Andrea Bucci — Curriculum Vitae - December 26, 2025

Contact Information

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Address:	University of Macerata Department of Economics and Law, 62100 Macerata, Italy

Current position

Associate Professor of Econometrics, Department of Economics and Law at University of Macerata, December 2025 – to date

Previous positions

Assistant Professor (tenure track, RTDb) of Econometrics, Department of Economics and Law at University of Macerata, 2022 – 2025

Assistant Professor (RTDa) of Statistics, Department of Economics at Università degli Studi G. d'Annunzio Chieti-Pescara, 2020 – 2022

Post-Doctoral Research Fellow of Medical Statistics, Department of Biomedical Sciences and Public Health at Università Politecnica delle Marche, 2018 – 2020

Post-Doctoral Research Fellow of Econometrics, Department of Economics and Social sciences at Università Politecnica delle Marche, 2017 – 2018

Research

Selected Publications

1. **Bucci A.** (2026) *A sequential test procedure for the choice of the number of regimes in multivariate nonlinear models*. Econometric Reviews
2. **Bucci A.**, Palomba G., Tedeschi M. (2026) *Matrix-valued AutoRegressive (MAR) models in `gretl`*. Computational Statistics
3. **Bucci A.** (2025). *A smooth transition autoregressive model for matrix-variate time series*. Computational Economics
4. **Bucci A.**, Sanmarchi F., Santi L., Golinelli D. (2024). *Evaluating the nonlinear association between PM_{10} and emergency department visits*. Socio-Economic Planning Sciences
5. He L., Liu Q., Liu Z., **Bucci A.** (2023). *Correcting spot power variation estimator via Edgeworth expansion*. Metrika

6. **Bucci A.**, He L., Liu Z. (2023). *Combining dimensionality reduction methods with neural networks for realized volatility forecasting*. Annals of Operations Research
7. **Bucci A.**, Palomba, G., Rossi E. (2023). *The role of uncertainty in forecasting volatility comovements across stock markets*. Economic Modelling. 125
8. Ciciretti V., **Bucci A.** (2023). *Building optimal regime-switching portfolios*. North American Journal of Economics and Finance. 64
9. **Bucci A.**, Ippoliti L., Valentini P. (2023). *Analysing spatio-temporal patterns of COVID-19 confirmed deaths at the NUTS-2 regional level*. Regional Statistics. 13(2)
10. **Bucci A.**, Ippoliti L., Valentini P. (2022). *Comparing unconstrained parametrization methods for return covariance matrix prediction*. Statistics and Computing. 32(5): 90
11. **Bucci A.**, Palomba G., Rossi E. (2022). *`starvars`: An R Package for Analysing Nonlinearities in Multivariate Time Series*. The R Journal. 14(1): 208-226
12. **Bucci A.**, Ciciretti V. (2022). *Market regime detection via realized covariances*. Economic Modelling. 111: 105832
13. **Bucci A.**, Ippoliti L., Fontanella S., Valentini P. (2022). *Clustering spatio-temporal series of confirmed COVID-19 deaths*. Spatial Statistics. 49: 100543
14. **Bucci A.** (2020). *Realized Volatility Forecasting with Neural Networks*. Journal of Financial Econometrics. 16(3): 502-531
15. **Bucci A.** (2020). *Cholesky-ANN models for predicting multivariate realized volatility*. Journal of Forecasting. 39(6): 865-876
16. Golinelli D., **Bucci A.**, Adja K. Y. C., Toscano F. (2020). *Comment on: "The Italian NHS: What Lessons to Draw from COVID-19?"*. Applied Health Economics and Health Policy.
17. **Bucci A.**, Skrami E., Faragalli A., Carle F., Gesuita R., and Ferrante L. (2019). *Segmented Bayesian Calibration Approach for Estimating Age in Forensic Science*. Biometrical Journal. 61 (6): 1575-1594
18. **Bucci A.** (2018). *Forecasting realized volatility: a review*. Journal of Advanced Studies in Finance. 8(2): 94-138
19. Golinelli D., Toscano F., **Bucci A.**, Lenzi J., Fantini M.P., Nante N. and Messina G. (2017). *Health expenditure and all-cause mortality in the galaxy of Italian regional healthcare systems. A fifteen years panel data analysis*. Applied Health Economics and Health Policy. 15(6): 773-783

Working papers

1. **Bucci A.**, Goracci G. (2025). *A bootstrap linearity test for the Vector Threshold Autoregressive model.*
2. Alexandridis A., **Bucci A.**, Souropanis I. (2025). *Using wavelet decomposition and machine learning to predict realized volatility.*
3. **Bucci A.**, Palma M., Zhang C. (2024). *Geometric Deep Learning for Realized Covariance Matrix Forecasting*. Available as working paper at `https://arxiv.org/abs/2412.09517`

Research Grants

Local coordinator PRIN (MIUR), *Monitoring Risks in Financial Markets* (2024)

Education

Ph.D. in Economics, Department of Economics and Social Sciences, Università Politecnica delle Marche, 2017.

Master's Degree in Economic and Financial Sciences, Università Politecnica delle Marche, 2012.

Bachelor of Science in Economics, Markets and Management, Università Politecnica delle Marche, 2010.

Teaching and PhD student supervision

Teaching

University of Macerata

Financial Econometrics, 2023 – to date

Introductory Econometrics, 2023 – to date

Analysis of temporal and spatial data, 2023 – to date

Probability and statistical inference, 2023 – to date

Descriptive statistics, 2023 – 2024

Impact evaluation of choices in economics and business, 2023 – 2024

Università degli Studi G. d'Annunzio of Chieti-Pescara

Data Mining, 2021 – 2024

PhD students supervised

KOMIS Diana, University of Macerata, "Using graphs to predict realized covariance matrices"

BHUTTO Danish, University of Macerata, "Financial and ESG Performance Analyses of Economic Sectors as a Possible Tool for Increasing the Competitiveness and Resilience of Supply Chains"

Editorial and Refereeing Activity

Editorial Roles

Guest Editor of Research Topic 'Patterns of all-cause and cause-specific mortality during the SARS-CoV-2 pandemic: the impact of health policies and interventions' for the journal *Frontiers in Public Health*

Member of the Editorial Board of BMC Health Services Research

Invited Peer Reviewer

Annals of Operations Research (2024, 2023), Annals of Statistics (2025), Applied Economics Letters (2024), AStA – Advance in Statistical Analysis (2022), Econometrics (2024, 2021), Econometrics and

Statistics (2018), Economic Modelling (2021), Empirical Economics (2021), Finance Research Letters (2024), Frontiers in Energy Research (2021), International Journal of Computational Economics and Econometrics (2023), Health & Place (2020), International Journal of Forecasting (2025a, 2025b, 2024a, 2024b, 2024c, 2021a, 2021b), Journal of Business & Economic Statistics (2024), Journal of Economic Behavior and Organization (2025), Journal of Financial Data Science (2022), Journal of Financial Econometrics (2025, 2024, 2022a, 2022b, 2021), Journal of Financial Services Marketing (2020), Journal of Futures Markets (2024), Journal of International Financial Markets, Institutions & Money (2024), Journal of Risk (2022), Metron (2021), Public Health (2022), Spatial Statistics (2025, 2021), Statistics & Computing (2024), Statistical Methods & Applications (2024, 2020), Sustainability (2022), The North American Journal of Economics and Finance (2023a, 2023b), The R Journal (2021)

Scientific Societies

Ordinary Member of the Italian Econometric Association, 2016 – present

Ordinary Member of the Italian Statistical Society, 2022 – present

Conference Talks, Seminars and Presentations

Conference Talks and Presentations

(2026) Volatility & Liquidity Workshop, University of Pavia (invited discussant).

(2025) 18th International Joint Conference CFE-CMStatistics at University of London, London, England (invited speaker).

(2025) 13th Annual Conference of the International Association for Applied Econometrics, Turin, Italy.

(2024) 18th International Joint Conference CFE-CMStatistics at King's College, London, England.

(2024) Invited speaker for the seminar series hosted by the Accounting and Finance Group at Loughborough University, England.

(2023) IES 2023 - Statistical Methods for Evaluation and Quality: Techniques, Technologies and Trends, Pescara, Italy (invited speaker).

(2023) SIS 2023 - Statistical Learning, Sustainability and Impact Evaluation, Ancona, Italy.

(2022) 24th International Conference on Computational Statistics, Bologna, Italy.

(2022) 53es Journées de Statistique de la Société Francaise de Statistique (SFdS), Lyon, France (invited speaker).

(2021) Econometric Research in Finance (ERFIN) Workshop 2021, Warsaw (on-line).

(2021) 4th International Conference on Econometrics and Statistics, Hong Kong (on-line).

(2020) 3rd International conference on Data Science & Social Research, Bari (on-line).

(2019) XLIII Conference of the Italian Association of Epidemiology (AIE), Catania.

(2019) X National Conference of Italian Society of Medical Statistics and Clinical Epidemiology (SISMEC), Rome.

(2019) 6th Gretl Conference, Naples, Italy.

(2019) Eight Italian Congress of Econometrics and Empirical Economics, Lecce, Italy.

(2018) 11th European Public Health Conference, Ljubljana, Slovenia.

(2018) XLII Conference of the Italian Association of Epidemiology (AIE), Lecce, Italy.

Conference organization

(2025 – to date) Member of the Program Committee for the FinEML Conference

(2023) Member of the Local Committee for the IES 2023 - Statistical Methods for Evaluation and Quality: Techniques, Technologies and Trends

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Research Interests

Financial Econometrics, Time series, Machine Learning, Applied Econometrics, Health Economics, Environmental Epidemiology.