

# CURRICULUM VITAE

Dr. Beatrice Acciaio

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## Academic positions

08/2016– Associate professor, Dept Statistics, the London School of Economics and Political Science  
09/13–07/16 Assistant professor, Dept Statistics, the London School of Economics and Political Science  
02/10–01/14 Project leader, Faculty of Mathematics, University of Vienna  
10/09–08/16 Assistant professor, Dept Economics, Finance and Statistics, University of Perugia  
02–09/2009 Post-Doc, Financial and Actuarial Mathematics, Vienna University of Technology  
11/08–01/09 Post-Doc, Dept Economics, Finance and Statistics, University of Perugia  
11/06–10/08 Post-Doc, Financial and Actuarial Mathematics, Vienna University of Technology  
11/05–07/07 Post-Doc, Dept Economics, Finance and Statistics, University of Perugia

## Education

2002–2006 Doctoral studies in “Mathematical and Statistical Methods for Economic and Social Research”, University of Perugia. Thesis: “Two problems related to utility theory under unusual assumptions” (supervisor: Prof. W. Schachermayer), *excellent*.  
1997–2002 Bachelor and Master in Mathematics, University of Perugia. Thesis: “Existence of ground states for non-linear elliptic equations” (advisor: Prof. P. Pucci), *summa cum laude*.

## Qualifications

01/2014 Qualification as Associate Professor in Applied Mathematics (sect.13/D4), Italian Ministry of Education, University and Research  
05/2013 Habilitation (Privatdozent) in Mathematics, University of Vienna  
02/2013 Qualification as Professor in Applied Mathematics (sect.26), French Ministry of National Education, Higher Education and Research

## Long visits (past and forthcoming)

12/2016 Business School, Sydney University of Technology  
09–12/2016 Department of Statistics and Applied Probability, University of California Santa Barbara  
03–04/2015 Hausdorff Research Institute for Mathematics, Universität Bonn  
06–07/2013 Institute of Mathematics, Humboldt Universität zu Berlin  
02–05/2013 Department of Mathematics, University of Texas at Austin  
02–06/2005 Université Paris Dauphine  
05–06/2004 Université Paris Dauphine

## Published and forthcoming papers

- [18] “Semi-static completeness and robust pricing by informed investors” (with M. Larsson), *The Annals of Applied Probability*, forthcoming.
- [17] “Characterization of non-negative max-continuous local martingales vanishing at infinity” (with I. Penner), *Electronic Communications in Probability* **21/1**, 1-10, 2016.
- [16] “Arbitrage of the first kind and filtration enlargement in semimartingale models” (with C. Fontana and K. Kardaras), *Stochastic Processes and their Applications* **126/6**, 1761-1784, 2016.
- [15] “On the minimization of area among chord-convex sets” (with A. Pratelli), in *New trends in Shape Optimization*, Springer, 1-17, 2015.
- [14] “On the Lower Arbitrage Bound of American Contingent Claims” (with G. Svindland), *Mathematical Finance* **24/1**, 147-155, 2014.
- [13] “Model-free versions of the Fundamental Theorem of Asset Pricing and the Super-Replication Theorem” (with M. Beiglböck, F. Penkner, W. Schachermayer), *Mathematical Finance*, Wiley Online Library, 2013.
- [12] “A trajectorial interpretation of Doob’s martingale inequalities” (with M. Beiglböck, F. Penkner, J. Temme, W. Schachermayer), *The Annals of Applied Probability* **23/4**, 1494-1505, 2013.
- [11] “Are law-invariant risk functions concave on distributions?” (with G. Svindland), *Dependence Modeling* **1/3**, 54-64, 2013.
- [10] “Optimal portfolio selection via conditional convex risk measures on  $L^p$ ” (with V. Goldammer), *Decisions in Economics and Finance* **36/1**, 1-21, 2013.
- [9] “Risk assessment for uncertain cash flows: Model ambiguity, discounting ambiguity, and the role of bubbles” (with H. Föllmer, I. Penner), *Finance & Stochastics* **16/4**, 669-709, 2012.
- [8] “Dynamic Risk measures” (with I. Penner), *Advanced Mathematical Methods for Finance*, G. Di Nunno and B. Øksendal (eds.) Springer-Verlag Berlin Heidelberg, 1-34, 2011.
- [7] “Modelling the default risk in large credit portfolios” (with S. Herzel), *International Journal of Risk Assessment and Management* **14/6**, 479-503, 2010.
- [6] “Short Note on Inf-Convolution Preserving the Fatou Property”, *Annals of Finance* **5**, 281–287, 2009.
- [5] “Optimal risk sharing with different reference probabilities” (with G. Svindland), *Insurance: Mathematics and Economics* **44**, 426–433, 2009.
- [4] “Optimal risk sharing with non-monotone monetary functionals”, *Finance & Stochastics*, **11/2**, 267–289, 2007.
- [3] “Forecasting corporate default probabilities with Survival Models in Affine Setting”, (with P. Bordi, E. Stanghellini), *SIS Proceed.*, 2007 Intermediate Conference on Risk and Prediction.
- [2] “Absolutely continuous optimal martingale measures”, *Statistics & Decisions* **23**, 81–100, 2005.
- [1] “Existence of radial solutions for quasi-linear elliptic equations with singular nonlinearities” (with P. Pucci), *Advanced Nonlinear Studies* **3**, 513–541, 2003.

## Submitted papers

- [3] “The space of outcomes of semi-static trading strategies need not be closed” (with M. Larsson and W. Schachermayer), under revision.
- [2] “Model-independent pricing with insider information: a Skorokhod embedding approach” (with A. Cox and M. Huesmann), submitted.

- [1] “Causal optimal transport and its links to enlargement of filtrations and continuous-time stochastic optimization” (with J. Backhoff and A. Zalashko), submitted.

## Theses

- [3] “Robust Pricing, Hedging and Risk Management”. Habilitation thesis (Habilitationsschrift), University of Vienna, 2013.
- [2] “Two problems related to utility theory under unusual assumptions”. PhD thesis, University of Perugia, 2006.
- [1] “Esistenza di stati fondamentali per problemi ellittici quasi-lineari”. Master thesis, University of Perugia, 2002.

## Grants and awards

- 2009-2013 Wiener Wissenschafts-, Forschungs- und Technologiefonds, “Mathematics and ...” Call 2009 for *High Potentials*. Project (4 years): “Mathematics of Financial Risk Measurement and Stochastic Dependence” (partners: Prof. W. Schachermayer and Prof. U. Schmock and Bank Austria).
- 02/2009 European Science Foundation - “Advanced Mathematical Methods for Finance” Project (6 months): “Dynamic Measurement of Multiperiod Risk”.
- 07/2007 Doctoral Studies Award by the Italian Association of Mathematics Applied to Economic and Social Sciences.
- 11/2006 European Science Foundation - “Advanced Mathematical Methods for Finance”. Project (6 months): “Optimal sharing of pooled risk among an aggregate of economic agents”.
- 2002-2005 Fellowship for PhD, University of Perugia.

## Conference Organisation

- “SIAM Conference on Mathematical Modeling in Finance”, 31 August - 2 September 2017, Imperial College London (co-organizer)
- “Risk and Stochastics Conference”, 21-22 April 2016, LSE (organizer)
- “Workshop: Optimal transport and stochastics”, 9–12 March 2015, HIM, University of Bonn (co-organizer)
- “6th Summer School in Financial Mathematics”, 26–30 August 2013, University of Vienna (co-organizer)

## Invited talks and seminars (past and forthcoming)

- 31/05-02/06/2017 Thera Stochastics - A Mathematics Conference in Honor of Ioannis Karatzas, Santorini, Greece
- 26/02-04/03/2017 Mathematics of Quantitative Finance. Oberwolfach Workshop, Germany
- 10-13/01/2017 Workshop on Recent Advances in Financial Mathematics, Ecole Polytechnique, Ecole des Ponts and Université Pierre and Marie Curie
- 12/12/2016 Workshop on Quantitative Methods in Finance: Beyond the Classical Paradigm, Sydney University of Technology
- 17-19/11/2016 SIAM Conference on Financial Mathematics and Engineering (FM16), Austin, TX (plenary speaker)
- 24/10/2016 Mathematical Finance Colloquium, University of Southern California

17/10/2016 Financial Mathematics and Actuarial Research Seminar, University of California Santa Barbara

5/10/2016 Financial and Actuarial Mathematics Seminar, University of Michigan

15/09/2016 Mathematical Finance Seminar, Columbia University, NY

12-14/09/2016 Vienna Congress on Mathematical Finance, Vienna University of Technology

8-9/09/2016 Workshop on Enlargements of Filtrations and Financial Applications, University of Zurich

22-27/05/2016 BIRS-CMO workshop on Stochastic Analysis and Mathematical Finance - A Fruitful Partnership, Casa Matematica Oaxaca (CMO), Mexico

12/05/2016 Probability Seminar, Universities of Paris VI and Paris VII

04-07/04/2016 Vienna WPI Workshop on Pathwise methods, Functional Calculus and applications in Mathematical Finance, WPI, Vienna

19-23/10/2015 International Conference on Stochastic Analysis and Applications, Hammamet, Tunisia

16-18/09/2015 Workshop on Mathematical Finance beyond classical models, ETH, Zurich

7-10/09/2015 7th General AMaMeF and Swissquote Conference, EPFL, Lausanne (plenary speaker)

10-14/08/2015 The 8th International Congress on Industrial and Applied Mathematics, Beijing

18-22/05/2015 Mathematics and Financial Economics Workshop, ZIF, University of Bielefeld

21/01/2015 Workshop on Mathematical Finance, University of Milan

28-29/11/2014 Workshop on Stochastic and Quantitative Finance, Imperial College London

20/10/2014 Probability Seminar, University of Bath, UK

8-12/09/2014 Workshop on Stochastic analysis for risk modeling, CIRM, Luminy, Marseille

17-20/06/2014 Paris Labex Louis Bachelier - SIAM-SMAI Conference on Financial Mathematics: Advanced Modeling and Numerical Methods, University Paris VII, Paris, France

11-16/05/2014 BANFF International Research Station, Canada. Workshop on Mathematical Finance: Arbitrage and Portfolio Optimization

08/05/2014 Probability, Stochastic Modelling and Financial Mathematics Seminar, University of Leeds, UK

24-25/04/2014 Risk and Stochastics Conference 2014, LSE, London

16/04/2014 Berliner Kolloquium Wahrscheinlichkeitstheorie - Stochastische Analysis, WIAS Institute, Berlin

14/03/2014 Stochastic Finance Seminar, University of Warwick, UK

17/07/2013 Workshop Stochastics and Real World Models 2013, University of Bielefeld, Germany

04/07/2013 Stochastic Analysis and Stochastic Finance Seminar, Humboldt Universität zu Berlin, Germany

29/05/2013 Habilitationsvortrag, University of Vienna

19/04/2013 Mathematical Finance Seminar, University of Texas at Austin, TX

09/01/2013 Probability Seminar, University of Strasbourg, France

25/10/2012 Mathematics Seminar, University of Erlangen, Germany

12/07/2012 Mathematical Finance Seminar, University of Pisa, Italy

29/05/2012 Operations Research and Financial Engineering Seminar, Princeton University, US

20-25/05/2012 BANFF International Research Station, Canada. Workshop on Optimal Transportation and Differential Geometry

27/01/2012	Bachelier Seminar Paris, IHP Paris, France
26/01/2012	Mathematical Finance Seminar, Université d'Evry Val Dessoine, France
15–22/01/2012	Bachelier Colloquium on Stochastic Calculus and Finance, Metabief, France
23/11/2011	Mathematical Colloquium, University of Oldenburg, Germany
14/10/2011	PRisMa 2011: One-Day Workshop on Portfolio Risk Management, Vienna University of Technology, Austria
10/10/2011	Mathematical Finance Seminar, University of Vienna, Austria
15/07/2011	Kolloquium Versicherungs- und Finanzmathematik, Leibniz Universität Hannover, Germany
11/05/2011	DeFinetti Seminar, University of Milano Bicocca, Italy
19/04/2011	Mathematics Seminar, University of Pavia, Italy
22–29/03/2010	Mini-course on Risk Measures, University of Vienna, Austria
05/03/2010	Bachelier Seminar Paris, IHP Paris, France
28/09/2009	PRisMa 2009: One-Day Workshop on Portfolio Risk Management, Vienna University of Technology, Austria
9/07/2009	Oberseminar Finanz- und Versicherungsmathematik, Munich University of Technology, Germany
23/04/2009	Berlin Seminar on Stochastic Analysis and Mathematical Finance, Humboldt Universität zu Berlin, Germany
01/09/2005	Mathematical Finance Seminar, Vienna University of Technology, Austria
19/07/2005	Mathematical Finance Seminar, University of Perugia, Italy

### Contributed talks

15-18/12/2015	Quantitative Methods in Finance Conference (QMF) 2015, Sydney.
17-20/12/2014	Quantitative Methods in Finance Conference (QMF) 2014, Sydney.
4-7/06/2013	Frontiers in Financial Mathematics 2013, Institute of Bankers, Dublin.
19-24/06/2011	35th Conference on Stochastic Processes and their Applications, Instituto de Matemáticas of the Universidad Nacional Autónoma de México of Oaxaca.
12–16/07/2010	Conference on Analysis, Stochastics, and Applications, Vienna University.
22-26/06/2010	VI World Congress of the Bachelier Finance Society in Toronto, Canada.
18-19/03/2010	Conference on Robust Techniques in Quantitative Finance, University of Oxford.
4-10/05/2009	IV Conference on Advances Mathematical Methods in Finance, Aalesund, Norway.
5-6/02/2009	AFMathConf 2009: Interplay between Finance and Insurance, Royal Flemish Academy of Belgium for Science and the Arts, Bruxelles.
12-14/06/2008	International Risk Management Conference, University of Florence.
24-25/01/2008	IX Workshop on Quantitative Finance, University of Rome Tor Vergata.
17-22/09/2007	Workshop and Mid-Term Conference on Advanced Mathematical Methods for Finance, Vienna University of Technology.
06-08/06/2007	Intermediate Congress of the Italian Statistical Society 2007, “Risk and Prediction”, University of Venice.
11-13/10/2006	Conference MAF 2006, “Mathematical and Statistical Methods for Insurance and Finance”, University of Salerno.

## Supervisions

- Anastasiia Zalashko, PhD student, University of Vienna, ongoing.
- Diego Zabaljaurellis, PhD student, LSE, ongoing.
- Stefan Förstel, Master student, University of Erlangen. Completed 2014.
- Friedrich Penkner, PhD student, University of Vienna. Completed 2013.

## Research interests

Robust finance and model uncertainty; pricing, hedging and portfolio optimisation; enlargement of filtrations; theory of stochastic processes and their application in finance and insurance; optimal mass transportation; risk measures and optimal risk sharing.

## Editorial work

I am part of the Editorial Board of the journal *Dependence Modeling*, Versita-De Gruyter publisher. Moreover, I serve as a referee for the following journals: *Mathematical Finance*, *Finance and Stochastics*, *Statistics and Decisions*, *SIAM Journal on Financial Mathematics*, *SIAM Journal on Control and Optimisation*, *Mathematics and Financial Economics*, *Insurance: Mathematics and Economics*, *International Journal of Theoretical and Applied Finance*, *Proceeding of the AMS*, *Statistics and Risk Modeling*, *Statistics and Probability Letters*, *Mathematics of Operations Research*.

## Teaching experience

- 2013/14/15/16 *Stochastics for Derivatives Modelling* (lectures and seminars), MSc in Risk and Stochastics, LSE.
- 2013/14/15/16 *Recent Developments in Finance and Insurance* (lectures and seminars), MSc in Risk and Stochastics, LSE.
- 2014/15/16 *Stochastic Processes* (tutorials), BSc in Actuarial Science, LSE.
- 2014/15 *Actuarial Investigations: Financial* (tutorials), BSc in Actuarial Science, LSE.
- 2013/14 *Statistical Inference* (tutorials), MSc in Statistics, LSE.
- 2011/12/13 *Financial Evaluation of Debt and Investments* (lectures and tutorials), MSc in Economics, University of Perugia.
- 2010/11 *Mathematics* (tutorials), undergraduate studies in Economics, University of Perugia.
- 2009/10 *Financial Mathematics* (lectures and tutorials), MSc in Economics and Management of Tourism, University of Perugia.
- 2008/09 *Probability and Mathematical Methods for Risk Management* (lectures and tutorials), MSc in Finance, University of Perugia.
- 2008/09 *Stochastic Integration Theory* (students seminars), doctoral studies in Financial and Actuarial Mathematics, Vienna University of Technology.
- 2007/08 *Stochastic Integration Theory* (lectures), doctoral studies in Financial and Actuarial Mathematics, Vienna University of Technology.
- 2004/05/06 *Statistics* (tutorials), undergraduate studies in Economics, University of Perugia.

## Language skills

Italian (native), English (fluent), French (fluent), German (intermediate)