Erindi Allaj

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Current Appointment

Associate Professor, University of Parma, Italy

Date: Jan 2025 - Now

Undergraduate Courses Taught: Mathematics. Quantitative Methods for Financial Markets (Module 2)

Previous Appointments

Assistant Professor (RTD-B), University of Parma, Italy

Date: Jan 2022 - Dec 2024

Undergraduate Courses Taught: Mathematics. Quantitative Methods for Financial Markets (Module 2)

Lecturer, Marin Barleti University, Tirana, Albania

Date: Apr 2021 - Jul 2021

Lecturer, Epoka University, Tirana, Albania

Date: Sep 2019 - Nov 2020

Project Assistant at the Department of Applied Statistics, University of Linz, Austria

Date: Jan 2019 - Apr 2019

Postdoctoral researcher at the Department of Economics and Management (DISEI), University of Florence, Italy. Project: Mathematical Methods for Economics, Actuarial Science and Finance. Italian SSD: SECS/S-06

Date: Jun 2017 - Jun 2018

Lecturer, Albanian University, Tirana, Albania

Date: Oct 2016 - Feb 2017

Lecturer, Canadian Institute of Technology, Tirana, Albania

Date: Sep 2015 - Sep 2016

Education

Ph.D. in Money and Finance, Faculty of Economics, University of Rome “Tor Vergata”, Italy

Date: Sep 2011 - June 2015

2nd level Master degree in Banking and Finance, Faculty of Economics, University of Rome “La Sapienza”, Italy

Date: Jan 2010 - May 2011

MSc degree in Finance, Insurance and Value Creation, Faculty of Economics, University of Rome “La Sapienza”, Italy

Date: Sep 2007 - Oct 2009

Bachelor degree in Economics, Finance and Business Management, Faculty of Economics, University of Rome “La Sapienza”, Italy

Date: Sep 2004 - Jul 2007

Research Interests

Finance, Probability and Stochastic Calculus applied to Finance, Asset Allocation, Option Pricing, Mathematical Finance, Econometrics and Bayesian Statistics

Peer-reviewed Journal Articles

Allaj, E. (2025). No-Arbitrage Valuation of Contingent Claims Depending on an Untradeable Asset. Applied Stochastic Models in Business and Industry, 41(2), e70007.

Allaj, E. (2025). Integrated volatility estimation: the case of observed noise variables. Journal of the Korean Statistical Society, 54(1), 20-43.

Allaj, E., Mancino, M. E., & Sanfelici, S. (2024). Identifying the number of latent factors of stochastic volatility models. Decisions in Economics and Finance, 1-32.

Allaj, E., & Sanfelici, S. (2023). Early Warning Systems for identifying financial instability. International Journal of Forecasting, 39(4), 1777-1803.

Allaj, E. (2021). Measuring variability and association for categorical data. Fuzzy Sets and Systems, 421, 29-43.

Allaj, E., & Mancino, M. E. (2021). On asset-allocation and high-frequency data: are there financial gains from using different covariance estimators?. Communications in Statistics-Simulation and Computation, 50(12), 4413-4441.

Allaj, E. (2020). The Black–Litterman model and views from a reverse optimization procedure: An out-of-sample performance evaluation. Computational Management Science, 17(3), 465-492.

Allaj, E. (2018). Two simple measures of variability for categorical data. Journal of applied statistics, 45(8), 1497-1516.

Allaj, E. (2017). Risk measuring under liquidity risk. Applied Mathematical Finance, 24(3), 246-279.

Allaj, E. (2017). Implicit transaction costs and the fundamental theorems of asset pricing. International Journal of Theoretical and Applied Finance, 20(04), 1750024.

Allaj, E. (2013). The Black–Litterman model: a consistent estimation of the parameter tau. Financial Markets and Portfolio Management, 27, 217-251.

Working Papers

Allaj, E. (2025). Portfolio optimization with conditional ESG scores.

Allaj, E., & Cerqueti, R. (2025). Investments risk and reliability systems.

Allaj, E. (2024). A four-objective mean-variance-CVaR-ESG model for portfolio selection problem.

Research Projects

PRIN 2022 PNRR – Responsible for the University of Parma for the project PRIN (Progetti di Rilevante Interesse Nazionale) “The effects of climate change in the evaluation of financial instruments”

Date: Start date - Sep 2023 - End date - Sep 2025

Management Committee member for COST Action CA21163. “Text, functional and other high-dimensional data in econometrics: New models, methods, applications (HiTEc)”

Date: Start date - Oct 2022 - End date - Oct 2026

Membership

Member of the AMASES (Association of Applied Math for Social and Economics Science) association, March 2025 - Now.

Member of the Doctorate Committee of the PhD in Economics and management of innovation and sustainability (EMIS), University of Parma, University of Ferrara and the Catholic University of the Sacred Heart - Piacenza, 2023-2024

Member of the National group for Mathematical, Probability and their Applications (GNAMPA-INDAM), 2022-2023

Conference Presentations

A four-objective mean-variance-CVaR-ESG model for portfolio selection problem, “5th IMA and OR Society Conference on Mathematics of Operational Research”, Birmingham, 30 April, 2025 - 02 May, 2025

A four-objective mean-variance-CVaR-ESG model for portfolio selection problem, “XXVI Workshop on Quantitative Finance”, Palermo, 15-17 April 2025

Identifying the number of latent factors of stochastic volatility models, “18th International Conference Computational and Financial Econometrics (CFE) and Computational and Methodological Statistics (CMStatistics)”, London, 14-16 December 2024

A four-objective mean-variance-CVaR-ESG model for portfolio selection problem, “NORS Annual Conference 2024”, Oslo, 26-27 November 2024

Non-arbitrage valuation of contingent claims depending on an untradeable asset, “Advances in Risk Modelling and Applications to Finance and Climate Risk”, Wien, 02-04 July 2024

Non-arbitrage valuation of contingent claims depending on an untradeable asset, “11th International Conference Mathematical and Statistical Methods for Actuarial Sciences and Finance”, Le Havre, 04-06 April 2024

Applications of the Fourier estimator in early warning systems and model identification. Workshop: “Non-parametric estimation of stochastic volatility models”, Florence, 24 November 2022

Realized volatility estimator under liquidity constraints, “12th International Conference of the ERCIM WG on Computational and Methodological Statistics-13th International Conference on Computational and Financial Econometrics”, London, 14-16 December 2019

The Black-Litterman Model and Views from a Reverse Optimization Procedure: An Out-of-Sample Performance Evaluation, “Belgian Financial Research Forum”, Brussels, 01 June 2018

The Black-Litterman and its out-of-sample performance, Workshop: “Portfolio managing, stochastic processes and financial econometrics”, Florence, 18 May 2018

Implicit Transaction Costs and the Fundamental Theorems of Asset Pricing, “XV Iberian-Italian Congress of Financial and Actuarial Mathematics”, Seville, 23-24 October 2014

Invited Seminars

Volatility measurement in presence of high-frequency data, Institute of Applied Statistics, Linz, 25 October 2018

The Black-Litterman Model and Views from a Reverse Optimization Procedure: An Out-of-Sample Performance Evaluation, Department of Mathematics, Polytechnic University of Milan, Milan, 10 April 2018

The Black-Litterman Model and Views from a Reverse Optimization Procedure: An Out-of-Sample Performance Evaluation, Department of Economics and Management (DISEI), Florence, 24 October 2017

Academic Service

Referee for: Annals of Finance, Applicable Analysis, Decisions in Economics and Finance, Financial Markets and Portfolio Management, International Review of Economics and Finance, SN Business & Economics

Post-doc supervision, Asad Ullah Khan, Title: "Mathematical Tools for Evaluating Green Financial Investments", 2024-2025

Master Thesis: Co-supervisor with Prof. Maria Elvira Mancino, Alessandro Carlesimo, University of Florence, Italy, Title: "Valuation of non-performing loans. The case of IFIS Bank", July, 2017

Courses Attended

Course in "Agent-Based Simulations with Laboratory for Simulation Development LSD", Istituto di Ricerca sull'Impresa e lo Sviluppo (CERIS), Consiglio Nazionale delle Ricerche (CNR), Nov 29 - Dec 01, 2010

Work Experience

Stage, Eurokleis s.r.l, Rome

Date: May 2009 - Sep 2009

Main responsibilities: Helped in the development of a model for swap pricing

Honors, Awards, & Fellowships

Winner of a PhD scholarship in Money and Finance, Faculty of Economics, University of Rome "Tor Vergata"

Graduation award for finishing the MSc on time, Faculty of Economics, University of Rome "La Sapienza"

Other Skills

Languages: Albanian native, Fluent in English, Fluent in Italian, Basic Spanish.

Computer literacy: Good knowledge of Matlab, R, Latex and MS applications

Last updated: May 4, 2025