- Laboratorio di Statistica Economica e Analisi Mercato. [cod. 66056]

Adjunct Professor—University of Bologna

Laurea Magistrale in Statistica, economia e impresa

2025-2026

10 hours -

- Attività di Allineamento-Laboratorio Informatico-Statistico.

ACADEMIC TUTOR

Course	University	Hours	Year(s)	Professor
Statistica I	UniSi, Siena	100	2018-2019	S. Naddeo
Statistica economica	UniBo, Bologna	35	2020-2026	R. Bernardini Papalia
Statistica economica	UniBo, Bologna	25	2022-2026	M. R. Ferrante
Business surveys design and planning	UniBo, Bologna	10	2024-2026	P. Verme
Data science for policy analysis	UniBo, Bologna	16	2024-2025	S. De Nicolò

SUPERVISED THESIS

Master Thesis–Co-supervisor: Tizianel, E., From Variability to Confidence: Exploring Bootstrap Confidence Interval Methods for Unit-Level Small Area Models.

Master Thesis–Co-supervisor: Leone, I., La Data Visualization Come Strumento Di Analisi E Comprensione Dei Fenomeni Sociali Ed Economici.

PUBLICATIONS [SCIENTIFIC ARTICLES]

- [10] Barabesi, L., Betti, G., Crescenzi, F., Mori, L. Statistical Inference for the Kakwani Inequality Index, *International Statistical Review*, 2026, **In press**, <https://doi.org/10.1111/insr.70024>.
- [9] Barabesi, L., Crescenzi, F., Mori, L. Theil Index Estimation by Means of the Influence Function with an Application to Income Surveys, *Journal of the Royal Statistical Society Series A: Statistics in Society*, 2025, **In press**, qlaf041 <https://doi.org/10.1093/jrssa/qnaf143>.
- [8] Mori, L., Ferrante, M.R. Small Area Estimation of Economic Inequality Indices Using GAMLSS in the Absence of Covariates, *Journal of the Royal Statistical Society Series A: Statistics in Society*, 2025, **In press**, qlaf041 <https://doi.org/10.1093/jrssa/qnaf141>.
- [7] Mori, L., Ferrante, M.R. Estimating the Consumption-Based Carbon Footprint: A Small Area Model as a Tool for Place-Based Policies, *Journal of the Royal Statistical Society Series C: Applied Statistics*, 2025, **75**, 202-204 <https://doi.org/10.1093/jrssc/qlaf041>.
- [6] Betti, G., Crescenzi, F., Mori, L. Parametric Modelling of Inequality Aversion to Reduce the Computing Time of Distributional Fuzzy Poverty Measures with Application to EU Countries, *Statistical Methods & Applications*, 2025, **34**, 1-19 <https://doi.org/10.1007/s10260-025-00793-1>.
- [5] Crescenzi, F., Mori, L., Betti, G., Gagliardi, F., D'Agostino, A., Neri, L. An R Tool for Computing and Evaluating Fuzzy Poverty Indices: The Package FuzzyPovertyR, *Journal of Applied Statistics*, 2025, **52**, 1-14 <https://doi.org/10.1080/02664763.2025.2481461>.
- [4] Crescenzi, F., Mori, L., On the Estimation of Fuzzy Poverty Indices Using Official Survey Data: Variance Estimation, Robustness, and Computational Considerations, *Journal of Statistical Computation and Simulation*, 2025, **95**, 1-28 <https://doi.org/10.1080/00949655.2025.2465794>.
- [3] Mori, L., Ferrante, M.R., Small Area Estimation of Household Economic Indicators under Unit-Level Generalized Additive Models for Location, Scale and Shape, *Journal of Survey Statistics and Methodology*, 2025, **13**, 160–196 <https://doi.org/10.1093/jssam/smae038>.
- [2] Betti, G., Crescenzi, F., Molini, V., Mori, L., Estimation of Multidimensional Poverty in Morocco: A Small Area Estimation Approach Using Meteorological and Socio-Economic Covariates, *Social Indicators Research*, 2024, **175**, 545–575 <https://doi.org/10.1007/s11205-024-03340-9>.
- [1] Betti, G., Molini, V., Mori, L., An Attempt to Correct the Underestimation of Inequality Measures in Cross-Survey Imputation through Generalized Additive Models for Location, Scale and Shape, *Socio-Economic Planning Sciences*, 2024, **91**, 101784 <https://doi.org/10.1016/j.seps.2023.101784>.

PUBLICATIONS [BOOK CHAPTERS & CONFERENCE PROCEEDINGS]

- [7] Betti, G., Crescenzi, F., Dang, H.A., Molini, V., Mori, L. Reconstructing Two Decades of Inequality in the Sahel Region. *IARIW-World Bank-UEB/VNU*. 2025
- [6] Ferrante, M.R., Mori, L., Pacei, S., Catastrophic Health Expenditure: Heterogeneity among Regions and Citizenship, in *Castellano, R., De Luca, G., Bruno, E.. in Book of Short Paper 3rd*

Italian Conference on Economic Statistics – Sustainability, Innovation and Digitalization. Albiano Edizioni, 2025, ISBN: 979-12-80655-52-3.

- [5] Mori, L., Ferrante, M.R., Addressing Covariate Lack in Unit-Level Small Area Models Using GAMLSS, in *Einbeck, J., Maeng, H., Ogundimu, E., Perrakis, K.. Developments in Statistical Modelling*, Springer. 2024, ISBN: 978-3-031-65722-1.
- [4] Mori, L., Ferrante, M.R., On the Gap between Emitted and Absorbed Carbon Dioxide: Are Trees Enough to Save Us?, in *Chelli, M.F., Ciommi, M., Ingrassia, S., Mariani, F., Recchioni, M.C. Book of short papers - SIS 2023*, Pearson. 2023, ISBN: 9788891935618AAVV.
- [3] Betti, G., Molini, V., Mori, L. A Non-Stationary Multidimensional Approach to Poverty: The Case of Morocco, *International conference on regional science - Granada*, 2022, ISBN: 9788409442591.
- [2] Ferrante, M.R., Mori, L., Small Area Models for Skew and Kurtotic Variables, in *Balzanella, A., Bini, M., Cavicchia, C., Verde, R. Book of short papers - SIS 2022*, Pearson, 2022, ISBN: 9788891932310.
- [1] Mori, L., Gazzei, D.S. (2021), Geo-Marketing, a New Approach Using Fuzzy Clustering, in Betti, G., Lemmi, A. (eds.), *Analysis of Socio-Economic Conditions: Insights from a Fuzzy Multidimensional Approach*. London and New York: Routledge. ISBN: 9780367514075.

PUBLICATIONS [WORKING PAPERS]

- [6] Gardini, A., Mori, L. Coarsened data in small area estimation: a Bayesian two-part model for mapping smoking behaviour, *arXiv preprint*, 2026, DOI: arXiv:2601.19729.
- [5] Betti, G., Crescenzi, F., Dang, H., Molini, V., Mori, L. Reconstructing Two Decades of Inequality in the Sahel Region, No. 1695, Global Labor Organization (GLO), Essen, 2025
- [4] Barabesi, L., Crescenzi, F., Mori, L. Theil Index Estimation by Means of the Influence Function with an Application to Income Surveys, (No. 915). *Department of Economics, University of Siena.*, 2024.
- [3] Crescenzi, F., Mori, L. On the Estimation of Fuzzy Poverty Indices, *arXiv preprint*, 2023, DOI: arXiv.2309.01234.
- [2] Mori, L., Ferrante, M.R. Small Area Estimation under Unit-Level Generalized Additive Models for Location, Scale and Shape, *arXiv preprint*, 2023, DOI: 10.48550/arXiv.2302.00108.
- [1] Betti, G., Molini, V., Mori, L. New Algorithm to Estimate Inequality Measures in Cross-Survey Imputation: An Attempt to Correct the Underestimation of Extreme Values, *Policy Research working paper; no. WPS 10013: World Bank Group*. Washington D.C., 2022, DOI: 10.1596/1813-9450-10013.

DEVELOPED R PACKAGES

- [2] Crescenzi, F., Betti, G., Mori, L., *FuzzyPovertyR* (2023), Repository: CRAN. DOI: 10.5281/zenodo.13866460 [Author]
- [1] Mori, L., Ferrante, M.R., *saegamlss* (2023), Repository: GitHub [Author & Maintainer]

For further information, please visit my personal GitHub page: <https://github.com/llorenxo>.

CONFERENCE TALKS [INVITED SESSIONS]

- [12] Ferrante, M.R., Mori, L., and Pacei, S. *Catastrophic Health Expenditure: Heterogeneity Among Regions and Citizenship* AISRE 2025. Consumptions, social cohesion and regional disparities, (September, 10-12, 2025) University of Pescara, Pescara, Italy. [Speaker]
- [11] Mori, L., Betti, G., Molini, V., Crescenzi, F. *Bridging Data Gaps: Inequality Analysis in the Sahel Region* ISQOLS 2025: Redefining Progress Achieving Sustainable Well-Being for All, (July, 22-25, 2025) European Convention Center Luxembourg, Luxembourg, Luxembourg. [Speaker]
- [10] Mori, L., Betti, G., Molini, V. *Integrating Fragmented Data: Harmonizing Household Consumption Surveys in the Sahel Region* ESRA 2025: European Survey Research Association, (July, 15-18, 2025) Utrecht University, Utrecht, Netherland. [Speaker]
- [9] Ferrante, M.R., Mori, L., and Pacei, S. *Improving Sub-National Estimates of Catastrophic Health Expenditure Using Zero-Inflated SAE Models* SAE 2025: Conference Small Area Estimation - Survey and Data Science, (July, 7-11, 2025) Politecnico di Torino, Turin, Italy. [Speaker]
- [8] Betti, G., Mori, L. *Imputing Local Income Distributions with SSIT-GAMLSS* ITACOSM2025-IASS, (July, 1-4, 2025) University of Bologna, Bologna, Italy. [Co-Author]
- [7] Betti, G., Mori, L. *Advances in the Correction of the Underestimation of Inequality Measures in Cross-Section and Longitudinal Survey Imputation*. Group of Experts on Measuring Poverty and Inequality (November, 28-29, 2024). Conference of European Statisticians. United Nations, Commission for Europe. Geneva, Swiss. [Co-Author]
- [6] Betti, G., Mori, L. *FuzzyPovertyR: a Package to Estimate Fuzzy Indices*, International Conference on Regional Science (October, 16-18, 2024). Universidad de Castilla-La Mancha, Cuenca, Spain. [Speaker]
- [5] Mori, L., Ferrante, M.R., Pacei, S. *Small Area Estimation of Business Parameters for Skewed Data* International Conference on Establishment Statistics (ICES VII), American Statistical Association, (June, 14-18, 2024). Caledonian University, Glasgow, Scotland (UK). [Speaker]
- [4] Betti, G., Molini, V., Mori, L. *An Attempt to Correct the Underestimation of Inequality Measures in Cross-Survey Imputation through Generalized Additive Models for Location, Scale and Shape*. Seminar of Central Bank of Malta (February, 22, 2024). Central Bank of Malta, La Valletta, Malta. [Co-Author]
- [3] Mori, L., Ferrante, M.R. *Small Area Estimation of Economic Indicators under Unit-Level Generalized Additive Models for Location, Scale and Shape* 16th International Conference of the ERCIM WG on Computational and Methodological Statistics, CMStatistics 2023 (December, 16-18, 2023). HTW Berlin, University of Applied Sciences, Berlin, Germany. [Speaker]
- [2] Mori, L. *The FuzzyPovertyR Package* International Seminar series, organized by the Research Group Public Economic and Globalization (epic-SEJ393) of the University of Granada (Spain) and the Department of Economics and Statistics (DEPS) of the University of Siena (Italy), Centre Dagum ASES (March, 26, 2023). Online. [Speaker]
- [1] Betti, G., Molini, V., Mori, L. *A Non-Stationary Multidimensional Estimation of Poverty: The Case of Morocco*. International Conference on Regional Science (October, 19-22, 2022). University of Granada, Granada, Spain. [Speaker]

CONFERENCE TALKS [CONTRIBUTED SESSIONS]

- [11] De Nicolò, S., Ferrante, M.R., Mori, L. *Agricultural Seasonality, Credit Access, and Food Elasticities in Nigeria*, 4rd Italian Conference on Economic Statistics. Statistical model for the economic

- transition: the new challenge in a developing world, (February, 5-6, 2026) University of Bari, Bari, Italy. [Speaker]
- [10] Leo, D., Betti, G., Crescenzi, F., Mori, L. *Model-Based Estimation of Regional Shadow Income in Turkey: A Theoretical perspective using the SM2 Micro-simulation Approach*, CrossMed Board of Scientist, (December, 9-11, 2025) University of Granada, Granada, Spain. [Co-Author]
- [9] Betti, G., Crescenzi, F., Dang, H.A., Molini, V., Mori, L. *Reconstructing Two Decades of Inequality in the Sahel Region*, IARIW-World Bank-UEB/VNU Conference Improving Well-being Measurement in Data-challenged Environments in Developing Countries for Better Evidence-based Policies, (October, 2-3, 2025) World Bank, Hanoi, Vietnam. [Speaker]
- [8] Ferrante, M.R., Mori, L., and Tizianel, E. *A Comparative Study of Bootstrap Confidence Intervals in Small Area Estimation*, ITACOSM2025-IASS, (July, 1-4, 2025) University of Bologna, Bologna, Italy. [Speaker]
- [7] Fabrizi, E., Mori, L. *Rethinking Poverty Measurement in Italy: A Comparative Analysis of Relative and Absolute Poverty Indicators*, Inequality and Education: Measurement Evidence and Policy, (June, 5-6, 2025) University of Modena and Reggio Emilia, Modena, Italy. [Speaker]
- [6] Ferrante, M.R., Mori, L., and Pacei, S. *Catastrophic Health Expenditure: Heterogeneity Among Regions and Citizenship*, 3rd Italian Conference on Economic Statistics. Sustainability, Innovation and Digitalization: Statistical Measurement for Economic Analysis, (February, 13-14, 2025) Parthenope University of Naples, Naples, Italy. [Speaker]
- [5] Mori, L., Ferrante, M.R. *Estimating the Gini Index in Italy at the Regional Level, with Distinctions between Natives and Foreigners in Urban, Peri-Urban, and Rural Areas*, Workshop on Poverty, Inequality and Intergenerational Mobility: Measurement Issues, Empirical Evidence and Policies, (September, 5-6, 2024) La Sapienza University, Rome, Italy. [Speaker]
- [4] Mori, L., Ferrante, M.R. *Addressing Covariate Lack in Unit-Level Small Area Models Using GAMLSS*, International Workshop on Statistical Modelling (IWMS-2024), (July, 14-19, 2024) Durham University, Durham, England, UK. [Speaker]
- [3] Mori, L., Ferrante, M.R. *On the Gap between Emitted and Absorbed Carbon Dioxide: Are Trees Enough to Save Us?*, SIS2023 - 52st Scientific Meeting of the Italian Statistical Society (June, 23-25, 2022). University of Ancona, Ancona, Italy. [Speaker]
- [2] Mori, L., Ferrante, M.R. *Small Area Models for Skew and Kurtotic Variables*, SIS2022 - 51st Scientific Meeting of the Italian Statistical Society (June, 22-24, 2022). University of Campania L. Vanvitelli, Caserta, Italy. [Speaker]
- [1] Mori, L., Ferrante, M.R. *Unit-Level Small Area Estimation: Modelling Distribution's Location, Scale and Shape*, SAE 2022: Small Area Estimation, Surveys and Data Science (May, 23-27, 2022) University of Maryland-College Park, Maryland, USA. [Speaker]

EDITORIAL, REVIEWER, AND ORGANIZER ROLES

- **Guest Editor:** “*Fuzzy indices: new developments in theoretical, computational and applied topics*”, Fuzzy Sets and Systems (2025);
- **Reviewer:** Socio-Economic Planning Sciences, Social Indicators Research, International Journal of Mathematics for Industry, Advances in Science, Technology & Innovation, Fuzzy Sets and Systems, Humanities and Social Sciences Communications, Statistical Methods & Applications, Networks and Spatial Economics, Wiadomości Statystyczne–The Polish Statistician, Sustainable Development;

- **Organizer:** Session “New developments and applications in Survey-to-Survey imputation” at the 11th Conference of the European Survey Research Association (ESRA), Utrecht, Netherlands (2025).
- **Organizing committee:** Seminar “Giornata in ricordo di Achille Lemmi” at the University of Siena, Siena, Italy (2025).
- **Miscelanea:**
 - Chair at SAE 2025: Conference Small Area Estimation - Survey and Data Science. Session: “Parametric and non-parametric solutions in small area estimation”.
 - Discussant at IARIW-World Bank-UEB/VNU Conference Improving Well-being Measurement in Data-challenged Environments in Developing Countries for Better Evidence-based Policies. Paper: Measuring Inequality in a Formalizing Economy authored by David Garcés Urzainqui et al.

LANGUAGE SKILLS

Italian	Mother tongue
English	C1

TECHNICAL SKILLS

Computer algebra	Mathematica;
Data analysis	R, SAS, E&F Chaos and Stata;
Geographic information system	QGIS and MapPoint;
Programming language	Visual Basic;
Web survey	Lime Survey and Google Forms;
Other programs	L ^A T _E X, Inkscape, GIMP, JSFiddle and Notepad++.

In particular, in the field of statistics, very good knowledge of **R**, **Visual Basic** and **Lime Survey**.

AWARDS AND SCHOLARSHIPS

2017 - 2018 “Premo di laurea Fisascat 2017/2018” della Fisascat Cisl;

Il sottoscritto Lorenzo Mori, consapevole delle sanzioni penali nel caso di dichiarazioni non veritiere, di formazione o uso di atti falsi, richiamate dall’art. 76 del D.P.R. 445 del 28 dicembre 2000, dichiara: (i) di essere in possesso di tutti i titoli e le pubblicazioni riportate nel presente Curriculum; (ii) che ogni contenuto relativo a titoli, pubblicazioni, attività svolte riportate nel presente Curriculum è conforme al vero. Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 “Codice in materia di protezione dei dati personali” e del GDPR (Regolamento UE 2016/679).


Lorenzo Mori

February 12, 2026