Prof. Alessandro Gnoatto PhD

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Nationality	Italian
Date of birth	04.04.1983

Work experience

03.2018 - present	Deparment of Economics - University of Verona Sector: higher education Position: Associate Professor Activities: lecture "Financial Risk Management" for the Master in Quantitative Finance.
09.2015 - 02.2018	BayernLB Sector: investment banking Position: assistant vice president - Interest Rate Derivatives Trading and xVA Activities: Computation of xVA for OTC derivatives using hybrid models in a Monte Carlo setting. Responsible for the maintenance and development of the pricing system from a quantitative and an IT perspective. Conceptual studies and initial development of a proprietary analytics library in Java for front office pricing.
03.2012 - 08.2015	Mathematisches Institut der LMU München Sector: higher education Position: post-doc researcher Activities: research on advanced asset pricing models based on matrix-valued affine processes. Applications to the valuation of FX options, multiple-curve interest rate models, long-term yield, basket options, volatility products.
09.2011 - 02.2012	Prometeia Spa Sector: consulting Position: junior analyst Activities: production of the RiskSize (www.risksize.com) variance/covariance matrix, by employing the RiskMetrics methodology. Development of an FFT pricing framework under the Variance Gamma model.
03.2008 - 08.2008	Fondiaria-Sai Spa Sector: insurance-finance Position: internship in the derivatives front office. Activities: call overwriting, hedging of equity participations, creation of forward variance swap positions, analysis of index linked products, basis trading (CDS), stock lending. Creation of reports regarding the desk's activity.
06.2006 - 09.2006	Studio System Sector: business consulting Position: internship Activities: collaboration in the restructuring process of a customer's firm. Part of the activity took place in the customer's offices.

Education

05.04.2017	Italian Ministery for Education University and Research Qualification: Habilitation as Associate Professor of Mathematical Finance (Mathematical methods for economics and financial and actuarial sciences)
01.2009 - 26.11.2012	University of Padua – Department of Pure and Applied Mathematics Qualification: Ph.D in Computational Mathematics Main subjects: research on advanced asset pricing models based on matrix-valued affine processes under the supervision of Prof. M. Grasselli and Prof. W. Runggaldier.
09.2009 - 09.2011	ETH (Swiss Federal Institute of Technology Zurich) – UZH (University of Zurich) Qualification: Master of Science in Quantitative Finance Main subjects: mathematical finance (courses by Prof. M. Schweizer, J. Teichmann, W. Farkas), numerical methods (PDE and Monte Carlo under Prof. C. Schwab), financial engineering (Prof. P. Vanini), credit risk (Prof. D. Coculescu).
2003 - 2008	University of Padua Qualifications: Master in Banking and Finance Main subjects: mathematical finance, computational finance, statistics, microeconomics, macroeconomics.
1997 - 2002	ITCG „L. Einaudi“ Qualification: high school diploma in accounting and foreign languages Main subjects: economics and accounting, foreign languages, applied mathematics.

Computer skills

Operating Systems	Mac OSX and Windows, working knowledge of Linux Debian
Programming	Java (OOP), Matlab/Octave, VBA, C/C++ and Python. Basic knowledge of Unix and MS-Dos shell scripting.
Other	Good knowledge of Numerix CrossAsset, Open Office/Libre Office/MS Office (Spreadsheets, Word Processing, Presentations), LaTeX. Working knowledge of Bloomberg, Thomson Reuters Eikon, HTML, SQL
Software projects	• Contributor to finmath, a Java library for quantitative finance (Fourier methods for European options). See http://www.finmath.net • Matrix functions toolbox: a full Java implementation of the matrix exponential and logarithm

Language skills

English	Reading skills: very good - Writing skills: very good - Oral skills: very good
German	Reading skills: very good - Writing skills: very good - Oral skills: good
Spanish	Reading skills: very good - Writing skills: basic - Oral skills: basic

Peer reviewed publications

Citations: 51 total citations by 41 documents. h-index: 5. Co-authors: 9
Source - Scopus author page: https://www.scopus.com/authid/detail.uri?authorId=55524308700

Title	Affine multiple yield curve models
Co-authors	C. Cuchiero and C. Fontana
Journal Info	2017 - Accepted at Mathematical Finance
Title	Coherent foreign exchange market models
Journal Info	International Journal of Theoretical and Applied Finance 20(01) (2017) 1750007
Doi	http://dx.doi.org/10.1142/S0219024917500078
Title	A general HJM framework for multiple yield curve modelling
Co-authors	C. Cuchiero and C. Fontana
Journal Info	Finance and Stochastics, 20(2) (2016) 267-320
Doi	http://dx.doi.org/10.1007/s00780-016-0291-5
Title	Long-term yield in an affine HJM framework on S_d^+
Co-authors	F. Biagini and M. Härtel
Journal Info	Applied Mathematics and Optimization, (2016)
Doi	http://dx.doi.org/10.1007/s00245-016-9379-8
Title	General closed form basket option pricing bounds
Co-authors	R. Caldana, G. Fusai, and M. Grasselli
Journal Info	Quantitative Finance, 16(4) (2015) 535-554
Doi	http://dx.doi.org/10.1080/14697688.2015.1073854
Title	Analytic pricing of volatility-equity option within Wishart-based stochastic volatility models.
Co-author	J. Da Fonseca and M. Grasselli
Journal Info	Operations Research Letters, (43) (2015) 601-607
Doi	http://dx.doi.org/10.1016/j.orl.2015.09.006
Title	An affine multicurrency model with stochastic volatility and stochastic interest rates
Co-author	M. Grasselli
Journal Info	SIAM Journal on Financial Mathematics, 5(1) (2014) 493-531
Doi	http://dx.doi.org/10.1137/130922902
Title	The explicit Laplace transform for the Wishart process
Co-author	M. Grasselli
Journal info	Journal of Applied Probability 51(3) (2014) 640-656
Doi	http://dx.doi.org/10.1239/jap/1409932664
Title	Smiles all around: FX joint calibration in a multi-Heston model
Co-authors	A. De Col and M. Grasselli
Journal info	Journal of Banking and Finance 37(10) (2013) 3799–3818
Doi	http://dx.doi.org/10.1016/j.jbankfin.2013.05.031
Title	A flexible matrix Libor model with smiles
Co-authors	J. Da Fonseca and M. Grasselli
Journal info	Journal of Economic Dynamics and Control 37(4) (2013) 774-793
Doi	http://dx.doi.org/10.1016/j.jedc.2012.11.006
Title	The Wishart short rate model
Journal info	International Journal of Theoretical and Applied Finance 15(08) (2012) 1250056
Doi	http://dx.doi.org/10.1142/S0219024912500562

Working papers

Title	A penny saved is a penny earned: less expensive zero coupon bonds.
Year	2016
Co-authors	M. Grasselli and E. Platen
Title	The long-term Swap rate and a general analysis of long-term interest rates
Year	2015
Co-authors	F. Biagini, M. Härtel

Talks

Affine Multiple Yield Curve Models
June 2017 - Prometeia - Bologna

Affine Multiple Yield Curve Models
February 2017 - Financial Engineering Workshops - CASS Business School - London

PDE Vs Expectations for CVA computation.
June 2016 - Numerix Quant of the Year Lecture Series - Frankfurt

Bewertung von Derivaten nach der Finanzkrise - Eine Einführung
April 2016 - Finanzsymposium - Mannheim

Hybrid FX-Interest rate models: a tale of two risks
September 2015 - Amamef Swissquote Conference - EPFL Lausanne

Spread modeling in a general multiple-curve HJM framework
April 2015 - Challenges in Derivatives Markets - TU Munich

Interest rate modelling after the financial crisis
January 2015 - Nicola Bruti Liberati Quantitative Finance Lab - Politecnico di Milano

Interest rate modelling after the financial crisis
November 2014 - Prometeia SpA - Bologna

Coherent foreign exchange market models.
January 2014 - University of Florence - XV Workshop on Quantitative Finance.

An analytic multi-currency model with stochastic volatility and stochastic interest rates
September 2013 - Munich - CEQURA conference

Coherent foreign exchange market models.
April 2013 - ETH Zurich - Talks in financial and insurance mathematics.

A flexible matrix Libor model with smiles
July 2012 - Minneapolis - Siam Conference on Financial Mathematics and Engineering

A flexible matrix Libor model with smiles
June 2012 - München - Oberseminar Finanz und Versicherungsmathematik

A flexible matrix Libor model with smiles
June 2012 - Technische Universität Berlin

The Explicit Laplace Transform for the Wishart process
November 2011 - München

The Explicit Laplace Transform for the Wishart process
October 2011 - Padova - Seminario dottorato

A Multifactor Libor Market Model
September 2011 - Pisa - Convegno Amases

A Multifactor Libor Market Model
August 2011 - Ljubljana - Workshop on stochastic methods in financial markets

A Multifactor Libor Market Model
July 2011 - Istanbul - International conference on mathematical finance and economics 2011

Teaching activity

Financial Risk Management
Summer Semester 2018 - Verona

Seminar on Credit Risk Modeling
Winter Semester 2017/2018 - München

Seminar on counterparty credit risk and funding
Summer Semester 2017 - München

Computational finance
Summer Semester 2015 - München

Introduction to object oriented programming in Java for financial engineers
Summer Semester 2015 - München

Exercises for the lecture "Numerical methods for financial mathematics"
Summer Semester 2015 - München

Interest rate modeling in the multiple curve framework - PhD course
March 2015 - Politecnico di Milano

Exercises for the lecture "Applied mathematical finance and its object-oriented implementation"
Winter Semester 2014/2015 - München

Computational finance
Summer Semester 2014 - München

Workshop on stochastic volatility and multi-curves (joint with J. Kienitz and C. Fries)
Summer Semester 2014 - München

Term structure models (Finanzmathematik 3)
Winter Semester 2013/2014 - München

Introduction to object oriented programming in Java for financial engineers
Winter Semester 2013/2014 - München

Computational finance
Summer Semester 2013 - München

Exercises for the lecture "Introduction to the LIBOR market model for the valuation of interest rate derivatives"
February/March 2013 - München

Exercises for the lecture "Numerical methods for financial mathematics"
Winter Semester 2012/2013 - München

Lévy and affine processes
Winter Semester 2012/2013 - München

Computational finance
Summer Semester 2012 - München

Exercises for the lecture "Applied mathematical finance: interest rate models"
Summer Semester 2012 - München

Matlab classes for "Matematica per l'economia e la finanza 2"
December 2011 - Padova

Special courses

22.08.2011 - 29.08.2011	Summer school in financial mathematics in Ljublijana Faculty: Prof. N. H. Bingham, Prof. A. Lipton, Prof. D. B. Madan, Prof. M. R. Pistorius, M. Urusov Main subjects: Lévy Processes, stochastic volatility models, financial modeling with jumps, SDE's.
21.05.2009 - 22.05.2009	Spring school in finance in Bologna Faculty: Prof. E. Eberlein – Prof. P. Tankov Main subjects: crash courses on financial modelling with jump processes.
2001 - 2002	Goethe Institut Qualification: B1 international certificate for the German language
2001 - 2002	Trinity college Qualification: Level 9 international certificate for the English language

Theses

Title	Wishart processes: theory and applications in mathematical finance
Type	Ph.D Thesis
Supervisors	Prof. M. Grasselli and Prof. W. Runggaldier
Title	Yield-curve shapes for affine processes on S_d^+
Type	Master thesis
Supervisor	Prof. J. Teichmann
Title	Calibration of the Heston model using variance swaps
Type	Master thesis
Supervisor	Prof. M. Grasselli

Refereeing activity

Journal of Banking and Finance
European Journal of Operational Research
Methodology and Computing in Applied Probability
Applied Mathematical Finance
Review of Derivatives Research
Asia-Pacific Financial Markets
Applied Mathematics and Computation
International Journal of Theoretical and Applied Finance
Journal of Computational Finance

Professional Projects

01.07.2016- 30.09.2016

Proof of Concept - New xVA software
Activity as assistant project leader (Stellvertreter Projektleiter) for the proof of concept for the new software solution for the XVA Desk of BayernLB, providing coordination between: external software provider, external consultants, internal IT, risk management and front office.
Main Tasks:

- Responsible for the definition of the hybrid model for exposure generation.
- Collaboration in the definition of the set of requirements from the front office perspective.
- Theoretical research on valuation adjustments (CVA, DVA, FVA, ColVA, KVA).
- Analysis of pricing equations for contingent claims in the presence of collateral in different currencies.

01.2016-04.2016

Compatibl Numerix CVA v3.5.2
As a Quant analyst working on the xVA Desk of BayernLB I was mainly responsible for the test phase and introduction of a new version of the main pricing software. Innovations included:

- a better support for negative interest rates.
- shifted lognormal swaption volatilities.

Tasks included:

- Modification of the data model in order to account for new volatility quoting mechanism and more flexibility in the specification of the term structure of default probabilities.
- Review of model calibration quality.
- Benchmark of the main figures produced by the front office system (PV, CVA, FVA) against the results produced by the risk management team for accounting on a test portfolio.

Awards

April 2017

Europlace Institute of Finance (Institut Louis Bachelier) and Fédération Bancaire Française.
EIF prize 2017 for the best paper in finance
http://www.louisbachelier.org/risk-forum-2017-fintech-favorisent-linnovation-financiere/