# Gabriele Pompa


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## Education

02/2013 - Present: IMT School for Advanced Studies Lucca, Lucca (Italy)
*PhD Candidate in Management Science (XXVIII cycle)*
Dissertation: "Deterministic Shift Extension of Affine Models for Variance Derivatives"

**Core Courses**: Quantitative Finance, Econometrics, Data Analysis.
**Financial Markets**: Equity, VIX, VIX options;
**Advanced Scientific Programming**: development and implementation of stochastic volatility models to price Options on S&P500, VIX Futures and VIX Options with Matlab and Mathematica software;
**Advanced Numerical Methods**: optimization, solution of differential equations, numerical integration, Monte-Carlo methods;
**Scientific Writing**: writing scientific papers in Latex for submission to international journals.

12/2012: University of Rome "La Sapienza"
*M.Sc. in Theoretical Physics.* Final mark: 110/110 *cum laude.*
Dissertation: "Clustering Financial Time Series and Evidences of Memory Effects".

**Core Courses**: Statistical Mechanics, Relativistic Quantum Mechanics, General Relativity.

11/2010: University of Rome "La Sapienza"
*B.Sc. in Physics.* Final mark: 109/110.
Dissertation: "Classical Relativistic Strings".

## Academic Experience

02/2016 - 05/2016: LUISS - Libera Università Internazionale degli Studi Sociali Guido Carli, Roma (Italy)
*Teaching Assistant* for the course: "*Corporate Finance*" of Prof. Roberto Renò (30h)

**Main Topics**: capital structure, financial decision making.
**Details**: course of the 2nd year of BSc in Economics and Business, taught in English, written Exam.

10/2015 - 12/2015: University of Siena, Siena (Italy)
*Co-Lecturer* for the course: "*Financial Modeling 2*" (with Dr. Antonio Mannolini, 20h each)

**Main Topics**: stochastic volatility models (ARCH, GARCH, Heston, SABR), jump-diffusion models.
**Details**: course of the last year of MSc in Finance, taught in English, written and oral Exam.

04/2012 - 11/2013: PIL Group - Institute for Complex Systems, National Research Council
*External collaborator*: study of memory effects of technical trading strategies in stock price dynamics.

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## Scientific Activity

*Publications*: F. Garzarelli, M. Cristelli, G. Pompa, A. Zaccaria and L. Pietronero.
*Memory effects in stock price dynamics: evidences of technical trading.*
**Nature Scientific Reports**, Vol. 4, Article no. 4487 (2014).

G. Caldarelli, A. Chessa, F. Pammolli, G. Pompa, M. Puliga, M. Riccaboni, G. Riotta.
*A Multi-Level Geographical Study of Italian Political Elections from Twitter Data.*
**PloS One**, Vol. 9, no. 5, pp. e95809 (2013).

C. Dal Maso, G. Pompa, M. Puliga, G. Riotta and A. Chessa.
*Voting behavior, coalitions and government strenght through a complex network analysis.*
**PloS One**, Vol. 9, no. 12, pp. e116046 (2014).

*Working Papers*: C. Pacati, G. Pompa, R. Renò.
*Smiling Twice: The Heston++ Model.*
Available at SSRN 2697179 (2015).

G. Pompa.
*Pricing VIX Derivatives: A critical review.*

*Conferences*: XVII Workshop on Quantitative Finance, Scuola Normale Superiore, Pisa (Italy), January 28-29, 2016.
Presentation of "*Smiling twice: The Heston++ model*", (with C. Pacati and R. Renò).
Discussant for: G. La Bua "*A Hybrid SLV model with Multifactor Stochastic Volatility*".

XVI Workshop on Quantitative Finance, University of Parma, Parma (Italy), January 29-30, 2015.
Presentation of "*Consistent Pricing of VIX Derivatives and SPX Options with the Heston++ Model*", (with C. Pacati and R. Renò).

## Professional Experience

10/2015 - Present: SYMMYS, New York (USA).
*Research Consultant*

**Development** and **Implementation** (in Matlab and Python) of Advanced Analytics for Risk and Portfolio Management.

07/2015 - 10/2015: MPS Capital Services, Siena (Italy)
*Trading Intern at Fixed Income Desk*

**Pricing** interest rate options (Cap, Floor and Swaptions) and structured products with Murex III platform;
**Design and implementing** VBA based interfaces to check the internal pricing system alignment to market quotes (Cap/Floor and Swaption surface) and to assist the structuring of products and remodulation of deals;
**Checking and reporting** daily P&L of trading books to senior traders;

**Computer Skills**
Operating systems: Windows, Mac OSX, Linux.
Programming languages: Matlab, Python, Mathematica, VBA, C.

**Language Skills**
Italian: mother tongue.
English: working knowledge.

*References*

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