# UMUT ÇETİN

*Curriculum Vitae*

London School of Economic and Political Science
Department of Statistics
Columbia House
Houghton Street
London WC2A 2AE

Phone: +44 (0)20 7955 7644
Fax: +44 (0)20 7955 7416
e-mail: u.cetin@lse.ac.uk
web: http://stats.lse.ac.uk/cetin/

**Education**

- CORNELL UNIVERSITY, ITHACA, NY
  Ph.D. in Applied Mathematics, August 2003.
  Minors: Microeconomics, Probability Theory
- CORNELL UNIVERSITY, ITHACA, NY
  M.S. in Applied Mathematics, December 2001.
- KOÇ UNIVERSITY, ISTANBUL, TURKEY
  B.S. in Mathematics, June 1998.

**Academic Experience**

- LONDON SCHOOL OF ECONOMICS
  DEPARTMENT OF STATISTICS — September 2017 – present
  Professor in Statistics.
- LONDON SCHOOL OF ECONOMICS
  DEPARTMENT OF STATISTICS — August 2010 – September 2017
  Associate Professor in Statistics.
- LONDON SCHOOL OF ECONOMICS
  DEPARTMENT OF STATISTICS — 2004 – August 2010
  Assistant Professor in Statistics.
- VIENNA UNIVERSITY OF TECHNOLOGY
  DEPARTMENT OF FINANCIAL AND ACTUARIAL MATHEMATICS — 2003 – 2004
  Postdoctoral researcher.

**External Examining Experience**

- External Examiner for MSc Financial Economics at City University, London.
  October 2013 - July 2018

**School Duties Undertaken**

- Director of the PhD Programme (ongoing).
- Member of the Departmental Teaching Committee (ongoing).
- Member of the Steering Committee, The London Graduate School of Mathematical Finance (ongoing).
- Organiser of Joint Risk and Stochastics and Financial Mathematics Seminar (ongoing).
- Organiser of London Mathematical Finance Seminar (ongoing).
- Director of the Departmental Teaching Committee.
- MSc Risk and Stochastics Programme Director.
- Actuarial Science Deputy Course Tutor.
- Co-director of BSc Financial Mathematics and Statistics.

- Organiser of Joint Econometrics and Statistics Workshop.
- Departmental representative for Undergraduate Studies Sub-committee.
- Departmental representative for Graduate Studies Sub-committee.
- Institute for Actuaries University Liaison Committee.

**Research Interests**

Stochastic analysis, theory of martingales and Markov processes. Stochastic filtering theory. Applications to mathematical finance and financial economics. Market microstructure. Mathematics of climate change.

**Editorial Activities**

- Co-Editor for *Market Microstructure and Liquidity.*
- Associate Editor for *Stochastics.*
- Associate Editor for *Frontiers of Mathematical Finance.*

**Publications**

- **Modeling Credit Risk with Partial Information** with Robert A. Jarrow, Philip Protter and Yıldıray Yıldırım, 2004. *The Annals of Applied Probability* 14(3), 1167–1178.
- **Liquidity Risk and Arbitrage Pricing Theory** with Robert A. Jarrow and Philip Protter, 2004. *Finance and Stochastics*, 8, 311–341.
- **Pricing Options in an Extended Black-Scholes Economy with Liquidity: Theory and Empirical Evidence** with Robert A. Jarrow, Philip Protter and Mitchell Warachka, 2006. *The Review of Financial Studies*, 19(2), 493–529.
- **Modelling liquidity effects in discrete time** with L. C. G. Rogers, 2007. *Mathematical Finance*, 17(1), 15–29.
- **Insider trading in an equilibrium model with default: a passage from reduced-form to structural modelling** with Luciano Campi, 2007. *Finance and Stochastics*, 11(4), pp. 591–602. **(Best Paper in Mathematical Finance in 2008 by Europlace Institute of Finance)**
- **Hedging under incomplete information: Applications to emissions markets** with Michel Verschuere, 2007. *Proceedings of the 5th Actuarial and Financial Mathematics Day, Brussels (2007)*, edited by G. Deelstra, A. De Schepper, J. Dhaene, H. Reynaerts, W. Schoutens, P. Van Goethem and M. Vanmaele.
- **Pricing and hedging in carbon emissions markets** with M. Verschuere, 2010. *International Journal of Theoretical and Applied Finance,* 12(7), pp. 949–967.
- **Option hedging for small investors under liquidity costs** with M. Soner and N. Touzi, 2010. *Finance and Stochastics,* 14(3), pp. 317–341.
- **Stochastic Integration**, 2010. To appear in *Encyclopedia of Quantitative Finance*, Wiley.
- **Liquidity Risk and Arbitrage Pricing Theory** with R. Jarrow and P. Protter, 2008. To appear in *Handbook of Quantitative Finance and Risk Management*, Springer-Verlag.
- **Dynamic Markov bridges motivated by the models of insider trading** with L. Campi and A. Danilova, 2011. *Stoc. Proc. App.*, 121, 534–567.
- **On absolutely continuous compensators and nonlinear filtering equations in default risk models**, 2012. *Stoc. Proc. App.*, 122 (11). pp. 3619–3647.
- **An equilibrium model with default and insider's dynamic information** with L. Campi and A. Danilova, 2012. *Finance and Stochastics*, 17(3), pp. 565-585..
- **Filtered Azema Martingales**, 2012. *Electron. Commun. Probab.*, vol. 7, no. 62, pp. 1-13.
- **Point process bridges and weak convergence of insider trading models** with H. Xing, 2013. *Electron. J. Probab.*, vol. 18, no. 26, pp.1-24.
- **Explicit construction of a dynamic Bessel bridge of dimension 3** with L. Campi and A. Danilova, 2013 . *Electron. J. Probab.*, vol. 18, no. 30, pp.1-25.

- **Bayesian sequential estimation of a drift of fractional Brownian motion** with A. Novikov and A. Shiryaev, 2013. *Sequential Analysis*, 32(3), pp. 288-296.
- **A simple model for market booms and crashes** with I. Sheynzon, 2014. *Mathematics and Financial Economics*, 8(3), pp. 291-319.
- **On certain integral functionals of squared Bessel processes**, 2015. *Stochastics*, 87(6), pp. 1033-1060.
- **Markov bridges: SDE representation** with A. Danilova, 2016. *Stoc. Proc. App.*, 126(3), pp. 651-679.
- **Markovian Nash equilibrium in financial markets with asymmetric information and related forward-backward systems** with A. Danilova, 2016. *Ann. App. Prob.*, 26(4), pp. 1996-2029.
- **Financial equilibrium with asymmetric information and random horizon**, 2017. *Finance and Stochastics*, 22(1), pp. 97-126.
- **Path transformations for local times of one-dimensional diffusions**, 2018. *Stoc. Proc. App.*, 128(10), 3439-3465.
- **Diffusion transformations, Black-Scholes equation and optimal stopping**, 2018. *Ann. App. Prob.*, 28(5), 3102-3151.
- **Linear inverse problems for Markov processes and their regularisation**. To appear in *Stoc. Proc. App.*.

**Books**

- **Dynamic Markov Bridges and Market Microstructure: Theory and Applications**, with A. Danilova, *Probability Theory and Stochastic Modelling*, vol.(90), Springer.

**Academic Visits**

- Department of Mathematics, Rutgers University. Invitation by Prof. Kasper Larsen. April 2018
- Department of Mathematics, Carnegie Mellon University. Invitation by Prof. Dmitry Kramkov. April 2017
- Department of Mathematics, University of Michigan. Invitation by Prof. Erhan Bayraktar. March 2017
- Department of Mathematics, University of Texas at Austin. Invitation by Prof. Gordan Zitkovic. February 2017
- Department of Mathematics, Carnegie Mellon University. Invitation by Prof. Kasper Larsen. March 2015
- Department of Mathematics, ETH Zurich. Invitation by Prof. Mete Soner. January–June 2011
- CMAP, École Polytechnique, Paris. Invitation by Prof. Nizar Touzi. 2008–2009
- Department of Mathematics. Université d'Evry. Invitation by Prof. Monique Jeanblanc. September 2008
- Department of Mathematics. Facultatea de Cibernetica, Statistica si Informatica Economica Academia de Studii Economice Bucuresti, Bucharest. Invitation by Dr. Bogdan Iftimie. December 2007

- CMAP, École Polytechnique, Paris. Invitation by Prof. Nizar Touzi. 2007–2008
- Department of Administrative Sciences and Economics. Koç University, Istanbul. Invitation by Prof. Mete Soner. March 2006
- Institut für Finanz- und Versicherungsmathematik. Technische Universität Wien, Vienna. Invitation by Prof. Josef Teichmann. March 2006
- Institut für Finanz- und Versicherungsmathematik. Technische Universität Wien, Vienna. Invitation by Prof. Josef Teichmann. September 2005
- Statistical Laboratory. University of Cambridge. Invitation by Prof. Chris Rogers. November 2003

**Plenary Conference Talks**

- Stochastic Optimization and Optimal Stopping, Steklov Institute. September 2012
- The 4th General Conference on Advanced Mathematical Methods in Finance, Alesund. May 2009

**Invited Conference Talks**

- SIAM Conference on Financial Mathematics and Engineering. June 2021
- Stochastic Analysis, Mathematical Finance and Economics, BIRS, Banff. May 2020
- Stochastic Analysis and its Applications, Oaxaca, Mexico. May 2018
- Princeton-Rutgers Mathematical Finance Day. April 2018
- Market Microstructure: Confronting Many Viewpoints, Paris. December 2016
- London-Paris Bachelier Workshop, Paris. September 2016
- Enlargement of Filtrations and Financial Applications, Zurich. September 2016
- Stochastic Analysis and Mathematical Finance - A Fruitful Partnership, Oaxaca, Mexico. May 2016
- Enlargement of Filtrations and Financial Applications, Paris. May 2016
- Market Microstructure 2015, CFM-Imperial Workshop, Deutsche Bank, London. December 2015
- Mathematics and Financial Economics, Center for Interdisciplinary Research, University of Bielefeld. May 2015
- Kyle-Back Models, Thematic Semester on Finance and Insurance, Paris. April 2015

- Stochastic Analysis for Risk Modelling, Luminy. September 2014
- Labex Louis Bachelier - SIAM-SMAI Conference on Financial Mathematics: Advanced Modeling and Numerical Methods, Paris. June 2014
- Mathematical Finance: Arbitrage and Portfolio Optimization, BIRS, Banff. May 2014
- Oberwolfach Workshop on Stochastic Analysis in Finance and Insurance. May 2014
- 7th International Conference on Computational and Financial Econometrics. December 2013
- Risk Management and Financial Markets, Toulouse School of Economics. September 2012
- Liquidity and Credit Risk, University of Freiburg. March 2012
- Workshop on Interest Rates and Credit Risk, Technical University of Chemnitz. November 2011
- The New Commodity Markets, Oxford Man-Institute. June 2011
- Fields Institute Workshop on Financial Derivatives and Risk Management, Toronto. May 2010
- New Directions in Financial Mathematics. Institute for Pure and Applied Mathematics, Los Angeles. January 2009
- Workshop on the Pricing and Hedging of Environmental and Energy-related Financial Derivatives, National University of Sinagapore. December 2009
- Workshop on Incomplete Information and Nonlinear Filtering in Mathematical Finance. Technical University of Chemnitz. June 2009
- Summer school on *Perceiving, measuring and managing risk: illiquidity, long-term risk, natural resources.* University of British Columbia, Vancouver. July 2008
- International Workshop: Credit Risk. Université d'Evry. June 2008
- Workshop on New Directions in Quantitative Finance, Paris. May 2008
- International Conference on Mathematical Finance and Related Topics, Kanazawa. August 2006
- INFORMS 2002 Annual Meeting in San Jose, California. November 2002 on Financial Engineering.
- AMS Meeting in Orlando, Florida. Special Session on Financial Mathematics. November 2002

**Summer School Teaching**

- Mathematical Finance Summer School, Shandong University. July 2018

**Conferences & Seminar Talks**

- Probability and Financial Mathematics Seminar, University of Leeds. March 2021
- Mathematical Finance Seminar, University of Bielefeld. November 2019
- Stochastic Analysis and Mathematical Finance Seminar, Berlin. November 2018
- Actuarial Science and Mathematical Finance Seminar, University of Amsterdam. October 2018
- Mathematical Finance and Probability Seminar, Rutgers University. April 2018
- LGS Mathematical Finance Seminar, London. December 2017
- Department of Mathematics, Dublin City University, Dublin April 2017
- ORFE Financial Mathematics Seminar, Princeton University. April 2017
- Mathematical Finance Seminar, Columbia University, New York. April 2017
- Finance and Stochastics Seminar, Imperial College, London. January 2017
- Seminar on Mathematical Finance, UPMC, Paris. March 2016
- Mathematical Finance Seminar, Columbia University, New York. February 2016
- Finance and Stochastics Seminar, Imperial College, London. February 2016
- Finance Seminar, Koç University, Istanbul. December 2015
- Finance Seminar, University of Cyprus, Nicosia. December 2015
- Department of Mathematics, University of Barcelona. November 2015
- Institute of Financial and Actuarial Mathematics. Technical University of Vienna. June 2015
- Probability and Computational Finance Seminar, Carnegie Mellon University. March 2015
- Department of Mathematics, ETH Zurich. October 2014
- Department of Statistics, University of Warwick. January 2014
- Nomura Seminar, Oxford University. October 2013
- Financial/Actuarial Mathematics Seminar, University of Michigan, Ann Arbor. April 2013

- Mathematical Finance Seminar, University of Leicester. March 2013
- Mathematical Finance Seminar, Columbia University, New York. September 2012
- Department of Mathematics. Imperial College, London. November 2011
- Institute of Financial and Actuarial Mathematics. Technical University of Vienna. April 2011
- Department of Mathematics. University of Vienna. March 2011
- Department of Mathematics. Imperial College, London. March 2010
- Department of Mathematics, ETH Zurich. March 2010
- TU-Humboldt University Joint Seminar on Financial Mathematics, Berlin. February 2010
- Department of Mathematics. Imperial College, London. November 2009
- 33rd International Conference on Stochastic Processes and their Applications. Technical University of Berlin. July 2009
- Bachelier Seminar, Institut Henri Poincaré, Paris. November 2007
- Department of Mathematics. King's College, London. October 2007
- Workshop and Mid-Term Conference on Advanced Mathematical Methods for Finance, Vienna. September 2007
- Fourth World Congress of Bachelier Finance Society, Tokyo. August 2006
- Bachelier Seminar, Institut Henri Poincaré, Paris. October 2005
- Institut für Finanz- und Versicherungsmathematik.
  Technische Universität Wien, Vienna. September 2005
- Tanaka School of Business. Imperial College, London. February 2005
- Department of Mathematics. Heriot-Watt University, Edinburgh. February 2005
- Department of Mathematics. King's College, London. October 2004
- IMS/Bernoulli Society Meeting, Barcelona. July 2004
- Statistical Laboratory. University of Cambridge, Cambridge. November 2003
- Bachelier Seminar, Institut Henri Poincaré, Paris. May 2003

- Institut für Finanz- und Versicherungsmathematik. Technische Universität Wien, Vienna. May 2003
- Department of Mathematics. University of British Columbia, Vancouver. March 2003
- Department of Mathematics. Mc Master University, Hamilton. March 2003
- Department of Mathematics and Statistics. Boston University, Boston. February 2003
- Statistical Laboratory. University of Cambridge, Cambridge. February 2003
- Department of Mathematics. Imperial College, London. February 2003
- Department of Mathematics. Baruch College, CUNY, New York. February 2003

**Conferences Organised**

- Conference in honour of Philip Protter, 2019, New York.
- Current Challenges in Financial Mathematics and Economics, 2015, London.
- Invited Cluster on *Equilibrium in Financial Markets* in Bernoulli World Congress 2012, Istanbul.
- Istanbul Workshop on Mathematical Finance, 2009, Istanbul.
- Risk and Stochastics Conference, 2008, London.

**Past Ph.D Students**

- Takeshi Yamada, *Pricing and hedging in carbon emisson markets.* First job: Bank of Japan.
- Ilya Shenzon, *Quantitative Modelling of Market Booms and Crashes.* First job: JP Morgan.

**Honors & Awards**

- *Best Paper in Mathematical Finance in 2008* by Europlace Institute of Finance: Insider trading in an equilibrium model with default: a passage from reduced-form to structural modeling, with L. Campi.