

**FORMATO EUROPEO
PER IL CURRICULUM
VITAE**



PERSONAL INFORMATION

Nome

LEA PETRELLA

Nationality

Italian

EDUCATION AND TRAINING

• 1996
Name and type of organization

PhD in Statistics, University of Florence
University of Florence
Thesis: Non stationary Time Series: a Robust bayesian Approach.
Supervisor: Prof. John Geweke, University of Minnesota, USA

• 1992
Name and type of organization

Degree in Statistics, (110/110 cum Laude)
Sapienza University of Rome
Thesis: Robustezza Bayesiana rispetto a Contaminazioni in Ambito Multidimensionale
Supervisor: Prof. G. Salinetti Sapienza and Prof. L. Piccinato, Sapienza University of Rome

**FELLOWSHIPS AND
HONORS**

• 2000
Name and type of organization

Winner of a CNR Research Fellowship
University of Iowa (USA) (6 months research project with Prof. J. Geweke)

• 1999
Name and type of organization

Winner of a CNR Research Fellowship
University of Minnesota (USA) (6 months research project with Prof. J. Geweke)

• 1996
Name and type of organization

Winner of a CNR Research Fellowship
University of Minnesota (USA) (& months research project with Prof. J. Geweke)

VISITING POSITION

• 2013 November
• Name and address of employer

Visiting Professor
Centre de Recherche en Economie et en Statistique (CREST -INSEE, Paris) research project
with Prof. G. Gayraud

• 2012 January-February
• Name and address of employer

Visiting Professor
Centre de Recherche en Economie et en Statistique (CREST -INSEE, Paris) research project
with Prof. G. Gayraud

• 2011 September-October
• Name and address of employer

Visiting Professor
Univeristè de Techonologie de Compiègne (France) and Centre de Recherche en Economie et
en Statistique (CREST -INSEE, Paris) research project with Prof. G. Gayraud

- 2011 February
• Name and address of employer
Visiting Professor
Univeristè de Techonologie de Compiegne (France) and Centre de Recherche en Economie et en Statistique (CREST -INSEE, Paris) research project with Prof. G. Gayraud
- 2008 February
• Name and address of employer
Visiting Professor
European Central Bank, Frankfurth (Germany) research project with Prof. G. Amisano and J. Geweke.
- 2000 July-October
• Name and address of employer
Visiting Assistant Professor
University of Iowa (USA) research project with Prof. J. Geweke.
- 1999 June-December
• Name and address of employer
Visiting Assistant Professor
University of Iowa (USA) research project with Prof. J. Geweke.
- 1996 August-December
• Name and address of employer
Visiting Scholar
University of Minnesota (USA) research project with Prof. J. Geweke.
- 1995 December-June
• Name and address of employer
Visiting Scholar
University of Minnesota (USA) PhD research project with Prof. J. Geweke.

WORK EXPERIENCE

- 2007--
• Name and address of employer
Full Professor in Statistics
Sapienza University of Rome
- 2005-2007
• Name and address of employer
Associated Professor in Statistics
Sapienza University of Rome
- 1995-2005
• Name and address of employer
Assistant Professor in Statistics
Sapienza University of Rome
- 2016-2018
MIUR ASN Committee
- 1995-2018
Invated Speaker at more than 80 International meetings and talks
- 1995-2018
Member of Scientific and local Committee of several Statistical International Meetings and Workshops
- 2013-2015
Research responsible of the 3rd Carlo Giannini Research fellowship
- 2000-2018
Teaching course of Basic Statistics and Advanced Statistics at Undergraduate, Master and Graduate level at Sapienza University of Rome and University of Roma 3.

RESEARCH INTERESTS

- Methodology
Quantile and Generalized Quantile Regeression, Bayesian Inference, Risk Measures, Copulas, Networks, Model Selection, Extreme tail risk interdependence, Mixture Models, Time Series, Convergence
- Applied
Economics, Medical, University Student Performances, Finance, Social, Management, Insurance.

PUBLICATIONS

- 1.(2018) The Sparse Multivariate Method of Simulated Quantiles. (with M. Bernardi and P. Stolfi). Submitted Annals of Applied Statistics arXiv:1710.03453

- 2.(2018) Multiple quantile regression using the Scaled Multivariate Asymmetric Laplace. An application to financial distress (with V. Raponi). Submitted to Journal of Multivariate Analysis

- 3.(2018) Bayesian Quantile Regression using the Exponential Power Distribution Skew Exponential Power Distribution (with M Bernardi and M. Bottone) Under Revision for Computational Statistics and Data Analysis.

- 4.(2018) Cross-Country assessment of systemic risk in the European stock market: evidence from CovaR analysis (with A. Laporta and L. Merlo). Under revision for Social Indicators Research.

5. (2017) Sparse parts management for irregular demand items (with F. Costantino, G. Di Gravio, R. Patriarca) Omega online available

6. (2017) Bayesian binary quantile regression for the analysis of the Bachelor-Master transition (with C. Mollica) Journal of Applied Statistics 44 2791-2812

7. (2017) Are news important to predict Value at Risk (with M. Bernardi and L. Catania) European Journal of Finance 23 pp. 535-572

8. (2017) On the L_p quantiles for the Student t distribution (with V. Bignozzi and M. Bernardi) Statistics and Probability Letters 128 77-83

9. (2017) Multiple Risk Measures for Multivariate Dynamic Heavy Tailed Models (with M. Bernardi and A. Maruotti) Journal of Empirical Finance 43 1-32

- 10.(2017) Conditional risk based on multivariate hazard scenarios (M. Bernardi, F. Durante, P. Jawroski, G. Salvatori) Stochastic Environmental Research and Risk Assessment online available

- 11.(2017) Large deviations for risk measures in finite mixture models (with V. Bignozzi and C. Macci). Under revision for Insurance Mathematics and Statistics

- 12.(2016) Large deviations for method-of-quantiles estimators of one dimensional parameters (with V. Bignozzi, C. Macci). Submitted to Scandinavian Journal of Statistics

- 13.(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)

- 14.(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)

- 15.(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)

- 16.(2016). Dynamic Quantile Lasso Regression. Proceedings of the 48th scientific meeting of the Italian Statistical Society (with M. Bernardi and F. Poggioni)

- 17.(2016). Dynamic Model Averaging for Bayesian Quantile Regression. Submitted Journal of Business and Economics Statistics arXiv:1602.00856 (with M. Bernardi, R. Casarin, B. Maillet)

- 18.(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)

- 19.(2015). Bayesian tail risk interdependence using quantile regression. Bayesian Analysis, 10, pp. 553-603 (with M. Bernardi, G. Gayraud).

- 20.(2015). Indirect comparison between subcutaneous biologic agents in ankylosing spondylitis. Clinical Drug Investigation, 35, pp.23-29 (with A. Migliore, E. Bizzi, M. Bernardi)

- 21.(2015). Multiple seasonal cycles forecasting model: the Italian electricity demand . *Statistical Methods and Applications* 24, pp. 671-695 (with M. Bernardi)
- 22.(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)
- 23.(2015). Efficacy of biological agents administered as monotherapy in rheumatoid arthritis: a Bayesian mixed-treatment comparison analysis. *Clinical Risk Management* 11, pp. 1325-1335 (with A. Migliore, E. Bizzi, M. Bernardi, C. Egan).
- 24.(2015). The rationale for treatment of post resectional broncho pleural fistula: analysis of 52 patients. *The Annals of thoracic surgery* 1, pp. 251-257 (with G. Cardillo, F. Carleo et al.)
- 25.(2014). Likelihood based inference for regular functions with functional polynomial approximations *Journal of Econometrics*, 183, pp-22-30 (with J. Geweke)
- 26.(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).
- 27.(2013). Bayesian quantile regression for tail risk interdependence. *Advances in Latent Variables. Proceedings of the Italian Statistical Society Meeting* (with M. Bernardi, G. Gayraud)
- 28.(2013). Exponential Smoothing Models for Energy Forecasting. Volume in Honor of G. Spinelli (with M. Bernardi, M.M. Rinaldi)
- 29.(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)
- 30.(2012). Parallel Adaptive Markov chain Monte Carlo *Proceedings of the XLVI Italian Statistical Society Meeting* (with M. Bernardi)
- 31.(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)
- 32.(2011) How individual characteristics effect university students drop-out: a semiparametric mixed approach to an Italian case study. *Journal of Applied Statistics* Vol.38 n.10 pp.2225-2239 (with F. Belloc and A. Maruotti)
- 33.(2011) Forecasting Italian hourly electricity . *Complex Data Modeling and Computationally Intensive Statistical Methods for Estimation and Prediction:S.Co.2011* (with M. Bernardi)
- 34.(2010). University drop-out: an Italian experience. *Higher Education* Vol.60, n.2. pp.127-138 (with F. Belloc and A. Maruotti)
- 35.(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.)
- 36.(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)
- 37.(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)
- 38.(2009) Exponential censored 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)

- 39.(2009) Chronic postpneumonic empyema: comparative merits of thoracoscopic vs open decortification. *European Journal of Cardio-thoracic surgery* vol.36pp.914-918 (with M. Martelli, G. Cardillo, F. Carleo et al.,)
- 40.(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.,)
- 41.(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)
- 42.(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)
- 43.(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)
- 44.(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)
- 45.(2006). Mixture of conjugate prior distributions and large deviation for level crossing probabilities. *Sankhya* 68 pp.61-89 . (with C. Macci)
- 46.(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).
- 47.(2005). *Appunti di Statistica: fondamenti teorici ed esercizi*. Kappa Editore (with G. Guagnano)
- 48.(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")
- 49.(2004). Infectious Immigration: how does it affect local epidemics. *The Computational and Mathematical Population Dynamics Meeting* pp30-31 (with G. Schinaia)
- 50.(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)
- 51.(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)
- 52.(2001). Bayesian Semiparametric Analysis on Long Range Dependence , *Biometrika* vol.88 n.4, pp. 1089-1104 (with B. Liseo and D. Marinucci)
- 53.(2000). Bayes factors for Fieller's problem *Biometrika* vol.87, n.3, pp.717-723 (with M.M. Barbieri and B. Liseo)
- 54.(2000). A Predictive Approach to Time Series Model Selection. *Proceedings of the XL Italian Statistical Meeting*, pp.391-394 (with S. Tonellato)
- 55.(1999). A Bayesian proposal for the analysis of Stationary and nonstationary AR(1) timeseries. *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)

56.(1998). Prior Density Ratio Class in Econometrics. Journal of Business and Economics Statistics, vol.16 No. 4, pp. 469-478 (with J. Geweke)

57.(1997). Bayes Factors at work in a challenging class of problems. Proceedings of the workshop on Model Selection, Cagliari, pp.109-123 PitagoraEditrice, Bologna (with M.M. Barbieri and B. Liseo)

58.(1996). Robust Bayesian analysis: an interactive approach, Bayesian Statistics V (J.M.Bernardo,J.O.Berger,A.P.Dawid,A.F.M.Smith,eds)OxfordUniversityPress, pp. 661-666 (with B. Liseo and G. Salinetti)

59.(1996). Non Stationary Time Series: A Robust Bayesian Approach. PhD ThesisSupervisor J. Geweke 59.(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).

60.(1992). Robustezza bayesiana rispetto a contaminazioni in ambito multidimensionale. Working Paper of the Dipartimento di Statistica, Probabilita e Statistiche Applicate, Universita di Roma "La Sapienza", Serie E-Tesi, N.11.

MOTHER TONGUE

ITALIAN

OTHER LANGUAGES

- Reading
- Listening
- Writing
- Speaking

ENGLISH

FLUENT
FLUENT
FLUENT
FLUENT

FRENCH

FLUENT
FLUENT
FLUENT
FLUENT

• Reading
• Listening
• Writing
• Speaking