

Anna Gloria Billé

Curriculum Vitae

September 2020

Address: Department of Statistical Sciences, University of Padua, Via Cesare Battisti, 241, Padova, Italy.

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Birth: 23/07/1985

Job Positions

2020 - present Assistant Professor (Ricercatore Tipo A)
Department of Statistical Sciences, University of Padua, Italy

Education and Qualifications

2018 - 2020 Post-doc Research Fellow
Econometric Methods for Electricity Markets & Optimization
Faculty of Economics and Management, Free University of Bozen-Bolzano
SSD: SECS-P/05 Econometrics
Tutor: Prof. Francesco Ravazzolo

2017 - 2018 Post-doc Research Fellow
Copula & Clustering Methods
Faculty of Economics and Management, Free University of Bozen-Bolzano
SSD: SECS-S/01 Statistics
Tutor: Prof. Fabrizio Durante

2016 - 2017 Post-doc Research Fellow
National Institute of Statistics (ISTAT)

2015 - 2016 Post-doc Research Fellow
Econometric Methods and Models for Microeconomic data
Department of Economics and Finance, University of Rome "Tor Vergata"
SSD: SECS-P/05 Econometrics
Tutor: Prof. Franco Peracchi

2013 - 2014 Expert in Spatial Statistics and Econometrics
Teaching Assistant and Tutorship in Economic Statistics
Department of Economics, University of Chieti-Pescara "G. D'Annunzio"

2010 - 2013 Ph.D.
SSD: SECS-S/03 Economic Statistics
Department of Economics, University of Chieti-Pescara "G. D'Annunzio"
Ph.D. dissertation title: *Spatial Discrete Choice Models and Health Econometrics*
Tutor: Prof. Giuseppe Arbia

2007 - 2009 M.Sc. Environmental Economics (110/110 cum laude)
University of Chieti-Pescara "G. D'Annunzio"

2004 - 2007 B.Sc. Economics (110/110 cum laude)
University of Chieti-Pescara "G. D'Annunzio"

Visiting Periods

2011/09 - 2011/12 University of Illinois at Urbana-Champaign
Regional Economic Applications Laboratory (REAL)
Urbana-Champaign, IL, USA. Tutor: Prof. Geoffrey J.D. Hewings.

Publications

ORCID Connecting Research and Researchers: <https://orcid.org/0000-0002-6699-6440>

List of publications:

Billé, A.G. and S. Leorato (2019), "Partial ML Estimation for Spatial Autoregressive Nonlinear Probit Models with Autoregressive Disturbances". Accepted, **Econometric Reviews**. Preprint at BEMPS-Bozen Economics & Management Paper Series.

The paper has been presented at

- 9th Seminar Jean Paelinck "Non parametric spatial econometrics: theory and empirical issues", 6-7 October, 2017, Universidad Politecnica de Cartagena, Cartagena, Spain.
- 1st Italian Workshop of Econometrics and Empirical Economics (IWEEM 2018): Panel Data Models and Applications, January 25th-26th, 2018, University of Milano-Bicocca, Milan, Italy.



- XIIth World Conference of the Spatial Econometrics Association (SEA), Webster University, Wien - Session 1.1: Estimating and Testing Spatial Models 1
- 2nd Internal Workshop on Economics and Econometrics, Free University of Bolzano–Bozen, Bolzano
- 39th AISRe Conference, Free University of Bozen–Bolzano & EURAC, Bolzano
- 11th International Conference of the ERCIM WG on Computational and Methodological Statistics (CM Statistics 2018) - INVITED SPEAKER
- Department of Industrial and Information Engineering and Economics, University of L'Aquila.

Billé, A.G. and G. Arbia (2019), “Spatial Limited Dependent Variable Models: A Review Focused on Specification, Estimation and Health Economics applications”, **Journal of Economic Surveys**. DOI: 10.1111/joes.12333. Preprint at BEMPS–Bozen Economics & Management Paper Series

Billé, A.G., Salvioni, C. and R. Benedetti (2018), “Modelling Spatial Regimes in Farms Technologies”, **Journal of Productivity Analysis**, Volume 49, Issue 2–3, pp 173–185. DOI: <https://doi.org/10.1007/s11123-018-0529-7>.

The paper has been presented at

- 150th Seminar, European Association of Agricultural Economists, Edinburgh, UK.
- 29th International Conference of Agricultural Economists (ICAE), Milan, Italy - Session: Quantitative Methods (5).
- XV European Workshop on Efficiency and Productivity Analysis (EWEPA), 12-15 June, 2017, London, UK.
- Cycle of seminars at Department of Economic Sciences - 25 October, 2017, University of Verona, Verona, Italy.

Billé, A.G., Benedetti, R. and P. Postiglione (2017), “A two-step approach to account for unobserved spatial heterogeneity”, **Spatial Economic Analysis**, Volume 12, Issue 4, Pages 452–471. DOI: 10.1080/17421772.2017.1286373.

- The paper has been presented at 55th European Regional Science Association, Lisbon - Session: Spatial Econometrics and Regional Economic Modelling. Preprint arXiv:1602.05757v2 [stat.ME].

Catania, L. and A.G. Billé (2017), “Dynamic Spatial Autoregressive Models with Autoregressive and Heteroskedastic Disturbances”, **Journal of Applied Econometrics**, Volume 32, Issue 6, September/October 2017, Pages 1178–1196. DOI: jae.2565.

- The paper has been presented at Xth World Conference of the Spatial Econometrics Association (SEA), Rome - Session: Theory. Preprint arXiv:1602.02542v3 [stat.ME].

Billé, A.G. (2014), “Computational Issues in the Estimation of the Spatial Probit Model: A Comparison of Various Estimators”, **The Review of Regional Studies**, 43, 131-154.

Submitted Papers

Billé, A.G., Blasques, F. and L. Catania (2019), “Dynamic Spatial Autoregressive Models with Time-varying Spatial Weighting Matrices”. Submitted. Preprint at BEMPS–Bozen Economics & Management Paper Series.

- The paper has been presented at Xth World Conference of the Spatial Econometrics Association (SEA), Rome - Session: Spatial Weighting Matrix.
- The paper has been presented at the Statistical Week, September 10th-13th, Trier, Germany - Young-Academics Mini-Symposium (Philipp Otto): Models for Spatial and Spatiotemporal Data.

Billé, A.G., Del Grosso F., Gianfreda A. and Ravazzolo F. (2020), “Day-ahead Electricity Price Forecasting by Iterative Model Selections”. Revise and Resubmit.



- The paper has been presented at the 39th International Symposium on Forecasting, University of Thessaloniki, Greece.
- The paper has been carried out in collaboration with the Department of Engineering & Alperia, within the project "Optimization".

Billé, A.G. and M. Rogna (2020), "The Effect of Weather Conditions on Fertilizer Applications: A Spatial Dynamic Panel Data Analysis". Revise and Resubmit. Preprint 2002.03922 [econ.EM].

Books and Chapters

Billé, A.G., Salvioni, C. and F. Vidoli (Book chapter, forthcoming), "Spatial Econometric Modeling of Farm Data", in *Spatial Econometric Methods in Agricultural Economics Using R*, Eds. Benedetti, R., Piersimoni, F. and P. Postiglione, CRC Press/Taylor & Francis Group.

Billé, A.G. (Handbook chapter, forthcoming), "Spatial Autoregressive Nonlinear Models in R: an Empirical Application in Labour Economics", in *Handbook of Research Methods and Applications in Empirical Microeconomics*, Eds. Haschimzade, N. and M. Tortori, Edward Elgar Publishing Ltd.

Working Papers

Arbia, G., Billé, A.G. and S. Leorato, "Feasible ML Estimator for Spatial Dynamic Panel Data Probit Models with Fixed Effects and Large Datasets". The paper has been

- presented at the HHealthcare MAnagement & economics Workshop (HEMAW#5), Advances in Applied Econometrics Modeling, Catholic University of the Sacred Heart, Rome, Italy.
- submitted at the International Association for Applied Econometrics (IAAE2020) - Cancelled due to Covid19.

Billé, A.G., "Finite Sample Properties of Spatial Nonlinear GMM for Spatial Autoregressive Nonlinear Probit Models".

Ongoing Research Projects

Billé, A.G., F. Ravazzolo and A. Tomelleri, "Improved Italian Regional Forecasts using a Spatial Dynamic Panel Data Approach".

Billé, A.G. and Mollisi V., "Spatial Dynamics in Health-care Markets".

A.G. Billé, "A Comprehensive Estimation Framework for Mixed Spatial Simultaneous Autoregressive Models".

Billé, A.G., R. Benedetti and P. Postiglione (2020), Dynamic Spatial Panel Data Models with Time-varying Spatio-temporal Regimes.

Thesis Supervision

Alessio Tomelleri, Free University of Bolzano-Bozen (PhD, Chapter 3 - informal), ongoing. "Improved Italian Regional Forecasts using a Spatial Dynamic Panel Data Approach".

Counseling Activities & Cooperations

09/2020 - present International Fund for Agricultural Development (IFAD – FAO)
Project Title: TBA



Courses and schools

- 04/2016 - 05/2016 **University of Rome Tor Vergata & EIEF**
 Dynamic Factor Models - Prof. Marco Lippi
 State-Space Models - Prof. Tommaso Proietti
 Bayesian Time Series Econometrics - Prof. Dimitris Korobilis
 High-Dimensional Covariance Estimation with Applications - Prof. Mohsen Pourahmadi
- 03/2015 - 04/2015 **EIEF**
 Advanced Econometrics - Prof. Alberto Holly
 Bootstrap and Asymptotic Refinements - Prof. Samantha Leorato
 Finite Mixture Models - Prof. Roberto Rocci
- 09/2011 - 12/2011 **University of Illinois at Urbana-Champaign**, Economics Department & Dep. of Agricultural and Consumer Economics:
 Econometrics II - Prof. Anil Bera
 Applied Spatial Econometrics - Prof. Kathy Baylis
- 01/2010 - 11/2010 **University of Bologna**, Department of Statistical Sciences
 PhD Program in *Statistical Methodology for Scientific Research*:
 Resampling methods for experimental research - Prof. Rodolfo Rosa
 Statistical Inference - Prof. Patrizia Agati, Daniela Giovanna Caló, Paola Monari, Gabriele Soffritti
 Bayesian Inference - Prof. Daniela Cocchi, Brunero Liseo, Andrea Tancredi, Fedele Greco
 Micro Data Mining - Prof. Furio Camillo
 Time Series Econometrics - Prof. Giuseppe Cavaliere, Luca Fanelli, Alessandra Luati, Attilio Gardini
 Markov Chain Monte Carlo - Prof. Rodolfo Rosa
- 07/2010 **Summer School of Modern Methods in Biostatistics and Epidemiology**, Treviso, Italy:
 Biostatistics I - Prof. Marcello Pagano
 Principles of Epidemiology - Prof. Johanna Adami
 Introduction to Stata
- 02/2010 **University of Rome "Roma Tre"**, Department of Economics
 PhD program in *Statistical Methods for the Economy and the Enterprise*:
 Nonparametric Statistics - Prof. Pier Luigi Conti
 Bayesian Networks - Prof. Julia Mortera
- 05/2009 - 06/2009 **Spatial Econometrics Advanced Institute - SEAI09**, University of Rome "La Sapienza":
 Spatial Statistics - Prof. Giuseppe Arbia
 Spatial Economics - Prof. Jean Paelink
 Spatial Econometrics I - Prof. Harry Kelejian
 Spatial Econometrics II - Prof. Ingmar Prucha
 Spatial Panel Data Econometrics - Prof. Badi Baltagi
 R Laboratory - Prof. Gianfranco Piras

Teaching experiences

As Assistant Professor

2019 - 2020 Business Statistics

As Teaching Assistant

- 2019 - 2020 Econometrics (with R) for undergraduate students
 Tutor: Francesco Ravazzolo.
- 2018 - 2019 Econometrics (with R) for undergraduate students
 Tutor: Francesco Ravazzolo.
- 2018 - 2019 Statistics (with R) for undergraduate students
 Tutor: Davide Ferrari.
- 2015 - 2016 Econometrics (with Gretl) for undergraduate students
 Tutor: Samantha Leorato.
- 2013 - 2014 Economic Statistics (Sampling Designs - with R) for master students:
 Tutor: Roberto Benedetti.
- 2010 - 2012 Economic Statistics (Hypothesis Testing and Inference) for master students
 Tutor: Giuseppe Arbia.
- 2010 - 2012 Statistics (Descriptive and Probability) for undergraduate students
 Tutor: Giuseppe Arbia.



Conferences & Workshops

12/2019	Catholic University of the Sacred Heart	HEMAW#5, Advances in Applied Econometrics Modeling
09/2019	Univeristy of Trier	Statistical Week: Models for Spatial and Spatiotemporal Data
06/2019	University of Thessaloniki	39th International Symposium on Forecasting
12/2018	University of Pisa	11th International Conference of the ERCIM WG on Computational and Methodological Statistics (CM Statistics 2018) - INVITED SPEAKER
09/2018	Free Univeristy of Bozen–Bolzano & EURAC	39th AISRe Conference
06/2018	Free University of Bozen–Bolzano	2nd Internal Workshop on Economics and Econometrics
06/2018	Webster University	XIIth World Conference of the Spatial Econometrics Association (SEA)
01/2018	University of Milan Bicocca	1st Italian Workshop of Econometrics and Empirical Economics (IWEEE 2018)
12/2017	Free University of Bozen–Bolzano	Workshop on Asset Allocation under Parameter Uncertainty
06/2017	Free University of Bozen–Bolzano	1st Internal Workshop on Economics and Econometrics
06/2017	Loughborough University, London	XV European Workshop on Efficiency and Productivity Analysis (EWEPA)
07/2016	University of Pisa	Workshop on Recent Advances in Quantile and M-quantile Regression
06/2016	CNR-IRCrES, Rome	International Workshop on Computational Economics and Econometrics
06/2016	Catholic University of Rome	XIIth World Conference of the Spatial Econometrics Association (SEA) (served as discussant for sessions “Theory” & “Spatial Weighting Matrix”)
08/2015	University of Lisbon	55th European Regional Science Association (ERSA) Congress
12/2012	Univeristy of Pisa	3rd Workshop on Health Econometrics
11/2011	University of Illinois at Urbana-Champaign	Isserman Symposium: Regional Development and Planning

Seminars

2018	Internal Seminars	Free University of Bozen–Bolzano
2017	Internal Seminars	Free University of Bozen–Bolzano
2015	PhD DEF and TVITS seminars	University of Rome “Tor Vergata”
09/2011 - 12/2011	REAL and Economics Department seminars	University of Illinois at Urbana-Champaign

Referee Activity

Served as referee for: *Computational Statistics and Data Analysis*

Regional Science and Urban Economics

Statistics and Its Interface

Networks and Spatial Economics

Spatial Economic Analysis

Journal of Econometrics

The Annals of Applied Statistics

Journal of Agricultural Economics



Research Fields

Statistics & Econometrics: Spatial & Spatio-Temporal Modelling, Estimation Methods, Simultaneous Linear/Nonlinear Equation Models (Limited Dependent Variables), Model Specification, Forecasting, Applied Econometrics.

Machine Learning & Data Analysis: Computational Statistics/Econometrics, Mathematical Optimization & Algorithms, Clustering Methods, Stochastic Processes, Big Data.

Computer Skills

R, MatLab, Python, GeoDa, ArcGis, \LaTeX , Gretl, SPSS, Windows, Linux.

Language

Italian : mother tongue

English : fluent; IELTS Certificate (2009).

Deutsch : A.1.1; Internal Exam at Free Univerisity of Bozen.

References

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| Professor Samantha Leorato | Professor of Statistics
University of Milan, Milan, Italy
Email: samantha.leorato@unimi.it |
| Professor Giuseppe Arbia | Professor of Economic Statistics
Catholic University of the Sacred Heart, Rome, Italy
Email: giuseppe.arbia@unicatt.it |
| Professor Francesco Ravazzolo | Professor of Econometrics
Free University of Bolzano-Bozen, Bolzano, Italy
Email: Francesco.Ravazzolo@unibz.it |
| Professor Franco Peracchi | Professor of Econometrics
University of Rome "Tor Vergata", Rome, Italy
Email: franco.peracchi@uniroma2.it |
| Professor Tommaso Proietti | Professor of Economic Statistics
University of Rome "Tor Vergata", Rome, Italy
Email: tommaso.proietti@uniroma2.it |

I hereby authorize the treatment of my personal data pursuant to Italian Legislative Decree 196/2003.

15/09/2020

Anna Gloria Billé