Curriculum vitæ of Mauro Rosestolato

Date of Birth: October 1st, 1982.

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Current position: postdoctoral researcher at École Polytechnique (Palaiseau, France), starting from February 2016.

Past positions

- October 2011–September 2015: postdoctoral position at LUISS University, Rome, Italy.
- October 2013–July 2014: DAAD Scholarship's owner at Bergische Universität, Wuppertal.

Education

- 2009–2011: *PhD in Applied Mathematics at Scuola Normale Superiore, Pisa*: 1st classified in the entrance examination; thesis defended on November 21st, 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 (LUISS University, Rome, Italy).

  Referees: Francesco Russo (ENSTA ParisTech, Palaiseau, France), Huyên Pham (Université Paris Diderot, Paris, France).
- 2005–2008: *Master of Science in Mathematics at University of Padova*, with the mark 110/110 *cum laude*.
- 2001–2004: *Bachelor of Science in Mathematics at University of Padova*, with the mark 110/110 *cum laude*.

Research lines: Stochastic dynamics with delay; infinite dimensional stochastic analysis; semigroup theory and applications to Markov transition semigroups; stochastic and deterministic optimal control in finite and infinite dimension via dynamic programming and viscosity solutions; PDEs in Hilbert spaces.

Scientific collaborations: Andrea Cosso (Politecnico, Milano, Italy); Salvatore Federico (University of Siena, Italy); Fausto Gozzi (LUISS University, Rome, Italy); Zhengjie Ren (Université Paris Dauphine, Paris, France); Andrzej Święch (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).

Research projects

- 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).

Visits to other Universities

- October 2013–July 2014: visit to Bergische Universität of Wuppertal.
- October 2010–February 2011: exchange visit to École Normale Supérieure of Paris.

Didactics

- October 2013–January 2014: Teaching Assitant for the course Financial Crisis; Bergische University, Wuppertal;
- September–December 2012: Teaching Assitant for the course Mathematical Methods for Economics; LUISS University, Rome;
- April–May 2011: Teaching Assitant for the course Quantitative Methods; Ph.D. Program in Economics, Markets, Institutions; IMT of Lucca.
- October 2007–May 2008: Teaching Assitant for the courses Probability and Analysis; Department of Statistics, University of Padova.

Referee activity: Journal of Mathematical Economics; SIAM Journal on Control and Optimization; Applied Mathematics and Optimization; Optimal Control Applications and Methods; Journal of Optimization Theory and Applications; Mathematical Control and Related Fields.

Published papers

[1] A. Cosso, S. Federico, F. Gozzi, M. Rosestolato, and N. Touzi, “Path-dependent equations and viscosity solutions in infinite dimension”. *The Annals of Probability* (to appear, 2017), arXiv:1502.05648.

[2] M. Rosestolato and A. Święch, “Partial regularity of viscosity solutions for a class of Kolmogorov equations arising from mathematical finance”. *Journal of Differential Equations* (2017) 262(3):1897–1930.

[3] M. Rosestolato, T. Vargiolu, and G. Villani, “Robustness for path-dependent volatility models”. *Decisions in Economics and Finance* (2013) 36(2):137–167.

Submitted papers

[4] S. Federico and M. Rosestolato, “C_0-sequentially equicontinuous semigroups on locally convex spaces”, arXiv:1512.04589, 2016.

[5] M. Rosestolato, “Functional Itō calculus in Hilbert spaces and application to path-dependent Kolmogorov equations”, arXiv:1606.06326, 2016.

[6] M. Rosestolato, “Path-dependent SDEs in Hilbert spaces”, arXiv:1606.06321, 2016.

[7] M. Rosestolato, “A note on stochastic Fubini’s theorem and stochastic convolution”, arXiv:1606.06340, 2016.

Working papers

[8] S. Federico, M. Rosestolato, and E. Tacconi, "Irreversible investment with fixed adjustment costs".

Awards

- 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 visit at Bergische Universität, Wuppertal, Germany (October 2013–July 2014).

Talks

- "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 with 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, 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, Italy, 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.

Other schools, workshops, and conferences attended

- *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, May 20–24, 2013.
- *XXXV Convegno AMASES*, Pisa, September 15–17, 2011.
- *CIME 2011 — Hamilton-Jacobi equations: approximations, numerical analysis and applications*, Cetraro, August 29–September 3, 2011.
- *Summer School on Stochastic Control and Related PDEs*, Milano, 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, Jenuary 27–28, 2011.
- *Workshop on Evolution and Market Behavior in Economics and Finance*, Pisa, October 2–3, 2009.
- *Spring School in Finance*, Bologna, May 21–22, 2009.
- *Scuola Matematica Interuniversitaria*, Perugia, July 28–August 28, 2008.

Language skills: Italian: mother tongue; English: professional working proficiency (C1); French: effective operational proficiency (B2/C1); German: effective operational proficiency (B2/C1).

Informatics skills: GNU-Linux OS; LaTeX; Python; C/C++; JavaScript; MATLAB; Lisp.