Curriculum Vitae et Studiorum
Alessandro Ramponi

Personal data

Birth place and date:	Rome, 29th March 1964;
Office address:	Department of Economics and Finance, Via Columbia 2, 00133, Rome
Phone number:	(+39) 06 72595403
E-mail:	`alessandro.ramponi@uniroma2.it`
Current position:	Assistant Professor of Mathematical Methods in Economics, Finance and Actuarial Sciences (SECS/S06).

Education

- Ph.D. Mathematics (1997), Subject: *Monte Carlo estimation of normalizing constants*, Supervisor: Prof. M. Piccioni.
- Laurea in Matematica (1989), cum laude, Università degli Studi di Roma - Tor Vergata, Supervisor: Prof. S. Fanelli.

Courses and stages

- 1992 - Mathematical Summer School - University of Perugia: Probability (Prof. B. Billingsley) and Statistics (Prof. J. Key).
- 1993 - Program for Graduate Students on "Probability Theory by the Institute for Mathematics and its Applications", Ohio State University, Columbus, Ohio, USA;
- 1994 - Ecole d'Eté de Calcul des Probabilités, Saint Flour, France;
- 1995 - Fondazione C.I.M.E. Session "Probabilistic Models for Nonlinear PDE's and Numerical applications", Montecatini, Italy;
- 1998 - Istituto per le Applicazioni del Calcolo, CNR, "Mathematical Methods for Finance", Prof. M. Bertsch, Roma, Italy.

Work experience

- *Current position and affiliation* (from November 2006): Assistant Professor of Mathematical Methods in Economics, Finance and Actuarial Sciences (SECS/S06), Department of Economics and Finance (D.E.F.), University of Rome - Tor Vergata.

- *Previous experiences*:
  - 1999-2006, Assistant Professor, Dept. Pure and Applied Mathematics, University of L'Aquila, L'Aquila.
  - 1999 Research grant at Istituto per le Applicazioni del Calcolo - IAC, National Council of Research (CNR). Subject: Stochastic models for NMR relaxometry.
  - 1997/1998/1999 Post-doc fellowships at IAC-CNR.
  - 1991/1992 Annual scholarship at Istituto per le Applicazioni del Calcolo - IAC, National Council of Research (CNR).
  - 1990/1991 Annual scholarship at "Fondazione Ugo Bordoni" - Division "*Evolution of telecommunication Systems*".

Research

Research interests

Quantitative finance. Stochastic models for financial derivatives and interest rates. Credit risk. Risk management. Formerly: stochastic approximation, Markov random fields simulation, neural networks, random polynomials.

Research Projects

- Progetto Strategico PRIN 2008 "Probability and Finance" (National coordinator Prof. M. Frittelli - Local Unit: Prof. P. Baldi - University of Roma - Tor Vergata), 2008-2010.
- Progetto Strategico PRIN 2006 "Stochastic Methods in Finance" (National coordinator Prof. W. Runggaldier - L.U.: Prof.ssa C. Ceci - University "G. D'Annunzio", Pescara), 2006-2008.
- Progetto Strategico PRIN 2004 "Stochastic Methods in Mathematical Finance" (National coordinator Prof. W. Runggaldier - L.U.: Prof. F. Antonelli - Università di L'Aquila), 2004-2006.
- Progetto Strategico PRIN 2001 "Stochastic processes and applications in Filtering, Control, Simulation and Mathematical Finance" (National coordinator Prof. M. Pratelli - L.U.: Prof. M. Piccioni, Università di L'Aquila), 2001-2003;

Other activities and skills

- *Mathematical Reviews* reviewer;

- Referee for: *Journal of the Scandinavian Statistical Society*, *Methodology and Computing in Applied Probability*, *Computers and OR*, *Quantitative Finance*;
- member of *A.M.A.S.E.S.*, the Italian Association of Mathematics Applied to Economic and Social Sciences;
- member of *Vito Volterra Interdepartmental Centre*;
- knowledge of the scientific softwares MatLab, Scilab, Mathematica, R.

Teaching

Currently:

- *Modelli matematici per la finanza* (Master of Science "Economia dei Mercati e degli Intermediari Finanziari", University of Roma - Tor Vergata);
- *Advanced Topics in Finance*, (Master of Science "Finance & Banking", University of Roma - Tor Vergata).

Formerly: *Matematica generale*, *Matematica per le applicazioni economiche* (undergraduate courses, School of Economics, University of Roma - Tor Vergata); *Numerical Methods for Multivariate Minimization* (Master MEI, School of Economics, University of Roma - Tor Vergata); *Esercitazioni Matematica generale* (LUISS); *Monte Carlo methods and simulation of stochastic processes* (Master Energy Management, School of Economics, University of Milano Bicocca, 2006-2007); *Probability*, *Statistics* and *Stochastic processes* (undergraduate courses, University of L'Aquila - until 2006).

Publications

A. Refereed journals

17. F. Antonelli, A. Ramponi, S. Scarlatti - *Random Time Forward Starting Options*, International Journal of Theoretical and Applied Finance, Vol. 19 No. 7, 2016.

16. A. Ramponi - *On a Transform Method for the Efficient Computation of Conditional V@R (and V@R) with Application to Loss Models with Jumps and Stochastic Volatility*, Methodology and Computing in Applied Probability, 18:575 – 596, 2016.

15. A. Ramponi - *VaR-Optimal Risk Management in Regime-Switching Jump-Diffusions*, Journal of Mathematical Finance, Volume 3, pp. 103 – 109, 2013.

14. A. Ramponi - *Fourier Transform Methods for Regime-Switching Jump-Diffusions and the pricing of* Forward Starting *Options*, International Journal of Theoretical and Applied Finance, Vol. 15, n.05, 2012.

13. F. Antonelli, A. Ramponi, S. Scarlatti - *Option based risk management of a bond portfolio under regime switching interest rates*, Decisions in Economics and Finance, on line 21 October 2011, DOI: 10.1007/s10203-011-0123-1, 2011.

12. F. Antonelli, A. Ramponi, S. Scarlatti - *Exchange option pricing under stochastic volatility: a correlation expansion*, Review of Derivatives Research, Volume 13, Number 1, pp. 45-73, 2010.

11. A. Ramponi - *Mixture Dynamics and Regime Switching Diffusions with Application to Option Pricing*, Methodology and Computing in Applied Probability, Volume 13, Number 2, pp. 349-368, 2011.

10. A. Ramponi, S. Scarlatti - *Option pricing in a hidden Markov model of the short rate with application to risky debts evaluation*, International Journal of Risk Assessment and Management, Volume 11 - Issue 1/2, 2009.

9. Ramponi A. - *Adaptive and monotone spline estimation of the cross–sectional term structure of interest rates*, International Journal of Theoretical and Applied Finance, 6 ,2 ,pp. 195-212, 2003.

8. Marangio L., Ramponi A., Bernaschi M. - *A review of methods for the estimation of the term structure*, International Journal of Theoretical and Applied Finance, 5, 2, pp.189-221, 2002.

7. Barone P., Ramponi A., Sebastiani G. - *On the numerical inversion of the Laplace transform for Nuclear Magnetic Resonance relaxometry*, Inverse Problems, **17**, pp.77-94, 2001.

6. Barone P., Ramponi A., Sebastiani G. - *A new numerical procedure for solving the Nuclear Magnetic Resonance relaxometry problem*, Magnetic Resonance Imaging, Vol. 19, 3-4, p.581, 2001.

5. Barone P., Ramponi A. - *A new estimation method in modal analysis*, IEEE Trans. Sig. Processing, 48, 4, pp. 1002-1013, 2000.

4. Jona Lasinio G., Piccioni M. e Ramponi A. - *Selection of importance weights for Monte Carlo estimation of normalizing constants*, Communication in Statistics - Simulation and Computation, 28, 2, 1999.

3. Ramponi A. - *A note on the complex roots of complex random polynomials*, Statistics and Probability Letters, 44, pp. 181-187, 1999;

2. Ramponi A. - *Stochastic adaptive selection of weights in the Simulated Tempering algorithm*, Journal of the Italian Statistical Society, 1, pp. 27-75, 1998.

1. Piccioni M., Ramponi A. - *Stopping Rules for the Multistart Method when Different Local Minima have Different Function Values*, Optimization, 21, 1990.

B. Conferences and Workshops

18. F. Antonelli, A. Ramponi, S. Scarlatti, *CVA evaluation of defaultable claims in a multi-factor intensity model by correlation expansion*, XIX Workshop on Quantitative Finance, Roma, 2018

17. A. Ramponi, S. Scarlatti, *Higher order granularity adjustment for portfolio credit risk*, XXXV Convegno A.M.A.S.E.S., Pisa 2011.

16. A. Ramponi - *VaR and Optimal Risk Management in Regime-Switching Jump-Diffusion Models*, A.M.A.S.E.S. 2010, Macerata.

15. A. Ramponi - *On Fourier Transform Methods for Regime-Switching Jump-Diffusions and Applications*, Workshop Stochastic Volatility, Affine Models and Transform Methods , School of Economics, University of Roma - Tor Vergata, April 2010.

14. A. Ramponi - *On the pricing of Forward Starting Options in Regime-Switching Jump-Diffusion models*, XI Workshop on Quantitative Finance, Palermo 2010.

13. F. Antonelli, Ramponi A., Scarlatti S. - *Option based risk management of a bond portfolio under regime switching interest rates*, X Workshop on Quantitative Finance, Milano, 29-30 2009.

12. Ramponi A. - *Mixture Dynamics and Option Pricing: a Regime Switching Model*, XXXII Convegno A.M.A.S.E.S., Trento, 4-7 Settembre 2008.

11. F. Antonelli, Ramponi A., Scarlatti S. - *Exchange option pricing under stochastic volatility: a power series approach*, XXX Convegno A.M.A.S.E.S., 4-7 Settembre 2006.

10. Ramponi A., Scarlatti S. -*Option pricing in a hidden Markov model of the short rate*, XXIX Convegno A.M.A.S.E.S., Palermo 12-15 Settembre, 2005;

9. Ramponi A., Lucca K.- *On a generalized Vasicek – Svensson model for the estimation of the term structure of interest rates*, IV Workshop di Finanza Quantitativa, ICER, Torino, 30-31 Gennaio 2003;

8. *Stationarity properties of unilateral Markov fields*, Proceedings of 24-th European Meeting of Statisticians, Praga, August 19-23, 2002;

7. Barone P., Ramponi A., Sebastiani G. *On the numerical inversion of the Laplace transform for NMR relaxometry*, Applied Inverse Problems - Theoretical and Computational Aspects, Montecatini, June 18-22, 2001;

6. Barone P., Ramponi A. - *A new numerical procedure for solving the relaxometry problem*, Proceedings of the 5-th MR PM Meeting, Bologna, Ottobre 9-11, 2000.

5. *Estimating the yield curve: a review of techniques for term structure analysis*, Dip. Scienze, Università degli Studi G. d'Annunzio, Pescara, 2000;

4. Barone P., Ramponi A. - *A new estimation method in modal analysis*, Levico terme, Maggio 1999.

3. *Monte Carlo methods, Importance Sampling and large deviations*, Dip. Matematica, Università degli Studi di Roma - Tor Vergata, 1995.

2. Piccioni M., Ramponi A. - *Best Unilateral Approximation for the Partition Function of the Two-Dimensional Ising Model*, Transaction of the 12th Prague Conference on Information Theory, Statistical Decision Functions and Random Processes, Praga 1994.

1. Fanelli S., Ramponi A. - *Computational Experience with a Multistart Algorithm for Global Optimization based on New Bayesian Stopping Rules*, Convegno A.M.A.S.E.S. 1990.

C. Preprints, working papers and other publications.

Antonelli F. Cameli A., Ramponi A. - *Single auction equilibria with risk averse market makers*, preprint, 2017.

Antonelli F. Cameli A., Ramponi A. - *Equilibrium with default under risk aversion*, preprint, 2017.

Ramponi A., Scarlatti S. - *Higher order granularity adjustment for portfolio credit risk*, preprint 2015.

Sapio B., Nicolò E., Ramponi A. - *GIMMICKS to build project-context scenarios using probabilistic graphical association models.* In: PMI '98 - Project Management Institute's 29th Annual Symposium. vol. 2, p. 1398-1404

Ramponi A. - *On a class of probability models for scenario analysis.* In: Raccolta Pubblicazioni FUB 1997. vol. 17, p. 233-246

Nicolò E., Ramponi A., Sapio B. - *GIMMICKS (Graphical Interaction Models to Manipulate Integrated Complex Environments and Knead Scenarios): a new method for scenario analysis.* In: Raccolta Pubblicazioni FUB 1997. vol. 17, p. 247-261

Ramponi A. - *Metodi numerici nel controllo deterministico: un'applicazione al problema della diffusione di nuovi servizi TLC.* In: Raccolta Pubblicazioni FUB 1991. p. 75-103

Ramponi A., Nicolò E. - *Simulating metaproject networks for home banking market introduction.* In: Raccolta Pubblicazioni FUB 1991. p. 147-159

D. Books

1. A. Ramponi - Lezioni di Finanza Matematica, Aracne Ed., Roma, II Edizione, 2016.

Last Updated: 15/08/2018