# STEFANO HERZEL

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University of Rome, Tor Vergata
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## EDUCATION

- 1989: University of Rome "La Sapienza" , Laurea in Mathematics cum laude
- 1994: Cornell University, Master of Science in Applied Mathematics
- 1994: University of Milan, Dottorato di Ricerca in Matematica Computazionale e Ricerca Operativa
- 1997: Cornell University, Ph.D. in Applied Mathematics

## EMPLOYMENT

| | |
|---|---|
| 11/08 - present | Full Professor, Dept. of Economics and Finance , University of Rome "Tor Vergata" |
| 11/05 - 11/08 | Full Professor, Dept. of Economics, Finance, and Statistics, University of Perugia |
| 11/01 - 11/05 | Associate Professor, Dept. of Economics, University of Perugia |
| 03/93 - 11/01 | Assistant Professor, Dept. of Economics, University of Perugia |
| 08/91 - 06/94 | Teaching Assistant, Center for Applied Mathematics, Cornell University |
| 01/90 - 05/91 | Software Engineer, Italsiel, Rome |

## PUBLICATIONS

1. *A Quadratically Convergent Algorithm for Linear Programming*, (with M. C. Recchioni, F. Zirilli) Linear Algebra and its Applications, 152: 255-289, (1991).

2. *Two Interior-Point Algorithms for a Class of Convex Programming Problems*, (with M. J. Todd,) Optimization Methods and Software, 5: 27-55, (1995).

3. *A Simple Model for Option Pricing with Jumping Stochastic Volatility*, “International Journal for Theoretical and Applied Finance”, 1:487-505, (1998).

4. *Option Pricing with Stochastic Volatility Models*, Decision in Economics and Finance, 23: 75-99 (2000)

5. *Consistent initial curves for interest rate models* (with F. Angelini), *Journal of Derivatives*, 9: 8-18 (2002)

6. *Efficient Option Valuation using Trees*, (with D. Heath), *Applied Mathematical Finance*, 9: 163-178 (2002).

7. *Approximating the exact value of an American option*, "Statistica", 64, 287-304, (2004).

8. *Arbitrage opportunities on derivatives: a linear programming approach*, "Dynamics of Continuous, Discrete, and Impulsive Systems", Series B: Applications and Algorithms, 12 (4), 589-606, (2005).

9. *Consistent Calibration of HJM Models to Implied Volatilities*, (with F. Angelini), "Journal of Futures Markets", 25: 1093-1120 (2005).

10. *An approximation of caplet implied volatilities in Gaussian models*, (with F. Angelini), "Decisions in Economics and Finance", 28: 113-127 (2006)

11. *A non-stationary paradigm for the dynamics of multivariate financial returns*, (with C. Stărică and R. Tutuncu), "Statistics for dependent data", Springer-Verlag, Lecture Notes in Statistics, Vol. 187, 391-429 (2006)

12. *Measuring the error of dynamic hedging: a Laplace transform approach*, (with F. Angelini), Journal of Computational Finance, Vol.13, No. 12, Winter 2009/10

13. *Explicit formulas for the minimal variance hedging strategy in a martingale case*, (with F. Angelini), "Decisions in Economics and Finance", Volume 33, Issue 1 (2010)

14. *Modeling the default risk in large credit portfolios*, (with B. Acciaio), "International Journal of Risk Assessment and Management", vol. 14, p. 479-503 (2010)

15. *Delegated Portfolio Management with Socially Responsible Investment Constraints*, (with A. Fabretti) EUROPEAN JOURNAL OF FINANCE, 18, p. 293-309, doi: 10.1080/1351847X.2011.579746 (2012)

16. *A Socially Responsible Portfolio Selection Strategy* (with M. Nicolosi) in "Entrepreneurship, Finance, Governance and Ethics", edited by C. Mallin, D. Cumming, R. Cressy. Springer-Verlag, 213-236 (2012)

17. *Active Management Of Socially Responsible Portfolios* (with A. Fabretti) in "Entrepreneurship, Finance, Governance and Ethics", edited by C. Mallin, D. Cumming, R. Cressy. Springer-Verlag, 237-252 (2012)

18. *The cost of sustainability in optimal portfolio decisions*, (with M. Nicolosi and C. Stărică) EUROPEAN JOURNAL OF FINANCE, 18, p. 333-349, doi: 10.1080/1351847X.2011.587521 (2012)

19. *Delta Hedging in Discrete Time under Stochastic Interest Rate* , (with F. Angelini) Journal of Computational and Applied Mathematics 259, 385393, (2014)

20. *Delegated Portfolio Management under Ambiguity Aversion*, (with M. Pinar and A. Fabretti) Operations Research Letters, 42/2, 190-195, (2014)

21. *Evaluating discrete dynamic strategies in affine models* , (with F. Angelini) Quantitative Finance, 15/2, 313-326 (2015)

22. *Socially responsible and conventional investment funds: performance comparison and the global financial crisis*, (with L. Becchetti, R. Ciciretti, A. Dalo) Applied Economics 47, 2541-2562, (2015)

23. *An Agent Based Model for a Double Auction with Convex Incentives*, (with A. Fabretti), Journal of Artificial Societies and Social Simulation 20 (1) 7, (2017)

24. *Portfolio management with benchmark related incentives under mean reverting processes*, (with M. Nicolosi, and F. Angelini), Annals of Operations Research (2017). https://doi.org/10.1007/s10479-017-2535-y

25. *Portfolio allocation in actively managed funds*, (with M. Nicolosi), Economics Bulletin 37 (3),pp. 1688-1693, (2017).

26. *Convex Incentives in Financial Markets: an Agent-Based Analysis* , (with A. Fabretti , T. Gärling, M. Holmen ), Decisions in Economics and Finance 40(1-2), 375-395, (2017)

27. *Optimal strategies with option compensation under mean reverting returns or volatilities*, (with M. Nicolosi), Computational Managment Science (2017). https://doi.org/10.1007/s10287-017-0296-3

**REFEREE**

- Mathematical Finance
- Finance and Stochastics
- Journal of Economics Dynamics and Control
- Decisions in Economics and Finance
- Optimization
- Quantitative Finance
- Economics Letters
- European Journal of Finance

## VISITING AND TEACHING APPOINTMENTS

- 1996: University of Rome "La Sapienza", Dept. of Economics,
- 1998 : University of Calabria (Italy), Dept. of Economics.
- 1999-2002 : Chalmers University, Gothenburg (Sweden), Dept. of Mathematical Statistics
- 2002 : Carnegie Mellon University, Pittsburgh, USA, Dept. of Mathematics.
- 2006: Bilkent University (Turkey), School of Engineering.
- 2009-14 : University of Gothenburg (Sweden), School of Business, Economics and Law, Center for Finance

## OTHER TEACHING ACTIVITIES

- *Consorzio Pavese per studi Post-Universitari,Master in International Finance* and *Master in Venture Finance* . Course on *Option Pricing* (Pavia, 1996-2002)
- *Consorzio Nemetria, Master in "Esperto in problemi finanziari"*. Course on *Mercati Azionari: contratti a termine e contratti derivati* (Foligno (PG), 1997, 1998, 1999).

- *Istituto degli Studi Bancari di Lucca.* Corso per operatori professionali dei servizi finanziari e assicurativi. Course on *Value at Risk.* (Firenze, 1999).
- *University of Rome "La Sapienza"* "Master in Finanza per la banca e per le assicurazioni", Course on *Measuring and managing Financial Risk* (Rome, 2001-2004).
- *University of Siena*, *Master in Economics for Banking*, Course on *Option Pricing.* (Siena, 2000-2002).
- *University of Pisa and CRP Lucca*, *Master in Banking and Finance* , Course on *Pricing and hedging derivatives securities* (Lucca, 2006)
- *Politecnico of Milan, School of Management*, Corso di Alta Formazione in Gestioni Quantitative del Risparmio, Course on *Option pricing* (Milano, 2008)

INVITED LECTURES

- *NATO Advanced Study Institute on Algorithms for Continuous Optimization: The State of the Art* Il Ciocco, Barga (I) 1993. Organizer: E. Spedicato
- *Advances in Derivatives Research* Monte Veritá, Ascona (CH) 1998. Organizer: G. Barone-Adesi
- *CIM 2005 Thematic Term on Optimization: Optimization in Finance* Coimbra (PT) 2005. Organizers: A. M. Monteiro, R. H. Tutuncu, L. Vicente
- *Risk Management: from Basel II to Basel III* Monte Veritá , Ascona (CH) 2006. Organizer, F. Trojani
- *Calibration, Lévy processes in finance, FFT, and related issues* Technical University Vienna (A) 2007. Organizer: F. Hubalek
- *Sustainable Investment Research Platform*, University Sorbonne (Paris) 2012. Organizer: L. Hassel.

## ACADEMIC AND SCIENTIFIC ORGANIZATIONS

- 2011-2013 Member of the Scientific Committee of AMASES (Associazione per la Matematica Applicata alle Scienze Economiche e Sociali)
- 2006-2007 Guest Editor for the Special Issue on "Measuring and Managing Financial Risk", "International Journal of Risk Assessment and Management"
- 2004-2005 VII Workshop on Quantitative Finance (University of Perugia). Member of the Scientific Committee and Chair of the Organizing Committee
- 2007-2008 IX Workshop on Quantitative Finance (University of Rome, Tor Vergata). Member of the Scientific Committee
- 2008-2009 X Workshop on Quantitative Finance (Politecnico di Milano). Member of the Scientific Committee
- 2009-2010 XI Workshop on Quantitative Finance (University of Palermo). Member of the Scientific Committee
- 2010-2011 XII Workshop on Quantitative Finance (University of Padova). Member of the Scientific Committee
- 2011-2012 XIII Workshop on Quantitative Finance (University of L'Aquila). Member of the Scientific Committee
- 2012-2013 XIV Workshop on Quantitative Finance (University of Bologna, Rimini Campus). Member of the Scientific Committee
- 2013-2014 XV Workshop on Quantitative Finance (University of Florence). Member of the Scientific Committee
- 2016-2017 XVII Workshop on Quantitative Finance (University of Milano Bicocca). Member of the Scientific Committee
- 2017-2018 XVIII Workshop on Quantitative Finance (University of Rome 3). Member of the Scientific Committee
- April 2017 - I Workshop Quantitative Finance at Work (University of Rome Tor Vergata). Scientific Organizer
- April 2018 - II Workshop Quantitative Finance at Work (University of Rome Tor Vergata). Scientific Organizer

## PRIZES AND FELLOWSHIPS

- 1989-1990: Fellowship INDAM ( Istituto Nazionale di Alta Matematica "Francesco Severi"), Rome.
- 1992-1994: Fellowship CNR (comitato nazionale per le scienze matematiche) to attend the "Center for Applied Mathematics", Cornell University.
- 2000: Prize AMASES (Associazione Matematica per le Scienze Economiche e Sociali) for the best paper extracted from a Ph.D. thesis.

**SUPERVISION OF RESEARCH PROJECTS**

- 2009-2012 *Quantitative Measures of Sustainable Investments* Assegnisti di Ricerca: dr. Imon Palit and dr. Alessandro Giovannelli.
- 2004-2005 *La misurazione ed il controllo del rischio di mercato.* Assegnista di Ricerca: dr. Silvia Centanni
- 2006-2007 *Valutazione del Rischio di Credito* (con Prof. Elena Stanghellina). Assegnista di Ricerca: dr. Beatrice Acciaio
- 2007-2008 *Studi quantitativi su progetti di sviluppo sviluppo sostenibile.* Assegnista di Ricerca: dr. Marco Nicolosi

**ACADEMIC APPOINTMENTS**

- 2012 - present. Director of the M.Sc. in in "Finance and Banking", University of Rome, "Tor Vergata".
- 2012 - 2015. Director of the M.Sc. in "Economics" , University of Rome, "Tor Vergata".
- 2011 - 2012. Vice direttore del Dipartimento di Economia e Finanza
- 2011 - 2013. Member of the Scientific Committee of AMASES (Associazione per la Matematica Applicata alle Scienze Economiche Sociali)
- 2010 - present. Visiting Professor at the School of Economics, Business and Law, University of Gothenburg.
- 2009-2012 Member of the Management Committee of the International Research Project "Sustainable Investment Research Platform" (www.sirp.se).

- 2017- present. Member of the Board of the School of Economics (Giunta di Facoltá) , University of Rome "Tor Vergata".

**PROFESSIONAL APPOINTMENTS**

- 2016 - present. Member of the Executive Board (Consiglio di Amministrazione), DEA Capital RE SGR
- 2016 - present. Member of the Risk Committee (Comitato Supervisione Rischi e Controlli), DEA Capital RE SGR
- 2016 - present. Member of the Consultancy Committee (Comitato Consultivo), Fondo Immobiliare Aristotele, Fabrica SGR
- 2016 - 2017. Member of the Consultancy Committee (Comitato Consultivo) Fondo Immobiliare Gamma, Idea Fimit SGR

March, 13th 2017.

(Stefano Herzel)