

Curriculum Luca Di Persio

DATI PERSONALI

Nome	Di Persio Luca
Residenza	Via Marconi, 28 - 38052 Caldonazzo – Trento, Italy
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E-mail	luca.dipersio@univr.it – luca.dipersio@hpa.ai
Personal webpage	http://www.di.univr.it/?ent=persona&id=8773&lang=en
Cittadinanza	Italiana
Data di nascita	30/08/1972

ESPERIENZE LAVORATIVE

Ruolo	Professore associato - Ottobre 2020 – in corso
Periodo	
Ruolo	Ottobre 2017 – Settembre 2020 RTDb [Dept. Comp.Science UniVr]
Periodo	
Ruolo	Ottobre 2012 – Settembre 2017 RTDa [Dept. Comp. Science UniVr]
Periodo	
Presso	Università di Verona – Department of Computer Science Collegio di Matematica Strada le Grazie 15 I-37134 Verona Italy
Attività istituzionali e didattiche	<u>PROFESSORE DI PROBABILITÀ, FINANZA MATEMATICA, PROCESSI STOCASTICI</u> : responsabile del percorso di Mathematical Finance per la Laurea Magistrale in Matematica. Corsi Insegnati/diretti: Probability, Stochastic Processes, Time Series Analysis, SDEs, Interacting Particle Systems (IPS) and applications to social/economic frameworks, Mathematical Finance, Stochastic Analysis, Probability for Data Science. Referente per il Master Degree in Data Science [Dept. of Comp.Science - UniVr] https://www.di.univr.it/?ent=cs&id=955&lang=en Membro della PhD School in Mathematics , congiuntamente diretta da: Mathematics Dept. of the University of Trento e dal College of Mathematics of the Department of Computer Science dell' Università di Verona Coordinatore dei programmi Erasmus+ con le sedi universitarie di: Bielefeld, München, Oslo, Wuppertal [College of Mathematics, Dept. of Computer Science – UniVr] Supervisore per i seguenti progetti PostDoc : “Equazioni differenziali stocastiche con salti in finanza matematica: applicazioni al prezzaggio, copertura, e problemi collegati alle misure di rischio” (1/7/2015-20/6/2015, Mat/06 – con Immacolata Oliva); “Equazioni differenziali stocastiche con ritardo con salti: applicazioni al prezzaggio e al rischio di credito” (1/3/2016 – 28/2/2017, Mat/06- con Viktor Bezborodov) ; “Sviluppo di controllori per sistemi stocastici switching e loro implementazione” (1/3/2017-ongoing – con Viktor Bezborodov)

Attività di Ricerca: La mia attività di ricerca si concentra principalmente sui seguenti argomenti:

- Stochastic (Partial) Differential Equations [S(P)DEs for short]
- Infinite dimensional analysis for S(P)DEs
- Stochastic optimisation
- Stochastic Mean Field Games
- Forward-backward S(P)DEs
- Malliavin calculus and its applications in Finance
- Stochastic port-Hamiltonian systems
- Ambit stochastics and related financial applications
- Interacting Particle Systems
- Time series analysis, regime switching and forecasting techniques
- Machine Learning, Neural Networks and applications

Le suddette linee di ricerca sono state e saranno frequentemente applicate a problemi concreti che sorgono in un insieme eterogeneo di applicazioni, che vanno dall'arena energetica, ai sistemi di agenti interagenti e dalla teoria della moderna finanza matematica, ad es. riguardante lo studio di sistemi di banche interagenti (Stochastic Mean Field Games e relativi problemi di ottimizzazione), problemi di pricing e hedging in presenza del rumore di Lévy (teoria S (P) DEs e analisi di Malliavin), previsione dei mercati energetici (processi di ambito e analisi di regime switching), contagio del mercato e crash del mercato (sistemi interagenti dal punto di vista dell'IPS), serie temporali finanziarie (PCA, analisi statistica multivariata, ecc.), calcoli di indici finanziari rilevanti mediante schemi numerici efficienti (approccio di quantizzazione, campionamento di Gibbs, caos polinomiale Metodi di espansione, ecc.), Ottimizzazione del portafoglio (ottimizzazione stocastica, principio variazionale di Eckaland), negoziazione e previsione ad alta frequenza sfruttando anche gli approcci NN all'interno dello scenario della data science.

- Periodo Aprile 2017 – in corso
 Cofondatore e **Head of Research and Development** per High Performance Analytics (HPA), website: www.HPA.ai
HPA è uno spinoff ufficiale dell'Università di Verona.
HPA è una startup innovativa che mira a fornire algoritmi predittivi di mercato in grado di migliorare le prestazioni dei sistemi decisionali adottati dalle aziende in ogni mercato di prodotto. Le tecniche utilizzate costituiscono un mix innovativo di approcci statistico-inferenziali, analisi stocastica continua e approcci basati su ML-NN per fornire modelli per es. Campo energetico (previsione di produzione e consumo), rilevamento di anomalie, previsione tecnologica e previsione dei prezzi.
 HPA ha vinto un premio European Starting Grant ed un premio HIT (Hub Innovazione Trentino).
- Periodo Da Febbraio 2008 a Dicembre 2010
Three years grant finanziato dalla *Provincia Autonoma di Trento*
NEST Project (Stochastic Neurobiology) *realizzato in collaborazione con il Dipartimento di Matematica Università di Trento - Coordinatore Scientifico: Prof. Sergio Albeverio (IAM-HCM Bonn). Obiettivo: analizzare il modello deterministico perturbato stocastico per le attività neuronali, ad esempio i modelli di Hodgkin-Huxley e FitzHugh-Nagumo per comprendere meglio il comportamento delle reti neuronali concrete.*
- Periodo 03/2007 – 01/2008
Grant *finanziato da Stochastic Processes Group, Università di Trento, Dipartimento di Matematica. Titolo del progetto: Feynman Path integrals using Probabilistic Methods. sotto la supervisione del Prof. Luciano Tubaro: utilizzo di tecniche probabilistiche per ampliare l'insieme dei problemi trattati da rigorosi integrali infiniti dimensionali*

Periodo	11/2006 – 12/2006
Progetto	Grant funded by SFB611-Projekt - Bonn University. Probability and Stochastic Analysis Department, Endenicher Allee 60, D-53115 Bonn Project title: Singular Phenomena and Scaling in Mathematical Models: <i>indagare l'approccio matematico rigoroso ai fenomeni singolari in fisica e biologia</i>
Periodo	03/2006 – 08/2006
Progetto	European grant funded by the University of Bonn, <i>Probability and Stochastic Analysis Department, Endenicher Allee 60, D-53115 Bonn</i> Project title: <i>Quantum probability and applications to Physics, Information Theory and Biology: approccio di probabilità infinita dimensionale agli aspetti tecnologici al confine tra Biologia e Teoria dell'Informazione</i>
Periodo	03/2002 – 08/2002
Progetto	Post Master Degree grant , finanziato da University of Rome III, Math. Dept., L.go S.Leonardo Murialdo, 00146, Roma Research project on <i>Random Walk in Random Media implementando anche la simulazione numerica sotto la supervisione del Prof. Alessandro Pellegrinotti e in collaborazione con il Prof. Carlo Boldrighini (Università "La Sapienza", Roma) e il Prof. Y.G. Sinai (Università di Princeton)</i>
Anni accademici	Da 2005/2006 a 2008/2009 University of Trento - Sciences Faculty, Math. Dept., V. Sommarive 14, 38123 (TN) National grant per la progettazione e realizzazione di laboratori per le scuole superiori nell'ambito del progetto <i>Stochastic Phenomena and Applications in Physics</i> finanziato dai Gradi Scientifici del Programma Nazionale Italiano. Ampio uso di pacchetti statistici e matematici

Didattica

	University of Verona
Periodo	From 2011/2012 To 2020/2021 Dept. of Computer Science, Strada le Grazie 15, 37134 Verona
Corsi	<ul style="list-style-type: none"> ➤ 2020-2021 Anno Accademico <ul style="list-style-type: none"> • Mathematical Finance: 56 hours • Stochastic Calculus: 56 hours • Stochastic Processes: 8 hours • Advanced Topics in Financial Engineering: 32 hours ➤ 2019-2020 Anno Accademico <ul style="list-style-type: none"> • Mathematical Finance: 56 hours • Stochastic Calculus: 56 hours • Stochastic Processes: 8 hours • Advanced Topics in Financial Engineering: 32 hours ➤ 2018-2019 Anno Accademico <ul style="list-style-type: none"> • Stochastic Processes 48 hours • Mathematical Finance 56 hours • Stochastic Differential Equations 24 hours (plus 32 hours in co-presence steering Cooperint-grant funded by UniVr)

- 2017-2018 Anno Accademico
 - Stochastic Processes 52 hours
 - Mathematical Finance 20 hours
 - Stochastic Differential Equations 48 hours

- 2016-2017 Anno Accademico
 - Stochastic Processes: 40 hours
 - Mathematical Finance: 20 hours
 - Interacting Particle Systems: 8 hours *team teaching* with Prof. Yuri Kondratiev (Bielefeld University)
 - Advanced Quantitative Methods for Mathematical Finance: 24 hours
 - Multivariate Statistics: 12 hours *team teaching* with prof. Lucian Maticiuc (Iona Cuza University)
 - Stochastic Differential Equation: 12 hours *team teaching* with prof. Viorel Barbu (IASI, Romania)
 - Stochastic control and portfolio optimization: 4 hours *team teaching* with prof. Luciano Campi (LSE - London)
 - Stochastic analysis and applications to economics, social and biological sciences: 12 hours *team teaching* with prof. Sergio Albeverio (IAM-Bonn, IZKS, CERFIM)

- 2015-2016 Anno Accademico
 - Stochastic Processes: 40 hours
 - Mathematical Finance: 20 hours
 - Interacting Particle Systems with applications in Finance: 8 hours *team teaching* with Prof. Yuri Kondratiev (Bielefeld University)
 - Lévy processes with applications in financial modeling: 4 hours *team teaching* with Prof. Giulia Di Nunno (Oslo University)
 - A primer on stochastic control and portfolio optimization: 4 hours *team teaching* with Prof. Luciano Campi (LSE - London)
 - Advanced Quantitative Methods for Mathematical Finance: 24 hours
 - Stochastic Differential Equation: 16 hours *team teaching* with prof. Yuliya Mishura (Kyiv University)
 - Multivariate Statistics: 12 hours *team teaching* with prof. Lucian Maticiuc (Iona Cuza University)

- 2014-2015 Anno Accademico
 - Probability: 40 hours
 - Mathematical Finance: 20 hours
 - Interacting Particle Systems with Applications in Finance: 8 hours *team teaching* with Prof. Jan Swart (UTIA-ASCR)
 - Interest rate options: 8 hours *team teaching* with Prof. Carl Chiarella (Sidney University)
 - Stochastic Differential Equations: 16 hours *team teaching* with Prof. Viorel Barbu (Iasi University)
 - Multivariate Statistics: 12 hours *team teaching* with Prof. Lucian Maticiuc (Iona Cuza University)

- 2013-2014 Anno Accademico
 - Probability: 40 hours
 - Mathematical Finance: 20 hours
 - Introduction to Lévy processes with applications in financial modelling: 8 hours *team teaching* with Prof. Giulia Di Nunno (Oslo University)
 - Girsanov and Feynman-Kac theorems with applications to SDEs: 12 hours *team teaching* with Prof. Sergio Albeverio (IAM-Bonn, IZKS, CERFIM)

- 2012-2013 Anno Accademico
 - Probability: 48 hours (theory) + 12 hours (exercises)
 - Stochastic Processes: 24 hours
 - Mathematical Finance: 20 hours

Attività didattiche passate (prima dell'ottenimento della posizione di ricercatore presso l'Università di Verona)

- Lecturer for *Probability*, Bachelor degree in Applied Mathematics - a. y. 2011/2012
- Lecturer for *Probability and Statistics*, Bachelor degree in Informatics - a. y. 2011/2012
- Seminars cycle at CIFREM (International PhD School in Economics – University of Trento), 2/10/2007 – 5/10/2007
- Seminars cycle at CIFREM (International PhD School in Economics – University of Trento), 5/11/2007 – 26/11/2007

Università di Trento

• Periodo

Da 2003/2004 a 2012/2013

Università di Trento

Sciences Faculty, Math. Dept., V. Sommarive 14, 38123 (TN)

Engineering Faculty, V. Mesiano 77, 38100 (TN)

Cognitive Sciences Faculty, C.so Bettini 84, 38068 (TN)

Economics Faculty, V. Inama, 5, 38122 Trento

- Lecturer: *Mathematical Finance*, Master degree in Mathematics - from 2010/11 to 2012/13
- Teaching Assistant: *Probability and Statistics*, Bachelor degree in Informatics - from 2003/2004 to 2012/13
- Teaching Assistant: *Mathematical Models and Statistics*, Bachelor degree in Engineering - a. y. 2011/12
- Lecturer_ *Probability*, Bachelor degree in Cognitive Sciences - from 2009/2010 to 2011/12
- Teaching Assistant: *Probability and Statistics*, Bachelor degree in Informatics - from 2003/2004 to 2012/13
- Lecturer for *Probability*, Bachelor degree in Cognitive Sciences - from 2009/2010 to 2011/2012
- Lecturer: *Stochastic Processes*, Master degree in Mathematics- 2008/09
- Lecturer: *Introduction to Probability and Stochastic Processes*, International PhD School in Economics - 2007/08
- Teaching Assistant: *Calculus II*, Bachelor degree in Engineering -. 2007/2008

Università di Bolzano

• Periodo

Da 2009/2010 a 2010/2011

Università di Bolzano, Economics Faculty, Piazza Università 1, 39100 (BZ)

- Teaching Assistant: *Statistics B*, Bachelor degree in Economics - 2010/2011
- Lecturer: *Mathematics of Finance A*, Master degree in Economics - 2010/2011
- Teaching Assistant: *Mathematics of Finance B*, Master degree in Economics - 2009/11

Università di Roma III

Periodo

Da 2000/2001 a 2001/2002

Università di Roma III

Department of Mathematics - Largo S.Leonardo Murialdo, 00146, Roma

- Teaching Assistant for *Mathematical Physics Foundations*, Master degree in Mathematics - a. y. 2001/2002

- Teaching Assistant for *Hamiltonian formalism*, Master degree in Mathematics - a. y. 2001/2002
- Teaching Assistant for *Qualitative theory of Motion*, Master degree in Mathematics - a. y. 2001/2002
- Teaching Assistant for *Probability*, Bachelor degree in Mathematics - from 2000/2001 to 2001/02
- Teaching Assistant for *Ordinary Differential Equations*, Master degree in Mathematics - 2000/01

PhD, MSc, Bachelor students

Università di Verona e Università di Trento

- Periodo

Da 2012/2013 a 2019/2020

Università di Verona – Department of Computer Science

Strada le Grazie 15 I-37134 Verona Italy

Università di Trento

Sciences Faculty, Math. Dept., V. Sommarive 14, 38123 (TN)

Responsabile scientifico di diversi studenti (in particolare) del Corso di Dottorato in Matematica, sviluppato congiuntamente dal Dipartimento di Matematica dell'Università degli Studi di Trento e dal Dipartimento di Informatica dell'Università degli Studi di Verona:

- Francesco Giuseppe Cordoni (PhD obtained in 2016)
- Chiara Benazzoli (PhD obtained in 2018)
- Luca Prezioso (PhD obtained in 2020)
- Francesco Guida (ongoing)
- Andrea Veronese (ongoing-position funded by FAIRMAT)
- Federico Vesentini (co-supervised with prof. R. Muradore-ongoing)
- Matteo Garbelli (start: 10/2020 – ongoing)

Supervisore di

30 Bachelor students

35 Master students

ASSOCIAZIONI (MEMBRO)

Associazione	<p>Dal 2003</p> <p>GNAMPA - Gruppo Nazionale per l'Analisi Matematica, la Probabilità e le loro Applicazioni (National Group for Analysis, Probability and their Applications)</p>
Associazione	<p>Dal 2013</p> <p>A.M.A.S.E.S. - Associazione per la Matematica Applicata alle Scienze Economiche e Sociali (Italian Association for Applied Mathematics, Economical and Social Sciences)</p> <hr/>
Associazione	<p>Dal 2013</p> <p>Bernoulli Society</p>

COORDINATORE DI PROGETTI FINANZIATI

Periodo	29/3-31/12 2016
Finanziato da	Befree
Progetto	Supervisore scientifico per "Stochastic approach for forecasting and hedging in energy markets"
Periodo	18/11/2016 – 31/7/2017
Finanziato da	Sinergetica
Progetto	Supervisore scientifico per "Energy markets management by stochastics methods"
Periodo	12/1/2017 - 30/9/2017
Finanziato da	Fairmat
Progetto	Supervisore scientifico per "Advanced numerical methods for financial forecasting"
Periodo	1 anno
Finanziato da	GNAMPA
Progetto	Supervisore scientifico per "Stochastic Partial Differential Equations and Stochastic Optimal Transport with Applications to Mathematical Finance" (2016)
Periodo	15 giorni
Finanziato da	GNAMPA
Progetto	Joint project on "Stochastic optimal transport and applications" with prof. Rémi Lassale (Paris Jussieu) (2016)

MEMBRO DI PROGETTI FINANZIATI

Periodo	13 March – 9 April 2018
Finanziato da	CIRM-FBK-UNITN-INdAM
Progetto	<i>Membro del progetto Research in Pairs: "Equazioni alle derivate parziali dipendenti dal percorso con condizioni al contorno non lineari", con Lucian Maticiuc (Università tecnica "Gheorghe Asachi") e Adrian Zalescu (Istituto di matematica "O. Mayer" Accademia rumena, Iași)</i>
Periodo	1 year
Finanziato da	GNAMPA
Progetto	Metodi di controllo ottimo stocastico per l'analisi di problem debt management, coordinator Dr. A. Marigonda (2017)
Periodo	1 year
Finanziato da	GNAMPA
Progetto	<i>Membro di ricerca del progetto "Set valued theory and applications to optimal transport and finance", coordinatore Dr. A. Marigonda (2015)</i>
Periodo	1-8 November 2015
Finanziato da	CIRM-FBK-UNITN
Progetto	<i>Membro del progetto Research in Pairs McKean-Vlasov dynamics with Lévy noise with applications to systemic risk, in collaborazione con il Prof. Luciano Campi- LSE, Londra, finanziato da CIRM-FBK-UNITN (2015)</i>

- Periodo** Iniziato nel 2013 per un totale di 18 mesi
- Finanziato da** King Fahd University of Petroleum & Minerals
- Progetto** *Membro di ricerca nell'ambito del progetto "Misure invarianti per equazioni differenziali stocastiche guidate dal rumore di Lévy", ricercatore principale Prof. S. Albeverio, finanziato dalla King Fahd University of Petroleum & Minerals (2013-2014)*
- Periodo** 9-15 Marzo 2014; 12-14 Novembre 2014
- Finanziato da** CIRM-FBK-UNITN
- Progetto** *Membro ricercatore e proponente della Research in Pairs Explicit invariant misure per equazioni differenziali stocastiche guidate dal progetto Lévy noise and applications, in collaborazione con il Prof. Sergio Albeverio- IAM-HCM Bonn, finanziato da CIRM-FBK-UNITN (2013-2014)*
- altri progetti
- Member of “Stochastic Processes group”, 2003/06 Math. Dep. Univ. of Trento
 - Former member of the EU-Projekt Quantum probability with applications to Physics, Information Theory and Biology
 - Former member of the SFB611-Projekt Singular Phenomena and Scaling in mathematical Models
 - Former member of the Cluster of Excellence: Mathematics: Foundations, Models, Applications, Mathematics Department, University of Bonn
 - PRIN - Progetti di Rilevante Interesse Nazionale (Projects of Relevant National Interest) - funded by MIUR (Ministero dell'Istruzione, dell'Università e della Ricerca - Ministry of Education, University and Research) - various projects within the Probability network supervised (during years) by professors: B. Da Prato (Univ. of Pisa), L. Tubaro (Univ. of Trento), M. Fuhrman (Univ. of Milan), L. Lunardi (Univ. of Parma)

REFEREE / MEMRBO DI COMITATI EDITORIALI

- Nome del Giornale “Scienze e Ricerche” journal
Member of the **Editorial Board**
- Nome del Giornale Risks Special Issue: "New challenges in Mathematical Finance: from S(P)DEs to Machine Learning" **Guest Editor**
- Nome del Giornale ICCMSE2020
Guest Editor of the Symposium “Stochastic Differential Equations and Machine Learning: old challenges and new perspectives”
- RISKS
Member of the **Journal Topic Board**
- Nome del Giornale “Smart green applications: from renewable energies management to intelligent transportation systems” - Special Issue Energies Journal (ISSN: 1996-1073)
Special Issue Editor
- Nome del Giornale “Digital Finance: Smart Data Analytics, Fin.I Tech. Investment Innovation”
Associate Editor

- Nome del Giornale "Financial Blockchain" (part of Frontiers in Blockchain)
Review Editor
- Nome del Giornale Energies: special issue: "A Holistic Overview of the Energy Sector: From Engineering Approaches to Innovative ML Solutions"
Special issue Editor

Referee per

- Advances in Difference Equations
- AMS
- Applied Soft Computing (ASOC)
- Automatica
- Complexity
- CoDIT 2020: 7th Int. Conf. on Control, Decision, Information Tech.
- Expert Systems with Applications
- Financial Innovation
- Journal of Computational and Applied Mathematics
- Journal of Dynamical and Control Systems
- Stochastic Processes and Applications
- Energies
- Vietnam Journal of Mathematics
- Measurement
- International Conf. on Phys.Math and Stat. [ICPMS2018]
- IEEE Transaction on Automatic Control
- IEEE Transactions on Systems, Man and Cybernetic: Systems
- IEEE Access
- Board member: 6th Int.Conf.Control, Decision and Inf.Tech (CODIT'19)
- Board member and reviewer CODIT2020
- Scientometrics
- Journal of Mathematics Research
- Systems Science and Control Engineering
- Khayyam Journal of Mathematics
- Rivista di Matematica della Università di Parma
- International Journal of Applied Mathematics
- Int. Journal of Mathematical Models and Methods in Applied Sciences
- Systems Science and Control Engineering
- RISKS
- The Open Statistics & Probability Journal
- Transactions on Mathematics
- Journal of Inequalities and Applications
- Statistics and Probability Letters
- Science and Control Engineering An Open Access Journal

TALKS

- Conferenza e data
 - Mean field games with controlled jumps and applications in Finance, Symmetries and Invariance in Stochastic Dynamics, 17-19 September 2017
 - Stochastic models for wind energy markets, Frontiers of Interdisciplinary Mathematics, 9-11 May 2017
 - Polynomial Chaos Expansion approach to Financial Modelling, 22 August 2016, CCMA Luncheon Seminar - Department of Mathematics, Penn State University
 - Mean-Field Games with Controlled Jumps, 22 August 2016, Computational and Applied Mathematics Colloquium, - Department of Mathematics, Penn State University

- Stochastic Geometric Mechanics, Semester at CIB – Lausanne, Switzerland, January-June 2015
 - Bank contagion: the spread of defaults, NOLASC'15, Non-Linear Analysis, Non-Linear Systems and Chaos, Conference, 7-9 November 2015, Rome
 - Polynomial chaos expansion approach to financial modelling, 7th General AmaMeF and Swissquote Conference (7-10, September 2015 - Lausanne)
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 - Maximum likelihood approach to Markov Switching models, AICT 2015 (June 27-29, 2015 -Salerno)
 - Geometric mechanics, Variational and Stochastic methods (3-6, June 2015 - Lausanne)
 - Växjö-Trento (Sweden-Italy) Afternoon on Control, Stochastic Processes and Financial Mathematics, 10 March 2015, Trento
 - Interacting particle systems in thermodynamic models (26-30, January, 2015, L'Aquila)
 - Stochastic Partial Differential Equations and Applications-IX (6-11, Jan.,2014- Levico)
 - Italien-German training for stochastic modelling of financial crisis (9-16, December 2013, Wuppertal)
 - The Challenging CCR evaluation problem: the BLT approach for some Exotic options, with M. Bonollo and I. Oliva, 39th AMASES meeting, 10-12 September 2015
 - Polynomial Chaos Expansions approach to Interest rate models, with M. Bonollo and G. Pellegrini, 39th AMASES meeting, 10-12 September 2015
 - Stochastic functional delay differential equations with jumps and applications to option pricing, with F. Cordini, Dublin, 15, May 2015
 - Stochastic delay differential equations with Lévy noise and applications to Mathematical Finance, with F. Cordini, during the Sweden-Italy workshop Afternoon on Control, Stochastic Processes and Financial Mathematics, 10th of March 2015, Trento
 - A Quantization Approach to the Counterparty Credit Exposure Estimation, with I. Oliva, M. Bonollo and A. Semmoloni, XVI workshop on Quantitative Finance, 29-30, January, 2015, Parma
 - Stochastic delay differential equations with jumps and applications in mathematical finance, with F. Cordini, XVI workshop on Quantitative Finance, 29-30, January 2015, Parma
 - Execution strategy in liquidity framework: optimality conditions, with C. Benazzoli, Dependence in Risk Measurement and Risk Management, 18-19, December, 2014, Firenze
 - Small noise asymptotic expansion for the infinite dimensional Van der Pol oscillator, 8th International Conference on Applied Mathematics, Simulation, Modelling, 22 November 2014
 - Multiscale asymptotics for stochastic volatility models, Stochastic Partial Differential Equations and Applications – IX, 6-11 January 2014
 - SDDs and applications to pricing and hedging, with I. Oliva and F. Cordini, Dependence in Risk Measurement and Risk Management, 18-19, December 2014, Firenze
 - Optimal execution strategy in liquidity framework under exponential market impact, with C. Benazzoli during the Euro Working Group for Commodities and Financial Modelling conference, 4-6, December 2014, Milano
 - Stochastic delay differential equations with jumps and applications to pricing and hedging, with I. Oliva, Recent advances in Mathematical Finance, 21-22, September 2014, Padova
 - Laplace and Crystals, Kolmogorov equations conference, Pisa 8-11 January 2009
 - Small noise asymptotic expansions for SPDE's with dissipative polynomially bounded non-linearity, "First Pat-CRS NeST Project Neurostochastics", Math Dept. University ofTrento, 23-25 November 2009
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WORKSHOPS E CONFERENZE

- *Period* 25-66 April 2021
- *Conference title* FEMIB 2021, 3rd International Conference on Finance, Economics, Management and IT Business
 - *Venue* Prague, Czech republic
 - *WebSite* <http://www.femib.scitevents.org/> [program committee member]
- *Period* 5-6 May 2020
- *Conference title* FEMIB 2020, 2nd International Conference on Finance, Economics, Management and IT Business
 - *Venue* Prague, Czech republic
 - *WebSite* <http://www.femib.scitevents.org/> [program committee member]
- *Period* 2nd Semester 2017/2018 academic year
- *Conference title* Verona-Paris Stochastic Modelling Semester, VPSMS'18
 - *Venue* University of Verona – Department of Computer Science
 - *WebSite* <http://vpsms2018.org/>
- *Period* May 10-11, 2018
- *Conference title* Workshop: “Two days on Stochastic Control and Applications”
 - *Venue* University of Verona – Department of Computer Science
 - *web site* <http://vpsms2018.org/event/two-days-workshop-on-stochastic-analysis-and-applications/>
- *Period* February 5, 2018
- *Conference title* Workshop: “One day on Stochastic Analysis”
 - *Venue* University of Verona – Department of Computer Science
 - *web site* <http://vpsms2018.org/event/workshop-one-day-in-stochastic-analysis/>
- *Period* December 18-21, 2017
- *Conference title* Opening Conference VPSMS2018
 - *Venue* University of Verona – Department of Computer Science
 - *web site* <http://vpsms2018.org/event/opening-conference/>
- *Period* October 23-24, 2017
- *Conference title* Launch-Meeting VPSMS2018
 - *Venue* University of Verona – Department of Computer Science
 - *web site* <http://vpsms2018.org/event/launch-meeting/>
- *Period* April 21-25, 2017
- *Conference* ICCMSE 2017 -Computational Methods in Science and Engineering
 - *Venue* Thessaloniki, Greece
 - *web site* http://www.iccmse.org/sites/default/files/Leaflet_ICCMSE_2017.pdf
- *Period* September 4-11, 2016
- *Workshop title* Modelling Week
 - *Venue* University of Verona – Department of Computer Science
 - *web site* <http://profs.scienze.univr.it/caliari/phdmw/>

- Period 5 - 6 October 2015
- Workshop title Stochastics and Symmetry: theory and applications from Mechanics to Finance.
- Venue Università Statale di Milano
- web site <http://users.mat.unimi.it/users/ugolini/workshop2015/>

- Period 23 October 2015
- Workshop title Stochastic symmetries: a breakthrough to Financial innovations
- Venue University of Verona – Department of Computer Science
- web site <http://www.di.univr.it/?ent=iniziativa&id=6202&lang=it>

- Period 10 April 2015
- Workshop title Industrial Mathematics Workshop (IM1) (sponsored by Department of Computer Science, University of Verona and IASON Ltd.)
- Venue University of Verona – Department of Computer Science
- web site <http://www.di.univr.it/dol/main?ent=iniziativa&convegno=1&id=5905>

- Period 24 January 2012
- Workshop title MatFinTn2012
- Venue University of Trento – Department of Mathematics

- Period 22-24 November 2010
- Workshop title Second workshop on Stochastic Neurobiology
- Venue University of Trento – Department of Mathematics

- Period 25-31 January 2010
- Workshop title First joint CIRM-HCM Workshop
- Venue Levico Terme (*University of Trento*)

- Period 23-25 November 2009
- Workshop title First workshop on Stochastic Neurobiology
- Venue University of Trento – Department of Mathematics

Corsi e seminari

- Period 2013-2020
- Teachers and courses
 - “Advanced topics in financial engineering” (6CFU-flipped-classroom course) jointly organized with ARPM (2nd semester AY 2019/2020)
 - Luciano Campi: “Stochastic Mean Field Games and applications”, April 2020
 - Adrian Zalescu: “An introduction to Stochastic Calculus towards NNs”, March 2020
 - Viorel Barbu: “Stochastic (partial) Differential Equations and applications”, April-May, 2020
 - Affine and Polynomial processes with applications in Finance – Christa Cuchiero EPFL Zurich- 25th to 29th of March (2019) – 10 hours - 2 ECTS
 - Stochastic control and Mean Field Games – Luciano Campi – London School of Economics London – 29th of April to 4th of May – 8 hours – 2 ECTS
 - Stochastic Partial Differential Equations: real world applications and Machine Learning Methods – Adrian Zalescu - Alexandru Ioan Cuza" University of Iasi and “Octav Mayer” Mathematics Institute of the Romanian Academy – 13th of May to 7th of June – 24 hours – 3 ECTS
 - Tyll Krueger (Wroclaw University of Technology): Multivariate Advanced

- Statistics - 17th of October – 16th of November, 2018 [24 hours – 3 ECTS]
 - Yuri Kondratiev, Statistical dynamics and Kinetics of Interacting Particle Systems, 8,9,11,15,16,18 of May 2018
 - Adrian Zalescu (*University Alexandru Ioan Cuza - Iași*), BSDEs with time-delayed generators and associated path-dependent nonlinear Kolmogorov equations, 19-20, April 2018 (at Dept.Math-UniTn joint with CIRM-FBK)
 - Luciano Campi, An Introduction to Stochastic Control and Portfolio Optimization, 11,12,13 of April 2018
 - Zenghu Li, Continuous State Branching Processes, 4,5,6 of April 2018
 - Oleksander Honchar, Neural Networks for Time Series Analysis, 21,23,28,30 of March 2018
 - Seminars Cycle in Data Science and Machine Learning, speakers: M. Stecca, J. Radaelli, R. Zenti;9,12,14 of March 2018
 - Yuri Kondratiev, IPS and applications, May 2017
 - Lucian Maticiuc: Multivariate Statistics and Applications in Finance, March-April 2017
 - Luciano Campi, Mean field game and applications in Finance, March 2017
 - Adrian Zalescu, BSDEs with applications in Finance, March 2017
 - Luca Di Persio (University of Verona) – Michele Bonollo (IMT Lucca), Quantitative tools for finance (Practitioners from various companies, 30 h, Spring 2016)
 - Giulia Di Nunno (University of Oslo), Lévy processes with applications in financial modelling (2016)
 - Luciano Campi (LSE London), A primer on stochastic control and portfolio optimization (2016)
 - Adrian Zalescu (University Alexandru Ioan Cuza - Iași), Backward Stochastic Differential Equations and Applications to Mathematical Finance (2016)
 - Viktor Bezborodov (University of Verona), Introduction to Interacting Particle Systems and applications (2016)
 - Yuri Kondratiev (University of Bielefeld), Statistical dynamics of interacting particle systems (2016)
 - Paolo Guasoni (Dublin City University), Lectures on Portfolio Choice and Asset Pricing (2015)
- Venue University of Verona – Department of Computer Science

SEMINARI ORGANIZZATI

- Period 2013-2016
- Speakers and seminar titles
 - Giovanni Barone Adesi (Università della Svizzera Italiana), WTI Crude oil option implied VaR and CVaR: an empirical application (September, 2016)
 - Alberto Bressan (The Pennsylvania State University), Noncooperative Differential Games (March, 2016)
 - Michele Bonollo (IMT Lucca - IASON) e Luca Di Persio, Il rischio e la sua remunerazione nel portafoglio Crediti. Dal Funding al Credit VaR al Pricing dei loans (December 2015)
 - Sergio Albeverio (University of Bonn), Symmetries and stochastic differential equations (October, 2015)
 - Sara Pisoni (ITAS), Insurance, reinsurance and Probability: how to gain a Msc in Mathematics and live happy (April, 2015)
 - Matteo Tesser (Fairmat), Coherent and non-coherent risk measures: a numerical approach via Least Squares Monte Carlo techniques (January, 2015)
 - Fabio Castellaneta and Barbara Visintin (Generali group), Managing Investments for an Insurance Company (January, 2015)

- Michele Bonollo (IMT-Lucca), Market Risk and the FRTB (R) - Evolution? Review and Open Issues (January, 2015)
- Anna Fattor (Pensplan), Risk Management: reporting and related quantitative models (January, 2015)
- Riccardo Milano (Banca Etica) La finanza etica: una modalità economica che può aiutare l'attuale orizzonte finanziario? (December, 2014)
- Lucian Maticiuc (G. Asachi University), Path dependent partial differential equation with applications in Mathematical Finance (November, 2014)
- Luciano Campi (LSE), Utility indifference valuation for non-smooth payoffs with an application to power derivatives (July, 2014)
- Lucian Maticiuc (G. Asachi University), Stochastic delay systems and optimal control problems (April, 2014)
- Sergio Albeverio (IAM-Bonn) From integrals and asymptotics to (deterministic, stochastic, quantum) dynamical systems (March, 2014)
- Matteo Tesser (Fairmat), Modellizzazione quantitativa di strumenti finanziari derivati (February, 2014)
- Michele Bonollo (Credito Trevigiano), The Counterparty Risk Challenge; Mathematical Modeling, Algorithmic Efficiency or IT Architecture ? (December, 2013)
- Enrico Edoli, Introduzione ai mercati energetici in Italia, Aleph Energy (November, 2013)
- Diego Giovannini and Luigi Cefis (Intesa Sanpaolo), Derivative pricing and risk management (November 2013)
- Florian Schwiendbacher and Anna Fattor, Pensplan Bolzano, (November, 2013)
- Birgit Rudloff (Princeton University), Risk measures for multivariate risks, (June 2013)
- Enrico Edoli (Aleph Energy), Pricing di contratti strutturati nei mercati energetici (May, 2013)
- Elena Scandola (CCB-Trento) Backward Stochastic Differential Equations with Lévy Noise in Finance (April 2013)
- Paola Rensi (PWC-Milano) Beyond Black and Scholes: local volatility, stochastic volatility and asymptotics (April, 2013)
- Alessandro Di Lorenzo (PWC-Milano), Come Solvency II cambierà la quantificazione dei requisiti di solvibilità per le compagnie assicurative (April, 2013)
- Giorgia Callegaro (Padova University), Portfolio optimization in a defaultable market under incomplete information (March 2013)

University of Verona – Department of Computer Science

- Periodo 2016
- Speakers and seminar titles
 - Viktor Bezborodov (Department of Computer Science, University of Verona), Asymptotic shape for continuous space birth processes
 - Yuliya Mishura (Taras Shevchenko - National University of Kyiv, Ukraine), With Gaussian processes and between two self-similarities
 - Luciano Campi (LSE London), On the support of extremal martingale measures

University of Trento – Department of Mathematics

EDUCAZIONE

- Data From November 2002 To December 2006
- Denominazione Istituto Trento University – Sciences Faculty, Department of Mathematics
- Titolo PhD in Mathematics (advisor Prof. Luciano Tubaro)

- Data From November 2003 To December 2006
- Denominazione Istituto Bonn University – Mathematics Department
- Titolo Doctor Rerum Naturalium (advisor Prof. Sergio Albeverio)
- Voto Maximum score: *Magna cum Laude*

- Data From October 1996 To February 2002
- Denominazione Istituto University of Rome III – Sciences Faculty, Department of Mathematics
- Titolo Mathematics Degree
- Voto Maximum score: 110 /110 *cum Laude* – best possible average 30/30

- Data From September 1986 To June 1981
- Denominazione Istituto Technical Secondary School – “Giuseppe Armellini”, Roma
- Titolo Informatics Analyst
- Voto Maximum score: 60/60

Nota: a causa di un grave lutto familiare ho svolto un'attività lavorativa, fuori dell'Accademia, nel periodo dal 1991 al 1996.

CAPACITÀ PERSONALI

Lingua madre	Italiano
Altre lingue	Inglese <ul style="list-style-type: none"> ➤ Lettura: eccellente ➤ Scrittura: eccellente ➤ Orale: buono
Capacità organizzative	Propensione a lavorare in team per compiti scientifici oltre che burocratici. Competenze comprovate nell'organizzazione di meeting e workshop che spaziano dalla piccola alla grande dimensione. Capacità concrete di predisporre progetti e iniziative al fine di ottenere finanziamenti esterni e sponsorizzazioni, sfruttando anche la collaborazione proattiva con il settore privato, in particolare con Banche, Assicurazioni e Finanziari in genere. Sono stato supervisore scientifico di circa 20 studenti di laurea triennale, 25 studenti di laurea magistrale, 4 studenti di dottorato di ricerca e sono inoltre responsabile di tre borse di studio post-dottorato, di cui una in collaborazione con una società privata operante nel mercato finanziario dell'energia .
Capacità tecniche	Buona conoscenza dei principali software attualmente utilizzati con diversi sistemi operativi. Comprovata capacità di lavorare numericamente utilizzando pacchetti matematici standard, ad esempio Mathematica, Maple, R, ecc. Ottima conoscenza di diversi linguaggi di programmazione, ad es. Pascal, C ++ e non compositore di testi WYSIWYG, ad es. TeX, LaTeX, ecc.
Conoscenze teoriche	Esperto in probabilità, processi stocastici, equazioni differenziali stocastiche (parziali), espansioni asintotiche di integrali (probabilistici), sistema di particelle interagenti e statistica, passeggiata casuale in mezzi casuali, con applicazione, ad esempio, matematica finanziaria, sistemi biologici, attività neuronali, reti di agenti interagenti, analisi di serie temporali, previsioni di mercato, ecc. Pubblicazioni innovative in campi eterogenei che spaziano dal moto browniano quantistico alle passeggiate casuali in media casuali e asintotici per integrali con applicazione alla fisica, dall'informazione quantistica al differenziale parziale stocastico (sistemi di) equazioni (anche su reti e con effetti di ritardo / memoria), dall'approccio alle simmetrie di Lie alla modellazione finanziaria ai metodi numerici per il pricing delle opzioni e alle equazioni alle derivate parziali stocastiche con applicazioni in finanza.
Licenza di guida	European driving license for car

Luca Di Persio Pubblicazioni (estratte dal repository SCOPUS: 26/10/2020)

Scopus

EXPORT DATE:26 Oct 2020

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A quantization approach to the counterparty credit exposure estimation
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Benazzoli, C., Campi, L., Di Persio, L.

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(2020) *Stochastic Processes and their Applications*, 130 (11), pp. 6927-6964.

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A lending scheme for a system of interconnected banks with probabilistic constraints of failure

(2020) *Automatica*, 120, art. no. 109111.

DOI: 10.1016/j.automatica.2020.109111

Cordoni, F., Di Persio, L., Jiang, Y.

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BEZBORODOV, V., DI PERSIO, L., KRUEGER, T., TKACHOV, P.

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A stochastic approach to path-dependent nonlinear Kolmogorov equations via BSDEs with time-delayed generators and applications to finance

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(2020) *Journal of Theoretical Probability*.

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(2019) Decisions in Economics and Finance, 42 (2), pp. 527-573.
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 ε -Nash equilibrium in stochastic differential games with mean-field interaction
and controlled jumps
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Preface of the symposium "advanced Engineering Systems and Computer
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(2018) AIP Conference Proceedings, 2040, art. no. 140001.
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(2016) *International Journal of Stochastic Analysis*, 2016, art. no. 1059303.
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Default contagion in financial networks
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- Di Persio, L., Bonollo, M., Prezioso, L.
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- Di Persio, L., Perin, I.
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An interval of no-arbitrage prices for American contingent claims in incomplete markets
(2015) *International Journal of Pure and Applied Mathematics*, 103 (1), pp. 133-153.
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Maximum likelihood approach to markov switching models
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Cordoni, F., Di Persio, L.

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Di Persio, L., Vettori, S.

Markov Switching Model Analysis of Implied Volatility for Market Indexes with Applications to S&P 500 and DAX

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Cordon, F., Di Persio, L.

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Di Persio, L.

Anomalous Behaviour of the correction to the Central Limit Theorem for a model of Random Walk in Random Media

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Metriche (27/10/2020):

All time Since 2015

Citations	619	588
h-index	14	14
i10-index	21	18

Proceedings and Chapters

1. Di Persio, L., Collotta, M., De Marchis, M., Messineo, A., Pau, G., Preface of the symposium "advanced Engineering Systems and Computer Applications: Theory and Practice" (2018) AIP Conference Proceedings, 2040, art. no. 140001
2. Di Persio L., Guida Francesco, *A discrete trinomial model for the Birth and Death of stock financial bubbles*, proceeding for ICCMSE 13th International Conference of Computational Methods in Sciences and Engineering, 2017
3. Di Persio L., Honchar Oleksandr, *Analysis of Recurrent Neural Networks for short-term Energy load forecasting*, proceeding for ICCMSE 13th International Conference of Computational Methods in Sciences and Engineering, 2017
4. Di Persio L., Benazzoli Chiara, *Optimal execution strategy in liquidity framework under exponential temporary market impact*, Chapter in Handbook of Recent Advances in Commodity and Financial Modeling, Springer, 2017
5. Di Persio L., Honchar Oleksandr, *Bayesian convolutional networks for energy load forecasting*, Chapter in "Handbook of Energy Finance: Theories, Practices and Simulations", to be published by World Scientific Publishing in April-May 2018.
6. Di Persio L., Prezioso Luca, *Affine type analysis for BESQ and CIR processes with applications to Mathematical Finance*, Springer Book, 2018
7. Di Persio L., Nicola Gugole, *Explicit computation of the post-crisis spot LIBOR in a jump-diffusion framework*, to be published in New Methods in fixed Income Modeling-Springer Book, 2018

Submitted papers

1. Di Persio L., Bezborodov Viktor, *The quenched central limit theorem for a model of random walk in random environment*, to be published by Methods of Functional Analysis and Topology (2019/20)
2. Di Persio L., Albeverio Sergio, Cordini Francesco, *Asymptotic expansion for some local volatility models arising in finance*, submitted to Decisions in Economics and Finance, special issue on "Quantitative developments in financial volatility - theory and practice", 2018 (accepted with minor changes)
3. Di Persio L., *Dynamic convex risk measures from discrete to continuous time: a convergence approach by g -expectations in presence of Lévy noise*, accepted with minor changes by Infinite Dimensional Analysis and Quantum Probability, 2018

Under my responsibility, I declare to be in possession of the qualifications indicated in this curriculum and I also declare the truth of what is written therein.

27th of October, 2020

Luca Di Persio

