

**ROSA BERNARDINI PAPALIA**

*Alma Mater Studiorum* University of Bologna  
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Full Professor of Economic Statistics  
University of Bologna

**Education**

**Degree** (Economic Statistics) 1990, University of Bologna.

**Ph.D.** 1995, Statistics, University of Bologna.

**Grants**

- Principal Investigator (PI) for the Bologna local unit of the SARA LAB project, funded under the Erasmus+ Programme – Key Action 1 (KA1) (2018–2019).
- Principal Investigator (PI) for the Bologna local unit of the project “Blue-Enterprise and Trade Statistics (BLUE-ETS)”, funded under the Seventh Framework Programme (FP7), Theme 8: Socio-economic Sciences and Humanities (SSH) (2010–2013).
- Scientific Coordinator for the University of Bologna within the framework of the European Commission’s Lifelong Learning Programme (2012).

**Honors**

- Research Associate at the Info-Metrics Institute, American University, Washington DC, USA (from 2011). <https://www.american.edu/cas/economics/info-metrics/>
- External Member of the Center for Philosophy, Science, and Policy (CPSP) (from 2023). <https://cpsp.univpm.it/profile/motivation-mission/>
- Awarded the Best Researcher Award 2023 in Quantum Information Science (Quantum Agriculture).
- Member of AlmaQ, the University of Bologna’s Quantum Hub, promoting interdisciplinary collaboration and advancing research across the fields of quantum sciences and technologies. (<https://centri.unibo.it/almaq/en>).
- Visiting PhD Research Fellow at Brown University, Providence, Rhode Island, USA (6 months, 1995).

**Research Interests**

Measurement errors in surveys and data quality, Statistical Utilization of administrative registers, Data Disaggregation procedures, Linear and Nonlinear Dynamics of Economic Systems and Data, Statistics and Information Systems, Policy and Applied Micro Economics. Information Theory and Entropy Econometrics, Spatial Econometrics/Spatial Micro-econometrics (Theory and Applied). Quantum systems bio-photons measurements. Quantum Information Theory estimation methods.

### Teaching

Economic Statistics (Undergraduate level), Measurements of productivity, Competitiveness and Efficiency (Postgraduate level); Quantitative methods in analysing development Analysis (Postgraduate level) University of Bologna.

#### *Additional Teaching Experience*

Short courses; 1- Information theoretic and entropy estimation methods, 2 - Productivity analysis (PhD level, Statistics, in English), Productivity analysis, Econometric models, Measurement of Economic Phenomena, University of Bologna (in English); Econometrics, Statistics, Economic Time series, National Accounts: methods and models, Marketing Research. Economic National Accounts for the Environment (Master degree, Social European Found/Umbria Region), Master, University of Perugia; ISTAT/EUROSTAT/Umbria Region – courses/workshops focused on Consumer price indices, Statistics and Economics (1997/1998 in English).

### Faculty Positions

University of Perugia – Faculty of Economics, Research Professor	1999-2004
University of Bologna – Faculty of Statistics, Associate Professor	2004-2007
University of Bologna – Faculty of Statistics, Full Professor	2016
American University, Washington DC, USA, Research Associates of the Info-Metrics Institute	from 2011
University of Bologna – Member of the Ph.D scientific board for the Ph.D in Statistics, University of Bologna	2008-2021.

### Other Academic Positions

Department of Economics, American University, Washington DC, USA Visiting professor September 2009, Faculty Supervisor: Prof. Amos Golan.

Department of Economics, London School of Economics and Political Science, LSE. Faculty Supervisor: Prof. O. Linton. LSE, London: Visiting Professor 2005 (2 months)

Brown University, Providence, RI – USA: Phd Research Fellow 1995 (6 months)

Italian National Statistical Institute – ISTAT – Roma- Italy: Research 1996-1998

### Research and Institutional Activities

- Director of First Cycle Degree of International Development and Cooperation, 2013 - 2019.
- Scientific Committee and Local Organizing Committee of the School of the Italian Statistical Society, “Foundations of Info-Metrics and Information-Theoretic Methods of Inference”, Bologna, January 8 - 9 2018, Department of Statistical Sciences, University of Bologna.
- Scientific Coordinator for the University of Bologna, European Commission’s Lifelong Learning Programme (April 23-27 2012; October 8-12 2012, Prof. María Jesús Delgado Rodríguez, University Rey

Juan Carlos, Madrid, Spain e Prof. Sonia de Lucas Santos, Universidad Autonoma de Madrid, Madrid, Spain.

- Ph.D. Supervisor for Annalisa Donno and Rodolfo Metulini (University of Bologna). Supervised more than 100 Master's and Bachelor's theses in the fields of economic statistics and computational statistics.
- Member of the Commission for the orientation test of the SVIC and SPOSI degree courses, University of Bologna from 2013.
- Member of the Quality Assurance Commission of the Degree Course in Development and International Cooperation (from 2012-2022).
- Member of the board for Internships in the Degree Course in Development and International Cooperation (from 2014 to 2020).
- Reviewer of MIUR research projects
- Member of the Board for a Research and Teaching courses (Selection)
  
- Researcher Competition, SECS S/03, University of Padova, 2008.
- PhD Researcher , University of Bologna, 2011/12, 27° ciclo.
- PhD research competition, Lions Prize Lions Club Bologna - edizione 2012.
- Researcher Competition, SECS S/03, University of Padova, 2014.
- “Esame di Stato per la Professione di Statistico”, Università di Bologna.
- Associated professor, 13/ D2 –Università degli studi di Perugia, 2018.
- Researcher, 13/ D2, University of Bologna, 2019.
- Researcher, 13/ D2, University of Chieti-Pescara, 2019.
- Full Professor 13/ D2, University of Padova, 2019.
- Researcher 13/ D2, University of Bergamo, 2019.
- Full Professor 13/ D2, University of Bologna, 2020.
- Associated professor, 13/ D2 –Università degli studi di Perugia, 2021.
- Associated professor, 13/ D2 –Università degli studi di Bologna, 2024.
- Ricercatore in Tenure Track (RTT), settore concorsuale 13/STAT-02 Statistica economica – settore scientifico disciplinare STAT-02/A Statistica economica, Università di Verona, 2025
- Associated professor, 13/ D2 –Università degli studi di Bologna, 2024.
- Membro della Commissione nazionale per l'Abilitazione Scientifica Nazionale alle funzioni di professore universitario di prima e seconda fascia del Settore Concorsuale 13/D2, nominata con Decreto Direttoriale n. 1525 del 17 ottobre 2025 (durata tre anni).
  
- Teaching course Statistics Area, University of Bologna, 2013-2019.
- Tutor for courses, Statistics Area, University of Bologna, 2013-2019.
- Tutor for L courses degree (SVIC, SPOSI), University of Bologna, 2013-2019.

#### **Research projects: coordination and participation (a selection)**

- Research Grant, Italian Ministry of research and University, MURST 40% (1994/1996), Research Field: Complex social and economic Surveys, Measurement errors in survey and data quality.
- Research Grant, Department of Economics, Brown University, Providence, RI, USA (January/July 2005) Research Field: Estimation Problems in Non-Linear Models with Partially Missing Observations. Faculty Supervisors: Prof. P. Tony Lancaster, Pedro L. Gozalo.
- Research Grant, Italian Ministry of research and University, MURST 60% (1996), Research Field: Consumer expenditure surveys and analysis of consumption.

- Research Grant, EUROSTAT (1996/98) Research Field: revision of consumer price indices for an Harmonization at European level.
- Research Grant, “Study Group on quality change for vehicles – EUROSTAT” (1996/98), Members :Rachel Griffin, ONS, UK, Paul Haschka, OSTAT, Austria, Arja Kinnunen, Statistics Finland, Ignazio Gonzales Veiga, INE, Spain. Consultant: Prof. Y. Vartia, University of Helsinki, Finland.
- Research Grant, Italian Ministry of research and University, MURST 40% (1997/1999), Research Field: data fusion from administrative registers.
- Research Grant, Department of statistics, University of Bologna (1999), Research Field: Maximum entropy estimation in presence of Nonrandom sampling.
- Research Grant, Italian Guaranty Commission for Statistical Information (1999), Research Field: Measurement errors in economic survey and data quality.
- Research Grant, Ministry of productive activities, Italian National Statistical Institute, Region of Umbria, (2000/2005), Research Field: Regional Consumer price indices.
- Research Grant, Italian Ministry of research and University, COFIN (1999/2001 and 2001/2003), Research Field: quality of economic surveys and new strategies to collect data.
- Research Grant, Italian Ministry of research and University, COFIN (2003/2005 and 2005/2007), Research Field: measurement and analysis of productive systems.
- Research Grant, Italian Guaranty Commission for Statistical Information (2011), Research Field: Intangible Assets measurements and National Accounts.
- Principal Investigator (PI), University of Bologna: “Blue-Enterprise and Trade Statistics- (BLUE-ETS)”. Seventh Framework programme-Theme 8, Socio-economic Sciences and Humanities (SSH), 2010/2013.
- Principal Investigator (PI), University of Bologna: *SARA LAB*, ERASMUS PLUS - AZIONE KA1: 2018/2019.

### Editorial Activity

#### Member of the Editorial Board of:

- *Electronic Journal of Applied Statistical Analysis*. (EJASA)
- *American Journal of Applied Mathematics*. (AJAM)

#### Referee for the following Journals:

Journal of Business and Economic Statistics, Journal of the Royal Statistical Society, Journal of Official Statistics, Journal of Applied Statistics, Entropy, Statistical Methods & Applications, Journal of Productivity Analysis, The Annals of Regional Science, Asian Journal of Mathematics and Statistics, International Journal of the Economics of Business, Studies in Nonlinear Dynamics & Econometrics, International Regional Science Review, Statistica, Empirical Economics, Computational Statistics and Data Analysis, Computational Statistics, American Journal of Applied Mathematics.

### International Societies

Italian Statistical Society (SIS), American Statistical Association (ASA), System Dynamics Society (SDS), International Statistical Institute (ISI)/International Association for Statistical Computing (IASC), European Regional Science Association (ERSA).

### Conference Presentations (selection from 2008)

- “MaxEnt 2008”- Sao Paolo, Brasil, July 6th – 11th 2008.
- “European Conference on Quality in Official Statistics (Q2008)”, Roma, Luglio 8-11, 2008.
- Invited speaker, Two contributions: Metodi, Modelli e Tecnologie dell’Informazione a Supporto delle Decisioni, Lecce, Settembre 18-20, 2008.
- Invited speaker, 10THWSEAS International Conference on Mathematics and computers in Business and Economics, Prague, March 23-25, 2009.
- EWPA 2009, XI European Workshop on Efficiency and Productivity Analysis, Pisa, June 23-26 2009.
- Invited speaker, Two contributions: 11th WSEAS Int. Conference on Mathematics and Computers in Business and Economics (MCBE’10). Iasi, June 13-15 2010.
- I cambiamenti della manifattura italiana visti attraverso l’indagine UniCredit 8 marzo 2010, Università degli Studi di Milano.
- SIE - Società Italiana degli Economisti, 51.ma Riunione Scientifica Annuale, Catania - 15, 16 ottobre 2010, with Silvia Bertarelli, University of Ferrara, Italy.
- Invited speaker: Info-Metrics: Theory and Applications, American University, Washington DC, September 24-25 2010.
- International Conference on "Human Capital and Employment in the European and Mediterranean Area". Bologna. 10-11 March 2011.
- EWPA 2011, XI European Workshop on Efficiency and Productivity Analysis, Verona, June 22-24 2011.
- SIE - Società Italiana degli Economisti, 52.ma Riunione Scientifica Annuale, Roma- 14-15 ottobre 2011.
- Invited speaker: ERSA 2011 Congress: New Challenges for European Regions and Urban Areas in a Globalised World, 30th August to 3rd September 2011, University of Barcelona in Barcelona.
- Two contributions: ERSA 2012 congress, Bratislava, October 19-22, 2012.
- The 20th International Input-Output Conference 2012, Bratislava, Slovakia, June 24-29, 2012.
- Two contributions: BLUE-ETS EU FP7 Project, Workshop on phase 2 advances, new tools and research results, 8-9 November 2012, Istat, Rome.
- The 6th CSDA International Conference on Computational and Financial Econometrics (CFE 2012) , 1-3 December 2012, Conference Centre, Oviedo, Spain.
- EWPA 2013, 13th European Workshop on Efficiency and Productivity Analysis, 17 – 20 June 2013, Aalto University School of Business Helsinki, Finland.
- SIS 2013: Advances in Latent Variables - Methods, Models and Applications Brescia, Department of Economics and Management June 19, 2013 – June 21, 2013.
- ERSA 2013 Regional Integration: Europe, the Mediterranean and World Economy, 53rd Ersa Congress, 27-31 August 2013, Palermo, Italy.
- 54<sup>a</sup> Riunione Scientifica annuale – Società Italiana degli Economisti Bologna, 24-26 ottobre 2013.
- Workshop internazionale “Trade and Innovation”, Dipartimento di Economia e Management, Università di Ferrara, 12 giugno 2014.
- ESD, International scientific conference economics and social development, New York October 24, 2014, New York, USA.
- Invited speaker: Round table, Info-Metric Fall Conference: recent innovations in Info-Metrics, October 31-November 1, 2014, Washington DC, USA.
- X World Conference SEA2016 – Rome, June 13-15, 2016, Università Cattolica del Sacro Cuore, Roma, Italy.
- Invited speaker: Info-Metrics: State of Research - Past, Present, Future American University Ca ampus Thursday, November 3, 2016, Washington DC, USA.
- Invited speaker, 12th International Conference on Computational and Financial Econometrics (CFE 2018), University of Pisa, Italy, 14-16 December 2018, “Entropy based small area estimation for count data with spatial effects” with Esteban Fernandez Vazquez - University of Oviedo (Spain).
- 12th International Conference on Computational and Financial Econometrics (CFE 2018), University of Pisa, Italy, 14-16 December 2018, “GME discrete model with exogenous spatial effect variable for the job satisfaction”

coautori: Enrico Ciavolino - University of Salento (Italy), Maurizio Carpita - University of Brescia (Italy), with Esteban Fernandez Vazquez - University of Oviedo (Spain).

- ISER International Conference, New York, USA, 2019.
- Invited speaker (Chair, Scientific Committee). Recent Advances in Info-Metrics Research, April 8, 2021, Info-Metris Institute, W-DC, USA.
- Recent Advances in Info-Metrics Research. April 8, 2021, 9:45 EDT: Virtual Workshop. Member of the Program Committee with Min Chen Oxford University; Amos Golan American University, Co-Chair, Nataly Kravchenko-Balasha Hebrew University, Aman Ullah University C Riverside, Co-Chair.
- Invited speaker, 4th Workshop on Maximum Entropy and its Applications, July 7, 2021, Department of Mathematics of the University of Aveiro and the Center for Research & Development in Mathematics and Applications (CIDMA, University of Aveiro, Portugal).
- SAE 2022: Small Area Estimation, Surveys and Data Science, May 23-27, 2022, University of Maryland, College Park, USA), with Esteban Fernandez Vazquez - University of Oviedo (Spain).
- SPATIAL JUSTICE IN PRACTICE SYMPOSIUM 2023: November 30<sup>th</sup>, Delft University of Technology, Netherlands, with Giorgia Scognamiglio, La Sapienza University, Roma.
- Invited speaker, Working Group Santa Fe Institute, USA: The Potential Value of Information and Data, 2024.2
- International Conference on Agriculture, Environment and Biotechnology ICAEBIO-2024, New York, USA.
- Invited speaker, Information Theory workshop, October 3<sup>rd</sup> 2026, Data Science Research Center, University Lecce, Italy.

### Publications (Selection from 2008)

Bernardini Papalia R., B. Bracalente, *Statistica Economica*, Pearson Editore (forthcoming), 2026.

Bernardini Papalia, R, *Extracting the most relevant information from biophotonic data: a Constrained Maximum Entropy methodology*, «INTERNATIONAL JOURNAL OF APPLIED SCIENCES & DEVELOPMENT», 2025, 4, pp. 157 – 168.

Bernardini Papalia R, *Extracting the Most Relevant Information from Bio-Photonic Data: A Constrained Maximum Entropy Methodology*, preprint, 2024.

Bernardini Papalia R, *Full potential and Value of Data and Information: the role of uncertainty*, in: Working Group Santa Fe Institute: The Potential Value of Information and Data, 2024, ( Working Group at Santa Fe Institute April 2-3, 2024, Santa Fe Institute, April 2-3, 2024).

Bernardini Papalia R, *Statistical Analysis and Forecasting Models for Bio Photonic Spectral Measurements to Detect Food Quality*, in: International Conference on Agriculture, Environment and Biotechnology ICAEBIO-2024, 2024, pp. 20 (proceedings of: International Conference on Agriculture, Environment and Biotechnology ICAEBIO-2024, New York, USA, 27th-28th March 2024).

Bernardini Papalia R.; Scognamiglio G., *Environmental justice: geostatistical analysis of environmental hazards and socioeconomic factors—the case of Italy*, «GEOJOURNAL», 2023, 88, pp. 6221 - 6246 [articolo]Open Access

Bernardini Papalia R., Scognamiglio G., *Environmental Justice in Italy: A Geo-statistical Analysis of Environmental Hazards and Socioeconomic Factor*, in: Symposium Spatial Justice in Practice. Book of abstracts, 2023, pp. 1 - 1 (atti di: Symposium Spatial Justice in Practice, Delft. The Netherlands, November 30 - December 5, 2023).

R. Bernardini Papalia, D. Gullà , E. Nastati, *Quantum agriculture and experimental detection of wheat flour quality using thermal image technology*, «HELIYON», 2023, 9, Article number: e19899, pp. 1 - 11 [articolo]Open Access

Bernardini Papalia R; Fernandez Vazquez E, *Spatial Small Area Information Theoretic based Estimation for Non-Gaussian Discrete Data Under Informative Sampling*”, in: Proceedings of the SAE 2022: Small Area Estimation, Surveys and Data Science, University of Maryland, College Park, USA 2022., 2022, pp. 1 - 1 (atti di: SAE 2022: Small Area Estimation, Surveys and Data Science., College Park, Maryland; USA., 23/05/2022 - 27/05/2022).

Bernardini Papalia R., *Uncertainty in Official Statistics: key perspectives of the Info-Metrics approach*, in: Proceedings\_4th Workshop on Maximum Entropy and its Applications, 2021, pp. 1 - 1 (atti di: 4th Workshop on Maximum Entropy and its Applications, Department of Mathematics of the University of Aveiro, Portugal, July 7, 2021).

Bernardini Papalia R., Fernandez Vazquez E., *Spatial Small Area Information theoretic based estimation for Non-Gaussian Discrete Data Under Informative Sampling*”, Proceedings of the SAE 2022: Small Area Estimation, Surveys and Data Science, University of Maryland, College Park, USA, May 24-27, 2022.

Bernardini Papalia R., *Uncertainty in Official Statistics: key perspectives of the Info-Metrics approach*, Proceedings of the 4th Workshop on Maximum Entropy and its Applications, Department of Mathematics of the University of Aveiro, Portugal, July 7, 2021.

Bernardini Papalia R., Fernandez Vazquez E., *Forecasting Socioeconomic Distributions on Small-Area Spatial Domains for Count Data*, in: Advances in Info-Metrics: Information and Information Processing across Disciplines, edited by M.Chen, J.M. Dunn, A. Golan, A. Ullah, Oxford, Oxford University Press, pp. 240-263, 2021.

Bernardini Papalia R.; Fernandez Vazquez E., *Entropy-Based Solutions for Ecological Inference Problems: A Composite Estimator*, Entropy, 2020, 22(7), 781, 1-12.

Bernardini Papalia R., *Evaluating Social and Emotional Skills: New ICT-based Techniques*, *International Journal of Biomedical Engineering* Vol. 6: Issue 1, 2020, IJBE (2020) 6-11.

Bernardini Papalia R., *Review of: Foundations of Info-Metrics: Modeling, Inference, and Imperfect Information*, «JOURNAL OF THE ROYAL STATISTICAL SOCIETY. SERIES A, STATISTICS IN SOCIETY», 2019, Volume 183, Issue 1, pp. 404 – 405.

Bernardini Papalia R., *Measuring emotional skills: new methods and perspectives*, in: Proceedings of 235th ISER International Conference, New York, USA, 2019, pp. 9 - 12 (235th ISER International Conference, New York, USA, 16th – 17th November, 2019).

Bernardini Papalia R., Fernandez Vazquez E., *Entropy based small area estimation for count data with spatial effects*, in: Book of Abstract CFE-CMStatistics 2018, atti di: CFE-CMStatistics 2018, 12th International Conference on Computational and Financial Econometrics, 2018, pp. 178 - 178 (11th International Conference of the ERCIM Working Group on Computational and Methodological Statistics,, Pisa, Italy, 14-16 December 2018).

Bernardini Papalia R., Carpita M., Ciavolino E., Fernandez Vazquez E., *GME discrete model with exogenous spatial effect variable for the job satisfaction*, in: Book of Abstract CFE-CMStatistics 2018, atti di: CFE-CMStatistics 2018, 12th International Conference on Computational and Financial Econometrics, 2018, (11th International Conference of the ERCIM Working Group on Computational and Methodological Statistics,, Pisa, Italy, 16th – 17th November, 2019).

Bernardini Papalia, R.; Fernandez Vazquez, E., *Information Theoretic methods in small domain estimation*, «ECONOMETRIC REVIEWS», 2018, .37, pp. 347 – 359.

Bernardini Papalia, R.; Bertarelli, S.; Mancinelli, S., *Innovation, complementarity, and exporting. Evidence from German manufacturing firms*, «INTERNATIONAL REVIEW OF APPLIED ECONOMICS», 2018, 32, pp. 3 – 38.

Bernardini Papalia, R.; Ciavolino E., *Developing a composite index by using spatial latent modelling based on information theoretic estimation*, «QUALITY & QUANTITY», 2015, 49, pp. 989 - 997

Rosa Bernardini Papalia; Pinuccia Calia; Carlo Filippucci, *Information Theoretic Competitiveness Composite Indicator at Micro Level*, «SOCIAL INDICATORS RESEARCH», 2015, 123, pp. 349 – 370.

Bernardini Papalia, R; Fernandez Vazquez E., *PREDICTING INDICATORS AT SMALL SCALE USING ENTROPY ECONOMETRICS*, «JOURNAL OF ECONOMIC AND SOCIAL DEVELOPMENT», 2015, Vol 2, No 1, pp. 66 – 74.

Bernardini Papalia R; Bertarelli S., *Trade costs in bilateral trade flows: Heterogeneity and zeroes in structural gravity models*, «WORLD ECONOMY», 2015, Volume 38, Issue 11, pp. 1744 - 1762

Bernardini Papalia R; Bertarelli S., *Identification and estimation of club convergence models with spatial dependence*, «INTERNATIONAL JOURNAL OF URBAN AND REGIONAL RESEARCH», 2013, 37, pp. 2094 - 2115 [Scientific article]

Bernardini Papalia R; Bertarelli S., *Non linearities in economic growth and club convergence*, «EMPIRICAL ECONOMICS», 2013, 44, 3, pp. 1171 - 1202 [Scientific article]

Bernardini Papalia R., *An information theoretic approach to ecological inference in presence of spatial dependence*, in: *Rethinking the Economic Region. New Possibilities of Regional Analyses from data at Small Scale*, BERLIN, SPRINGER-VERLAG, 2012, pp. 157 - 171 [Chapter or essay]

Bernardini Papalia R.; Ciavolino E., *GME estimation of spatial structural equations models*, «JOURNAL OF CLASSIFICATION», 2011, 28 (1), pp. 126 - 141 [Scientific article]

Bernardini Papalia R.; S. Bertarelli; C. Filippucci, *Human capital, technological spillovers and development across OECD countries*, Bologna, AlmaLaurea, 2011, pp. 13 (ALMALAUREA WORKING PAPERS). [Research monograph]

R. Bernardini Papalia; P. Calia, *A novel factor decomposition of productivity differentials: evidence from foreign owned and domestic firms in Italy*, «WSEAS TRANSACTIONS ON BUSINESS AND ECONOMICS», 2010, 7, pp. 332 - 348 [Scientific article]

Bernardini Papalia R., *Data Disaggregation Procedures within a Maximum Entropy Framework*, «JOURNAL OF APPLIED STATISTICS», 2010, 37(11), pp. 1947 - 1959 [Scientific article]

Bernardini Papalia R.; Bertarelli S., *Evaluating total factor productivity differences by a mapping structure in growth models*, «INTERNATIONAL REGIONAL SCIENCE REVIEW», 2010, 33, 1, pp. 31 - 59 [Scientific article]

Bernardini Papalia R., *Generalized Maximum Entropy Estimation of Spatial Panel Interaction Models*, «WSEAS TRANSACTIONS ON BUSINESS AND ECONOMICS», 2010, 4(7), pp. 322 - 331 [Scientific article]

Bernardini Papalia R., *Incorporating spatial structures in ecological inference: an information theoretic approach*, «ENTROPY», 2010, 12(10), pp. 2171 - 2185 [Scientific article]

Bernardini Papalia R; Bertarelli S., *Decomposing productivity patterns in a conditional convergence framework*, «JOURNAL OF PRODUCTIVITY ANALYSIS», 2009, 31, pp. 57 - 75 [Scientific article]

Bernardini Papalia R., *Estimating spatial heterogeneous panel data: an Information-Theoretic approach*, «WSEAS TRANSACTIONS ON BUSINESS AND ECONOMICS», 2009, 6: 4, pp. 167 - 176 [Scientific article]

Bernardini Papalia R.; Bertarelli S., *The Role of Local Agglomeration Economies and Regional Characteristics in Attracting FDI: Italian Evidence*, «INTERNATIONAL JOURNAL OF THE ECONOMICS OF BUSINESS», 2009, 16, 2, pp. 161 - 188 [Scientific article]

Bernardini Papalia R., A composite generalized cross entropy formulation in small sample estimation, *ECONOMETRIC REVIEWS*, 2009, 27 (4-6), 596-609.

Bernardini Papalia R., *Analyzing Trade Dynamics from Incomplete Data in Spatial Regional Models: a Maximum Entropy Approach*, in: Bayesian inference and maximum entropy methods in science and engineering, NEW YORK, American Institute of Physics, 2008, 1073, pp. 325 - 331 (atti di: 28 TH WORKSHOP ON BAYESIAN INFERENCE AND MAXIMUM ENTROPY METHODS IN SCIENCE AND ENGINEERING, UNIVERSITY OF SAO PAULO, BRAZIL, 6-11 JULY 2008) [Contribution to conference proceedings]

Bernardini Papalia R; Calia P., *Decomposing productivity differential: evidence from foreign owned and domestic firms in Italy*, BOLOGNA, ALMA DL – Rapporti di ricerca, Università di Bologna, 2008, pp. 22 (Quaderni di Dipartimento di Scienze Statistiche, ISSN 1973-9346). [Research monograph]

Bernardini Papalia R., *Estimating item weights of Consumer Price Indexes for small reference populations*, «STATISTICS IN TRANSITION», 2008, 9 ( 1), pp. 49 - 70 [Scientific article]

Bernardini Papalia R.; Ciavolino E., *GME estimation of spatial structural equations models*, in: Models and Information Technologies for Decision Support Systems, LECCE, Editoria Scientifica Elettronica, 2008, pp. 228 - 231 (atti di: MTISD 2008, LECCE, 18-20 SEPTEMBER 2008) [Contribution to conference proceedings]

Bernardini Papalia R., *Incorporating spatial structures in ecological inference: an information theoretic approach*, in: Methods, Models and Information Technologies for Decision Support Systems, LECCE, Editoria Scientifica Elettronica, 2008, pp. 232 - 235 (atti di: MTISD 2008, LECCE, 18-20 SEPTEMBER 2008) [Contribution to conference proceedings].

#### **Bibliometric Indicators (Source: Google Scholar, updated May 2026)**

- Indexed scientific publications: over 60
- Total citations: 485
- H-index: 14
- i10-index: 19
- Citations since 2020: 160

The scientific activity focuses on info-metric methods, spatial econometrics, small area estimation, statistical learning, and interdisciplinary applications of economic statistics, with international collaborations and publications in internationally recognized peer-reviewed journals, including:

1. *Entropy-Based Solutions for Ecological Inference Problems (Entropy, 2020)*
2. *Information Theoretic Methods in Small Domain Estimation (Econometric Reviews, 2018)*
3. *Trade Costs in Bilateral Trade Flows (The World Economy, 2015)*
4. *GME Estimation of Spatial Structural Equation Models (Journal of Classification, 2011)*
5. Recent works on Info-Metrics, biophotonic data, and uncertainty in official statistics

## Collaborations

1. American University, USA – Info-Metrics Institute (Associate Researcher)  
<https://www.american.edu/cas/economics/info-metrics/>
2. Center for Philosophy, Science, and Policy (CPSP) – External Member  
<https://cpsp.univpm.it/profile/motivation-mission/>
3. University of Oviedo, Spain – Collaboration with Esteban Fernández Vázquez, Department of Applied Economics and REGIO Lab, University of Oviedo.
4. King Juan Carlos University, Spain – Collaboration with María Jesús Delgado Rodríguez, Department of Applied Economics II.
5. Autonomous University of Madrid, Spain – Collaboration with Sonia De Lucas Santos, Department of Applied Economics, Faculty of Economics and Management.
6. Coventry University, United Kingdom – Collaboration with Julia Wright, Centre for Agroecology, Water and Resilience (COST Action Proposal " DEVeloping A Network for Unlocking Inner Capacities for More Sustainable Farming Systems ").
7. National Institute of Biostructures and Biosystems (Italy) – Collaboration with Daniele Gullà.
8. Quantum green agriculture, Kirkland, Washington, USA.

### **Organization of third mission initiatives and events at the Department of Statistical Sciences, University of Bologna**

*Salti quantici ed artistici. 9 Aprile 2026* h. 11-17. Sala dei Poeti – Palazzo Hercolani Strada Maggiore 45, Bologna. Speakers: Daniele Corradetti | Matematico e ricercatore in fisica matematica e intelligenza artificiale., Paolo Calcaterra | Geologo, Esperto in Architettura Organica Vivente e agricoltura biodinamica, Francesca Perrotta | Formazione in Pedagogia Steineriana, Docente di Scultura, Rossella Bernardini Papalia.

*Soft and emotional skills: scienza e ricerca a confronto. Tavola rotonda 13 Aprile 2023* h. 11-17 Aula dei Poeti – Palazzo Hercolani Strada Maggiore 45, Bologna, Speakers: Roberto Germano | Fisico, imprenditore e socio fondatore di PROMETE Srl ,CNR Spin off Company e di Pandora TV, Roberto Verdone | Ordinario di Telecomunicazioni all'Università di Bologna, Direttore del Laboratorio Nazionale di Comunicazioni Wireless, WiLab, del Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Gioacchino Pagliaro | Psicologo e Psicoterapeuta Presidente di Attivismo Quantico Europeo sede europea del Center for Quantum Activism., Gianluca Spadoni | Imprenditore, Autore, Trainer, Presidente Evolution Forum, Carlo Ventura | Docente di Biologia molecolare, Unibo, Direttore INBB, Presidente VID art|science, Gian Piero Abbate | Fisico, Teologo, Ricercatore, Anna Bacchia | Ricercatrice, Docente, Fondatrice del Consciousness Institute Lugano, Membro del World Peace Forum, Daniele Gullà | esperto e studioso di geo biofisica, di antropometria e di biometrica forense da oltre trent'anni. Consulente-Tecnico Ambientale, Luisa Brunori | Docente di Psicologia dinamica, Unibo, Presidente dell'Associazione WIN WIN.

*Apriamo le parole. Bologna, 14 Maggio 2020*, Virtual conference. Speakers: Gianluca Spadoni | Imprenditore, Autore, Trainer, Presidente Evolution Forum, Luisa Brunori | | Docente di Psicologia dinamica, Unibo, Presidente dell'Associazione WIN WIN, Carlo Ventura | Docente di Biologia molecolare, Unibo, Direttore INBB, Presidente VID art|science, Gian Piero Abbate | Fisico, Teologo, Ricercatore, Anna Bacchia | Ricercatrice, Docente, Fondatrice del Consciousness Institute Lugano, Membro del World Peace Forum.

*Soft and emotional skills: scienza e ricerca a confronto. Tavola rotonda 18 Giugno 2018*. Aula Magna – Dipartimento di Scienze Statistiche Via Belle Arti 41, Bologna. Speakers: Roberto Verdone | Professore ordinario, Scuola di Ingegneria, Università di Bologna, | Gianluca Spadoni Formatore area marketing; Gian Piero Abbate | Fisico, Teologo, Roberto Ostinelli | Medico, Daniele Gullà | Perito biometrico e forense.