

**FORMATO EUROPEO
PER IL CURRICULUM
VITAE**



INFORMAZIONI PERSONALI

Nome **MARIA ELVIRA MANCINO**
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Nazionalità **Italiana**
Data di nascita **31 OTTOBRE 1966**

ESPERIENZA LAVORATIVA

- Nome e indirizzo del datore di lavoro
Tipo di azienda o settore
• Tipo di impiego
 - Principali mansioni e responsabilità
- Ricercatore Universitario SSD A02.B Probabilità e Statistica Matematica
Dipartimento di Matematica per le Decisioni, Università di Firenze
1 Novembre 1993 - 31 Ottobre 2000
- Professore Associato SSD SECS.S06 Matematica per le Applicazioni Economiche, Finanziarie, Attuariali e Sociali
Dipartimento di Matematica per le Decisioni, Università di Firenze
1 Novembre 2000 – 31 Ottobre 2006
- Professore Ordinario SSD SECS.S06 Matematica per le Applicazioni Economiche, Finanziarie, Attuariali e Sociali
Dipartimento di Matematica per le Decisioni, Università di Firenze
1 Novembre 2006 – 31 Dicembre 2012
Dipartimento di Scienze per l'Economia e l'Impresa, Università di Firenze
1 Gennaio 2013- presente
- Professore a contratto
Scuola Normale Superiore Pisa,
1 Novembre 2015 – 31 Ottobre 2020
- Presidente della Commissione ASN 2018-2020 per il SC 13/D4
- Membro della Commissione parallela ASN 2016-2018 per il SC 13/D4
- Presidente della Commissione di Indirizzo e Autovalutazione del Dipartimento di Scienze per l'Economia e l'Impresa 2016-2020
- Presidente del corso di laurea magistrale in Finance and Risk Management, Università di Firenze
1 Novembre 2012 – 31 Ottobre 2020
- Direttore del Dipartimento di Matematica per le Decisioni, Università di Firenze
1 Novembre 2008 – 31 Dicembre 2012
- Membro del collegio dei docenti del programma di Dottorato "Metodi computazionali e modelli matematici per le scienze e la finanza", Scuola Normale Superiore di Pisa

1 Novembre 2019- presente

Membro del collegio dei docenti del programma di Dottorato Nazionale
"Scientific, Technological and Social Methods Enabling Circular Economy", Università di Padova,
2022- presente

Membro del collegio dei docenti del programma di Dottorato "Matematica per la Finanza",
Scuola Normale Superiore di Pisa
1 Novembre 2015- 31 Ottobre 2019

Membro del collegio dei docenti della Scuola di Dottorato Fibonacci,
Università di Pisa
1 Novembre 2006- 31 Ottobre 2012

ISTRUZIONE E FORMAZIONE

Laurea (BA+MSc) in Matematica, Università di Pisa
Summa cum Laude
1 novembre 1985 – 23 Marzo 1990

PhD in Matematica, Università di Trento
1 Novembre 1990 – 31 Ottobre 1994

CAPACITÀ E COMPETENZE

PERSONALI

MADRELINGUA **ITALIANO**

ALTRE LINGUE

INGLESE: BUONO, BUONO, BUONO
FRANCESE: BUONO, ELEMENTARE, BUONO

ALLEGATI : CURRICULUM VITAE (English Version)

Affiliation

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Education

BA-MSc in Mathematics - University of Pisa (1990). Summa cum Laude.

PhD in Mathematics - University of Trento (1994). Field of study: Anticipative Stochastic Integrals and Malliavin Calculus. Supervisor: Prof Giorgio Letta.

Academic Positions

Permanent Assistant Professor of Probability and Mathematical Statistics,
Department of Mathematics for Decisions, University of Firenze, 1993 - 2000.

Associate Professor of Mathematical Methods for Economics, Actuarial Sciences and Finance,
Department of Mathematics for Decisions, University of Firenze, 2000 - 2006

Full Professor of Mathematical Methods for Economics, Actuarial Sciences and Finance,
Department of Mathematics for Decisions, University of Firenze, 2006 - 2012

Full Professor of Mathematical Methods for Economics, Actuarial Sciences and Finance,
Department of Economics and Management, University of Firenze, 2013 - present

Adjunct Professor of Mathematical Finance, Scuola Normale Superiore Pisa, 2015 – 2020

Institutional Services

President of the national ASN 2018-2020 committee for the research field 13/D4 "Mathematical Methods for Economics, Finance and Actuarial Sciences"

Member of the parallel national ASN 2016-2018 committee for the research field 13/D4 "Mathematical Methods for Economics, Finance and Actuarial Sciences"

Head of the Committee of Indirizzo e Autovalutazione of the Department of Economics and Management, University of Firenze (November 2016-October 2020)

Director of the Master of Science in Finance and Risk Management, University of Firenze (November 2012 –October 2020)

Head of Department of Mathematics for Decisions, University of Firenze (01/11/2008 - 31/12/2012)

Member of the PhD Committee for the program Metodi computazionali e modelli matematici per le scienze e la finanza, Scuola Normale Superiore di Pisa since 2019

Member of the PhD Committee for the National program Scientific, Technological and Social Methods Enabling Circular Economy, University of Padova, since 2022

Member of the PhD Committee for the program Matematica per la Finanza, Scuola Normale Superiore di Pisa (2015-2019)

Member of the PhD Committee for the Fibonacci PhD School, University of Pisa (2006-2012)

Main visiting positions

UFR Mathématiques, Univ. Paris Diderot, ENSIIE, Paris, France (2020). Invited by Prof Simone Scotti (1 month)

Department of Mathematics, Univ. Paul Sabatier, Toulouse, France (2009). Invited by Prof Monique Pontier (1 month)

Department of Mathematical Sciences, Ritsumeikan University of Kusatsu, Japan (2003, 2010). Invited by Prof S. Ogawa and Prof J. Akahori

Université Paris VI, Lab. Stochastic Analysis, Paris, France (1996). Visiting researcher invited by Prof Paul Malliavin, funded by CNR. (3 months)

Stanford University, Dept. of Mathematics. Stanford, USA. (1992). PhD visiting student of Prof Kai Lai Chung (3 months)

Post-doc supervision

2011-2012 Post-doc supervision (1 year) co-founded by Comune di Firenze "Struttura di capitale delle imprese innovative nel territorio di Firenze", Dr Flavia Barsotti

2014-2015 Post-doc supervision (1 year) "Modelli quantitativi per l'economia, la finanza e le scienze attuariali", Dr Valeria Bignozzi

2017-2018 Post-doc supervision (1 year) "Modelli quantitativi per l'economia, la finanza e le scienze attuariali", Dr Erindi Allaj

June-December 2018 Post-doc supervision (6 months) "Financial risk measures with high frequency data", Dr Immacolata Oliva

2020-2022 Post-doc supervision (2 year) "Technical analysis learning and management of financial market information for financial decisions", Dr Giacomo Toscano

2021-2023 Post-doc supervision (2 years) "BEEkeepers Weather indexed INsurance", Dr Elisa Giovannini

2022-2023 Post-doc supervision (1 year) "BEEkeepers Weather indexed INsurance", Dr Elia Smaniotto

2024-2025 Post-doc supervision (1 year) "An environmental index for assessing climatic risk impact on ecosystems service provision", Dr Francesco Campigli

Editor activity

Guest editor for a Special Issue of Decisions in Economics and Finance, Springer, on "Quantitative developments in financial volatility - theory and practice" (2019)

Projects and Research Evaluation

Referee for Firb projects 2012

Referee for research awards and local research projects 2013 (University of Venezia)

Monitoring and valuation for the project FutureInResearch, RTD-A SECS-S/06, 36 months (2017-2019) Regione Puglia and Department of Scienze per l'Economia, University of Salento

MIUR Funding

Local Coordinator (University of Firenze) "Credit risk" Miur Research Project PRIN 2006

Component: "New indicators of financial market instability", GNAMPA (Istituto di Alta Matematica), 2018

Principal Investigator: "BEEkeepers Weather indexed INsurance project", Ministero delle politiche agricole, alimentari e forestali (9/11/2021-8/11/2023)

Component: Well-Being Tourism - Advancing understanding of well-being tourism, drawing upon the European biocultural heritage, Seed funding call - European University Alliance EUniWell (01/04/2021 - 31/12/2022)

Principal Investigator: PRIN PNRR 2022 "Honey BEE VOLatility: An environmental index for assessing climatic risk impact on ecosystems service provision" (11/2023- 10/2025)

Coordinator KA171 with Hanoi University (Vietnam) (8/2023-7/2026)

Prizes and Award

Best paper awards JSIAM Letters, (2012)

Principal tutor for PhD dissertation:

Flavia Barsotti, "Optimal Capital Structure with Endogenous Bankruptcy: Payouts, Tax benefits Asymmetry and Volatility Risk", discussed on June 2011, Fibonacci PhD School, University of Pisa. Awarded with the 2nd edition of Best PhD Thesis Award of UniCredit & Universities Foundation. Co-supervised by Prof Monique Pontier.

Matteo Del Vigna, "Information Asymmetry and Equilibrium Models in Behavioral Finance", discussed on January 2012, Fibonacci PhD School, University of Pisa. Cosupervised by Prof Luciano Campi.

Imma Valentina Curato "Non parametric estimations of volatility of volatility and leverage using integral transforms", discussed on October 2013, Fibonacci PhD School, University of Pisa.

Giacomo Toscano, "Non-parametric estimation of stochastic volatility models: spot volatility, leverage and vol-of-vol. Four essays on asymptotic error distributions, finite-sample properties and empirical applications", PhD in Mathematical Finance, Scuola Normale Superiore, discussed on March 2021

Tommaso Mariotti, PhD in Computational methods and Mathematical Models for Sciences and Finance, Scuola Normale Superiore discussed on February 2024

Enrida Ndreu, expected 2026, PhD in Social Sciences for Sustainability and Wellbeing, Dept. of Economics and Management, University of Firenze.

Committee for PhD dissertation:

Inga Baadshaug Eide, PhD in Mathematics, Oslo University, (2009)

Luca Sitzia, PhD in Economics University of Torino (2012)

Gianbiagio Curato, PhD in Mathematical Finance, Scuola Normale Superiore (2015)

Adam Majeski, PhD in Mathematical Finance, Scuola Normale Superiore (2015)

Tommaso Colozza, Fibonacci PhD School, University of Pisa (2015)

Marcello Rambaldi, PhD in Mathematical Finance, Scuola Normale Superiore (2017)

Giuseppe Buccheri, PhD in Mathematical Finance, Scuola Normale Superiore (2018)

Luca Cattivelli, PhD in Mathematical Finance, Scuola Normale Superiore (2019)

Francesco Cordoni, PhD in Mathematical Finance, Scuola Normale Superiore (2021)

Tonio Mollmann, PhD in Mathematical Finance, Scuola Normale Superiore (2022)

Andrey Shternshis, PhD in Mathematical Finance, Scuola Normale Superiore (2023)

Makar Pravosud, PhD in Mathematics at Pompeu Fabra, Spain (2024)

Teaching Activities

Bachelor courses: Basic Calculus, Linear Algebra, Financial Mathematics, Mathematical Statistics, Probability Theory

Master courses: Advanced Calculus, Measure Theory, Stochastic Processes, Stochastic Calculus for Financial Applications, Portfolio Theory, Quantitative Finance and Derivatives

PhD courses: Stochastic Processes, Mathematical Models of Financial Derivatives (Univ. of Pisa); Mathematical Finance 2015-2016 (20 hrs), 2016-17 (46 hrs), 2017-18 (30 hrs), 2018-19 (30 hrs) (Scuola Normale Superiore - Pisa); Elements of Probability Theory and Mathematical Statistics 2019-2020 (10 hrs) (Scuola Normale Superiore - Pisa); Quantitative Finance 2019-2020 (10 hrs) (Scuola Normale Superiore - Pisa).

Main Publications

Journal Articles

Mancino, M.E. with Maglione, F.: Assessing the Impact of Credit Risk on Equity Options via Information Contents and Compound Options. *RISKS*, 2023, vol. 11, pp. 1-25

Mancino M.E. with Livieri, G., Marmi, S. and Toscano, G.: Central limit theorem for the Fourier estimator of integrated volatility of volatility. *Journal of Financial Econometrics*, 2022, <https://doi.org/10.1093/jfinec/nbac035>

Mancino M.E. with Toscano G.: Rate Efficient Asymptotic for the Fourier Estimator of the Leverage Process. *Statistics and Its Interface*, 15 (1), 2022, 73--89. DOI: <https://dx.doi.org/10.4310/21-SII676>

Mancino M.E. with Sanfelici S.: Non-parametric computation of Greeks using high frequency data. *RISKS*, 2020, 8, 120; doi:10.3390/risks80401202020

Mancino M.E. with Alòs E., Merino R. and Sanfelici S.: A fractional model for the COVID-19 pandemic: Application to Italian data. *Stochastic Analysis and Applications*, 2020. DOI: 10.1080/07362994.2020.1846563

Mancino M.E. with Scotti S. and Toscano G.: Is the variance swap rate affine in the spot variance? Evidence from S&P500 data. *Applied Mathematical Finance*, 27(4), 2020, 288-316, DOI: 10.1080/1350486X.2020.1847671.

Mancino M.E. with Sanfelici, S.: Identifying financial instability conditions using high frequency data. *Journal of Economic Interaction and Coordination*, 15(1), 221-242, (2020), 10.1007/s11403-019-00253-6

Mancino M.E. with Alòs, E. and Wang, T.-H.: Volatility and volatility linked derivatives: estimation, modeling and pricing. *Decisions in Economics and Finance*, 42, 321--349, (2019) doi:10.1007/s10203-019-00271-w

Mancino M.E. with Livieri, G. and Marmi, S.: Asymptotic results for the Fourier estimator of the integrated quarticity. *Decisions in Economics and Finance*, 42, 472--501, (2019) doi:10.1007/s10203-019-00259-6

Mancino M.E. with Allaj E.: On asset-allocation and high-frequency data: are there financial gains from using different covariance estimators? *Communications in Statistics - Simulation and Computation*. (online July 19th, 2019)

Mancino M.E. with Grazzini, S., Razzauti, C., Fabbri, L.P., Galatà, M., Bellucci, S. and Colivicchi, I.: Cost analysis of blood purification: a tool for decision making and supply chain optimization. *Renal Replacement Therapy*, 5:26, (2019), pg. 1-8

Mancino M.E. with Curato I. and Recchioni M.C.: Spot Volatility Estimation using the Laplace Transform. *Econometrics and Statistics*, 6, (2018), pg. 22-43 (online 11 November 2016)

Mancino M.E. with Barsotti F. and Pontier M.: Switching Tax Structure and Payouts in Endogenous Bankruptcy Models. *Stochastics: An International Journal of Probability and Stochastic Processes*, 88 (2), (2016) pg.163-190
DOI: 10.1080/17442508.2015.1046874

Mancino M.E. with Recchioni M.C.: Fourier spot volatility estimator: asymptotic normality and efficiency with liquid and illiquid high-frequency data. *PLOS ONE*,
DOI:10.1371/journal.pone.0139041 (2015)

Mancino M.E. with Curato I. and Sanfelici S.: High frequency volatility of volatility estimation free from spot volatility estimates. *Quantitative Finance*, 15 (8), (2015) pp. 1331-1345
DOI: 10.1080/14697688.2015.1032542

Mancino M.E. with Liu N.L.: Fourier Estimation Method Applied to Forward Interest Rates. *JSIAM Letters*, (2012) vol. 4, pp. 17-20, ISSN:1883-0609

Mancino M.E. with Barsotti F. and Pontier M.: The Role of a Firm Net Cash Payouts in Leland (1994) Model. *Economics Notes*, vol. 41, no. 3-2012, pp. 115-144 (2012)

Mancino M.E. with Sanfelici S.: Estimation of Quarticity with High Frequency Data. *Quantitative Finance*, 12(4) (2012), 607-622

Mancino M.E. with Sanfelici, S.: Estimating covariance via Fourier method in the presence of asynchronous trading and microstructure noise. *Journal of Financial Econometrics*, 9(2) (2011), 367-408

- Mancino, M.E. with Barucci E. and Magno D.: Fourier volatility forecasting with high frequency data and microstructure noise. *Quantitative Finance*, (2010) ISSN: 1469-7688, doi: 10.1080/14697680903413589
- Mancino M.E. with Barucci, E.: Computation of volatility in stochastic volatility models with high frequency data. *International Journal of Theoretical and Applied Finance*, (2010) vol. 15, n.5.
- Mancino, M.E. with Dorobantu, D., and Pontier, M.: Optimal strategies in a risky-debt context. *Stochastics: An International Journal of Probability and Stochastic Processes*, (2009) vol. 81:3; p. 269-277, ISSN: 1744-2508
- Mancino, M.E. with Malliavin P.: A Fourier transform method for nonparametric estimation of multivariate volatility. *The Annals of Statistics*, vol. 37, n.4, 1983-2010, (2009) ISSN: 0090-5364, doi: 10.1214/08-AOS633.
- Mancino, M.E. with Sanfelici S.: Robustness of Fourier Estimator of Integrated Volatility in the Presence of Microstructure Noise. *Computational Statistics and Data Analysis*, Vol. 52, n.6, 2966--2989 (2008), ISSN: 0167-9473.
- Mancino, M.E. with Malliavin P., Recchioni M.C.: A non parametric calibration of HJM geometry: an application of Ito calculus to financial statistics. *Japanese Journal of Mathematics*, Vol. 2, 55-77 (2007), ISSN: 0289-2316.
- Mancino M.E. with Renò R.: Dynamic principal component analysis of multivariate volatility via Fourier analysis. *Applied Mathematical Finance*, Vol. 12 n.2 (2005), ISSN: 1350-486X, doi: 10.1080/1350486042000255861.
- Mancino M.E. with Barucci E., Malliavin P., Renò R., Thalmaier, A.: The price volatility feedback rate: an implementable mathematical indicator of market stability. *Mathematical Finance*, Vol. 13, (2003), ISSN: 0960-1627.
- Mancino M.E. with Malliavin P.: Instantaneous liquidity rate, its econometric measurement by volatility feedbacks. *Comptes Rendus de l'Academie des Sciences, Paris, Ser.I* 334 (2002), ISSN: 1631-073X.
- Mancino M.E. with Malliavin P.: Fourier Series method for measurement of Multivariate Volatilities. *Finance and Stochastics*, vol. VI, No. 1, 49--61 (2002), ISSN: 0949-2984.
- Mancino M.E. with Antonelli F. and Barucci E.: Asset Pricing with Endogenous Aspirations. *Decisions in Economics and Finance*, vol.24, 21--39 (2001), ISSN: 1593-8883, doi: 10.1007/s102030170007.
- Mancino M.E. with Antonelli F. and Barucci E.: Asset pricing with a forward-backward stochastic differential utility. *Economics Letters*, vol. 72, 151--157 (2001), ISSN: 0165-1765, doi: 10.1016/S0165-1765(01)00432-3.
- Mancino M.E. with Antonelli F. and Barucci E.: A comparison result for Backward-Forward Stochastic Differential Equations with applications to decisions theory. *Mat. Met. Oper. Research*, vol. 54, 3 (2001), ISSN: 1432-2994.
- Mancino M.E.: A Taylor Formula to Price and Hedge European Contingent Claims. *International Journal of Theoretical and Applied Finance*, Vol.4, No.4 (2001), ISSN: 0219-0249, doi: 10.1142/S021902490100119X.
- Mancino M.E. with Pratelli L.: Some results of stable convergence for exchangeable random variables in Hilbert spaces. *Siam Journal Theory of Probability and its applications*. Tomo 42, Vol.5 (2000), ISSN: 0040-585X.
- Mancino M.E.: Diffusion Processes with respect to Free Brownian Motion. *Infinite Dimensional Analysis, Quantum Probability and Related Topics*, Vol.3, No.3, 435-443 (2000).
- Mancino M.E.: Dilatation Vector Fields on the Loop Group. *Journal of Functional Analysis*, Vol. 166, 130-147 (1999).
- Mancino M.E. with Barucci E.: Wiener Chaos and Hermite Polynomials Expansions for Pricing and Hedging Contingent Claims. *Advances in Futures and Options Research*, (1998), ISBN/ISSN: 0-7623-0326-3.
- Mancino M.E. with Majer P.: A counterexample concerning a condition of Ogawa integrability. *Seminaire de Probabilit'es XXXI*, (1997), ISBN/ISSN: 3-540-62634-4.
- Mancino M.E. with Pratelli L.: Skorohod Integral for a particular class of nonadapted processes. *Italian Journal of Pure and Applied Mathematics*, n.2, (1997), ISSN: 1126-8042.

Mancino M.E.: Quantum stochastic differential equations driven by free noises and dilations of Markovian semigroups. *Rendiconti del Seminario Matematico dell'Università di Padova*, 91, 199-223 (1994).

Mancino M.E. with Fagnola F.: Free Noise Dilation of Semigroups of Countable State Markov Processes. *Quantum Probability and Related Topics*, vol.VII (1992).

Proceedings and Book Chapters

Mancino M.E. with Sanfelici S.: Multivariate volatility estimation with high frequency data using Fourier method. *Handbook of Modeling High-Frequency Data in Finance*, Eds. I. Florescu and F. Viens Eds., Wiley, New York, 2011.

Mancino, M.E. with Sanfelici S.: Covariance estimation and dynamic asset allocation under microstructure effects via Fourier methodology. *Handbook of Econometrics*, (2010) Eds. G. N. Gregoriou and R. Pascual Eds., Palgrave-MacMillan, London, UK.

Mancino M.E. with Malliavin P. and Barucci E.: Harmonic analysis methods for nonparametric estimation of volatility: theory and applications. *Proceedings of the International Symposium "Stochastic Processes and Applications to Mathematical Finance" 2005 at Ritsumeikan University*, World Scientific (2006). Eds. J.Akahori, S.Ogawa, S.Watanabe.

Mancino M.E. with Ogawa S.: Non linear feedback effects of hedging strategies. *Proceedings of the International Symposium "Stochastic Processes and Applications to Mathematical Finance" 2003 at Ritsumeikan University*, World Scientific (2004).

Books

Mancino M.E. with Sanfelici S. and Recchioni M.C.: *Fourier-Malliavin Volatility Estimation: theory and practice*. SpringerBriefs in Quantitative Finance series, (2017) ISBN 978-3-319-50969-3