Curriculum vitae

PERSONAL INFORMATION

Mauro Rosestolato

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Nationality Italian

EDUCATION AND POSITIONS

February 2016 – April 2018

Postdoctoral researcher

École Polytechnique (Palaiseau, France)

October 2011 – September 2015

Assegnista di ricerca

LUISS "Guido Carli" (Rome, Italy)

October 2013–July 2014

DAAD Scholarship's owner

Bergische Universität (Wuppertal, Germany)

2009–2011

PhD in Mathematical Finance

Scuola Normale Superiore (Pisa, Italy)

1^{st} classified in the entrance examination; thesis defended on November 21^{st}, 2016, with the mark 70/70 *cum laude*

Title of the thesis: *Topics in stochastic calculus in infinite dimension for financial applications*

Advisor: Fausto Gozzi

Referees: Francesco Russo (ENSTA ParisTech, Palaiseau, France), Huyên Pham (Université Paris Diderot, Paris, France)

2005–2008

Master of Science in Mathematics

University of Padova (Italy)

Title of thesis: *Robustness of the Hobson-Rogers model*

Advisor: Tiziano Vargiolu

Mark: 110/110 *cum laude*

2001–2004

Bachelor of Science in Mathematics

University of Padova (Italy)

Title of the thesis: *Representations of* S_n

Advisor: Giovanna Carnovale

Mark: 110/110 *cum laude*

RESEARCH INTERESTS

- Semigroup theory and applications to Markov transition semigroups
- PDEs in Hilbert spaces associated with financial models with delay
- Path-dependent partial differential equations
- Impulsive stochastic control for irreversible investments
- Stochastic optimal control in finite and infinite dimension via dynamic programming and viscosity solutions
- Stochastic dynamics with delay for applications to option pricing

FUNDING

2015 Member of the project "PDE correlate a sistemi stocastici con ritardo" (financed by INdAM — Istituto di Nazionale Alta Matematica).

Head: Federica Masiero (University of Milano Bicocca, Italy).

2014 Member of the project "Equazioni stocastiche con memoria e applicazioni" (financed by INdAM — Istituto Nazionale di Alta Matematica).

Head: Salvatore Federico (University of Siena, Italy).

AWARDS/SCHOLARSHIPS

- Winner of the YITP Research Prize associated with the *III Energy Finance Workshop 2018*.
- Winner of the YITP Research Prize associated with the *XVIII Workshop on Quantitative Finance 2017*.
- Scholarship offered by the German Academic Exchange Service (DAAD) for a visit at the University of Wuppertal (Germany; October 2013–July 2014).

VISITING APPOINTMENTS

October 2013 – July 2014 Visit to Bergische Universität (Wuppertal, Germany).

October 2010 – February 2011 Exchange visit to École Normale Supérieure of Paris.

September 2003 – March 2004 Erasmus visiting student at Université Pierre et Marie Curie, Paris.

REFEREE ACTIVITY

- Applied Mathematics and Optimization
- Journal of Mathematical Economics
- Journal of Optimization Theory and Applications
- Mathematical Control and Related Fields
- Nonlinear Analysis Series A: Theory, Methods & Applications
- Optimal Control Applications and Methods
- SIAM Journal on Control and Optimization
- Systems & Control Letters
- Stochastics
- Stochastic Processes and their Applications
- Journal of Mathematical Analysis and Applications

PUBLICATIONS

1. S. Federico and M. Rosestolato, "C_0-sequentially equicontinuous semigroups on locally convex spaces", to appear in *Kyoto Journal of Mathematics*, arXiv:1512.04589.
2. A. Cosso, S. Federico, F. Gozzi, M. Rosestolato, and N. Touzi, "Path-dependent equations and viscosity solutions in infinite dimension". *The Annals of Probability* (2018) 46(1):126–174.
3. M. Rosestolato and A. Świech, "Partial regularity of viscosity solutions for a class of Kolmogorov equations arising from mathematical finance". *J. Differential Equations* (2017) 262(3):1897–1930.
4. M. Rosestolato, T. Vargiolu, and G. Villani, "Robustness for path-dependent volatility models". *Decisions in Economics and Finance* (2013) 36(2):137–167.
5. M. Rosestolato, "Path-dependent SDEs in Hilbert spaces", to appear in *Frontiers in Stochastic Analysis — BSDEs, SPDEs and their Applications — Edinburgh, July 2017* (proceedings of the International Workshop on BSDEs and SPDEs), arXiv:1606.06321.

SUBMITTED PAPERS

6. Z. Ren and M. Rosestolato, "Viscosity solutions of path-dependent PDEs with randomized time", arXiv:1806.07654.
7. S. Federico, M. Rosestolato, and E. Tacconi, "Irreversible investment with fixed adjustment costs: a stochastic impulse control approach", arXiv:1801.04491.
8. M. Rosestolato, "Functional Itō calculus in Hilbert spaces and application to path-dependent Kolmogorov equations", arXiv:1606.06326.

PREPRINTS

9. M. Rosestolato, "A note on stochastic Fubini's theorem and stochastic convolution", arXiv:1606.06340.

WORKING PAPERS

10. C. Di Girolami, S. Federico, and M. Rosestolato, "An infinite dimensional approach for stochastic optimal control of rough volatility models".
11. M. Rosestolato, "Partial regularity for semilinear parabolic PDE's in Hilbert spaces".
12. F. Gozzi, I. Kharroubi, H. Pham, M. Rosestolato, "Optimal control of path-dependent Mc Kean-Vlasov SDEs in infinite dimension".

TALKS

- "Irreversible investment with fixed adjustment costs: a stochastic impulse control approach". *III Energy Finance Workshop*, Pescara (Italy), February 15–16, 2018.
- "Representation of path-dependent PDEs in Hilbert spaces: relationship between two notions of viscosity solution". *International Conference on Stochastic Analysis, Stochastic Control, and Applications*, Hammamet (Tunisia), October 24–27, 2017.
- "Representation of path-dependent PDEs in Hilbert spaces: relationship between two notions of viscosity solution". *International Workshop on BSDEs, SPDEs and their Applications*, Edinburgh (Scotland), July 3–7, 2017.
- "Partial regularity of viscosity solutions for a class of Kolmogorov equations arising from mathematical finance". *XVIII WORKSHOP ON QUANTITATIVE FINANCE*, Milano (Italy), January 25–27, 2017.
- "Partial regularity of viscosity solutions for a class of Kolmogorov equations arising from mathematical finance". *Séminaire Probabilités-Statistiques-Contrôle*, ENSTA, Palaiseau (France), June 13, 2016.
- "Path-dependent equations and viscosity solutions in infinite dimension". *International Conference on Stochastic Analysis and Applications*, Hammamet (Tunisia), October 19–23, 2015.
- "An impulse control approach to irreversible investment with fixed costs". *13^{th} Viennese Workshop on Optimal Control and Dynamic Games*, Vienna (Austria), May 13–16, 2015.
- "Directional regularity for viscosity solutions of Kolmogorov equations arising in SDEs with delay". *Oberseminar Stochastik*, Wuppertal (Germany), February 5, 2014.
- "Directional regularity for viscosity solutions of Kolmogorov equations arising in SDEs with delay". *Meeting on path-dependent SDEs and related topics*, Pisa (Italy), January 21-22, 2014.
- "Differentiability of the semigroup associated to SDEs with delay and applications to finance". *9^{th} International Conference on "Large-Scale Scientific Computations"*, Sozopol (Bulgaria), June 3–7, 2013.
- "Market models with delay and differentiability with respect to the present state variable of the associated semigroup". *Stochastic Analysis and Control*, Bedlewo (Poland), May 5–10, 2013.
- "Stock dynamics with infinite delay: pricing and hedging". *12^{th} Viennese Workshop on Optimal Control, Dynamic Games and Nonlinear Dynamics*, Vienna (Austria), May 30^{th} – June 2^{nd}, 2012.
- "Stock dynamics with delay: pricing and hedging" (poster session). *Workshop on Stochastic Analysis and Applications*, Lausanne (Switzerland), June 4–8, 2012,
- "Robustness for path-dependent volatility models". *Seminario Dottorato*, Padova (Italy9, April 6, 2011.
- "Robustness for path-dependent volatility models" (poster session). *Fifth General Conference on Advanced Mathematical Methods in Finance*, Bled (Slovenia), May 4–8, 2010.

PARTICIPANT TO OTHER SCHOOLS, WORKSHOPS, AND CONFERENCES

- *Winter School on Stochastic PDEs and Mean-Field Games*, Bologna (Italy), January 14–16, 2019.
- *Mean-field games, energy and environment*, London (England), February 12–14, 2018.
- *XIX WORKSHOP ON QUANTITATIVE FINANCE*, Rome (Italy), January 24–26, 2018.
- *London-Paris Bachelier Workshop on Mathematical Finance 2017*, London (England), September 22–23, 2017.
- *Stochastic Partial Differential Equations and Applications — X*, Levico (Italy), May 30–June 4, 2016.
- *Stochastic Partial Differential Equations and Applications — IX*, Levico (Italy), January 6–11, 2014.
- *Italian-German training winterschool for stochastic modeling of financial crisis*, University of Wuppertal (Germany), December 9–16, 2013.
- *Probability and PDE's*, Pisa (Italy), Italy, May 20–24, 2013.
- *XXXV Convegno AMASES*, Pisa (Italy), September 15–17, 2011.
- *CIME 2011 — Hamilton-Jacobi equations: approximations, numerical analysis and applications*, Cetraro (Italy), August 29–September 3, 2011.
- *Summer School on Stochastic Control and Related PDEs*, Milano (Italy), June 27–July 1, 2011.
- *Seventh Seminar on Stochastic Analysis, Random Fields and Applications*, Ascona (Switzerland), May 23–27, 2011.
- *XII Workshop on Quantitative Finance*, Padova (Italy), Jenuary 27–28, 2011.
- *Workshop on Evolution and Market Behavior in Economics and Finance*, Pisa (Italy), October 2–3, 2009.
- *Spring School in Finance*, Bologna (Italy), May 21–22, 2009.
- *Scuola Matematica Interuniversitaria*, Perugia (Italy), July 28–August 28, 2008.

TEACHING EXPERIENCE

October 2013 – January 2014	Teaching Assitant for the undergraduate-level course "Financial Crisis" (bachelor) at Bergische Universität (Wuppertal, Germany).
September – December 2012	Teaching Assitant for the graduate-level course "Mathematical Methods for Economics" at LUISS University, (Rome, Italy).
April – May 2011	Teaching Assitant for the PhD-level course "Quantitative Methods" at IMT of Lucca (Italy).
October 2007 – May 2008	Practice for the undergraduate-level courses "Algebra", "Probability and Statistics", and "Analysis" at the Department of Statistics, University of Padova (Italy).

SCIENTIFIC COLLABORATORS

Andrea Cosso (University of Bologna, Italy); Salvatore Federico (University of Siena, Italy); Fausto Gozzi (LUISS "Guido Carli", Rome, Italy); Zhengjie Ren (Université Paris Dauphine, Paris, France); Andrzej Świech (Georgia Institute of Technology, Atlanta, USA); Elisa Tacconi (Bocconi University, Milano, Italy); Nizar Touzi (École Polytechnique, Palaiseau, France); Tiziano Vargiolu (University of Padova, Italy); Giovanna Villani (Caixabank, Barcelona, Spain).

LANGUAGE SKILLS

Italian	mother tongue
English	professional working proficiency (C1)
French	effective operational proficiency (B2/C1)
German	effective operational proficiency (B2/C1)

COMPUTER SKILLS

LaTeX; Python; C/C++; JavaScript; MATLAB; Lisp.

Il sottoscritto, consapevole delle responsabilità anche penali in caso di dichiarazioni non veritiere, ai sensi degli artt. 19, 46 e 47 del D.P.R̀445/2000, dichiara sotto la propria responsabilità che quanto sopra affermato corrisponde a verità.

Pisa, 26 gennaio 2019

Mauro Rosestolato