

Prof Roberto Renò, PhD

Curriculum Vitae

June 29, 2021

🏠 Dipartimento di Scienze Economiche
Università degli Studi di Verona
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🌐 <http://dse.univr.it/reno/>

POSITIONS

UNIVERSITÀ DI VERONA

DIPARTIMENTO DI SCIENZE ECONOMICHE

- **Full Professor**, from October 2015

JOHNS HOPKINS UNIVERSITY

CAREY BUSINESS SCHOOL

- **Adjunct Professor**, 2010-2011, 2017-2020

UNIVERSITÀ DI SIENA

- **Associate Professor**, 2006-2015
- **Assistant Professor**, 2001-2006

LUISS GUIDO CARLI

- **Adjunct Professor**, 2009-2014

UNIVERSITÀ DI ROMA "TOR VERGATA"

- **Adjunct Professor**, 2011-2015

IMT LUCCA

- **Adjunct Professor**, 2013-2015

EUROPEAN UNIVERSITY INSTITUTE

- **Fernand Braudel Fellow**, 2013

COLLEGIO CARLO ALBERTO

- **Senior Fellow**, 2021

EDUCATION

2005 PhD in Financial Mathematics (Perfezionamento) at Scuola Normale Superiore, Pisa, with grades 70/70 magna cum laude with the Thesis: "Volatility Estimate via Fourier Analysis". Committee: Prof Maurizio Pratelli, Prof Giovanni Barone-Adesi and Prof Torben Andersen.

1998 Physics Graduate at University of Pisa, Italy, on 9 June 1998 with grades 110/110 magna cum laude with the Thesis "Search for $\nu_\mu \rightarrow \nu_e$ oscillations in the NOMAD experiment".

SCIENTIFIC ACTIVITY

FIELDS OF RESEARCH

Finance, Econometrics. ERC panels: SHI_6 (econometrics, statistical methods), SHI_7 (financial markets, asset prices, international finance), PEI_2I (applications of mathematics in industry and society).

RESEARCH GRANTS

AS PRINCIPAL INVESTIGATOR:

2020 Bando per la Ricerca di Base 2019, Università di Verona. Project title: *High Frequency Econometrics of Extreme Price Movements*. Grant: **37,335.58€**.

2019 PRIN 2017, MIUR. Project title: *HiDEA: Advanced Econometrics for High Frequency Data*. Grant: **404,000€**. National project with four units: Verona, Venezia, Tor Vergata and Padova.

2016 Bando per la Ricerca di Base, Università di Verona. Project title: *High Frequency Liquidity*. Grant: **20,000€**.

2013 Europlace Institute of Finance, Louis Bachelier Grant. Project title: *A New Measure of Liquidity in Financial Markets*. Grant: **10,000€**.

2002 Giovani Ricercatori, University of Siena. Grant: **9,000€**.

AS PARTICIPANT:

2015 SIR, MIUR. Project title: *A New Measure of Liquidity*. Principal Investigator: Davide Pirino. Grant: **303,000€**.

2014 University of Padova Research Projects, CPDA143827. Principal Investigator: Massimiliano Caporin. Project title: *Multi-jumps in financial asset prices: detection of systemic events, relation with news, and implications for pricing*. Grant: **44,950€**.

2014 Giovani Ricercatori, Scuola Normale Superiore. Principal Investigator: Davide Pirino. Project title: *Commonality in Liquidity and Systemic Risk*. Grant: **9,500€**.

2009 Education and Science Council, Castilla and León Autonomous Government, Spain. Research project VA016A10-I. Principal Investigator: Pedro Gutierrez. Grant: **17,415€**.

2006 PAR Progetti, University of Siena. Principal Investigator: Giampaolo Gabbi. Project title: *Volatility and derivatives in electricity and weather markets*. Grant: **13,720€**.

2004 PAR Progetti, University of Siena. Principal Investigator: Marcello Basili. Number of participants: 3. Project title: *Asset pricing and non-Bayesian behavior*. Grant: **18,800€**.

- 2003 PRIN, MIUR. Principal Investigator: Massimo De Felice. Project title: *Finance of revaluable life insurance*. Grant: 95,000€.
- 2002 PAR Progetti, University of Siena. Principal Investigator: Marcello Basili. Project title: *Real Options: Theory and Applications*. Grant: 23,200€.

PUBLICATIONS IN SCIENTIFIC JOURNALS

1. Christensen, K, Oomen, R. and Renò, R., “The drift burst hypothesis”, **Journal of Econometrics**, (2020), forthcoming.
2. Bandi, F. and Renò, R., “ β in the tails”, **Journal of Econometrics**, (2020), forthcoming.
3. Bandi, F., Kolokolov, A., Pirino, D. and Renò, R., “Zeros”, **Management Science**, (2020) 66 (8), 3466-3479.
4. Bandi, F. and Renò, R., “Nonparametric Stochastic Volatility”, **Econometric Theory**, (2018) 34 (6), 1207-1255.
5. Pacati, C., Pompa, G., and Renò, R., “Smiling Twice: the Heston++ model”, **Journal of Banking and Finance**, (2018), 96, 185-206.
6. Oliva, I., and Renò, R., “Optimal Portfolio Allocation with Volatility and Co-jump Risk that Markowitz would like”, **Journal of Economic Dynamics and Control**, (2018) 94, 242-256.
7. Kolokolov, A. and Renò, R., “Efficient Multipowers”, **Journal of Financial Econometrics**, (2018) 16 (4), 629-659.
8. Bandi, F., Pirino, D. and Renò, R., “EXcess Idle Time”, **Econometrica**, (2017) 85(6), 1793-1846.
9. Caporin, M., and Kolokolov, A. and Renò, R., “Systemic Co-jumps”, **Journal of Financial Economics** (2017), 126(3), 563-591.
10. Bandi, F. and Renò, R., “Price and volatility co-jumps”, **Journal of Financial Economics**, (2016) 119 (1), 107-146
11. Mancini, C., Mattiussi, V., and Renò, R., “Spot volatility estimation with delta sequences”, **Finance & Stochastics**, (2015) 19(2), 261-293.
12. Pacati, C., Renò, R. and Santilli, M., “Heston model: shifting on the volatility surface”, **Risk**, (2014) November, 54-59
13. Marmi, S., Pacati, C., Renò, R. and Risso, W. A. “A quantitative approach to Faber’s tactical asset allocation.” **International Journal of Computational Economics and Econometrics**, (2013) 3(1), 91-101.
14. Bandi, F. and Renò, R., “Time-varying leverage effects”, **Journal of Econometrics**, (2012) 161, 94-113.
15. Corsi, F. and Renò, R., “Discrete-time volatility forecasting with persistent leverage effect and the link with continuous-time volatility modeling”, **Journal of Business and Economic Statistics**, (2012) 30(3), 368-380.
16. Mancini, C. and Renò, R., “Threshold estimation of jump-diffusion models and interest rate modeling”, **Journal of Econometrics**, (2011) 160, 77-92.
17. Corsi, F., Pirino, D. and Renò, R., “Threshold bipower variation and the impact of jumps on volatility forecasting”, **Journal of Econometrics**, (2010) 159, 276-288.
18. Bianco, S., Corsi, F. and Renò, R., “Intraday LeBaron effects”, **Proceedings of the National Academy of Science of the USA**, (2009) 106: 11439-11443.
19. Pirino, D. and Renò, R. “Electricity prices: A nonparametric approach.” **International Journal of Theoretical and Applied Finance**, (2010) 13(02), 285-299.
20. Bianco, S. and Renò, R., “Unexpected volatility and intraday serial correlation”, **Quantitative Finance** (2009), 9(4), 465-475.
21. Renò, R., “Nonparametric estimation of the diffusion coefficient of stochastic volatility models”, **Econometric Theory**, (2008) 24(5), 1174-1206.
22. Mannolini, A., Mari, C. and Renò, R. “Pricing caps and floors with the extended CIR model.” **International Journal of Finance & Economics**, (2008) 13(4), 386-400.
23. Basili, M., Zappia, C. and Renò, R. “Asset prices and multiple reference points.” **Journal of Financial Decision Making**, (2008) 4, 71-81
24. Iori, G., Renò, R., De Masi, G. and Caldarelli, G. “Trading strategies in the Italian interbank market.” **Physica A: Statistical Mechanics and its Applications**, (2007) 376, 467-479.
25. Lamedica, N. and Renò, R. “Integration of international bond markets: did anything change with EMU?” **Applied Economics Letters**, (2007) 14(11), 829-832.
26. Renò, R., “Nonparametric estimation of stochastic volatility models”, **Economics Letters** (2006), 90, 390-395.
27. Bianco, S. and Renò, R. “Dynamics of intraday serial correlation in the Italian futures market.” **Journal of Futures Markets**, (2006) 26(1), 61-84.
28. Renò, R., Roma, A. and Schaefer, S. “A Comparison of Alternative Nonparametric Estimators of the Short Rate Diffusion Coefficient.” **Economic Notes**, (2006), 35(3), 227-252.
29. Mari, C. and Renò, R. “Arbitrary initial term structure within the CIR model: A perturbative solution.” **Applied Mathematical Finance**, (2006), 13(2), 143-153.
30. Chukanov, C. et al. “Production properties of $K^*(892)^+$ vector mesons and their spin alignment as measured in the NOMAD experiment.” **European Physical Journal C**, (2006), 46, 69-79.
31. Mari, C. and Renò, R., “Credit risk analysis of mortgage loans: an application to the Italian market”, **European Journal of Operational Research**, (2005), 163:83-93.
32. Mancino, M. E. and Renò, R. “Dynamic principal component analysis of multivariate volatility via Fourier analysis.” **Applied Mathematical Finance**, (2005), 12(2), 187-199.
33. Gentile, M. and Renò, R. “Specification analysis of diffusion models for the Italian short rate.” **Economic Notes**, (2005),

- 34(1), 51-83.
34. Renò, R. and Uboldi, A. "On the presence of unspanned volatility in European interest rate options." **Applied Financial Economics Letters**, (2005), 1(1), 15-18.
 35. Pasquale, M. and Renò, R. "Statistical properties of trading volume depending on size." **Physica A: Statistical Mechanics and its Applications**, (2005), 346(3), 518-528.
 36. Barucci, E., Impenna, C. and Renò, R. "The Italian Overnight Market: microstructure effects, the martingale hypothesis and the payment system." **Research in Banking and Finance**, (2004), 4, 321-362
 37. Barucci, E., Monte, R. and Renò, R., "Asset prices anomalies under bounded rationality." **Computational Economics** (2004), 23(3), 255-269.
 38. Barucci, E., Malliavin, P., Mancino, M., Renò, R. and Thalmaier, A., "The price-volatility feedback rate: an implementable mathematical indicator of market stability." **Mathematical Finance**, (2003) 13: 17-35.
 39. Renò, R. "A closer look at the Epps effect". **International Journal of Theoretical and Applied Finance**, (2003), 6(01), 87-102.
 40. Renò, R. and Rizza, R. "Is volatility lognormal? Evidence from Italian futures." **Physica A: Statistical Mechanics and its Applications**, (2003), 322, 620-628.
 41. Astier, P., "Search for $\nu_\mu \rightarrow \nu_e$ oscillations in the NOMAD experiment." **Physics Letters B**, (2003), 570(1), 19-31.
 42. Barucci, E. and Renò, R., "On Measuring Volatility and the GARCH Forecasting Performance." **Journal of International Financial Markets, Institutions and Money** (2002), 12: 183-200.
 43. Barucci, E. and Renò, R., "On measuring volatility of diffusion processes with high frequency data." **Economics Letters** (2002), 74: 371-378.
 44. Astier, P., et al. "A more sensitive search for $\nu_\mu \rightarrow \nu_e$ oscillations in NOMAD". **Physics Letters B**, (1999) 453(1), 169-186.

PUBLICATIONS IN SCIENTIFIC BOOKS AND CONFERENCE PROCEEDINGS

45. Corsi, F., Audrino, F. and Renò, R., "HAR modeling for realized volatility forecasting", *Handbook of volatility models and their applications* (2012), Eds. L. Bauwens, C. Hafner and S. Laurent, pp. 453-481.
46. Gabbi, G., Limone, A. and Renò, R., "The Black and Litterman framework with higher moments", in *Stock Market Volatility* (2009), Ed. G. Gregoriou, pp. 255-273, Chapman & Hall/CRC Finance.
47. Genovese, C. and Renò, R., "Modeling international correlations with high frequency data", in *Correlated data modelling 2004. Scientific Meeting in Honour of Diego de Castro* (2007), D. Gregori, G. MacKenzie, H. Fried and R. Corradetti (eds.), Franco Angeli Editore, Milano, Italy, pp. 99-113.
48. Bianco, S. and Renò, R., "Volatility and serial correlation: revisiting the LeBaron effect", *Noise and Stochastics in Complex Systems and Finance, Proceedings of SPIE vol. 6601* (2007), 6610Y.
49. Bianco, S. and Renò, R., "Serial correlation in the Italian futures market", in *Noise and Fluctuation in Econophysics and Finance, Proceedings of SPIE vol. 5848*, (2005), Abbot, Bouchaud, Gabaix, McCauley editors, pp. 318-329.
50. Renò, R. and Uboldi, A., "Pricing Caps & Floors with a consistent HJM model", *Atti del Workshop Didattico in Finanza Quantitativa* (2004), Venezia, M. Corazza e M. Nardon (eds.), pp. 211-228.
51. Barucci, E. and Renò, R., "Value at Risk with High Frequency Data", in *New Trends in Banking Management* (2002), Physica-Verlag, pp. 223-232.

Full and updated publication list available at: http://dse.univr.it/reno/publications_full.html

BIBLIOMETRY

Total citations: 748 (Scopus), 651 (Scopus excluding co-authors), 2500 (Google Scholar); h-index: 14 (Scopus), 12 (Scopus excluding co-authors), 23 (Google Scholar), updated: 17 March 2020.

EDITORIAL ACTIVITY

- Associate Editor of **Economic Notes**, 2012-2017
- Associate Editor of **Economics E-Journal**, 2013-2019.
- Associate Editor of **Journal of Financial Econometrics**, 2019-2023
- Associate Editor of **Mathematical Finance**, 2020-

Served as referee for: Journal of Econometrics, Journal of Financial Economics, Journal of the American Statistical Association, Econometric Theory, Quantitative Economics, Journal of Business and Economic Statistics, Journal of Applied Econometrics, Journal of Banking and Finance, Journal of Financial Econometrics, Journal of the Royal Statistical Society Series B, Journal of Applied Statistics, Annals of Applied Statistics, Mathematical Finance, Econometric Reviews, Energy Economics, Journal of Forecasting, PloS One, Scandinavian Journal of Statistics, SIAM Journal of Mathematical Finance, Journal of Empirical Finance, Computational Statistics and Data Analysis, Statistics and Probability Letters, Journal of International Financial Markets Institutions and Money, Quantitative Finance, Quarterly Review of Economics and Finance, Studies in Nonlinear Dynamics and Econometrics, Journal of Computational and Applied Mathematics, Economic Modelling, European Journal of Operational Research, Economic Notes, Computational Economics, Journal of Statistical Planning and Inference, Applied Stochastic Models in Busi-

ness and Industry, Decisions in Economics and Finance, Communications in Statistics - Theory and Methods, Communications in Statistics - Simulation and Computation, International Journal of Theoretical and Applied Finance, Journal of Economics and Business, International Journal of Control, Fluctuations and Noise Letters, Physica A, Revue Finance, Decision Support Systems, Central European Journal of Operations Research, Statistical Papers, IMA Journal of Management Mathematics, International Journal of Financial Engineering and Risk Management.

VISITING RESEARCH PERIODS

- | | |
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| 2021 Visiting Scholar, CREST, Paris (France). | 2013 Visiting Scholar, IMT Lucca (Italy) |
| 2017-2020 Visiting Professor, Carey Business School, Johns Hopkins University, US; | 2010-2011 Visiting Professor, Carey Business School, Johns Hopkins University, US; |
| 2018 Visiting Scholar, University of California, San Diego, US; | 2009 Visiting Scholar, Department of Finance, Università della Svizzera Italiana, Lugano (Switzerland) |
| 2015 Visiting Scholar, CREATES, Aarhus (DK); | 2005 Visiting Scholar, City University, London (UK); |
| 2015 Visiting Scholar, Carey Business School, Johns Hopkins University, US; | 2004 Socrates Short Term Mobility, University of Valladolid (Spain). |
| 2013 Visiting Scholar, Carey Business School, Johns Hopkins University, US; | |

SEMINARS

CERN, Geneve (1997, 1998), Scuola Normale Superiore, Pisa (2000, 2001, 2003, 2010, 2012); Università di Torino (2001); Università di Palermo (2002), Università di Perugia (2002, 2009); CIDE, Bologna (2002); IAC, CNR, Roma (2002), Giardino Giusti, Università di Verona (2002, 2008), Università di Camerino (2004), Universidad de Valladolid (2004), Università di Palermo (2005), Birkbeck College, London (2005), Università di Padova (2006, 2013), Università di Firenze (2006, 2009, 2011, 2012), Università di Milano-Bicocca (2007), University of North Texas (2007), Università della Svizzera Italiana, Lugano (2007, 2009), Università di Modena-Reggio Emilia (2008), Université de Nice (2009), Università Statale di Milano (2009), EIEF, Roma (2009), Università di Siena (2010, 2011, 2015), Università di Parma (2010), Politecnico di Milano (2010), Universidad Carlos III, Madrid (2010), Carey Business School, Johns Hopkins University, Baltimore (2010), Federal Reserve Board, Washington DC (2010, 2018), ECARES, Bruxelles (2012), IMT, Lucca (2012), Università di Roma Tor Vergata (2013), CONSOB, Roma (2013), CREATES, Aarhus (2014), Università di Chieti-Pescara (2015), University of Maastricht (2015, 2018), Università "Ca' Foscari", Venezia (2016), Unicredit, Milano (2016), Dublin City University (2016), FAM, Technical University of Vienna (2016), University of Toulouse (2016), Duke University (2017), Commodity Trading and Future Commission, Washington DC (2017), University of Groningen (2017), Università di Trento (2018), Università di Bolzano (2018), Pontifical Catholic University, Rio de Janeiro (2019), Banca d'Italia (2019), Warwick Business School (2021), CREST, Paris (2021), European Securities and Markets Authority, Paris (2021).

INVITED TALKS AT CONFERENCES

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|---|---|
| 2020 "Structural Stochastic Volatility", <i>Virtual QRFE Workshop on Financial Econometrics</i> , Durham Business School, UK. | 2013 "EXcess Idle Time", <i>the Fifth Florence-Ritsumeikan Workshop on Stochastic Processes and Applications to Finance and Risk Management</i> , Firenze, Italy. |
| 2019 "Beta in the tails", <i>Fourth International Workshop in Financial Econometrics</i> , Maceiò, Brazil. | 2010 "Nonparametric leverage effects", <i>Workshop on Financial Econometrics at the Fields Institute</i> , Toronto, Canada. |
| 2019 "Flash Crashes", <i>5th QFRA Symposium</i> , Kos, Greece. | 2007 "Disentangling jumps from diffusion in equity and electricity markets", <i>Conference on Volatility and High Frequency Data</i> , Chicago, US. |
| 2019 "Flash Crashes", <i>QFFE 2019</i> , Marseille, France. | 2007 "Volatility of financial data", <i>Physics Colloquium</i> , University of North Texas, Denton, US. |
| 2016 "The Drift Burst Hypothesis" <i>3rd Workshop on Empirical Finance</i> , ESSEC, Paris, France. | 2006 "Threshold estimation of jump diffusion models and interest rate modeling", <i>CIREQ Conference on Realized Volatility</i> , Montreal, Canada (2006). |
| 2016 "The Drift Burst Hypothesis" <i>2nd SAFE Workshop on Market Microstructure</i> , Frankfurt, Germany. | |
| 2015 "Multi-jumps", GSE Summer Forum, Barcelona, Spain. | |
| 2013 "Price and volatility co-jumps", <i>International Conference on "Systemic Risk, Contagion and Jumps"</i> , CASS Business School, London, UK. | |

PARTICIPATIONS AT CONFERENCES

- | | |
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| 2021 "Realized drift", <i>IAAE 2021</i> , Rotterdam, Virtual Conference. | <i>CMStatistics 2020</i> , Virtual Conference. |
| 2021 "V-shapes", <i>SIS 2021</i> , Pisa, Virtual Conference. | 2019 "High Frequency Trading during Flash Crashes: Hall of Fame or Walk of Shame?", <i>12th Annual SoFiE conference</i> , Shanghai, China. |
| 2021 "Realized drift", <i>13th Annual SoFiE conference</i> , San Diego, US, Virtual Conference. | 2018 "Jumps or Flatness?", <i>11th Annual SoFiE conference</i> , Lugano, Switzerland. |
| 2021 "Realized moments: identification and pricing", <i>9th ICEEE 2021</i> , Cagliari, Virtual Conference. | 2018 "Zeros", <i>10th Bachelier World Congress</i> , Dublin, Ireland. |
| 2020 "Realized moments: identification and pricing", <i>CFE-</i> | 2017 "The Drift Burst Hypothesis", <i>10th Annual SoFiE conference</i> , |

- New York, US.
- 2017 “Systematic Flatness”, *Vienna-Copenhagen Conference*, Vienna, Austria.
- 2016 “The Drift Burst Hypothesis”, XVII Workshop on Quantitative Finance, Scuola Normale Superiore, Pisa, Italy.
- 2016 “The Drift Burst Hypothesis”, *9th Annual SoFiE conference*, Hong Kong.
- 2015 “Multi-jumps”, *11th World Congress of the Econometric Society*, Montreal, Canada.
- 2015 “EXcess Idle Time”, *Econometric Society Winter Meeting*, Milano, Italy.
- 2014 “Multi-jumps”, *7th Financial Risk International Forum*, Paris, France.
- 2013 “EXcess Idle Time”, *Measuring and Modeling Financial Risk with High Frequency Data*, Firenze, Italy.
- 2013 “EXcess Idle Time”, *Statistical Modeling, Financial Data Analysis and Applications*, Venezia Italy.
- 2010 “Discrete-time volatility forecasting with persistent leverage effect and the link with continuous-time volatility modeling”, *SoFiE CREATES*, Aarhus, Denmark.
- 2009 “Nonparametric leverage effects” (poster), *II SoFiE Conference*, Geneva, Switzerland.
- 2008 “Nonparametric stochastic volatility”, *I SoFiE*, New York, US.
- 2008 “Volatility forecasting: the jumps do matter”, *V Bachelier World Congress*, London.
- 2008 “Nonparametric stochastic volatility”, *BAS 2008*, Barcelona, Spain.
- 2007 “Threshold estimation of jump diffusion models and interest rate modeling” *XV SNDE Congress*, Paris, France
- 2006 “Threshold estimation of jump diffusion models and interest rate modeling” *IV Bachelier World Congress*, Tokio, Japan.
- 2005 “Nonparametric Stochastic Volatility Modeling”, *XIII SNDE Congress*, London.
- 2004 “On measuring correlation of financial time series with high-frequency data”, *II WCDM04*, Torino, Italy.
- 2004 “Nonparametric estimation of the diffusion coefficient”, *III Bachelier World Congress*, Chicago, U.S.
- 2001 “On measuring volatility and the GARCH forecasting performance”, *Market Microstructure and High Frequency data in Finance*, Sandbjerg, Denmark.
- 2000 “Volatility estimate via Fourier analysis” (poster), *Bachelier World Congress*, Paris.

CONFERENCE ORGANIZATION

- 9th Italian Congress of Econometrics and Empirical Economics (2021), Cagliari (Italy), Member of the Program Committee.
- 2nd Italian Workshop of Econometrics and Empirical Economics (2020), Venezia (Italy), Member of the Program Committee.
- 12th SoFiE Conference (2019), Shanghai (China), Member of the Program Committee.
- Econometrics in the Arena (2019), Verona (Italy), Organizer.
- Frontiers in High Frequency Financial Econometrics (2018), Scuola Normale Superiore, Pisa, Italy. Member of the Scientific Committee.
- Workshop in Quantitative Finance (2017-2021), Member of the Scientific Committee.

PHD STUDENTS

- Gael Mboussa Anga, *Essays on Exploding Processes and Covariance Estimation*, Phd in Mathematics, Scuola Normale Superiore, Pisa, 2020.
- Dr Gabriele Pompa, *Deterministic Shift Extension of Affine Models for Variance Derivatives*, PhD in Management Science, IMT Lucca, 2016
- Dr Manola Santilli, *New Tools for Volatility Models*, PhD in Economic Statistics, University of Roma La Sapienza, 2014.
- Dr Aleksey Kolokolov, *Advancements in financial econometrics of detecting simultaneous jumps, measuring integrated volatility powers and covariation*, PhD in Econometrics and Empirical Economics, University of Roma Tor Vergata, 2013.
- Dr Mario Dell’Era, *Geometrical Approximation and Perturbative Methods for PDEs in Finance*, PhD in Mathematics for Economic Decisions, Università di Pisa, 2011.
- Dr Sandrine Jacob Leal, *Three essays on agents’ heterogeneity in financial markets*, PhD in Economics, University of Siena, 2010
- Dr Davide Pirino, *Theoretical and Empirical Essays on the Dynamics of Financial and Energy Markets*, PhD in Physics, University of Pisa, 2009
- Dr Antonio Mannolini, *Essays on Derivatives Pricing with the Extended CIR model*, PhD in Economics, University of Siena, 2007.

COMMISSIONS OF TRUST

- **Projects and Research Evaluation:** Futuro in Ricerca, MIUR, Italy (2013); Valutazione Quadriennale della Ricerca (VQR), ANVUR, Italy (2013, 2016); Chargé de recherches, FNRS, Belgium (2013, 2014, 2015, 2017); BiR&D Multidisciplinary Award, FNRS/FWO, Belgium (2015); Grants and Fellowships, FNRS, Belgium (2016, 2017, 2018), Credits and Projects, FNRS, Belgium (2019, 2020); SSHRC Insight Grants, Canada (2016), Research Projects, FWO, Belgium (2016); Università di Bolzano (2018); Swiss National Science Foundation (2018); Research Grants Council, Hong Kong (2019); Research for Innovation, REFIN, Puglia (2019); Progetti di Ateneo, Università di Perugia (2021)
- **PhD Committees:** Dr. Chiara Maria Ruffo, PhD in Statistics and Mathematical Finance, Università di Milano-Bicocca (2018); Dr. Marco Ticciati, PhD in Economics, Università di Siena (2018); Dr. Francesca Lilla, PhD in Economics, Università di Bologna (2017); Dr. Igor Vexin, PhD in Economics, S.Anna, Pisa (2017); Dr. Patrick Zoi, PhD in Economics, Università di Venezia (2017); Dr. Mikkel Bennedsen, PhD in Economics, University of Aarhus (2017); Dr. Mehdi Lallouache, PhD in Applied Mathematics,

- Ecole Centrale Supélec (2015), Dr. Mauro Iannace, PhD in Statistics and Applications, University of Milano-Bicocca (2014); Dr. Marco Savioli, PhD in Economics, University of Siena (2014); Dr. Enrico Edoli, PhD in Mathematics, University of Padova (2013); Dr. Janine Balter, PhD in Finance, University of Saarbrücken (2012); Dr. Marcello Mezzedimi, PhD in Metodi Matematici per l'Economia, l'Azienda, la Finanza e le Assicurazioni, LUISS (2012); Dr. Dimitrios Karyampas, PhD in Finance, Birkbeck College London (2010); Dr. Antonio Rizzo, PhD in Economics, University of Siena (2009); Dr. Mirko Stefano Mega, PhD in Mathematics for Economics, LUISS and Université Paris 13 (2009); Dr. Sebastiano Silla, PhD in Mathematics for Economics, University of Pisa (2008).
- **Appointment Boards:** Two post-docs at the University of Siena, 2014 (Winners: Mattia Fochesato and Alesia Kalbaska); Junior Assistant Professor (RTDA) at the University of Perugia, 2015 (Winner: Davide Pirino); two post-docs at the University of Verona, 2016 (Winners: Claudia Meroni and Maddalena Cavicchioli); Associate Professor at the University of Siena, 2016. (Winner: Salvatore Federico); Senior Assistant Professor (RTDB) at the University of Verona, 2016 (Winner: Luca Taschini); Full Professor at the University of Lecce, 2016 (Winner: Fabrizio Durante); Two post-docs at Scuola Normale Superiore, Pisa, 2017 (Winners: Giuseppe Buccheri and Alessandro Pollastri); Junior Assistant Professor (RTDA) at the University of Verona, 2017 (Winner: Athena Picarelli); Associate Professor at the University of Verona (Winner: Alessandro Gnoatto); Junior Assistant Professor (RTDA) at the University of Verona, 2019 (Winner: Marco Patacca); Post-doc, University of Verons, 2021 (Winner: Silvia Lavagnini); Assistant Professor (RTDB) at the University of Verona, 2021.

TEACHING

* taught in Italian.

GRADUATE SCHOOL:

- Advanced Hedge Fund Strategies, Carey Business School, Johns Hopkins University, 2017 (48 hrs), 2018 (24 hrs), 2020 (48 hrs)
- Financial Modeling and Valuation, Carey Business School, Johns Hopkins University, 2018 (72 hrs), 2019 (96 hrs), 2020 (24 hrs).
- Corporate Finance, Carey Business School, Johns Hopkins University, 2009 (24 hrs), 2017 (48 hrs), 2019 (24 hrs), 2020 (24 hrs).
- Statistical Analysis, Carey Business School, Johns Hopkins University, 2009 (24 hrs).
- Derivatives, Carey Business School, Johns Hopkins University, 2009 (24 hrs), 2010 (72 hrs).
- Financial Modeling II, Università di Siena, 2010-11 (60 hrs), 2011-12 (60 hrs), 2012-13 (60 hrs), 2013-14 (60 hrs), 2014-15 (60 hrs).
- Credit risk modeling, Università di Roma Tor Vergata, 2012-13 (36 hrs), 2013-14 (18 hrs), 2014-15 (18 hrs).
- Derivati*, Università di Verona, 2015-16 (54 hrs), 2016-17 (54 hrs), 2017-18 (54 hrs), 2018-19 (54 hrs), 2019-20 (54 hrs)
- Financial Risk Management*, Università di Verona, 2015-16 (54 hrs)
- Processi Stocastici per la Finanza*, Università di Siena, 2004-05 (25 hrs), 2005-06 (25 hrs), 2006-07 (25 hrs), 2007-08 (25 hrs), 2008-09 (25 hrs)
- Modelli Matematici per le Applicazioni Finanziarie*, Università di Siena, 2005-06 (25 hrs), 2006-07 (25 hrs), 2007-08 (25 hrs), 2008-09 (25 hrs).
- Processi Stocastici e Applicazioni Finanziarie*, LUISS Guido Carli, 2008-09 (72 hrs), 2010-11 (72 hrs)

UNDERGRADUATE SCHOOL:

- International Finance, USAC (Verona), 2019 (18 hrs)
- Mathematical Finance, LUISS Guido Carli, 2012-13 (72 hrs), 2013-14 (72 hrs)
- Corporate Finance, LUISS Guido Carli, 2015-16 (72 hrs)
- Matematica Finanziaria*, Università di Verona, 2016-17 (72 hrs), 2017-18 (72 hrs), 2018-19 (72 hrs), 2019-20 (72 hrs)
- Matematica Finanziaria*, Università di Siena, 2001-02 (50 hrs), 2002-03 (50 hrs), 2003-04 (75 hrs), 2004-05 (50 hrs), 2005-06 (50 hrs), 2006-07 (50 hrs), 2007-08 (50 hrs), 2008-09 (50 hrs), 2010-11 (60 hrs), 2011-12 (60 hrs), 2012-13 (60 hrs), 2013-14 (60 hrs), 2014-15 (60 hrs).

INSTITUTIONAL ACTIVITIES

- Modelli dei Mercati Finanziari*, Università di Siena, 2011-12 (10 hrs)
- Matematica Generale*, Università di Siena, 2001-02 (20 hrs), 2002-03 (30 hrs)

PHD:

- Finance, Phd in Economics, Università di Verona, 2017 (10 hrs), 2018 (10 hrs)
- Finance, Phd in Economics, Università di Siena, 2003 (10 hrs), 2004 (10 hrs), 2005 (10 hrs), 2006 (10 hrs), 2007 (20 hrs), 2008 (20 hrs), 2009 (20 hrs), 2011 (20 hrs), 2012 (30 hrs), 2013 (10 hrs), 2014 (10 hrs), 2015 (10 hrs)
- Financial Econometrics, PhD in Econometrics and Empirical Economics, PhD in Money and Finance, Università di Roma "Tor Vergata", 2011 (12 hrs), 2012 (12 hrs)
- Quantitative Finance, PhD in Economics, Markets and Institutions, IMT, Lucca, 2013 (20 hrs), 2014 (20 hrs), 2015 (20 hrs)
- High Frequency Data, 12th European Summer School in Financial Mathematics, University of Padova, 2019 (6 hrs)

MASTERS AND COURSES FOR PROFESSIONALS:

- Master SARMA, Università di Verona. Courses: Matematica Finanziaria*, Derivati*, 2019.
- Professional course *Gestione degli strumenti finanziari**, Société Générale, Milano, Italy, 2012 (24 hrs)
- Professional course *Swaptions**, Société Générale, Milano, Italy, 2013 (16 hrs)
- Master *MEBS*, Università di Siena, 2001-02 (8 hrs), 2002-03 (12 hrs), 1003-04 (16 hrs), 2004-05 (12 hrs), 2006-07 (12 hrs), 2008-09 (12 hrs), 2011 (12 hrs).
- Master *Energy Risk Management*, Università di Milano-Bicocca 2006-07 (12 hrs), 2007-08 (12 hrs)
- Master *Finanza Quantitativa*, Università di Macerata, 2007-08 (12 hrs)
- JRC course in Mathematical Finance, European Community, 2007 (16 hrs)
- Master *Finanza d'Impresa*, Camporlecchio Educational SRL, 2006 (12 hrs)
- Master *Finanza per la banca e per l'assicurazione*, Università "La Sapienza" di Roma, 2003-04 (16 hrs), 2004-05 (12 hrs), 2005-06 (12 hrs).
- Master *E2C*, Università di Siena, 2002-03 (10 hrs), 2003-04 (10 hrs).
- Master *Sistemi Complessi*, Università di Palermo, 2002-03 (15 hrs)

- Director of the M.Sc. in Banking and Finance, Università di Verona, 2017-present.
- Director of the Master SARMA (Actuarial Sciences and Risk Management for Insurance Companies), Università di Verona, 2018-19.
- Co-Founder of the M.Sc. in Finance, Università di Siena, 2010.
- Representative of Area 4 in the International Relations Board, Università di Siena, 2013-2015.
- Department Delegate for Research, Università di Siena, 2013-2015.
- Member of the Board of the M.Sc. in Finance, Università di Siena, 2010-2015.
- Member of the Board of the Ph.D. in Management and Economics, Università di Verona, 2015-present
- Member of the Board of the Ph.D. in Economics, Università di Pisa, Firenze e Siena, 2012-2015.