

# Erindi Allaj

Via J. Kennedy, 6 43125 Parma  
Email: erindi.allaj@unipr.it

## Current Appointment

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

*Date:* Jan 2022 - Now.

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

## Previous Appointments

Lecturer, Marin Barleti University, Tirana, Albania.

*Date:* Apr 2021 - Jul 2021.

Undergraduate Courses Taught: Statistics.

Graduate Courses Taught: Econometrics and Financial Systems.

Lecturer, Epoka University, Tirana, Albania.

*Date:* Sep 2019 - Nov 2020.

Undergraduate Courses Taught: Statistics.

Graduate Courses Taught: Financial Analysis.

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.

Undergraduate Courses Taught: Statistics.

Lecturer, Canadian Institute of Technology, Tirana, Albania.

*Date:* Sep 2015 - Sep 2016.

Undergraduate Courses Taught: Introduction to Statistics, Business Statistics and Calculus I (exercises).

## 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, Erindi; Sanfelici, Simona. Early Warning Systems for identifying financial instability. *International Journal of Forecasting*, 2023, 39.4: 1777-1803.

Allaj Erindi. Measuring variability and association for categorical data. *Fuzzy Sets and Systems*. 2021 Sep 30;421:29-43.

Allaj, Erindi; Mancino, Maria Elvira. On asset-allocation and high-frequency data: are there financial gains from using different covariance estimators?. *Communications in Statistics-Simulation and Computation*, 2021, 50.12: 4413-4441.

Allaj, Erindi. The Black-Litterman Model and Views from a Reverse Optimization Procedure: An Out-of-Sample Performance Evaluation, *Computational Management Science*, 2020, 17, 465-492

Allaj, Erindi. Two simple measures of variability for categorical data, *Journal of Applied Statistics*, 2018, Volume 45, Issue 8, pp 1497-1516

Allaj, Erindi. Risk Measuring Under Liquidity Risk, *Applied Mathematical Finance*, 2017, Volume 24, Issue 3, pp 246-279

Allaj, Erindi. Implicit Transaction Costs and the Fundamental Theorems of Asset Pricing, *International Journal of Theoretical and Applied Finance*, June 2017, Volume 20, Issue 4

Allaj, Erindi. The Black-Litterman model: a consistent estimation of the parameter tau, *Financial Markets and Portfolio Management*, June 2013, Volume 27, Issue 2, pp 217-251

## Working Papers

Allaj, E., Mancino, Maria Elvira, Sanfelici, Simona. Identifying the number of latent factors of stochastic volatility models, April 2023

Allaj, E., Realized volatility estimator under liquidity constraints, October 2019

## 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 National group for Mathematical, Probability and their Applications (GNAMPA-INDAM)

## Conferences

Realized volatility estimator under liquidity constraints, In 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, In Belgian Financial Research Forum, Brussels, 01 June 2018

Implicit Transaction Costs and the Fundamental Theorems of Asset Pricing, In 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

## Invited Workshops

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

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

## Academic Service

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, June 2023 - Now

Referee for: Applicable Analysis, Financial Markets and Portfolio Management, SN Business & Economics

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.

## Academic References

Prof. Maria Elvira Mancino: Professor of Mathematical methods of economy, finance and actuarial sciences, University of Firenze, Department of Economics and Management, e-mail: [mariaelvira.mancino@unifi.it](mailto:mariaelvira.mancino@unifi.it)

Prof. Simona Sanfelici: Associate Professor of Mathematical methods of economy, finance and actuarial sciences, University of Parma, e-mail: [simona.sanfelici@unipr.it](mailto:simona.sanfelici@unipr.it)

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