

# Lea Petrella

## Curriculum Vitae

✉ Sapienza University of Rome  
Dept. Metodi e Modelli per l'Economia  
il Territorio e la Finanza.  
MEMOTEF  
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<https://web.uniroma1.it/memotef/users/petrella-lea>

### Personal Information

1967 **Born in Rome.**

### Current Position

- 2007- **Full Professor in Statistics**, *Dept Metodi e Modelli per l'Economia, il Territorio e la Finanza (MEMOTEF), Sapienza University of Rome, Italy.*
- 2021- **Senior Research Fellow Superior School of Advanced Study**, *Sapienza University of Rome, Italy.*

### Previous Positions

- Gen 2018-May 2020 **Head of the Department**, *Metodi e Modelli per l'Economia, il Territorio e la Finanza (MEMOTEF), Sapienza University of Rome, Italy.*
- 2005-2007 **Associated Professor in Statistics**, *Sapienza University of Rome, Italy.*
- 1995-2005 **Assistant Professor in Statistics**, *Sapienza University of Rome, Italy.*
- 1993-1995 **PhD in Applied Statistics**, *University of Florence, Italy.*

### Education

- 1996 **PhD in Applied Statistics**, *Statistics Department, University of Florence, Italy.*  
Thesis: Nonstationary Time Series: a Robust Bayesian Approach.  
Supervisor: Prof. John Geweke, University of Minnesota. U.S.A.
- 1992 **Degree in Statistics, Summa cum Laude**, *Sapienza University of Rome, Italy.*  
Thesis: Robustezza Bayesiana Rispetto a Contaminazioni in ambito Multidimensionale.  
Supervisors: Prof. G. Salinetti and Prof. L. Piccinato

### Fellowships and Honors

- 2020 **Winner of a FR CNRS Hauts-de-France France Research Fellowship as Visiting Professor**, 3 months research at the University of Compiègne France to work with Prof. G. Gayraud, France.
- 2021 **Winner of a FR CNRS Hauts-de-France France Research Fellowship as Visiting Professor**, 3 months research at the University of Compiègne France to work with Prof. G. Gayraud, France.
- 2000 **Winner of a CNR Research Fellowship**, 3 months research at the University of Iowa with Prof. John Geweke, U.S.A.
- 1999 **Winner of a CNR Research Fellowship**, 6 months research at the University of Minnesota with Prof. John Geweke, U.S.A.
- 1996 **Winner of a CNR Research Fellowship**, 6 months research at the University of Minnesota with Prof. John Geweke, U.S.A.

## Visiting Positions

- September 2021-December 2021 **Visiting Professor**, FR CNRS Hauts-de-France (Paris) research project with Prof. G. Gayraud.
- November 2013 **Visiting Professor**, Centre de Recherche en Economie et en Statistique (CREST - INSEE, Paris) research project with Prof. G. Gayraud.
- January-February 2012 **Visiting Professor**, Centre de Recherche en Economie et en Statistique (CREST - INSEE, Paris) research project with Prof. G. Gayraud.
- September-October 2011 **Visiting Professor**, Université de Technologie de Compiègne (France) and at the Centre de Recherche en Economie et en Statistique (CREST -INSEE, Paris) research project with Prof. G. Gayraud.
- February 2011 **Visiting Professor**, Université de Technologie de Compiègne (France) and at the Centre de Recherche en Economie et en Statistique (CREST -INSEE, Paris) research project with Prof. G. Gayraud.
- February 2008 **Visiting Professor**, European Central Bank, Frankfurt (Germany)research project with Prof. J. Geweke and G. Amisano.
- July-October 2000 **Visiting Assistant Professor**, University of Iowa (U.S.A.) research project with Prof. J. Geweke.
- June-December 1999 **Visiting Assistant Professor**, University of Iowa (U.S.A.) research project with Prof. J. Geweke.
- August-December 1996 **Visiting Scholar**, University of Minnesota (U.S.A.) research project with Prof. J. Geweke.
- December-June 1995 **Visiting Scholar**, University of Minnesota (U.S.A.) research project with Prof. J. Geweke.

## International Attended Courses

- 2005 **Bayesian Econometrics**, *Prof. Tony Lancaster and Gary Koop*, Cide Summer School, Bertinoro, Italy.
- 1999 **Time Series Analysis**, *PhD course, Prof. K.S. Chan*, University of Minnesota, USA.
- 1997 **Introduction to Bayesian Statistics**, *Tony O'Hagan*, University of Nottingham, UK.
- 1995 **Econometrics II**, *PhD course Prof. J. Geweke*, University of Minnesota, USA.
- 1995 **Advanced Topics in Econometrics**, *PhD course Prof. J. Geweke*, University of Minnesota, USA.
- 1995 **Bayes and Empirical Bayesian Methods**, *PhD course Prof. B. Carlin*, University of Minnesota, USA.
- 1994 **Heavy Tailed Models, Bayesian Model Comparison, Inference about the Functions**, *Prof. T. O'Hagan*, University of Nottingham, UK, Rome, Italy.
- 1994 **Tools for Statistical Inference: Method for Exploring Likelihood Function and Posterior Distributions**, *Prof. M. Tanner*, University of Rochester Medical Center, U.S.A, Padua, Italy.
- 1994 **Regression Models in Epidemiology, Analysis of Correlated Data Tools**, *K.Y. Liang, J. Hopkins* University of Baltimore, U.S.A, Montecatini Terme, Italy.
- 1993 **Regression Models in Epidemiology, Analysis of Correlated Data Tools**, *K.Y. Liang, J. Hopkins* University of Baltimore, U.S.A, Montecatini Terme, Italy.
- 1993 **Econometrics**, *Cide course, Bertinoro*, Italy.

## Research Interests

- **Time Series and Financial Time Series.**
- **Quantile Regression.**
- **Risk Measures, tail risk interdependence and systemic risk.**
- **Mixtures Models.**
- **Graphical Models.**
- **Multivariate Modeling.**
- **Mixed Frequency Models.**

## Teaching

- 2019-2021 **Financial Time Series and Time Series (in english)**, *Sapienza University of Rome*, Undergraduate level.
- 2004-2021 **Time Series Analysis**, *Sapienza University of Rome*, Undergraduate and Master level.
- 2010-2019 **Advanced Statistics**, *Sapienza University of Rome*, Undergraduate and Master level.
- 2003-2008 **Basic Statistics**, *Sapienza University of Rome*, Undergraduate level.
- 2001-2004 **Mathematical Statistics**, *University of Rome 3-Math School*, Undergraduate level.

## Activities and Research Commitments

- 2010-2021 **Member of the PhD Program: Models for Economics and Finance**, *Sapienza University of Rome*.

- 2018-2020 **Member of the Department Committees Research and Teaching ones.**
- 2016-2018 **MIUR ASN Committee: Italian Professor Abilitation Committee.**
- 2013-2015 **Research Director of the 3rd two years Carlo Giannini Research Fellowship in cooperation with the Bank of Italy and UniCredit and Universities Foundation.: 100000 Euros.**
- 2011-2014 **Scientific Director of post-doc and PhD students.**
- 2012-2014 **Head of the Teaching Committee MEMOTEF Department, Sapienza University of Rome.**
- 2008-2013 **Head of the teaching fellowships MEMOTEF Departmet .**
- 2000-2014 **Member of Scientific and Local Committee of several Statistical International Workshops and Conferences .**
- 1995-2021 **Invited Speaker and Chairman for more than 130 International Meetings.**

## Grants

- 2020 **Conditional quantile models with variables observed at different frequencies and models' ranking.**, *Sapienza University of Rome*, -Member of the Group-.
- 2020 **Politics and local public finance in Italy: a historical perspective.**, *Sapienza University of Rome*, -Member of the Group-.
- 2018 **Multivariate quantile regression, new perspective**, *Sapienza University of Rome*, -PI of the Group-.
- 2017 **Penalized quantile regression for risk assessment**, *Sapienza University of Rome*, -PI of the Group-.
- 2016 **Generalized quantiles for risk measures and tail risk co-movement**, *Sapienza University of Rome*, -PI of the Group-.
- 2015 **1 month International Visiting Professor**, *Sapienza University of Rome*, -PI of the Group-.
- 2013 **Multivariate Statistical Methods for Risk Assessment (MISURA)**, *PRIN-2013*.
- 2013 **3 months International Visiting Professor: Bayesian quantile regression**, *Sapienza University of Rome*, -PI of the Group-.
- 2013 **Mathematical and Statistical Models for Contagion Risk Assessment in Institutional Frameworks**, *Sapienza University of Rome*, -PI of the Group-.
- 2012 **3 months Intenational Visiting Professor Mathematical and Statistical Models for Contagion Risk Assessment in Institutional Frameworks**, *Sapienza University of Rome*, -PI of the Group-.
- 2011 **Statistical and Mathematical Models to asses Risk in Insurance**, *Sapienza University of Rome*, -PI of the Group-.
- 2011 **Multivariate Statistical Models for Risk Evaluations**, *PRIN-2011*, -Member of the Group-.
- 2010 **Statistical Models to predict energy consumption**, *Sapienza University of Rome*, -PI of the Group-.
- 2009 **University students careers:a statistical analysis** , *Sapienza University of Rome*, -PI of the Group-.

- 2008 **Statistical evaluation of quality and risks: new multivariate methodology**, *PRIN-2008*, -Member of the Group-.
- 2008 **Bayesian Analysis with shape constraints**, *Sapienza University of Rome*, -PI of the Group-.
- 2007 **Statistical Models to evaluate the University System**, *Sapienza University of Rome*.
- 2006 **Statistical Models to evaluate University Process**, *PRIN-2006*, -Member of the Group-.
- 2005 **Bayesian Analysis for level crossing problems**, *Sapienza University of Rome*, -PI of the Group-.
- 2004  **$\alpha$ -stable mixture models**, *Sapienza University of Rome*, -PI of the Group-.
- 2003 **Long memory process for financial time series**, *Sapienza University of Rome*, -PI of the Group-.
- 2002 **Bayesian analysis for financial time series**, *Sapienza University of Rome*, -PI of the Group-.

## Publications

1. (2021) Option Pricing, Zero Lower Bound, and COVID-19 (with G. Morelli ) **Risks 2021, 9(9), 167**
2. (2021) COVID-19 after lung resection in Northern Italy (with M. Scarci, F. Raveglia, G. Cardillo, L. Merlo et al.) **The Journal of Thoracic and Cardiovascular Surgery** to appear
3. (2021) Multivariate Analysis of Energy Commodities during the COVID-19 Pandemic: Evidence from a Mixed-Frequency Approach (with M. Andreani, G. Morelli, V. Candila) **Risks, 2021, 9(8), 144**
4. (2021) Hidden semi-Markov-switching quantile regression for time series (with A. Maruotti and L. Sposito) **Computational Statistical and data Analysis** online
5. (2021) Two part quantile regression models for semi continuous longitudinal data: a finite mixture approach (with L. Merlo, A. Maruotti) **Statistical Modeling** online version
6. (2021) Unified Bayesian Conditional Autoregressive Risk Measures using Skew Exponential Power Distribution (with M. Bottone and M. Bernardi) **Statistical Methods and Applications, 30, pp.1079–1107**
7. (2021) Forecasting VaR and ES using a joint quantile regression and implications in portfolio allocation (with L. Merlo and Valentina Raponi) on line version **Journal of Banking and Finance**
8. (2021) Hypotheses testing in mixed-frequency volatility models: a bootstrap approach (with V. Candila) **Short paper for the Proceeding of the Italian Statistical Society Meeting 2021**
9. (2021) Hidden semi-Markov-switching quantile regression for time series (with L. Merlo, A. Maruotti, A. Punzo) **Short paper for the Proceeding of the Italian Statistical Society Meeting 2021**
10. (2021) Directional M-quantile regression for multivariate dependent outcomes (with L. Merlo and N. Tzavidis) **Short paper for the Proceeding of the Italian Statistical Society Meeting 2021**

11. (2020) Sectoral decomposition of CO2 world emissions: a joint quantile regression approach, (with V. Raponi and L. Merlo) **International Review of Environmental and Resource Economics**, **14**, pp 197-239.
12. (2020) Large deviations for method of quantile estimators of one dimensional parameters, (with V. Bignozzi and C. Macci) **Communications in Statistics- Theory and Methods**, **49**, 1132-1157
13. (2020) 3D Reconstruction Model of an Extra-Abdominal Desmoid Tumor: A Case Study, (with F. Marinozzi, F. Carleo, S. Novelli, M. Di Martino, G. Cardillo, and F. Bini ) available online **Frontiers in Bioengineering and Biotechnology**
14. (2020) GLASSO Estimation of Commodity Risks, (with B. Foroni, G. Morelli, S. Mazza) **Proceedings of the 50th Meeting of the Italian Statistica Society**, 1-6
15. (2020) Dynamic Quantile Regression Forest, (with M. Andreani) **Proceedings of the 50th Meeting of the Italian Statistica Society**,
16. (2020) Using mixed-frequency and realized measures in quantile regression (with V. Candila and G. Gallo) **Proceedings of the 50th Meeting of the Italian Statistica Society**,
17. (2020) Adding MIDAS terms to Linear ARCH models in a Quantile Regression framework, (with V. Candila) **Proceedings of the 50th Meeting of the Italian Statistica Society**
18. (2019) Joint estimation of conditional quantiles in multivariate linear regression models with an application to financial distress (with V. Raponi ) **Journal of Multivariate Analysis**, **173**, 70-84
19. (2019). Joint VaR and ES forecasting in a multiple quantile regression framework. (with L. Merlo and V. Raponi) **Proceedings of the scientific meeting of the Italian Statistical Society: Smart Statistics for Smart Application**
20. (2019). A two-part finite mixture quantile regression model for semi-continuous longitudinal data. **Proceedings of the scientific meeting of the Italian Statistical Society: Smart Statistics for Smart Application** (with L. Merlo and A. Maruotti)
21. (2019). Estimation of dynamic quantile models via the MM algorithm. **Proceedings of the scientific meeting of the Italian Statistical Society: Smart Statistics for Smart Application** (with F. Poggioni and M. Bernardi)
22. (2018) Cross-Country assessment of systemic risk in the european stock market: evidence from CoVaR analysis (L. Merlo, A. Laporta) **Social Indicator Research** **146**, 169-186
23. (2018) Large deviation for risk measures in finite mixture models (C. Macci, V. Bignozzi) **Insurance Mathematics and Economic**, **80**; 84-92
24. (2018) The sparse method of simulated quantiles: an application to portfolio optimisation (M. Bernardi, P. Stolfi) **Statistica Neerlandica**, **72**; 375-398
25. (2018) Bayesian Quantile Regression using the Skew Exponential Power Distribution (M. Bernardi, M. Bottone) **Computational Statistical and Data Analysis**, **126**; 92-111
26. (2018) Conditional risk based on multivariate hazard scenarios (M. Bernardi, F. Durante, P. Jawroski, G. Salvatori) **Stochastic Environmental Research and Risk Assessment** **32**; 203-211
27. (2018) Sparse Nonparametric Dynamic Graphical Models (M. Bernardi, F. Poggioni) **Short Paper for the Proceedings of the Italian Statistical Society Meeting 2018**
28. (2018) Selection of Value at Risk Models for Energy Commodities (with A.G. Laporta, L. Merlo) **Energy Economics**, **74**; 628-643

29. (2018) Sparse parts management for irregular demand items (with F. Costantino, G. Di Gravio, R. Patriarca) **Omega**, **81**; 57-66
30. (2017) Bayesian binary quantile regression for the analysis of the Bachelor-Master transition (with C. Mollica) **Journal of Applied Statistics** **44** 2791-2812
31. (2017) Are news important to predict Value at Risk (with M. Bernardi and L. Catania) **European Journal of Finance** **23** pp. 535-572
32. (2017) On the  $L_p$  quantiles for the Student  $t$  distribution (with V. Bignozzi and M. Bernardi) **Statistics and Probability Letters** **128** 77-83
33. (2017) Multiple Risk Measures for Multivariate Dynamic Heavy Tailed Models (with M. Bernardi and A. Maruotti) **Journal of Empirical Finance** **43** 1-32
34. (2017) Estimation and Inference of Skew–Stable distributions using the Multivariate Method of Simulated Quantiles (with M. Bernardi and P. Stolfi) **Statistics and Data Science: new challenges, new generations. Proceedings of the Conference of the Italian Statistical Society, Florence 28-30 June 2017** 955-960
35. (2017) Estimation and Inference of Skew–Stable distributions using the Multivariate Method of Simulated Quantiles (with M. Bernardi and P. Stolfi) **Statistics and Data Science: new challenges, new generations. Proceedings of the Conference of the Italian Statistical Society, Florence 28-30 June 2017**
36. (2016) A multivariate copula-based framework for dealing with hazard scenarios and failure probabilities. **Water Resources Research** **52**, 3701–3721 (with G. Salvatori, F. Durante, C. De Michele, M. Bernardi)
37. (2016). On the  $L_p$ -quantiles and the Student- $t$  distribution. **Proceedings of the 48th scientific meeting of the Italian Statistical Society** (with M. Bernardi and V. Bignozzi)
38. (2016). Bayesian inference for  $L_p$ -quantile regression models. **Proceedings of the 48th scientific meeting of the Italian Statistical Society** (with M. Bernardi and V. Bignozzi)
39. (2016). Dynamic Quantile Lasso Regression. **Proceedings of the 48th scientific meeting of the Italian Statistical Society** (with M. Bernardi and F. Poggioni)
40. (2016). The Challenge of Treating Early-Stage Rheumatoid Arthritis: The Contribution of Mixed Treatment Comparison to Choosing Appropriate Biologic Agents. Forthcoming **BioDrugs** (with A. Migliore, E. Bizzi, V. Bruzzese, M. Cassol, D. Integlia )
41. (2015). Bayesian tail risk interdependence using quantile regression. **Bayesian Analysis**, **10**, pp. 553-603 (with M. Bernardi, G. Gayraud)
42. (2015). Indirect comparison between subcutaneous biologic agents in ankylosing spondylitis. **Clinical Drug Investigation**, **35**, pp.23-29 (with A. Migliore, E. Bizzi, M. Bernardi)
43. (2015). Multiple seasonal cycles forecasting model: the Italian electricity demand . **Statistical Methods and Applications** **24**, pp. 671-695 (with M. Bernardi)
44. (2015). Interconnected risk contributions: a heavy tail approach to analyze U.S. financial sectors **Journal of Risk and Financial Management** **8**, pp. 198-226 (with M. Bernardi)
45. (2015). Efficacy of biological agents administered as monotherapy in rheumatoid arthritis: a Bayesian mixed-treatment comparison analysis **Therapeutics and Clinical Risk Management** **11**, pp. 1325-1335 (with A. Migliore, E. Bizzi, M. Bernardi, C. Egan)

46. (2015). The rationale for treatment of postresectional bronchopleural fistula: analysis of 52 patients. **The Annals of thoracic surgery** **1**, pp. 251-257 (with G. Cardillo, F. Carleo et al.)
47. (2014). Likelihood based inference for regular functions with functional polynomial approximations **Journal of Econometrics**, **183**, pp-22-30 (with J. Geweke)
48. (2014). Bayesian Robust Quantiles for Risk Management. **Short paper for the 8th International Conference on Computational and Financial Econometrics**(with M. Bernardi)
49. (2013). A dynamic hurdle model for zero-inflated panel count data. **Applied Economics Letters** **Vol.20** pp. 837-841 (with F. Belloc, M. Bernardi, A. Maruotti)
50. (2013). Bayesian quantile regression for tail risk interdependence. **Advances in Latent Variables. Proceedings of the Italian Statistical Society Meeting** (with M. Bernardi, G. Gayraud)
51. (2013). Exponential Smoothing Models for Energy Forecasting. **Volume in Honor of G. Spinelli** (with M. Bernardi, M.M. Rinaldi)
52. (2013). Bayesian Inference for COVaR **Short Paper for the Proceedings of the workshop on Frontiers in Time Series Analysis with Applications to Economics and Finance** (with M. Bernardi)
53. (2013). Multivariate Markov-switching models and tail risk interdependence measures **Short Paper for the Proceedings of the 6th International Conference of the ERCIM WG on Computational and Methodological Statistics** (with M. Bernardi and A. Maruotti)
54. (2012). Skew Mixture Models for Loss Distributions: A Bayesian Approach **Insurance: Mathematics and Economics** **Vol.51** n. 3 pp. 617-623 (with M. Bernardi, A. Maruotti)
55. (2012). Parallel Adaptive Markov chain Monte Carlo **Proceedings of the XLVI Italian Statistical Society Meeting** (with M. Bernardi)
56. (2012). A correlated random effects model for longitudinal data with non-ignorable drop-out: an application to university student performance **Advanced Statistical Methods for the Analysis of Large Data-Sets. Studies in Theoretical and Applied Statistics. Springer.** pp. 127-136 (with F. Belloc, A. Maruotti)
57. (2011) How individual characteristics effect university students drop-out: a semi-parametric mixed approach to an Italian case study. **Journal of Applied Statistics** **Vol.38** n.10 pp.2225-2239 (with F. Belloc and A. Maruotti)
58. (2011) Forecasting Italian hourly electricity . **Complex Data Modeling and Computationally Intensive Statistical Methods for Estimation and Prediction:S.Co.2011** (with M. Bernardi)
59. (2010). University drop-out: an Italian experience. **Higher Education** **Vol.60**, n.2. pp.127-138 (with F. Belloc and A. Maruotti)
60. (2010) Predictors of survival with locally advanced thymoma and thymic carcinoma. **European Journal of Cardio-thoracic surgery** **Vol.37** n.4 pp.819-823 (with M. Martelli, G. Cardillo, F. Carleo et al.,)
61. (2010). Large deviation results on some estimators for stationary Gaussian processes. **Statistics: Journal of Theoretical and Applied Statistics** **Vol. 44**, Issue 2. pp. 129-144 (with C. Macci)
62. (2009). University student performance analysis with non-ignorable drop-out. **Proceeding of the Italian Statistical Society: Statistical Methods for the analysis of large data-sets** pp. 327-330 (with F. Belloc and A. Maruotti)



63. (2009) Censored Exponential data: a large deviations for MLEs and posterior distributions. **Communication in Statistics-Theory and Methods vol.38, Issue 15 pp.2435-2452** (with C. Macci)
64. (2009) Chronic postpneumonic empyema: comparative merits of thoracoscopic vs open decortification. **European Journal of Cardio-thoracic surgery vol.36 pp.914-918** (with M. Martelli, G. Cardillo, F. Carleo et al., )
65. (2008). Surgical treatment of benign neurogenic tumors of the mediastinum: a single institution report **European Journal of Cardio-thoracic Surgery 34, pp.1210-1214** (with M. Martelli, G. Cardillo, F. Carleo et al.,)
66. (2008). Garch mixture of stable models for financial data analysis. Presentato al **2008 International Conference on Applied Probability and Statistics** (with E. Kuruoglu and D. Buoncristiani)
67. (2008). A Semiparametric model for the probability of university drop-out: an Italian experience. **Proceedings of the Statistical Modelling for University Evaluation: an International Overview.** (with A. Maruotti)
68. (2007). Long-term lung function following videothoracoscopic talc poudrage for primary spontaneous recurrent pneumothorax **European Journal of Cardio-Thoracic Surgery 31 pp.802-805** (with M. Martelli, G. Cardillo, F. Carleo et al., Thoracic Surgery Unit, Carlo Forlanini Hospital, Rome)
69. (2006). Il rating delle universita del CENSIS: un'analisi critica. La Valutazione della ricerca , **Libro bianco. pp. 189-216. Consiglio Italiano per le Scienze Sociali (Marsilio)** (with M.F. Arezzo and G. Guagnano)
70. (2006). Mixture of conjugate prior distributions and large deviation for level crossing probabilities. **Sankhya 68 pp.61-89** . (with C. Macci )
71. (2006). Videothoracoscopic Talc Poudrage in Primary Spontaneous Pneumothorax. A single Institution Experience on 861Cases. **Journal of Thoracic and Cardiovascular Surgery 131, pp.322-328** (with M. Martelli, G. Cardillo, F. Carleo et al., Thoracic Surgery Unit, Carlo Forlanini Hospital, Rome)
72. (2005). Appunti di Statistica: fondamenti teorici ed esercizi. **Kappa Editore** (with G. Guagnano)
73. (2005). Abdominal rectopexy for complete rectal prolapse: a new technique. International **Journal of Colorectal Disease Vol.20, n.2 pp180-189** (with A. Di Giorgio, P. Sammartino et al., Dipartimento di Chirurgia "Pietro Valdoni" Universita di Roma "La Sapienza")
74. (2004). Infectious Immigration: how does it affect local epidemics. **The Computational and Mathematical Population Dynamics Meeting** pp30-31(with G. Schinaia)
75. (2004). Sulla costruzione di una graduatoria delle facolta universitarie **Working Paper 25.2004 Dipartimento di Studi Geoecon. Lin. Stat.Storici An. Regionale**, Universita di Roma "La Sapienza", (with M.F. Arezzo and G. Guagnano)
76. (2004). Bayesian modelling volatility with mixture of alpha stable distributions. **Proceedings of the IWSM International Workshop on Statistical Modelling** pp. 474-478 (with L. Monno and A. Tancredi)
77. (2004). Gaussian ARMA model comparison under a Bayesian decision perspective **Working Paper 1.2004 Dipartimento di Statistica , Universita Ca Foscari di Venezia** (with S. Tonellato)
78. (2001). Bayesian Semiparametric Analysis on Long Range Dependence , **Biometrika** vol.88 n.4, pp. 1089-1104 (with B. Liseo and D. Marinucci)

79. (2000). Bayes factors for Fieller's problem **Biometrika** vol.87, n.3, pp.717-723 (with M.M. Barbieri and B. Liseo)
80. (2000). A Predictive Approach to Time Series Model Selection. **Proceedings of the XL Italian Statistical Meeting**, pp.391-394 (with S. Tonellato)
81. (1999). A Bayesian proposal for the analysis of Stationary and nonstationary AR(1) time series. **Bayesian Statistics VI** (J.M. Bernardo, J.O. Berger, A.P. Dawid, A.F.M. Smith, eds) Oxford University Press, pp. 821-828 (with D. Marinucci)
82. (1998). Prior Density Ratio Class in Econometrics. **Journal of Business and Economics Statistics**, vol.16 No. 4, pp. 469-478 (with J. Geweke)
83. (1997). Bayes Factors at work in a challenging class of problems. **Proceedings of the workshop on Model Selection**, Cagliari, pp.109-123 Pitagora Editrice, Bologna (with M.M. Barbieri and B. Liseo)
84. (1996). Robust Bayesian analysis: an interactive approach, **Bayesian Statistics V** (J.M. Bernardo, J.O. Berger, A.P. Dawid, A.F.M. Smith, eds) Oxford University Press, pp. 661-666 (with B. Liseo and G. Salinetti)
85. (1996). Non Stationary Time Series: A Robust Bayesian Approach. **PhD Thesis-Supervisor J. Geweke**
86. (1993). Block unimodality for multivariate Bayesian robustness, **Journal of the Italian Statistical Society**, vol.2, No.1, pp. 55-71 (with B. Liseo and G. Salinetti)
87. (1992). Robustezza bayesiana rispetto a contaminazioni in ambito multidimensionale. **Working Paper of the Dipartimento di Statistica, Probabilità e Statistiche Applicate, Università di Roma "La Sapienza", Serie E-Tesi**, N.11.

## Submitted Papers

1. (2021) Unified unconditional regression for multivariate quantile, M-quantiles and expectiles (with N. Tzavidis, L. Merlo and N. Salvati) ) submitted **Journal of the American Statistical Society**
2. (2021) Quantile mixed Hidden Markov Models for multivariate longitudinal data (with N. Tzavidis and L. Merlo) ) submitted **Journal of the Royal Statistical Society- Series C**
3. (2021) Marginal M-quantile regression for multivariate dependent data (with N. Tzavidis, L. Merlo and N. Salvati) submitted **Computational Statistical and data Analysis**
4. (2021) Nonthyroidal illness syndrome (NTIS) in severe COVID-19 patients : role of T3 and na/k pump gene expression and on hydroelectrolytic equilibrium (with S. Sciacchitano, Rita Mancini, Monica Rocco et al.) submitted **Plos Medicine**
5. (2021) The Network of Commodity Risks, (with B. Foroni and G. Morelli) submitted **Journal of Empirical Finance**
6. (2021) M-quantile regression shrinkage and selection via the Lasso and Elastic Net to assess the effect of meteorology and traffic on air quality (with M.G. Ranalli, N. Salvati and F. Pantalone) submitted **Journal of the Royal Statistical Society- Series C**
7. (2021) Quantile Hidden Semi-Markov Models for multivariate time series (with L. Merlo, A. Maruotti, A. Punzo ) submitted **Statistics and Computing**
8. (2021). Dynamic Model Averaging for Bayesian Quantile Regression. Submitted **Annals of Operational Research** arXiv:1602.00856 (with M. Bernardi, R. Casarin, B. Maillet)

9. (2021) Using mixed-frequency and realized measures in quantile regression, (with V. Candila and G. Gallo) submitted **Journal of Time Series Analysis**