

Personal information

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Scopus web site: <https://www.scopus.com/authid/detail.uri?authorId=12645849000>;
Research gate web site: https://www.researchgate.net/profile/Nicola_Salvati

Education

2001 – 2004 **Ph.D. Degree in Applied Statistics**, XVI course. Department of Statistics ‘G. Parenti’, University of Florence, Florence, Italy. Dissertation Topic: ‘Spatial correlation in small area estimation’. Supervisors: Prof. Monica Pratesi and Prof. Alessandra Petrucci.
1993 – 2000 **University Degree in Economics**. Department of Statistics and Mathematics Applied to Economy, University of Pisa, Pisa, Italy. Dissertation Topic: ‘Demographic forecasting in small area estimation’ Advisor: Prof. Marco Bottai.

Current position(s)

2014 – current **Associate Professor in Statistics**, Dept. of Economics and Management, University of Pisa.
2014 – current **Member** of the Scientific Committee of the Tuscan Interuniversity Research Centre – Camilo Dagum on Advanced Statistics for the Equitable and Sustainable Development – ASESD.
2017 – current **Member** of the Responsible Management Research Centre (REMARC), University of Pisa.
2017 – current **Member** of the board of the PhD in Economics (University of Perugia).
National Scientific Qualification, **Full Professor of Statistics** (academic discipline 13/D1 Statistics).

Previous positions

2006 – 2014 **Assistant Professor/Researcher in Statistics**, Dept. of Mathematics and Statistics Applied to Economy, University of Pisa.
2014 – 2017 **Member** of the board of the PhD in Economics and Statistics (University of Naples).
2004 – 2006 **Post-doctoral contract** Dept. of Mathematics and Statistics Applied to Economy, University of Pisa.

Fellowships and awards

2017 ‘Fondo di Finanziamento per le Attività Base di Ricerca’ (**FFABR**) 2017 funded by the Italian Ministry of Education, University and Research to support researchers in all fields.
2016 **Best Paper Award**, University of Wollongong.
2011 **Young Research Award** 2011 funded by the University of Pisa.
2005 **Visiting** University of Southampton, Dept. Of Social Sciences: Social Statistics & Demography, March 2005.
2004 **Visiting** University of Southampton, Dept. Of Social Sciences: Social Statistics & Demography, January-February 2004.

Supervision of graduate students and postdoctoral fellows

2006 – current **Tutor of 18 master theses**, Department of Economics and Management, University of Pisa.
2017 – 2018 **Co-advisor of Ph.D. Thesis** of James Dawber (Centre for Statistical and Survey Methodology, School of Mathematics and Applied Statistics, University of Wollongong, Australia).
2015 – 2017 **Co-advisor of Ph.D. Thesis** of Claudia Baldermann (Freie Universitat, Germany).
2016 – current **Co-advisor of Ph.D. Thesis** of Ann-Kristin Kreuzmann (Freie Universitat, Germany).
2016 – 2018 **Co-advisor of Ph.D. Thesis** of Francesco Schirripa (Università degli Studi di Napoli Parthenope, Napoli)

Post Doctoral Supervision

2018 – current Gaia Bertarelli (current post-doctoral research associate)
2011 – 2012 Caterina Giusti (current Associate professor in Statistics at University of Pisa)

Teaching activities

I taught courses in **Statistics, Survey Sampling and Social Statistics** at the University of Florence and Pisa (undergraduate). I taught **Ph.D. courses in ‘Small Area Estimation’** at University of Florence and Naples. I am a **member** of the board of the PhD in Economics (University of Perugia) and I’m teaching **Ph.D. course in ‘Small Area Estimation’** at University of Perugia.

Organisation of scientific meetings

2017 Organizer of a specialised session on small area in ITACOSM2017 (Bologna, Italy).
2016 Organizer of the Workshop on Quantile and M-quantile regression models (Pisa, Italy).
2015 Organizer of a specialised session on small area in ITACOSM2015 (Roma, Italy).
2015 Organize of the Workshop Measuring progress at a local level (Livorno, Italy).
2011 Organizer of a specialised session on small area in ITACOSM2011 (Pisa, Italy).
2007 and 2009 Organizer of a specialised session on small area conference SAE2007 (Pisa, Italy) and SAE2009 (Helche, Spain).

Committees

2017 Scientific - 5th ITACOSM, Italian Conference on Survey Methodology, Bologna, June 2017.
2016 Scientific – 1st Workshop on Quantile and M-quantile regression models, Pisa, July, 2016.
2015 Scientific - 4th ITACOSM, Italian Conference on Survey Methodology, Rome, June 2015.
2011 Scientific - 2nd ITACOSM, Italian Conference on Survey Methodology, Pisa, June 2011.
2007 Organizing – SAE Small Area Estimation Conference, Pisa, June 2007.

Institutional responsibilities

2006 – current Faculty member, University of Pisa, Department of Economics and Management.
2006 – current Member of the Faculty Committee, University of Pisa, Department of Economics and Management.
2013 – 2014 Member of Didactics Committee; member, University of Pisa, Department of Economics and Management.
2006 – 2008 Member of the Faculty Committee of Informatic Services.

Editor and reviewing activities (selection)

2015 – current Associate Editor di *Journal of the Indian Society of Agricultural Statistics*.
2006 – current Journal Referee/Reviewer for more than 30 different international journals among which: *Annals of Applied Statistics*, *Annals Regional Study*, *Biometrical Journal*, *Canadian Journal of Statistics*, *Computational Statistics and Data Analysis*, *Communication in Statistics*, *Journal of American Statistical Association*, *Journal of Applied Statistics*, *Journal of Multivariate Analysis*, *Journal of Official Statistics*, *Journal of Royal Statistical Society Series A and B*, *SM&A*, *Statistics*, *Survey Methodology*, *TEST*, NSF research proposals.

Memberships of scientific societies

2016 – current Member of IASS - International Association of Survey Statisticians.
2003 – current Member of the Italian statistical society.

Major collaborations

Ray Chambers, small area estimation, robust statistics, M-quantile models, Centre for Statistical and Survey Methodology, University of Wollongong, Wollongong, NSW, 2522, Australia.
Hukum Chandra, small area estimation, spatial statistics, Indian Agricultural Statistics Research Institute, Library Avenue, PUSA, New Delhi 110012, India.
Nikos Tzavidis, small area estimation, robust statistics, quantile and M-quantile models, Southampton Statistical Sciences Research Institute, University of Southampton, Southampton, UK.
Maria Giovanna Ranalli, small area estimation, nonparametric statistics, M-quantile models, multilevel models, Department of Economics, Finance and Statistics, University of Perugia, Perugia, Italy.
Enrico Fabrizi, small area estimation, multilevel model, Bayesian analysis, Department of Social Science and Economics, University Cattolica of S. Cuore, Via Emilia, Parmense 84, Piacenza, Italy.
Timo Schmid, small area estimation, quantile and M-quantile models, multilevel models, Institute of Statistics and Econometrics, Freie Universitat Berlin, Garystrasse 21, 14195 Berlin, Germany.

Connections with international organizations

2002 – current **FAO**: Statistical Analysis of Poverty for SDRN and FIPL groups in FAO.

Publications in peer-reviewed journals – the most important

As my CV and my list of publications demonstrate, I have had a highly productive research career. My research output includes **58** articles in peer reviewed international journals, **12** chapters in international books, **3** publications in Italian, and numerous other minor publications (about **80**) like reports for international organizations (FAO), or conference proceedings and working papers. I have written publications with colleagues at different stages of their career, including PhD students. My work has been cited **1438** times in GoogleScholar (24/09/2018), where my h-index is **21** and i10-index is **42**. I have got the following bibliometric indices: h-index Scopus: **14**, h-index WOS: **12**, RG-score: **29.72** (24/09/2018). I have **30** published paper level A in ASN list.

Below I list my **key publications** over the last 10 years as senior author in international peer-reviewed journals:

- [Pu1] Marchetti S., Berkesewicz M., **Salvati N.**, Szymkowiak M. & Wawrowski L. (2018). The use of a three-level M -quantile model to map poverty at local administrative unit 1 in Poland. *Journal of Royal Statistical Society Series A*, **181**, 1077-1104, DOI 10.1111/rssa.12348.
- [Pu2] Baldermann C., **Salvati N.** & Schmid T. (2018). Robust Small Area Estimation under Spatial Non-Stationarity. *International Statistical Review*, DOI 10.1111/insr.12245.
- [Pu3] Bianchi A., Fabrizi E., **Salvati N.** & Tzavidis N. (2018). Estimation and testing in M-quantile Regression with applications to small area estimation. *International Statistical Review*, DOI 10.1111/insr.12267.
- [Pu4] Borgoni R., Del Bianco P., **Salvati N.**, Schmid T. & Tzavidis N. (2018). Modelling the distribution of health-related quality of life of advanced melanoma patients in a longitudinal multi-centre clinical trial using M-quantile random effects regression. *Statistical Methods in Medical Research*, **27**, 2, 549-563.
- [Pu5] Alfò M., **Salvati N.** & Ranalli M.G. (2017). Finite mixtures of quantile and M-quantile regression models. *Statistics & Computing*, **27**, 547-570.
- [Pu6] Schmid T., Bruckschen F., **Salvati N.** & Zbiranski M. (2017). Constructing socio-demographic indicators for NSI using mobile data. *Journal of Royal Statistical Society Series A*, DOI 10.1111/rssa.12305.
- [Pu7] Tzavidis N., **Salvati N.**, Schmid T., Flouri E. & Midouhas E. (2016). Longitudinal analysis of the Strengths and Difficulties Questionnaire scores of the Millennium Cohort Study children in England using M-quantile random effects regression. *Journal of Royal Statistical Society Series A*, **179**, 427-452.
- [Pu8] Chambers R., **Salvati N.** & Tzavidis N. (2016). Semiparametric small area estimation for binary outcomes with application to unemployment estimation for Local Authorities in the UK. *Journal of Royal Statistical Society Series A*, **179**, 453-479.
- [Pu9] Tzavidis N., Ranalli M.G., **Salvati N.**, Dreassi E. & Chambers R. (2015). Robust small area prediction for counts. *Statistical Methods in Medical Research*, **24**, 373-395.
- [Pu10] Chambers R., Chandra H., **Salvati N.** & Tzavidis N. (2014). Outlier Robust Small Area Estimation. *Journal of Royal Statistical Society Series B*, **76**, 47-69.
- [Pu11] Chambers R., Dreassi E. & **Salvati N.** (2014). Disease Mapping via Negative Binomial Regression M-quantiles. *Statistics in Medicine*, **33**, 4805-4824.
- [Pu12] Dreassi E., Ranalli M.G. & **Salvati N.** (2014). Semiparametric M-quantile Regression for Count Data. *Statistical Methods in Medical Research*, **23**, 591-610.
- [Pu13] Fabrizi E., **Salvati N.**, Pratesi M. & Tzavidis N. (2014). Outlier robust model-assisted small area estimation. *Biometrical Journal*, **56**, 157-175.
- [Pu14] **Salvati N.**, Tzavidis, Pratesi M. & Chambers R. (2012). Small Area Estimation Via M-quantile Geographically Weighted Regression. *TEST*, **21**, 1-28, doi: 10.1007/s11749-010-0231-1.
- [Pu15] Chandra H., **Salvati N.**, Chambers R. & Tzavidis N. (2012). Small Area Estimation under Spatial Nonstationarity. *Journal of Computational Statistics and Data Analysis*, **56**, 2875-2888.

Salvati's research agenda

My appointment at the University of Pisa is in Methodological Statistics and I am an **inter-disciplinary** scholar. My work is connected/contributes to and bridges across **methodological statistics, poverty analysis, economics and social statistics**. My publication records as well as participation in events and conferences demonstrate active involvement in all these statistical communities, also reflecting the evolution of my research agenda over time. Most of my earlier achievements were in the area of **statistical methodology for poverty mapping**, while more recently have become interested in

developing **new statistical methods based on latent variable models for estimating parameters in case of linkage data**. This is a pioneering research and I'm among the **first scholars** to bridge these two areas of inquiry to develop a novel inter-disciplinary research agenda.

My areas of research and impact:

In my career, I have been influential in opening up and consolidating a research agenda on **small area estimation**. In particular, my interest is in small area estimation with M-quantile and latent variable models to estimate poverty measures. Moreover, my research interests include survey sampling, model-assisted and design-based inference, robust regression, multilevel models, geographically weighted regression, spatial statistics, new technologies in survey methodology, Big Data. My research has been published in top tier international journals, including: **1** *Journal of Royal Statistical Society Series B*; **4** *Journal of Royal Statistical Society Series A*; **3** *Statistical Methods in Medical Research*; **1** *Statistics in Medicine*; **1** *Statistics & Computing*; **2** *International Statistical Review*.

Keynote addresses and invited talks (selection in the interest of space):

I have been invited to present my research at the following **major conferences**:

- 'Outlier Robust Small Domain Estimation Via Bias-Correction And Robust Bootstrapping'. ICES-V 2016, 20-24 June, Geneva, Switzerland.
- 'Estimation of poverty indicators: a comparison of small area methods at LAU1-2 level in Tuscany'. New Techniques and Technologies for Statistics (NTTS), 18-20 February, 2009, Bruxelles, Belgium.
- 'Borrowing strength over space in small area estimation using M-quantile geographically weighted models'. *ERCIM'08*, 19-21 June 2008, Neuchatel, Switzerland.

I was invited for presenting the following **seminars**:

- Seminar entitled 'S.A.M.P.L.E. project: Small Area Methods for Poverty and Living Condition Estimates. The new regional policy in Research and Innovation and the participation of the University of Pisa in the first calls of the VII Framework Programme.' Tuscany Region, Brussels Representation, 2008, Bruxelles, Belgium.
- Seminar entitled 'Small Area Estimation: Spatial EBLUP. A Case Study: Rathbun Lake (Iowa – USA)'. Social Sciences Department, University of Southampton, 2004, UK.

I was awarded the following **international prizes and honours**:

- Best Paper Award from University of Wollongong in 2016.

I have **organised specialised session on small area conference SAE2007 and SAE2009, in ITACOSM2011, ITACOSM2015 and ITACOSM2017**. I was member of the following committees: Organizing – SAE Small Area Estimation Conference, Pisa, June 2007; Scientific - 2nd ITACOSM, Italian Conference on Survey Methodology, Pisa, June 2011; Scientific - 4th ITACOSM, Italian Conference on Survey Methodology, Rome, June 2015; Scientific - 5th ITACOSM, Italian Conference on Survey Methodology, Bologna, June 2017.

I have **contributed to the early careers of the following excellent researchers** (Teaching and Supervision Activities): Claudia Baldermann, James Dawber, Ann-Kristin Kreutzmann, Francesco Schirripa, Gaia Bertarelli, Caterina Giusti.

Leadership potential

I am a Member of the Scientific Committee of the Tuscan Interuniversity Research Centre – Camilo Dagum on Advanced Statistics for the Equitable and Sustainable Development – ASESD. I have developed managerial skills through my experience as national or local unit PI and as research member in a number of financed national and international projects. My research is supported by National and international research programmes funded by the European Union's 7th Framework Programme, Horizon 2020 and the Italian Ministry of University and Research. Among others:

- 2017-2021 Investigator, InGRID-2 Integrating Research Infrastructure for European expertise on Inclusive Growth from data to policy, G.A. no. No 730998 (Horizon 2020 research and innovation programme).
- 2018-2019 Principal Investigator Progetto di Ricerca di Ateneo From survey-based to register-based statistics: a paradigm shift using latent variable models' (grant PRA2018-9).
- 2013-2017 Investigator, Inclusive Growth Research Infrastructure Diffusion, G.A. no. 312691 (SEVENTH FRAMEWORK PROGRAMME - Capacities).
- 2014-2016 Local PI, Project PRIN, Household wealth and youth unemployment: new survey methods to meet current challenges, Project n° 2012F42NS8.
- 2012-2014 Investigator, e-Frame European Framework for Measuring Progress, G.A. no. 290520

(SEVENTH FRAMEWORK PROGRAMME - DG Research and Innovation, Theme 8, Socio-economic Sciences and Humanities).

- 2008-2011 Investigator, Small Area Methods for Poverty and Living Condition Estimates G.A. no. 217565 (SEVENTH FRAMEWORK PROGRAMME - THEME FP7-SSH-2007-1 Socio- economic sciences and the Humanities Part 8).
- I obtained various grants to organize the international conferences: Small Area Estimation 2007, Pisa, 3-5 September 2007; ITACOSM2011, Pisa, 27-29 May 2011.