

CURRICULUM VITAE

of

Umberto Triacca

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CURRENT APPOINTMENT

Full Professor of Econometrics at Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila

PREVIOUS APPOINTMENTS

Researcher in Statistics at Italian National Statistical Institute (Istat) from April 1992 to September 2001

Assistant professor of Econometrics at L'Aquila University, from September 2001 to March 2003

Associate Professor of Econometrics at L'Aquila University, from April 2003 to March 2020

EDUCATION

- 1997: Ph.D. in Applied Statistics, Department of Statistics, University of Florence, Italy.
- 1987: MS. in Development Economics, Centro di Specializzazione e Ricerche Economico-Agrarie per il Mezzogiorno, Portici (Napoli) Italy.
- 1985: Laurea magna cum laude in Economics, University of Modena, Italy.

MAIN RESEARCH INTERESTS

- Time series analysis.
- Econometric analysis of global warming.
- Causality in econometrics.

- Cointegration.
- Econometric analysis of financial time series.
- Forecasting

HONOURS AND SCHOLARSHIPS

Scholarship Centro di Specializzazione e Ricerche Economico-Agrarie per il Mezzogiorno, Portici (Napoli) Italy, 1985-1986

Scholarship "Fondazione Luigi Einaudi", Torino, 1987.

The paper "Evidence of recent causal decoupling between solar radiation and global temperature", written with A. Pasini and A. Atanasio and published on Environmental Research Letters (2012), has been selected by the editors of ERL for inclusion in the exclusive "Highlights of 2012" collection. Papers are chosen on the basis of referee endorsement, novelty, scientific impact and broadness of appeals.

PUBLICATIONS

66 Testing for galactic cosmic ray warming hypothesis using the notion of block-exogeneity to appear in **Environmetrics**

65 Granger non causality and predictor spaces **Communications in Statistics - Theory and Methods** Pub Date: 2023-11-01

64 Estimate of a volatility's common component in ARSV models: a simulation study (with Francesca Di Iorio) **Journal of Statistical Computation and Simulation** 93:11, 1734–1742, DOI: 10.1080/00949655.2022.2152029 (2023).

63 Adding a constant to the variables in the regression through the origin: the effect on the uncentered R^2 **Quality & Quantity: International Journal of Methodology** vol. 57(3), pages 2781–2789 (2023).

62 A comparison between VAR processes jointly modeling GDP and Unemployment rate in France and Germany (with Francesca Di Iorio) **Statistical Methods & Applications** vol. 31(3), pages 617–635 (2022).

61 The nature of the trend in global and hemispheric temperatures (with Antonello Pasini) **International Journal of Climatology**. Volume 41, Issue12 Pages 5776–5784 (2021).

- 60** Forecasting the number of confirmed new cases of COVID-19 in Italy for the period from 19 May to 2 June 2020 (with Marco Triacca) **Infectious Disease Modelling**. Volume 6, Pages 362-3693, (2021).
- 59** Modes of climate variability and their relationships with interhemispheric temperature asymmetry: a Granger causality analysis **Theoretical and Applied Climatology**. Vol. 143, pp 1077–1081, (2020).
- 58** Are the autocorrelation structures of the hemispheric-mean temperatures significantly different? (with Alessandro Triacca) **International Journal of Climatology**. Vol. 40, Issue 13, pp 5612–5615, (2020).
- 57** Arctic amplification: evidence from a cluster analysis of temperature time series for eight latitude bands (with Antonello Pasini) **Theoretical and Applied Climatology**. Vol. 137, Issue 1–2, pp 505–511, (2019).
- 56** Latitudinal variability of the dynamic linkage between temperature and atmospheric carbon dioxide concentrations (with Francesca di Iorio). **Theoretical and Applied Climatology**, Vol. 136, Issue 3–4, pp 1001–1007, (2019).
- 55** Granger Causality Between Vectors of Time Series: A Puzzling Property. **Statistics and Probability Letters**, 142 39–43, (2018)
- 54** Distance Between VARMA Models and Its Application to Spatial Differences Analysis in the Relationship GDP-Unemployment Growth Rate in Europe (with Francesca Di Iorio), In **Time Series Analysis and Forecasting. Selected Contributions from ITISE 2017**, Rojas I., Pomares H., Valenzuela O. (Eds.), pp.203-215. Springer. (2018)
- 53** Non-Causality Due to Included Variables. **Econometrics**, 5(4), 46, (2017).
- 52** Testing for Zero Correlation between Two Uncorrelated Non-Linearly Dependent Random Variables: A Cautionary Note **Thailand Statistician**, Vol 15, No 2, 196–202 (2017).
- 51** Predictive information and distance between past and future of a time series **Communications in Statistics - Theory and Methods** Volume 46, Issue 16, 8230–8235, (2017).
- 50** Evidence for the role of the Atlantic multidecadal oscillation and the ocean heat uptake in hiatus prediction (with Pasini, A. Attanasio, A.) **Theoretical and Applied Climatology**, 129, 873–880 (2017).
- 49** Has natural variability a lagged influence on global temperature? A multi-horizon Granger causality analysis (with Pasini, A. Attanasio, A.) **Dynamics and Statistics of the Climate System**, Volume 1, Issue 1 (2016).

- 48** Crude Oil Price, Exchange Rate and Gross Domestic Product Nexus in an Emerging Market: A Cointegration Analysis (with E. K. Mensah, E. A. Bondzie, G. O. Fosu) **OPEC Energy Review**, 2, 212-231, (2016).
- 47** Measuring the Distance between Sets of ARMA Models **Econometrics**, 4(3), 32 (2016).
- 46** On the role of sulfates in recent global warming: a Granger causality analysis (with Pasini, A. Attanasio, A.) **International Journal of Climatology**, 12, 3701-3706, (2015).
- 45** A Pitfall in Using the Characterization of Granger Non-Causality in Vector Autoregressive Models **Econometrics**, 3(2), 233-239, (2015).
- 44** Causality and Separability (with E. Renault) **Statistics and Probability Letters**, 9, 1-5, (2015).
- 43** Testing for A Set of Linear Restrictions in VARMA Models Using Autoregressive Metric: An Application to Granger Causality Test (with F. Di Iorio) **Econometrics**, 2(4), 203-216, (2014).
- 42** Clarifying the roles of greenhouse gases and ENSO in recent global warming through their prediction performance (with Pasini, A. Attanasio, A. Giovannelli, A., Lippi, M.) **Journal of Climate** 27, 7903-7910, (2014).
- 41** Measuring persistence in time series of temperature anomalies (with A. Pasini and A. Attanasio) **Theoretical and Applied Climatology** 118, 491-495, (2014).
- 40** Estimating overnight volatility of asset returns by using the generalized dynamic factor model approach, (with F. Focker) **Decisions in Economics and Finance, Decisions in Economics and Finance** 37.2, 235-254, (2014).
- 39** The geometric meaning of the notion of joint unpredictability of a bivariate VAR(1) stochastic process, **Econometrics**, 1(3), 207-216, (2013).
- 38** Granger Causality Analyses for Climatic Attribution (with A. Attanasio and A. Pasini) **Atmospheric and Climate Sciences** 3, 515-522, (2013).
- 37** Anthropogenic global warming hypothesis: testing its robustness by Granger causality analysis (with A. Atanasio and A. Pasini) **Environmetrics** Vol. 24, Issue 4, pages 260-268,(2013).
- 36** Testing for non-causality using the autoregressive metric, (with F. Di Iorio) **Economic Modelling** Vol. 33, July, pages 120-125 (2013).
- 35** Evidence of recent causal decoupling between solar radiation and global temperature, (with A. Pasini and A. Atanasio) **Environmental Research Letters** Vol. 7, No. 3, 034020, (2012).

- 34** Cointegration and distance between differenced processes **Quality & Quantity**, Vol. 46, issue 6, pages 1953–1957 (2012).
- 33** Few remarks on the geometry of the uncentered coefficient of determination, (with A. Volodin) **Lobachevskii Journal of Mathematics**, Vol. 33, No. 3, pp. 284-292 (2012).
- 32** On the limit of the variation of the explanatory variable in simple linear regression model, **Economics Bulletin**, Vol. 32 No. 3 pp. 1927-1932 (2012).
- 31** A contribution to attribution of recent global warming by out-of-sample Granger-causality analysis (with A. Attanasio and A. Pasini) **Atmospheric Science Letters**, 13, pp. 67-72 (2012).
- 30** An Alternative Solution to the Autoregressivity Paradox in Time Series Analysis (with G. Cubadda) **Economic Modelling**, 28, pp. 1451-1454 (2011).
- 29** Detecting human influence on climate using neural networks based Granger causality (with A. Atanasio) **Theoretical and Applied Climatology**, Volume 103, Issue 1-2, pp. 103-107 (2011).
- 28** On a Characterization of Orthogonality with respect to a Stochastic Process from a Particular Sequences of Subsets in L^2 (with A. Volodin) **Applications of Mathematics**, 4, 329-335 (2010).
- 27** Volatility Persistence and Predictability of Squared Returns in GARCH(1,1) Models **Central European Journal of Economic Modelling and Econometrics**, 1, (2009).
- 26.** Dall'econometria strutturale all'econometria delle serie storiche **Economia & Lavoro** Anno XLIII, n. 3., (2009).
- 25.** Is a subspace containing a splitting subspace a splitting subspace? **Statistics and Probability Letters** 78, (2008).
- 24.** Testing for equal predictability of stationary ARMA processes (with Edoardo Otranto) **Journal of Applied Statistics** 34, (2007).
- 23.** On the variance of the error associated to the squared return as proxy of volatility **Applied Financial Economics Letters** vol.3 No.4, (2007).
- 22.** A Hilbert space proof of equivalence of the Granger and Sims notions of causality **International Journal of Applied Mathematics & Statistics** Vol. 1, No A07, (2007).
- 21.** Granger causality and contiguity between stochastic processes **Physics Letters A**, 362, 4, (2007)
- 20.** A new proxy of the average volatility of a basket of returns: A Monte Carlo study (with Fulvia Focker) **Economics Bulletin** Vol. 3, No. 15 (2006).

- 19.** Interpreting the concept of joint unpredictability of asset returns: a distance approach (with Fulvia Focker) **Physica A: Statistical Mechanics and its Applications**, 369, (2006).
- 18.** Is Granger causality analysis appropriate to investigate the relationship between atmospheric concentration of carbon dioxide and global surface air temperature? **Theoretical and Applied Climatology**, Vol. 81 No.3-4, (2005).
- 17.** A note on distance and parallelism between two ARIMA processes. **Quaderni di Statistica**, Vol. 6, (2004).
- 16.** Dimensionality problem in testing for non causality between time series. A partial solution (with Francesca Di Iorio). In **Compstat 2004. Proceedings in Computational Statistics**, 911-918, edit by Jaromir Antoch. Physica-Verlag Heidelberg.
- 15.** Feedback, causality and distance between ARMA models. **Mathematics and Computers in Simulation**, 64, (2004).
- 14.** Government Spending and Coalition Parties in Italy (1960-1993): A Cointegration-based Approach (with Nadia Fiorino) **Journal of Public Finance and Public Choice / Economia delle scelte pubbliche**, Vol. XXI, Nos. 2-3, (2003).
- 13.** Measures to Evaluate the Discrepancy between Direct and Indirect Model-Based Seasonal Adjustment (with Edoardo Otranto) **Journal of Official Statistics**, 18, (2002).
- 12.** Velocità media, lamette da barba, e statistica descrittiva **Lettera matematica PRISTEM** 46, (2002).
- 11.** Selection of the relevant set for predictive relationship analysis **Journal of Forecasting**, 21, (2002).
- 10.** Cointegration in VAR(1) process: characterization and testing **Statistical Papers**, 43, (2002).
- 9.** The partial autocorrelation function of a first order non-invertible moving average process **Applied Economic Letters**, 9, (2002).
- 8.** On the use of Granger causality to investigate the human influence on climate **Theoretical and Applied Climatology**, 69, (2001).
- 7.** On Hsiao Non-causality **Economics Letters**, 66, (2000).
- 6.** Cointegration and Distance between Information Sets **Econometric Theory**, 16, (2000).
- 5.** The Splitting Subspace of Autoregressive Process **Rivista di Statistica Applicata** Vol. 11, n.1 (1999).

4. A Geometrical Characterization of Weakly Feedback Fre Process
System and Control Letters 36 (1999).

3. Social Change: Measurement and Theory (with Paolo Garonna),
International Statistical Review 67 (1999).

2. Non Causalità in Sistemi Cointegrati: Uno Studio di Simulazione
(with Fabrizio Cipollini) in **Atti della XXXIX Riunione Scientifica
della Società Italiana di Statistica**, Sorrento, Aprile 1998.

1. Non-causality: The role of the omitted variables **Economics Letters**
60 (1998).

PRESENTATIONS AT INTERNATIONAL CONFERENCES

1998 9th (EC)2 Conference, Forecasting in Econometrics (Stockholm,
Sweden)

1999 54th European Meeting of the Econometric Society (Santiago de
Compostela, Spain)

2000 Seasonality in Economic and Financial Variables (Faro, Portugal)

2001 12th (EC)2 Conference, Causality and Exogeneity in Econometrics
(Louvain-La Neuve, Belgium)

2002 24th European Meeting of Statisticians (Praha, Czech Republic)

2003 Annual meeting of the European Public Choice Society at Univer-
sity of Aarhus (Aarhus, Denmark)

2003 Common Features in Maastricht (Maastricht, Nederland) 2004 Comp-
stat 2004 (Praha, Czech Republic)

2005 First Italian Congress of Econometrics and Empirical Economics
(Venezia, Italy)

2005 25th European Meeting of Statisticians (Oslo, Norway)

2006 Forecasting Financial Markets Conference (FFM) (Aix-en-Provence,
France)

2006 17th (EC)2 Conference, The Econometrics of Monetary Policy and
Financial Decision-Making (Rotterdam, Nederland)

2007 34th Macromodels International Conference (Warsaw, Poland)

2011 Fourth Italian Congress of Econometrics and Empirical Economics
(Pisa, Italy)

2014 Conference on Computational and Financial Econometrics (CFE),
(Pisa, Italy)

2016 PRIN Conference. Forecasting Economic and Financial Time Series
- Understanding the complexity and modelling structural change (Frascati,
Italy)

2016 9th International Conference of the ERCIM WG on Computational
and Methodological Statistics (CMStatistics 2016), University of Seville,
(Seville, Spain)

2017 Seventh Italian Congress of Econometrics and Empirical Economics (ICEEE 2017) (Messina, Italy).

2019 Prima Conferenza Nazionale sulle Previsioni Meteorologiche e Climatiche (Bologna, Italy).

VISITS

Visiting Fellow, Department of Economic, European University Institute, Florence, February - April, 2007.

Universitat Autònoma de Barcelona, Barcelona May 2018.

REFEREE ACTIVITIES

Referee for Labour: Review of Labour Economics and Industrial Relations, Journal of Forecasting, Science of the Total Environment, International Journal of Applied Mathematics & Statistics, Computational Statistics & Data Analysis, Economics Bulletin, Bulletin of Statistics and Economics, Economic Modelling, Statistical Methods and Applications, Environmental Modelling & Software, Climate Change, Economics and Business Letters, Transactions on Signal Processing, Theoretical and Applied Climatology, Econometrics, Statistics & Probability Letters, Infectious Disease Reports, Mathematics, Journal of Engineering and Applied Science, Plants, Sustainability, Applied Stochastic Models in Business and Industry.

ORGANIZATION OF CONFERENCES

- Time series Lectures Prof. Paul Newbold. Roma 12-16 Luglio 1999, Istituto Nazionale di Statistica.
- L'applicazione delle nuove tecniche di destagionalizzazione presso l'Istat. Roma 27 settembre 2000, Istituto Nazionale di Statistica.
- XIII Workshop on Quantitative Finance. L'Aquila 26-27 gennaio 2012, University of L'Aquila

TEACHING EXPERIENCE

Undergraduate level (University of L'Aquila) 2001-present

- Econometrics
- Financial Econometrics

- Time series
- Statistical Inference
- Economic Policy

Undergraduate level (University of Sassari) 1999-2000

- Statistics

Undergraduate level (University of Rome, 'La Sapienza') 2013-2014

- Econometria corso avanzato

- Time series econometrics, Eurostat training Course, Valencia, June 2018

Phd Lectures (in English).

- Advanced Time Series Analysis, International Doctoral Program in Economics, Scuola Superiore Sant'Anna, Pisa 2009-2015
- Time Series Analysis, Summer School in Econometrics for PhD Students, CIDE (Centro Interuniversitario di Econometria), Bertinoro 2010
- Maximum Likelihood Statistical Inference, Summer School in Econometrics for PhD Students, CIDE (Centro Interuniversitario di Econometria), Bertinoro 2012-2020
- Forecasting with AutoRegressive Moving Average (ARMA) models, Universitat Autònoma de Barcelona, Barcelona 2018.

INSTITUTIONAL ROLES

- 2016-present: Member of the scientific committee of the University Library Service of the University of L'Aquila.
- 2019-present Membro della commissione didattica del Consiglio di Area Didattica di Applied Data Science.
- Coordinator of the bilateral Erasmus agreement between University of L'Aquila and Regina University (Canada).

- Member of the "Consiglio di Area Didattica" of the study course "Mathematical Engineering" (University of L'Aquila)
- Member of the "Consiglio di Area Didattica" of the study course "Mathematics" (University of L'Aquila)
- Member of the "Consiglio di Area Didattica" of the study course "Economics" (University of L'Aquila)
- Member of the "Consiglio di Area Didattica" of the study course "Applied Data Scienze" (University of L'Aquila)

OTHER ROLES

- Member of the PHD in Economics and International Finance exam committee, Università La Sapienza, Roma.
- Member of the PHD in Economics and Statistical Methods exam committee, Università degli studi Roma Tre.
- Members of the evaluation Committee for 'la conferma in ruolo di ricercatore' SECS-P/05. 2011-2013.
- Member of the selection committee for the admission to PHD in 'Economics, Management and Statistics', University of Messina.

ACTIVITY IN ISTAT

- 1992-1993. Member of the Econometric Studies Service. .
- 1994-1996. Member of the Secretariat of the ISTAT Director General (Director's staff structure),
- 1997-2000. Member of the Technical Secretariat of the Central Director of Istat statistics of institutions and companies.
- 2001-September 2001. Member of the Office of the Central Director of Short-term Statistics.