Curriculum vitae

Giovanni Alessandro Zanco, Ph.D.

Office	Dipartimento di Ingegneria dell'Informazione e Scienze Matematiche Università di Siena Via Roma 56 53100 Siena
Email	giovanni.zanco@unisi.it
Citizenship	IT
Languages	Italian (mother tongue), English (fluent), French (basic), German (basic)

Research Area	Stochastic Analysis
Research Interests	Stochastic analysis in infinite dimensions, non-Markovian problems and associated PDEs, control of systems with delay, interacting particle systems and mean-field limits, mean-field games, stochastic PDEs, applications to economics, finance, biology.

Work experience

16/09/2022 - current	Researcher (Ricercatore t.d. L.240/2010 art. 24 comma 3 lett. b), Dipartimento di Ingegneria dell'Informazione e Scienze Matematiche, Università di Siena
01/10/2018 - 15/09/2022	Researcher (Ricercatore t.d. L.240/2010 art. 24 comma 3 lett. a), Dipartimento di Economia e Finanza, Luiss
09/11/2015 - 30/09/2018	Postdoc in Stochastic Analysis, ISTA Institute of Science and Technology Austria, Klosterneuburg (AT)

Education

02/10/2015	Ph.D. in Mathematics, Università di Pisa
18/07/2011	M.Sc. in Mathematics (110/110 cum laude), Università degli Studi di Milano – Bicocca
15/12/2008	B.Sc. in Mathematics (110/110), Università degli Studi di Milano - Bicocca
17/10/2007	Diploma di Pianoforte (10/10), Conservatorio di Milano "Giuseppe Verdi"
29/06/04	Diploma di Maturità Classica (100/100) Liceo Ginnasio Statale "Giovanni Berchet", Milano

Research projects

12/2023 - current	P.I. of the F-NF project "Mean-field games: regularity, path-dependency, Economics (MFGRPE)", Università di Siena

04/2020 – 12/2021	P.I. of the GNAMPA project “Sistemi con interazione spaziale: convergenza, controllo e applicazioni”
04/2020 – 09/2022	Member of the PRIN project “The Time-Space Evolution of Economic Activities: Mathematical Models and E04/mpirical Applications”, head: Fausto Gozzi
10/2018 – 05/2020	Member of the PRIN project “Deterministic and stochastic evolution equations”, head: Alessandra Lunardi
02/2013 – 02/2016	Member of the PRIN project “Problemi differenziali di evoluzione: approcci deterministici e stocastici e loro applicazioni”, head: Marco Fuhrman
05/2012 – 09/2012	Member of the PRIN project “Equazioni alle derivate parziali deterministiche e stocastiche e loro applicazioni”, head: Alessandra Lunardi
04/2014 – 04/2015	Member of the GNAMPA project “Equazioni differenziali stocastiche con memoria e loro applicazioni”, head: Salvatore Federico
03/2015 – 03/2016	Member of the GNAMPA project “PDE correlate a sistemi stocastici con ritardo”, head: Federica Masiero
03/2019 – 03/2020	Member of the GNAMPA project “Trasporto ottimo per dinamiche con interazione”, head: Carlo Orrieri
05/2022 – 07/2023	Member of the GNAMPA project “Analisi qualitativa PDE stocastiche: ergodicità ed equazioni di Kolmogorov”, head: Luca Scarpa

Teaching activity

As main instructor	**PhD courses**
A.Y. 2023/2024	“Parabolic partial differential equation and Diffusions”, Ph.D. in Information Engineergin and Science, Università di Siena
A.Y. 2017/2018	"Stochastic Partial Differential Equations", IST Austria Graduate School (co-taught with Mate Gérencser)
A.Y. 2017/2018	"Introduction to programming with R", IST Austria Graduate School
	Undergraduate courses
From A.Y. 2022/2023	“Calcolo delle Probabilità”, bachelor program in Mathematics and bachelor program in Management Engineering, Università di Siena
From A.Y. 2018/2019 to A.Y. 2021/2022	“Mathematics”, bachelor program in Management and Computer Science, Luiss Roma
From A.Y. 2018/2019 to A.Y. 2021/2022	“Mathematics 2”, bachelor program in Economics and Business, Luiss Roma
	Further courses
September 2020	“Mathematics Pre-program course”, for all bachelor programs taught in English at Luiss (co-taught with Alessandro Calvia)

July 2020	Video lessons for “Mathematics Pre-program course”, Luiss Roma
February 2020	“Systems with control and interaction: mean field games and economic geography”, Primer on Data Science 2020, Università degli Studi di Trento
September 2018	"An introduction to rough paths theory", mini-course (PhD level), University of Leeds
April 2016	“A brief introduction to rough paths”, mini-course (PhD level), Università di Pisa
As assistant	**PhD courses**
A.Y. 2015/2016	"Selected topics in partial differential equations", IST Austria Graduate School
	Undergraduate course
From A.Y. 2013/2014 to A.Y. 2014/2015	“Calculus A”, bachelor in Computer Science, Università di Pisa
From A.Y. 2013/2014 to A.Y. 2014/2015	“Matematica e Statistica”, bachelor in Enology and Viticulture, Università di Pisa
As tutor	**Undergraduate courses**
A.Y. 2008/2009	"Geometry e Topology I", bachelor in Mathematics, Università degli Studi di Milano – Bicocca
As advisor	**Bachelor dissertations**
	Margherita Belgioco, “Differential equations in epidemic modelling‟, B.Sc. in Economics and Business, Luiss
	Daniele Corleto, “Blockchain, Bitcoin and its costs‟, B.Sc. in Economics and Business, Luiss
	Alessio Francis Denny, “Calculus of variations: Euler-Lagrange equations and Hamiltonia formulation‟, B.Sc. in Management and Computer Science, Luiss.
As external advisor	**Bachelor dissertations**
	Elisa Carucci, “Optimization techniques for models of parimutuel markets: applications to finance”, B.Sc. in Economics and Business, Luiss.

Scientific talks

Invited talks	“An infinite dimensional approach to path-dependent Kolmogorov equations”, Seminaires de Probabilites – Statistiques – Controle, April 7, 2014, Unité de Mathématiques Appliquées, ENSTA ParisTech, Paris
	“Path-dependent stochastic differential equations and Kolmogorov PDEs”, July 4, 2014, Dipartimento di Matematica e Applicazioni, Università degli Studi di Milano-Bicocca

“Path dependent SDEs and PDEs”, September 19, 2014 , Stochastics of Environmental and Financial Economics 2014, Academy of Sciences, Oslo

“Infinite dimensional methods in path-dependent SDEs and PDEs”, January 23, 2015, Path-dependent PDEs and Stochastic Equations with Memory, Milano

“Infinite dimensional methods for path-dependent equations”, May 15, 2015, 13th Viennese Workshop on Optimal Control and Dynamic Games, TU Wien

“Infinite-dimensional methods for path-dependent SDEs: Kolmogorov equations and Ito formulae”, May 29, 2015, Seminario di Matematica Applicata, IMATI-CNR / Dipartimento di Matematica, Università di Pavia

"Infinite dimensional methods for path-dependent equations", 7th AMAMEF conference, September 7-10, 2015, Lausanne

"Infinite dimensional methods for path-dependent equations", September 22, 2015, IST Austria, Vienna

“Path-dependent PDEs as infinite dimensional equations on continuous functions”, February 14, 2017, University of Warwick

“Path-dependent PDEs as infinite dimensional equations on continuous functions”, First Italian Meeting on Probability and Mathematical Statistics, June 19 -22, 2017, Torino

“A mean-field model for neurons with spatial interaction”, Università di Trento, May 15, 2018

“A mean-field model with discontinuous coefficients and spatial interaction”, Second Italian Meeting on Probability and Mathematical Statistics, Vietri sul Mare, June 17-20, 2019

“Mean-field games and spatial interaction of economic agents”, Space and Growth: theoretical and empirical models, Dipartimento di Economia e Management, Università di Pisa, December 13-14, 2019

“A product-space approach to path-dependent PDEs”, Dipartimento di Matematica, Università di Bologna (online), March 29, 2021

“Mean-field games with Holder coefficients and space-time evolution of human capital”, Third Italian Meeting on Probability and Mathematical Statistics, Bologna, June 13-16, 2022

“Human capital and aggregation: a mean-field game approach”, The time-space evolution of economic activities: mathematical models and empirical applications, Dipartimento di Economics e Management, Università di Pisa, July 1-2, 2022

“Some results on optimization of controlled stochastic age-structured models of economic-epidemic dynamics”, 15th Viennese

	Conference Optimal on Control and Dynamical Games, TU Wien, July 12-15, 2022
	"Control of age-structured models of epidemic-economics dynamics", Math Finance Seminar, Institute of Mathematical Economics, Univeristaet Bielefeld, June 14, 2023
Contributed talks	“An infinite dimensional approach to path-dependent Kolmogorov equations” Informal meeting on stochastic differential equations with memory and related topics, January 21 – 22, 2014, Dipartimento di Matematica, Università di Pisa
	“Path-dependent SDEs and PDEs”, July 24, 2014, XLIV Saint-Flour Probability Summer School
	“Infinite-dimensional calculus for path-dependent functionals and equations”, Stochastic Partial Differential Equations ans Applications – X, May 30 - June 4, 2016, Levico Terme (TN, Italy)
	“A mean-field model with irregular coefficients for interacting neurons”, DK Seminars, TU Wien, June 28, 2017
	“Infinite-Dimensional Calculus Under Weak Spatial Regularity of the Processes”, QFW2018, Rome, January 26, 2018
	“Spatial dependence in mean-field limits of interacting systems”, UCL-Rome Workshop in Stochastic and Partial Differential Equation Methods in Finance and Economics, Rome, May 20-22, 2019
	"Mean-Field Games with Holder Coefficients and Space-Time Evolution of Human Capital", Taming Uncertainty and Complexity in Economics and Finance, Luiss Roma, May 26-28, 2022
Popularization of maths	“Conviene Rischiare? Introduzione alla probabilità” (“Is it convenient to risk? An introduction to probability”), January 13, 2014, Liceo Scientifico E. Vittorini, Milano

Further Scientific Activity

	Local organizer of the workshop "UCL-Rome Workshop in Stochastic and Partial Differential Equation Methods in Finance and Economics”, May 20-22, 2019, Roma
	Organizer of the session “Optimal control of random systems”, Second Italian Meeting on Probability and Mathematical Statistics, June 17-20, 2019, Vietri sul Mare
	Organizer of the workshop “Mean Field Games in Economics”, Luiss and EIEF, Roma, September 7-8, 2020
	Organizer of the workshop “Interacting particle systems and applications”, Università degli Studi di Trento, September 5-7, 2022

	Organizer of the workshop “Mean Field Games in Economics 2023”, Luiss and EIEF, Roma, November 9-10, 2023
	Organizer of the weekly seminar SPASS (joint probability seminar with Università di Firenze, Università di Pisa and Scuola Normale Superiore di Pisa)
Visiting periods	
01/03/2014 – 03/05/2014	Unité de Mathématiques Appliquées, ENSTA – ParisTech, Paris
17/09/2018 – 20/09/2018	Department of Mathematics, University of Leeds
03/07/2019 – 08/07/2019	Institute of Science and Technology Austria, Klosterneuburg
16/05/2023 – 17/06/2023	Institut für Mathematische Wirtschaftsforschung, Universitaet Bielefeld