Alessandro Giovannelli

Contact Information

University of L'Aquila
Department of Information Engineering,
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Research: http://ideas.repec.org/f/pgi264.html

Research Interests

My research activities involve the construction and use of statistical models for the analysis of time series with applications related to climate data (study of climate change) and economic data (forecasting). In particular, my recent studies refer to statistical models for the analysis of large datasets, such as methods for the regularisation of autocovariance matrices, large approximate dynamic factorial models, data rduction using non-linear techniques (Deep Learning). My works have been published in journals such as Biometrika, Journal of Royal Statistical Society: A, International Journal of Forecasting, Journal of Applied Econometrics, Journal of Climate.

Current Position

Since October 2022

Assistant Professor in Statistics (SECS S-01) at Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila.

- **Position**: Ricercatore a t.d. - t.pieno (art. 24 c.3-b L. 240/10)

Funded Projects

March 2022

- **Project**: programma PRIN (Progetti di ricerca di Rilevante Interesse Nazionale)
- **Position**: Local scientific coordinator at Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila.
- **Title of the Project**: High-dimensional time series for structural macroeconomic analysis in times of pandemic.

Prize

14 October 2011

- "*Society of Italian Economist prize 2011*" for the best Italian PhD thesis discussed in year 2010.

Fellowship

- Fellow at Società Italiana di Statistica
- Fellow at Royal Statistical Society, Member Number: 212427
- Fellow at Italian Society of Econometrics and Empirical Economics
- Member of the American Statistical Association

Professional Experience

December 2018 - September 2019

- Assistant Professor in Statistics (SECS S-01) at Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila.
- **Position**: Ricercatore a t.d. - t.pieno (art. 24 c.3-a L. 240/10)

December 2018 - September 2019

- Senior Data Analyst at Sogei spa.

January 2015 - November 2018

- Junior Economist at Ministry of Environment (MATTM).

May 2016 - May 2017

- Research fellow at ECLT - European Centre for Living Technology - Università Ca' Foscari Venezia and GSK - GlaxoSmithKline

February 2017 - July 2017

Consultant at Dipartimento di Economia e Finanza - Università degli studi di Roma "Tor Vergata" as part of a collaboration with the Dipartimento del Tesoro - Direzione Generale di Analisi e Programmazione Economico-Finanziaria.

- Supervisor: Professor Tommaso Proietti.

03 June 2015 - 30 December 2015

Post-doctoral fellow at the Department of Environmental Sciences, Informatics - Università Ca' Foscari Venezia.

- Supervisor: Professor Irene Poli.

September 2010 - September 2012

Research fellow at the research institute Centro Europa Ricerche - Cer in applied economic analysis.

01 March 2014 - 28 February 2015

Post-doctoral fellow at the Department of Economics and Finance of University of Rome "Tor Vergata".

- Supervisor: Professor Tommaso Proietti.

August 2013 - December 2013

- Consultant at Food and Agriculture Organization of the United Nations (FAO) - Economic and Social Development Department.

15 October 2012 - 14 April 2013

- Post-doctoral fellow at the Department of Economics and Finance of University of Rome "Tor Vergata".
  - Supervisor: Professor Stefano Hertzel.

15 October 2011 - 14 October 2012

- Post-doctoral fellow at the Department of Economics and Finance of University of Rome "Tor Vergata".
  - Supervisor: Professor Stefano Hertzel.

01 April 2011 - 30 September 2011

- Post-doctoral fellow at the Department of Economics and Finance of University of Rome "Tor Vergata".
  - Supervisor: Professor Stefano Hertzel.

November 2007 - November 2008

- Research Fellow at Ministry of Economy and Finance – Department of Analysis and economic and financial planning

June 2007 - September 2007

Istituto per lo Sviluppo della Formazione Professionale dei Lavoratori (ISFOL)

- The research project focused on studying the presence of Italian women in the "Sandwich Generation".

Education

September 2006 - June 2010

Ph.D. in Econometrics and Empirical Economics

- University of Rome "Tor Vergata" – School of Economics
- **Thesis**: Nonlinear Forecasting Using a Large Number of Predictors
- **Advisor**: Professor Marco Lippi

September 2005 - September 2006

2nd Level Postgraduate Master in Economics (MEI)

- University of Rome "Tor Vergata" – School of Economics
- Quantitative Methods Specialization

September 1999 - December 2004

Master's Degree in Economics and Business

- Faculty of Economics – University of L'Aquila
- **Thesis**: Monte Carlo simulations applied in econometrics. A comparison between classes of critical values for the Dickey – Fuller test.
- **Advisor**: Professor Umberto Triacca

Teaching Experience

Teaching Activity: INTRODUCTION TO STATISTICAL LEARNING

- **Period**: 28/02/2022 - 09/06/2022
- Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila;

Teaching Activity: INTRODUCTION TO STATISTICAL LEARNING

- **Period**: 01/02/2021 - 31/05/2021
- Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila;

Teaching Activity: INTRODUCTION TO STATISTICAL LEARNING

- **Period**: 24/02/2020 - 05/06/2020
- Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila;

Teaching Activity: STATISTICS LAB

- **Period**: 27/09/2021 - 14/01/2022
- Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila;

Teaching Activity: STATISTICS LAB

- **Period**: 05/10/2020 - 22/01/2021
- Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila;

Teaching Activity: STATISTICS LAB

- **Period**: 10/2019 - 01/2020
- Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila;

Teaching Activity: FINANCIAL ECONOMETRICS

- **Period**: 10/09/2018 - 01/12/2018
- **Posizione**: Contract Faculty Luiss Libera Università internazionale degli studi sociali Guido Carli

Teaching Activity: BIG DATA ANALYTICS

- **Period**: 13/02/2017 - 13/05/2017
- **Posizione**: Contract Faculty Luiss Libera Università internazionale degli studi sociali Guido Carli

Teaching Activity: BIG DATA ANALYTICS

- **Period**: 15/02/2016 - 14/05/2016
- **Position**: Contract Faculty Luiss Libera Università internazionale degli studi sociali Guido Carli

Teaching Activity: Metodi quantitativi per l'Economia

- **Period**: 20/04/2015 - 19/05/2015
- **Position**: Teaching Assistant
- Department of Economics and Finance, University of Rome "Tor Vergata"

Publications and Working Papers

- Alessandro Giovannelli, Daniele Massacci, Stefano Soccorsi, Forecasting stock returns with large dimensional factor models, *Journal of Empirical Finance*, Volume 63, 2021, Pages 252-269, https://doi.org/10.1016/j.jempfin.2021.07.009.
- Tommaso Proietti, Alessandro Giovannelli, Ottavio Ricchi, Ambra Citton, Christian Tegami, Cristina Tinti, "Nowcasting GDP and its components in a data-rich environment: The merits of the indirect approach", *International Journal of Forecasting*, Volume 37, Issue 4, 2021, Pages 1376-1398, https://doi.org/10.1016/j.ijforecast.2021.04.003.
- T. Proietti, & A. Giovannelli (2020). "Nowcasting Monthly GDP with Big Data: A Model Averaging Approach". *In JOURNAL OF THE ROYAL STATISTICAL SOCIETY. SERIES A, STATISTICS IN SOCIETY - ISSN:1467-985X.*
- Giovannelli A. and F. M. Pericoli, "Are GDP forecasts optimal? Evidence on European countries", 2020, *International Journal of Forecasting.* DOI:10.1016/ j.ijforecast.2019.12.003
- A. Giovannelli, U. Triacca and O. Damette "A test of sufficient condition for infinite-step Granger noncausality in infinite order Vector Autoregressive process" *CEIS Working Paper, 496, June 2020.*
- Forni M. Giovannelli A. Lippi M. and Soccorsi S. 2018. "Dynamic Factor model with infinite dimensional factor space: forecasting". J*ournal of Applied Econometrics*, John Wiley & Sons, Ltd., vol. 33(5), pages 625-642, August. DOI:10.1002/jae.2634
- T. Proietti, & A. Giovannelli, 2018. "A Durbin-Levinson Regularized Estimator of High Dimensional Autocovariance Matrices". *Biometrika*, Volume 105, Issue 4, 1 December 2018, Pages 783-795, https://doi.org/10.1093/biomet/asy042
- Giovannelli, A., Slanzi, D., Khoroshiltseva, M., & Poli, I. 2017. "Model-Based Lead Molecule Design". *In Italian Workshop on Artificial Life and Evolutionary Computation.* Springer, Cham, pages 103-113
- A. Giovannelli and T. Proietti, 2016. "On the Selection of Common Factors for Macroeconomic Forecasting," in Eric Hillebrand , Siem Jan Koopman (ed.) *Dynamic Factor Models (Advances in Econometrics, Volume 35)* Emerald Group Publishing Limited, pp. 593-628
- U. Triacca, A. Pasini, A. Attanasio, A. Giovannelli, M. Lippi, 2014, "Clarifying the roles of greenhouse gases and ENSO in the recent global warming through their prediction performances", *Journal of Climate*, 27, 7903-7910.

- Becchetti L., Ciciretti R. and Giovannelli A., 2013. "Corporate social responsibility and earnings forecasting unbiasedness ", *Journal of Banking and Finance*, Elsevier, vol. 37(9), pages 3654-3668.
- Giovannelli A., 2012. "Nonlinear Forecasting Using a Large Number of Predictors", *Rivista Italiana degli Economisti, SIE - Societa' Italiana degli Economisti* (I), vol. 17(1), pages 143-150, April. (SIE Prize)

Working Research

- On The Impact of serial dependence on Penalized Regression Methods, with S. Tonini, F. Chiaromonte (2022);
- Band-Pass Filtering in the Time Domain, with T. Proietti and M. Lippi (2022);
- High-Dimensional Semi-Prametric regression model: the EasyNet approach (2022).
- Forecasting Global Temperature with Time-Series Methods;
- Non-linear forecasting using Kernel methods (2021);
- Giovannelli A., 2012, "Nonlinear Forecasting Using Large Datasets: Evidence on US and Euro Area Economies", *CEIS Research Paper*, 255, November;

Conference Organiser

ROME - WASEDA TIME SERIES SYMPOSIUM

- Villa Mondragone - Monte Porzio Catone (Rome), October 5-7, 2022

Econometric Models of Climate Change

- Villa Mondragone - Monte Porzio Catone (Rome), September 6 - 7, 2018;

Presentations to Seminars, Conferences

15th International Conference of the ERCIM WG on Computational and Methodological Statistics 16th International Conference on Computational and Financial Econometrics, King's College London, UK 17-19 December 2022

- Invited Talk for an Organized Session: High-Dimensional Time Series Analysis and Applications
- Band-pass filtering with high-dimensional time series

5th Vienna Workshop on High-dimensional Time Series in Macroeconomics and Finance - A Tribute to Manfred Deistler.

- Invited Talk: Band-Pass Filtering with High-Dimensional Time Series, Institute of Advanced Studies, Vienna June 9-10, 2022.

3rd Italian Workshop of Econometrics and Empirical Economics: "High-dimensional and Multivariate Econometrics: Theory and Practice".

- Band-Pass Filtering in the Time Domain, University of Bologna 20-21 January 2022.

41st International Symposium on Forecasting held virtual.

- Band-Pass Filtering in the Time Domain, Tuesday, June 29.

ESCoE Conference on Economic Measurement 2020 organised in partnership with the UK Office for National Statistics (ONS).

- Nowcasting Monthly GDP: a Model Averaging Approach, 16-18 September 2020

2nd Italian Workshop of Econometrics and Empirical Economics: "Time Series Models: Theory and Applications", University Ca' Foscari, Venice,.

- Nowcasting Monthly GDP: a Model Averaging Approach, January 23-24 2020

13th International Conference on Computational and Financial Econometrics (CFE 2019)

- New EuroMind: An averaging Approach, December 14-16, 2019;

4thVienna Workshop on High-Dimensional Time Series in Macroeconomics and Finance 2019

- New EuroMind: An averaging Approach, May 16 - 17, 2019;

12th International Conference on Computational and Financial Econometrics (CFE 2018)

- Comparing linear and non-linear dynamic factor models for large macroeconomic datasets, December 14-16, 2018;

ITISE 2018 (International conference on Time Series and Forecasting)

- Comparing linear and non-linear dynamic factor models for large macroeconomic datasets, September 19-21, 2018;

18th **IWH-CIREQ-GW Macroeconometric Workshop**

- New euroMind: An averaging Approach, December 12-13 2017;

Big data, Machine Learning and the Macroeconomy, Oslo

- New euroMind: An averaging Approach, October 2-3 2017;

10th International Conference on Computational and Financial Econometrics, Seville

- Forecasting Global Temperature with Time-Series Methods, December 9-11 2016;

WIVACE 2016/BIONAM 2016, Salerno

- Model-Based Lead Molecule Design, October 4-7 2016;

International Association for Applied Econometrics Annual Conference, Milan

- Optimal linear prediction of stochastic trends, June 23 2016;

The 36th International Symposium on Forecasting Santander, Spain

- Forecasting Stock Returns With Large Dimensional Factor Models, June 20 2016;

Workshop on "Dynamic Factor Models and Structural VAR Analysis" in honor of Marco Lippi

- A New Criterion for VAR Model Selection (joint work with Umberto Triacca), EIEF, Rome 13 September 2014;

International Work-Conference on Time Series Analysis (ITISE)

- Dynamic Factor model with infinite dimensional factor space: forecasting, Granada (Spain), June 2014;

5th International Conference of the ERCIM Working Group on Computing & Statistics, Oviedo, Spain

- Nonlinear Forecasting Using Large Datasets: Evidences on US and Euro Area Economies, 1-3 December 2012;

5th International Conference on Corporate Social Responsibility - The Future of CSR, Berlin, Germany

- Corporate Social Responsibility and Stock Market Efficiency, 4-6 October 2012;

The 4th Annual Academic Conference on Responsible Investment, Sigtuna, Sweden

- Analyst on Earning Per Share and Corporate Social responsibility, September 26-28 2011;

Macro and Financial Econometrics Conference, Heidelberg, Germany

- Kernel Methods for Large Dataset, September 29-30 2011;

The 30th Annual International Symposium on Forecasting, San Diego, USA

- Nonlinear Forecasting Using a Large Number of Predictors, June 22 2010;

Tor Vergata Ph.D. Seminars

- Nonlinear Forecasting Using a Large Number of Predictors, March 31 2009;
- Determining the Number of Factors Using Conditional Predictive Test, March 02 2010;

Conferences Attended

- The 2nd Annual Conference of the International Association for Applied Econometrics (IAAE), University of Macedonia - Thessaloniki, 25-27 June 2015;
- 16th Annual Advances in Econometrics Conference, Aarhus, 15-16 November 2014;
- III International Conference in Memory of Carlo Giannini on Dvelopments in Mcroeconomic Modeling and Econometric Assessment of Structural Policies, Bank of Italy, Rome 12-13 April 2012;

- II International Conference in Memory of Carlo Giannini on Time Series Econometrics and Macroeconomic Forecasting in a Policy Environment, Bank of Italy, Rome 19/20 January 2010;
- First Macroeconomic Forecasting Conference, ISAE, Rome, 27th March 2009;
- Workshop in Factor models, high frequency data and short - term forecasting, Bank of Italy, Rome 16 September 2008;
- Workshop in Advances in Forecasting with Artificial Neural Networks, Nice, France, Summer 2008;
- The 28th Annual International Symposium on Forecasting, Nice, France, Summer 2008;
- IX Workshop in Quantitative Finance, University of Rome "Tor Vergata", 24/25 January 2008;
- Workshop in Parametric and Nonparametric Estimation and Forecasting of Time Series Conditional Moment Dynamic", Villa Mondragone, Rome, Summer 2007;
- Villa Mondragone Workshop in Economic Theory and Econometrics, June 29/July 2 2006;
- Summer School in "Applied Macroeconometrics - Programming in MatLab", University of Salento, Lecce, Italy, July 2005;

Technical Skills

- MatLab, Python, R and STATA.
- Programming: C, C++
- Applications: TeX, LaTeX, Microsoft Office, and other common productivity packages for Windows, OS X, and Linux platforms
- Operating Systems: Linux, Apple OS X, Microsoft.

Language

- Italian (Mother Tongue)
- English (Fluent)
- French (Basic User)