

Silvia De Nicolò

ASSISTANT PROFESSOR (RTD-A) AT THE UNIVERSITY OF BOLOGNA

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Research

Università di Bologna

Department of Statistical Sciences "P. Fortunati"

Bologna, Italy

ASSISTANT PROFESSOR (RTD-A) IN ECONOMIC STATISTICS

Sept. 2023 - Present

"Quantitative analysis of consumer choices, private strategies and food policies" within the **ONFOODS** project, Research and innovation network on food and nutrition: Sustainability, safety and security – Working ON Foods (PNRR, PE10) under the supervision of Prof. M. Mazzocchi.

POST-DOCTORAL FELLOWSHIP

Sept. 2022 - Aug. 2023

"Social exclusion and territorial disparities: poverty and inequality mapping through advanced methods of small area estimation" within the **ALMA IDEA 2022** project under the supervision of Prof. S. Capacci and Prof. F.P. Greco.

RESEARCH COLLABORATION

July 2022

"Longitudinal and geo-referenced data to understand the determinants of healthy and sustainable food consumption choices" within the **COMFOCUS** (Communities on Food Consumer Science) project under the supervision of Prof. M. Mazzocchi.

Education

Università degli Studi di Padova

PH.D. IN STATISTICS, XXXIV CYCLE

2018 - 2022

- Thesis title: "Small Area Estimation of Inequality Measures" (SSD: SECS-S/03). Supervisor: Prof. M.R. Ferrante; Final Exam on May 4th, 2022.

Università di Bologna

MASTER DEGREE IN STATISTICS, ECONOMICS AND BUSINESS (QUANTITATIVE METHODS FOR ECONOMICS),

2016 - 2018

FINAL GRADE: 110/110 CUM LAUDE

- Thesis research at CMA-IADCOM (Research Center on Quantitative Methods Applied to Economics and Management) — *Universidad de Buenos Aires, Buenos Aires, Argentina.*

Università degli Studi di Padova

BACHELOR DEGREE IN STATISTICS AND BUSINESS MANAGEMENT, FINAL GRADE: 103/110

2012 - 2016

- Semester Abroad (Erasmus+ Mobility Programme) — *Universitat Pompeu Fabra, Barcelona, Spain.*

Research Interests

Bias correction of inequality estimators; integration of survey and remote sensing data in a small area estimation framework; specification of flexible small area models in a Bayesian setting; estimation of poverty transitions using repeated cross-sectional data; measurement of economic resilience; estimation of policy performance indicators and food demand elasticities at the small area level; the triple-difference model and identifiability challenges in the presence of spillover effects.

Awards

Honorable mention for the 2023 SIS best PhD thesis award in Applied Statistics

Ancona, Italy

SIS - ITALIAN STATISTICAL SOCIETY

June 2023

Thesis Research Mobility Grant

Bologna, Italy

DEPARTMENT OF STATISTICAL SCIENCES (UNIVERSITÀ DI BOLOGNA)

June 2018

Teaching activities

► Ph.D. degree level

CO-SUPERVISOR OF TWO PHD THESES (ONGOING)

A. Broka and S.V. Gatti; PhD programme in Public Governance, Management and Policy (Università di Bologna)

ASSISTANT PROFESSOR OF THE PHD COURSE

- Advanced Statistical Models - Spatial Statistics Module, PhD programme in Statistics (Università di Bologna, 3 hours, Teaching language: English, a.y. 2024 - 2025)

► Bachelor/master degree level

CO-SUPERVISOR OF A MASTER THESIS

Rural-urban analysis in poverty mapping: An application to Austrian EU-SILC data by A.Broka (MSc degree in Statistics, Economics and Business), WIFO (Austrian Institute of Economic Research) visiting fellow.

COURSE LEADER OF THE COURSE

- Data Science for Policy Analysis, BSc in Economics, Politics and Social Science (40 lecture hours, SSD: STAT-02/A, Teaching language: English, a.y. 2025 - 2026)

MODULE LEADER OF THE COURSES

- Business Statistics, MSc in Economics and Management (Module 2, 30 lecture hours, SSD: STAT-02/A, Teaching language: Italian, a.y 2022 - 2023, 2023 - 2024, 2024 - 2025, 2025 - 2026)
- Data Science for Policy Analysis, BSc in Economics, Politics and Social Science (Module 2, 20 lecture hours, SSD: STAT-02/A, Teaching language: English, a.y. 2023 - 2024, 2024 - 2025)
- Statistics, BSc in Business Economics (Module 2, 16 lecture hours, SSD: STAT-01/A, Teaching language: Italian, a.y. 2023 - 2024, 2024 - 2025)

TUTOR OF THE COURSES

- Business Statistics, MSc in Economics and Management (28 hours, SSD: STAT-02/A, Teaching language: Italian, Teacher: Prof. S. Capacci, a.y. 2021 - 2022)
- Analysis of Income, Poverty and Inequality, MSc in Statistics, Economics and Business (15 hours, SSD: STAT-02/A, Teaching language: Italian, Teacher: Prof. M.R. Ferrante, a.y. 2019 - 2020, 2020 - 2021, 2021 - 2022)
- Economic Statistics, BSc in Statistical Sciences (15 hours, SSD: STAT-02/A, Teaching language: Italian, Teacher: Prof. M.R. Ferrante, a.y. 2019 - 2020, 2020 - 2021, 2021 - 2022)

Projects

ONFOODS project, Research and innovation network on food and nutrition

Sustainability, Safety and Security (PNRR, PE10), CUP: J33C22002860001, Spoke 7 -

Work Package 7.4. Scientific supervisor: Prof. M. Mazzocchi

MEMBER OF THE RESEARCH GROUP

Sept. 2023 - Present

ALMA IDEA 2022, Linea A, D.M. 737/2021, CUP J45F2100200001, Scientific supervisors:

Prof. S. Capacci and Prof. F.P. Greco.

MEMBER OF THE RESEARCH GROUP

Sept. 2022 - Aug. 2023

COMFOCUS (Communities on Food Consumer Science) project, Horizon 2020 GA No.

101005259 – Work Package 6, Task 6.5. Scientific supervisor: Prof. M. Mazzocchi

MEMBER OF THE RESEARCH GROUP

July 2022

Skills

Languages Italian (Mother tongue), English (IELTS Band 7.0), Spanish (Certified B2)

Programming Languages R, Python, C++, Stan, BUGS, SAS, SQL, Latex

Other Frameworks Gretl, JMulti, SPSS, SAP

Service & Outreach

▷ Organization of scientific events

Chair of the Local Organizing Committee of the ITACOSM2025-IASS Satellite Conference

Bologna, Italy

July 2025

▷ Service

Internship coordinator - Bachelor degree in Economics, Politics and Social Sciences (EPOS)

Bologna, Italy

UNIVERSITÀ DI BOLOGNA - DEPARTMENT OF ECONOMICS

a.y. 2025-2026

Member of the committee for the award of scholarships for EPOS students

Bologna, Italy

UNIVERSITÀ DI BOLOGNA - DEPARTMENT OF ECONOMICS

Nov. 2025

Member of the selection committee in 3 public selections for research grant awarding

Bologna, Italy

UNIVERSITÀ DI BOLOGNA - DEPARTMENT OF STATISTICAL SCIENCES "P. FORTUNATI"

2023-Present

Elected representative of research fellows

Bologna, Italy

DEPARTMENT COUNCIL

2022-2023

Tutor for internationalization

Bologna, Italy

UNIVERSITÀ DI BOLOGNA - DEPARTMENT OF STATISTICAL SCIENCES "P. FORTUNATI"

a.y. 2021-2022, 2022-2023

Degree programme tutor - Master degree in Statistics, Economics and Business

Bologna, Italy

UNIVERSITÀ DI BOLOGNA - DEPARTMENT OF STATISTICAL SCIENCES "P. FORTUNATI"

a.y. 2017-2018

▷ Memberships

2021 - Present

Member of the Associazione Italiana di Scienze Regionali (AISRe), European Survey Research Association (ESRA), Regional Science Association International (RSAI) and Società Italiana di Statistica (SIS)

▷ Editorial activity

2024 - Present

Served as **Referee** for Computational Statistics, the Journal of Economic Inequality, the Journal of Official Statistics, the Journal of the Royal Statistical Society: Series C, METRON, Social Indicators Research, Statistical Methods & Applications

▷ Outreach

2018 - Present

- Member of the Statistic Clinic team, consulting service for research and industry of the Department of Statistical Sciences
- Participation at the University of Bologna Virtual Fair 2022
- Participation at the AlmaOrienta 2018

▷ Panels and discussions

Discussant of the session *Small area estimation under limited access to population auxiliary information* at ITACOSM 2023

Rende, Italy

UNIVERSITÀ DELLA CALABRIA

June 2023

Chair of the session *Estimation Methods* at the 9th Meeting of the ECINEQ

London, UK

LONDON SCHOOL OF ECONOMICS

July 2021

Presentations

▷ As co-author

- **Invited** Session at the ESRA Conference, Utrecht (Netherlands), July 2025. *Estimating poverty transitions from repeated cross-sections: A statistical perspective* (joint work with D'Alberto, R., Gardini, A.).
- **Invited** Session at the ITACOSM2025-IASS Satellite Conference, Bologna (Italy), July 2025. *Estimating poverty transitions from repeated cross-sections: A statistical perspective* (joint work with D'Alberto, R., Gardini, A.).
- Contributed Session at the ITACOSM2025-IASS Satellite Conference, Bologna (Italy), July 2025. *Assessing the targeting of Austrian social assistance schemes: who is left behind?* (joint work with Broka, A., Angel, S.).

- Contributed Session at the 3rd Italian Conference on Economic Statistics, Napoli (Italy), February 2025. *Assessing the targeting of Austrian social assistance schemes: who is left behind?* (joint work with Broka, A., Angel, S.).
- **Invited** Session at the the SIS 2024: 53rd Scientific Meeting of the Italian Statistical Society, Università degli Studi di Bari Aldo Moro, Bari (Italy), June 2024. *A Mixture-of-Experts model to deal with the rural/urban dichotomy in small area estimation* (joint work with Fabrizi, E. and Gardini, A.).
- Contributed Session at the ITACOSM 2023, Università della Calabria, Rende (Italy), June 2023. *Dealing with multiple spatial scales in poverty mapping: a Bayesian benchmarked approach* (joint work with Fabrizi, E. and Gardini, A.).
- **Invited** Session at the the SAE 2022: Small Area Estimation, Surveys and Data Science, College Park (Maryland, US), May 2022. *Inflated Beta Models for Poverty Mapping. An Application Integrating Survey and Remote Sensing Data* (joint work with Fabrizi, E. and Gardini, A.).
- Contributed Session at the SAE 2022: Small Area Estimation, Surveys and Data Science, College Park (Maryland, US), May 2022. *The R Package tipsae: Tools for Mapping Proportions and Indicators on the Unit Interval* (joint work with Gardini, A.).
- **Invited** Session at the 58th Conference of Statisticians, Econometricians, and Mathematicians from Southern Poland, online conference, April 2022. *Bayesian Methods for Poverty Mapping: an Application Integrating Survey and Remote Sensing Data* (joint work with Fabrizi, E. and Gardini, A.).

▷ As speaker

- **Invited** Session at the Small Area Estimation Conference, Torino (Italy), July 2025. *Mapping non-monetary poverty at multiple geographical scales* (joint work with Fabrizi, E., Gardini, A.).
- **Invited** Talk at the BLUE-AFRICA ERC Workshop, Montpellier (France), June 2025. *Mapping non-monetary poverty at multiple geographical scales* (joint work with Fabrizi, E., Gardini, A.).
- **Invited** Session at the 3rd Italian Conference on Economic Statistics, Napoli (Italy), February 2025. *Estimating price pass-through from changes in VAT: a case study on the tampon tax in Italy* (joint work with Biondi, B. and Mazzocchi, M.).
- **Invited** Session at the 15th European Evaluation Biennal Conference, Rimini (Italy), September 2024. *An evaluation of the direct impact and spillovers of Special Economic Zones in Italy* (joint work with Biondi, B. and Mazzocchi, M.).
- Contributed Session at the 63rd ERS Congress, Terceira Island, Azores (Portugal), August 2024. *Policy targeting assessment of Austrian social assistance schemes among federal provinces and rural-urban trends* (joint work with Broka, A. and Angel, S.).
- **Invited** Seminar at Statistics Seminars- Department of Statistical Sciences "P.Fortunati", Novembre 2023. *Small area estimation of inequality measures via mixtures of Beta* (joint work with Ferrante, M.R. and Pacei, S.).
- **Invited** Session at the XLIX AISRe Conference 2023, Università degli Studi di Napoli Parthenope (Italy), September 2023. *Mapping income inequality trends between spatial and socio-demographic disparities* (joint work with Ferrante, M.R.).
- **Invited** Talk at "StanConnect 2022, Stan through Space and Time", online workshop, October 2022. *The tipsae package: mapping indicators through space and time via small area estimation* (joint work with Gardini, A.).
- **Invited** Session at the XLIII AISRe Conference 2022, Politecnico di Milano (Italy), September 2022. *Extended Beta Models for Poverty Mapping: An Application Integrating Survey and Remote Sensing Data* (joint work with Fabrizi, E., Gardini, A.).
- **Invited** Session at the SIS 2022: 51st Scientific Meeting of the Italian Statistical Society, Università della Campania L. Vanvitelli, Caserta (Italy), June 2022. *Small Area Estimation of Relative Inequality Indices using Mixture of Beta* (joint work with Pacei, S.).
- Contributed Session at the SIS 2022: 51st Scientific Meeting of the Italian Statistical Society, Università della Campania L. Vanvitelli, Caserta (Italy), June 2022. *Mapping Indicators on the Unit Interval: the tipsae Shiny App* (joint work with Gardini, A.).
- Contributed Session at the the SAE 2021, Conference on Big Data for Small Area Estimation, online conference, September 2021. *Flexible Small Area Estimation of Theil Index using Mixture of Beta* (joint work with Ferrante, M.R. and Pacei, S.).
- **Invited** Session at the the XLII AISRe Web Conference 2021, AISRe and Joint Research Center, online conference, September 2021. *Small Area Estimation of Inequality Measures* (joint work with Ferrante, M.R. and Pacei, S.).
- Contributed Session at the 9th Meeting of the ECINEQ Society, online conference, July 2021. *Mind the Income Gap: the Estimation of Inequality Indexes in Small Samples* (joint work with Ferrante, M.R. and Pacei, S.).
- Contributed Session at the SIS 2021: 50th Scientific Meeting of the Italian Statistical Society, online conference, June 2021. *Small Area Estimation of Inequality Measures via Simplex Regression* (joint work with Ferrante, M.R. and Pacei, S.).
- **Invited** Seminar at the CMA-IADCOM Research Center, Universidad de Buenos Aires, Buenos Aires (Argentina), July 2018. *Trade and the Environmental Kuznets Curve: evidences from Latin America* (joint work with Patuelli, R.).

Publications

► Articles in refereed journals

- Benedetti, E., Biondi, B., De Nicolò, S., Mazzocchi, M. (2025) A structured, collaborative and open access database of food policies in Europe: Introducing EU F-POD, *Eurochoices*, 24 (1), pp 56-65.
- D'Alberto, R., De Nicolò, S., Gardini, A. (2025). Estimating poverty transitions from repeated cross-sections: A statistical perspective, *Social Indicators Research* (Classe A ANVUR, 13/D2), 179, pp. 1143–1164.
- De Nicolò, S., Ferrante, M.R. (2025). Mapping income inequality trends between spatial and socio-demographic disparities, *The Review of Income and Wealth* (Classe A ANVUR, 13/D2), 71 (2), e70019.
- Gardini, A., De Nicolò, S., Fabrizi, E. (2025). A Mixture-of-Experts model to deal with the rural/urban dichotomy in small area estimation, *Journal of the Royal Statistical Society Series C: Applied Statistics* (Classe A ANVUR, 13/D2), 74 (5), pp. 1255–1278.
- Pacei, S., De Nicolò, S., Ferrante, M.R. (2025). The measurement of economic resilience: A proposal, *Social Indicators Research* (Classe A ANVUR, 13/D2), 180, pp. 1203–1227.
- De Nicolò, S., Fabrizi, E., Gardini, A. (2024). Extended Beta models for poverty mapping. An application integrating survey and remote sensing data in Bangladesh, *Annals of Applied Statistics* (Classe A ANVUR, 13/D2), 18 (4), pp. 3229-3252.
- De Nicolò, S., Fabrizi, E., Gardini, A. (2024). Mapping non-monetary poverty at multiple geographical scales, *Journal of the Royal Statistical Society Series A: Statistics in Society* (Classe A ANVUR, 13/D2), 187 (4), pp. 1096 - 1119.
- De Nicolò, S., Ferrante, M.R., Pacei, S. (2024). Small area estimation of inequality measures using mixtures of Beta, *Journal of the Royal Statistical Society Series A: Statistics in Society* (Classe A ANVUR, 13/D2), 187 (1), pp. 83 - 107.
- De Nicolò, S., Ferrante, M.R., Pacei, S. (2024). Small-sample bias correction of inequality estimators in complex surveys, *Journal of Official Statistics* (Classe A ANVUR, 13/D2), 40, pp. 238 - 261.
- De Nicolò, S., Gardini, A. (2024). SAE models for indicators in the unit interval: The tipsae R package and its Shiny interface. Invited contribution to *The Survey Statistician*, Vol. 89, 76–85. ISSN: 2521-991X.
- De Nicolò, S., Gardini, A. (2024). The R package tipsae: Tools for mapping proportions and indicators on the unit interval, *Journal of Statistical Software* (Classe A ANVUR, 13/D2), 108 (1), pp. 1 - 36.

► Book chapters

- Benedetti, E., De Nicolò, S., Mazzocchi, M. (2026) A structured mapping of food policies to identify gaps and new directions, in Alexander P. *Encyclopedia of Agriculture and Food Systems* (3rd Edition, Elsevier), 3, pp. 163-176.

► Ph.D. thesis

- De Nicolò, S. (2022). *Small Area Estimation of Inequality Measures*. Ph.D. dissertation thesis in Economic Statistics (SSD: SECS-S/03).

► Software

- De Nicolò, S., Gardini, A. (2025). tipsae (R package version 1.0.3). CRAN.

► Refereed proceedings

- Biondi, B., De Nicolò, S., Mazzocchi, M. (2025). Estimating price pass-through from changes in VAT: A case study on the tampon tax in Italy. In: *ICES 2025 - 3rd Italian Conference on Economic Statistics - Book of Short Papers*, Enzo Albano Edizioni, pp. 41 - 44, ISBN 979-12-80655-52-3.
- Broka, A., De Nicolò, S., Angel, S. (2025). Assessing the targeting of Austrian Social Assistance Schemes: who is left behind?. In: *ICES 2025 - 3rd Italian Conference on Economic Statistics - Book of Short Papers*, Enzo Albano Edizioni, pp. 57 - 60, ISBN 979-12-80655-52-3.
- Gardini, A., De Nicolò, S., Fabrizi, E. (2025). Mapping Well-Being Through a Mixture-of-Experts Fay-Herriot Model. In: Pollice, A., Mariani, P. *Methodological and Applied Statistics and Demography I. SIS 2024. Italian Statistical Society Series on Advances in Statistics*, pp 57–62. Springer, ISBN 978-3-031-64346-0.
- De Nicolò, S., Pacei, S. (2022). Small Area Estimation of Relative Inequality Indices using Mixture of Beta, in Balzanella, A., Bini, M., Cavicchia, C., Verde, R. *Book of short papers - SIS 2022*, Pearson, pp. 301-305, ISBN 978-88-91932-31-0.

- De Nicolò, S., Gardini, A. (2022). Mapping Indicators on the Unit Interval: the tipsae Shiny App, in Balzanella, A., Bini, M., Cavicchia, C., Verde, R. *Book of short papers - SIS 2022*, Pearson, pp. 881-886, ISBN 978-88-91932-31-0.
- De Nicolò, S., Ferrante, M.R., Pacei, S. (2021). Flexible Small Area Estimation of Theil Index using Mixture of Beta, in Pratesi, M., Siciliano, R., Bertarelli, G., D'Ambrosio, A. *Book of short papers - SAE2021 BIG4small*, Edizioni Zaccaria, pp. 57-62, ISBN 978-88-99594-13-8.
- De Nicolò, S., Ferrante, M.R., Pacei, S. (2021). Small Area Estimation of Inequality Measures via Simplex Regression, in Perna, C., Salvati, N., Schirripa Spagnolo, F. *Book of short papers - SIS 2021*, Pearson, pp. 1051-1056, ISBN 978-88-91927-36-1.

▷ Working papers

- Broka, A., De Nicolò, S., Angel, S. (2026+). Are we reaching the poor? Evaluating the targeting of Austria's social assistance schemes via small area estimation.
- De Nicolò, S., Biondi, B., Mazzocchi, M. (2026+). Three's a crowd: Identification challenges in the triple difference model with spillover effects.
- De Nicolò, S., Ferrante, M.R., Mori, L. (2026+). Agricultural seasonality, credit access, and food elasticities in Nigeria.

Professional Assignments

Luxottica

ACCOUNT PAYABLE INTERN

Agordo (BL), Italy

Jan. 2016 - Jul. 2016

Ceremit

MARKETING ANALYST

Thiene (VI), Italy

Sep. 2015 - Nov. 2015

La sottoscritta, Silvia De Nicolò, consapevole delle sanzioni penali nel caso di dichiarazioni non veritieri, di formazione o uso di atti falsi, richiamate dall'art. 76 del D.P.R. 445 del 28 dicembre 2000, dichiara: di essere in possesso di tutti i titoli e le pubblicazioni riportate nel presente Curriculum; che ogni contenuto relativo a titoli, pubblicazioni, attività svolte riportate nel presente Curriculum è conforme al vero. Autorizza inoltre il trattamento dei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 e dell'art. 13 GDPR (Regolamento UE 2016/679).