Stefania Ugolini

Personal information

Born in Verona (Italy) on 12/07/1962, she lives in Valpolicella (Verona) with her husband, two daughters (1993, 1997) and a son (2003).

Education

- Master Degree in Physics 1987-88 (110/110 cum laude) about Inverse Problems in Geophysics (Prof. E. Boschi, Prof. S. Tinti) at the Bologna University.
- PhD in Theoretical Physics (Bologna University, 1993). Title of the thesis: Stochastic Quantization by Lagrangian Variational Principle, Supervisors: Prof. G. Turchetti, Prof. L.M. Morato.
- Erasmus grant: D.E.A. first semester courses at Paris VI (Laboratoire de Probabilitè) (1 October - 30 January 1991) Theoremes Limites and Processus Stochastique (Prof. J. Jacod), Mouvment Brownian et Calcul Stochastique (Prof. M. Jor).
- European grant (Stochastic Processes in Analysis - Human Capital and Mobility project) at Bochum, Ruhr Universität, (1 June - 30 November 1994) under the responsibility of Prof. Dr. S. Albeverio.

Academic Positions

1. Post-doctorate scholarship at the University of Verona, Faculty of Science (June 1995 - June 1997), Prof. L.M. Morato.
2. Assistant Professor for the Probability and Statistics Courses and Analysis at Informatics Department and Biotechnology Department at the University of Verona (1994-2000)
3. Research grant at the University of Verona (1999-2000)
4. Research permanent position at Department of Mathematics, University of Milan, Probability and Mathematical Statistics; sector MAT/06, from 1 May 2000 until now.

Publications

Preprints in Stochastic Analysis and Applications

- Albeverio, S., De Vecchi, F.C., Morando, P., Ugolini, S.: Symmetries and invariance properties of stochastic differential equations driven by semimartingales with jumps. (arXiv:1708.01764) (2017) (the content was published into two papers, Electronic Journal of Probability (2020) and Random Operators and Stochastic Equations (2021))

- Albeverio, S., De Vecchi, F.C., Ugolini, S: Some connections between stochastic mechanics, optimal control problems, non-linear Schroedinger equation. Lecture Notes in Mathematics 2313: *Mathematics Going Forward.* Editors: Jean-Michel Morel, Bernard Teissier (in print 2022)
- F.C. De Vecchi, P. Morando, S. Ugolini: Integration by parts formulas and Lie's symmetries of SDEs (Preprint 2022).
- F.Arceci, L.M. Giordano, M. Maurelli, D. Morale, S. Ugolini: Randomness in a nonlinear model of sulphation phenomena, Springer Lecture Notes INdAM - MACH2021 (Submitted 2022).

Published papers in Stochastic Analysis and Applications

- Albeverio, S., De Vecchi, F.C., Romano, A., Ugolini, S.: Mean-field limit for a class of ergodic stochastic control problems. SIAM Journal on Control and Optimization, Vol. 60, Issue: 1 (2022).
- F.C. De Vecchi, E. Mastrogiacomo, M. Turra, and S. Ugolini: Noether Theorem in Stochastic Optimal Control problems via Contact Symmetries. Mathematics 2021, 9, 953 https:// doi.org/ 10.3390/ math 9090953. http://www.mdpi.com/2227-7390/9/9/953
- De Vecchi, F.C., Morando, P., Ugolini, S.: Reduction and reconstruction of SDEs via Girsanov and quasi Doob symmetries. ArXiv (2020) J. Phys. A: Math.Theor. ISSN:1751-8113, vol. 54 (2021)
- Albeverio, S., De Vecchi, F.C., Morando, P., Ugolini, S.: Random transformations and invariance of semimartingales on Lie Groups (arXiv:1812.11066) (2018). Random Operators and Stochastic Equations (2021) DOI:10.1515/rose-2020-2052.

- F.C. De Vecchi, L.M. Giordano, D. Morale, S. Ugolini: A note on the continuity in the Hurst index of the solution of the rough differential equations driven by a fractional Brownian motion. Stochastic Analysis and Applications ISSN 0736-2994 (2020) DOI:10.1080/07362994.2020.1830111
- Albeverio, S., De Vecchi, F.C., Morando, P., Ugolini, S.: Weak symmetries of stochastic differential equations (arXiv: 1904.10963) (2019) Electronic Journal of Probability (2020), Vol. 25, no. 44,1-34 https://doi.org/10.1214/20-EJP440
- Francesco C. De Vecchi, Paola Morando, Stefania Ugolini: Symmetries of stochastic differential equations using Girsanov transformations, (arXiv: 1907.10332) (2019), J. Phys. A: Math.Theor. 12/02/2020 https://doi:10.1088/1751-8121/ab757d
- Albeverio, S., De Vecchi, F.C., Ugolini, S.: Strong Kac's chaos in mean-field Bose Einstein Condensation (arXiv:1903.07128), Stochastics and Dynamics (December 2019), https://doi.org/10.1142/S0219493720500318
- De Vecchi, F.C., Romano, A., Ugolini, S.: A symmetry-adapted numerical scheme for SDEs. (arXiv:1704.04167) (2017), Journal of Geometric Mechanics, Vol. 11 (3): 325-359 (2019), https://doi:10.3934/jmg.2019018

- De Vecchi, F.C., Morando, P., Ugolini, S.: A note on symmetries of diffusions within a martingale problem approach. Stochastics and Dynamics, 4 (April 2018) https//doi.org/10.1142/S0219493719500114
- Albeverio, S., De Vecchi, F.C., Ugolini, S.: Entropy chaos and Bose-Einstein Condensation. Journal of Statistical Physics, Vol 168,3,483-507 (2017)
- De Vecchi, F.C., Morando, P., Ugolini, S.: Reduction and Reconstruction of stochastic differential equations via symmetries. (arXiv:1607.08556) (2016), J. Math. Phys., 57(12) (2016)
- De Vecchi, F.C., Morando, P., Ugolini, S.: Symmetries of Stochastic Differential Equations: a geometric approach. (arXiv:1512.05215v1) (2015), J. Math. Phys., 57(6):063504, 17, (2016)
- Albeverio, S., Ugolini, S.: A Doob h-transform of the Gross-Pitaevskii Hamiltonian. Journal of Statistical Physics, Vol. 161, 2, 486-508 (2015)
- F.C. De Vecchi, S. Ugolini: An Entropy Approach to Bose-Einstein Condensation. Communications on Stochastic Analysis (COSA) Vol.8, n. 4, 6 (2014)
- S. Ugolini: Bose-Einstein Condensation: a transition to chaos result. Communications on Stochastic Analysis (COSA), Vol.6, 4 (2012)
- L. M. Morato, S. Ugolini: Stochastic Quantization of Finite Dimensional Systems with Electromagnetic Interactions. Stochastics Vol. 84,2-3, 295-306 (2012)
- L. M. Morato, S. Ugolini: Stochastic Description of a Bose-Einstein Condensate. Annales Inst. Henry Poincarè Vol.12, 8 (2011) www.springerlink.com/openurl.asp?genre=article&id=doi:10.1007/s00023-011-0116-1
- Posilicano, A., Ugolini, S: Scattering into Cones and Flux-across-surface Theorem: a pathwise probabilistic approach. J. Math. Phys.43, no. 11, 5386-5399 (2002)
- Albeverio, S., Ugolini, S: Complex Dirichlet Forms: Non-Symmetric Diffusion Processes and Schrödinger Operators. Preprint n. 324, Dip. Matematica (Bochum) (1997). Potential Analysis 12 (4) , p. 204 (2000)
- Albeverio, S., Morato, L.M., Ugolini, S: Non-Symmetric Diffusions and Related Hamiltonians. Potential Analysis 8 (9) , p. 195-204 (1998)
- Loffredo, M., Ugolini, S: Eulerian versus Lagrangian Variational Principles in Stochastic Mechanics. Meccanica 31 (9), p. 195 (1996)
- Morato, L.M., Ugolini, S: A connection between Quantum Dynamics and Approximation of Markov Diffusions. Journal of Math. Physics 35 (9) , p. 4505-4516 (1994)
- Morato, L.M., Ugolini, S.: Gaussian Solutions to the Lagrangian Variational Problem in Stochastic Mechanics. Annales Inst. H. Poincarè, vol. 60, n.3, p. 323-327 (1994)
- Posilicano, A., Ugolini, S.: Convergence of Nelson Diffusions with time-dependent electromagnetic potentials. Journal of Math. Physics 34 (11), p.5028-5036 (1993)

Peer Reviewed Published Proceedings

- Mazuran, M., Quintarelli, E., Tanca, L., Ugolini, S.: Semi-automatic support for evolving functional dependencies. Proceedings of the 19th International Conference on Extending Database Technology (EDBT 2016): pp. 293-304. [doi: http: //dx.doi.org/10.5441/002/edbt.2016.28]
- L.M.Morato, S.Ugolini: Localization of relative entropy in Bose-Einstein Condensation of trapped interacting bosons. In Seminar on Stochastic Analysis, Random Fields and Applications VII. Eds: R.C. Dalang, M.Dozzi, F.Russo. Progress in Probability vol.67, Birkhauser (2013)
- A. Posilicano, S. Ugolini: Asymptotic flux across hypersurfaces for diffusion processes. Proceedings of the International Conference on Stochasic Analysis and Applications, Hammamet (2001):p. 185-197 Eds: S.Albeverio, A. Boutet de Monvel, H. Ouerdiane,Kluwer Academic Publishers (2004)

Editorial activity

- **Geometry and Invariance in Stochastic Dynamics**

  Springer Proceedings in Mathematics& Statistics (2021), Verona, 25-29 March 2019 in honour of Sergio Albeverio. Editors: Stefania Ugolini, Marco Fuhrman, Elisa Mastrogiacomo, Paola Morando, Barbara Rüdiger

- **Complexity and Emergence**

  Springer Proceedings in Mathematics&Statistics (2022) Lake Como School of Advanced Studies, Italy, July 22-27 2018. Editors: Sergio Albeverio, Elisa Mastrogiacomo, Emanuela Rosazza Gianin, Stefania Ugolini.

- **Quantum and Stochastic Mathematical Physics, Sergio Albeverio; adventures of a mathematician**

  Springer Proceedings in Mathematics & Statistics 377 (01.11.2022). Editors: Astrid Hilbert, Elisa Mastrogiacomo, Sonia Mazzucchi, Barbara Rüdiger, Stefania Ugolini.

Published papers in Geophysics

- Tinti, S., Ugolini, S.: Preselection of data in Seismic Inversion Problems. Proceedings XIII General Assembly EGS, 21-25 March 1988, Bologna, Annales Geophysicae (1988)

- Tinti, S., Ugolini, S.: Optimization of the Preselection Algorithm for Travel-Time Data Inversion. Bollettino di Geofisica Teorica e Applicata, Vol XXXI, 123-124 (1989)
- Tinti, S., Ugolini, S.: A method to mitigate the numerical instabilities in the delay-time inversion of body-waves. Proceedings XIV General Assembly EGS, 13-17 March 1988, Barcellona, Annales Geophysicae (1989)
- Tinti, S., Ugolini, S.: Preselection of Seismic Ray as a possible method to improve the Inverse Problem Solution. Geophys. Journal Int., 102,45-61 (1990)

Other scientific activities:

Organizer and Co-organizer of the following conferences:

- **Stochastic and Symmetry**, 5-6 October 2015, Department of Mathematics, Milano.
- **Symmetry and Invariance in Stochastic Dynamics**, Sala Capitolare San Giorgio di Valpolicella, Valpolicella, 17-19 September 2017.
- **Complexity and Emergence: ideas, methods, with a special attention to economics and finance**. Doctorate summer school in Como, Villa del Grumello, 22-27 July 2018.
- **Random Transformations and Invariance in Stochastic Dynamics**, Sala Capitolare, San Giorgio in Braida, Verona, 25-28 March 2019.
- **Geometry and Algebra in Stochastic Dynamics,** in collaboration with Centre national de la recherche scientifique, Université Còte d'Azur, 27-29 January 2020, Department of Mathematics, Milano.
- **Sciences in Cultural Heritage,** Department of Mathematics, 25 November 2021, within the initiatives of the SCICULT project, Milano.
- **Le Scienze nei Beni Culturali, Aula Crociera Alta**, V. Festa del Perdono 7, 19-20 Settembre 2022, within the initiatives of the SCICULT project, Milano.

Organizer and co-organizer of the following Courses for the Doctorate School at the Department of Mathematics, University of Milano:

- Mathematical Theory of Feynman path-integrals by Sergio Albeverio and Sonia Mazzucchi, (23-25 March and 30-31 March 2015) and she was a member of the Examination Board.
- Mathematical Theory of Bose-Einstein Condensation by Michele Correggi (3-25 February 2016) and she was a member of the Examination Board.
- Stochastic quantization of the Euclidean Quantum Field Theory by Massimiliano Gubinelli (15-25 February 2021) (HCM, Bonn University) and she was a member of the Examination Board. Prof. Dr. Gubinelli was Visiting Professor at University of Milan.

- Gaussian measures and application to analysis and mathematical physics by Francesco Carlo De Vecchi, (HCM, Bonn University) (7-22 March).

Academic activities

- Member of the Departmental Council (Giunta di Dipartimento) of the Department of Mathematics (January 2018- September 2020).
- Member of the Doctorate College (1/11/ 2014-1/10/2018 and from 7/04/2021 until now).
- Member of the Departmental Committee for Study Plans (Piani di Studio della Laurea Magistrale) (Junuary 2021-now)
- Member of *Gruppo Terza Missione (Public Engagement Group)* of the Department of Mathematics (September 2020- now). Participation to MeetMeTonight in Milano 2019 and 2020 (online version).
- Member of UMI (Union of Italian Mathematicians) and of PRISMA, group of Italian probabilists. She is a member of the Teaching Committee (in Probability and Mathematical Statistics).
- Co-responsible of courses and training programs in probability and statistics for school teachers, Probabilità e Statistica: misurare l'incertezza (a.a. 2021-2022).

Participations to scientific events and seminars:

1. Recent Developments in Stochastics 2021, 12 November, 2021, organized by University of Wuppertal, Tunis El Manar University, Dublin City University and University of Oslo (STORM). Talk: Bose-Einstein Condensation: relative entropy and related convergence results (online).
2. MACH2021 Mathematical Modelling in Cultural Heritage, 13-15 June, 2021. Talk presented by a collaborator M. Maurelli: Randomness in marble sulfation.
3. Modern Stochastics: Theory and Applications V, 1-4 June, Kiev 2021 Talk: Convergence results in Bose-Einstein condensation (online).
4. Geometry and Algebra in Stochastic Dynamics, Department of Mathematics, Università degli Studi di Milano, January 27-29, 2020 Organization (scientific and local).
5. Second Italian Meeting on Probability and Statistical Mathematics (17-20 June 2019), Vietri sul Mare, Italy. Talk: Strong Kac's chaos in the mean-field BEC.
6. Random Transformations and Invariance in Stochastic Dynamics, Sala Capitolare di San Giorgio in Braida, Verona, 25-28 March 2019. Organization (scientific and local).
7. Albeverio Fest, Stockholm (29-31 September 2018). Invited by Pavel Kurasov. Talk: A stochastic approach to Bose-Einstein Condensation.
8. Stochastic systems: their analysis, geometry and perturbation (10-15 July 2018), Beijing, China. Invited by Xue-Mei Li. Talk: A stochastic description

of BEC, Second talk presented by a collaborator: Gauge symmetries of semimartingales.

9. Opening Conference of Verona Paris Stochastic Modelling Semester (18-21 December 2017), Verona, Italy. Invited by Luca Di Persio and Luca Scotti. Talk: A stochastic approach to Bose-Einstein-Condensation. Poster presented by a collaborator: Gauge symmetries of semimartingales with applications.
10. Symmetry and Invariance in Stochastic Dynamics, Sala Capitolare San Giorgio di Valpolicella, Valpolicella, 17-19 September 2017, Verona. Organization (scientific and local).Talk presented by a collaborator: Gauge symmetries of semimartingales.
11. First Italian Meeting on Probability and Statistical Mathematics (19-22 June 2017), Torino, Italy. Talk: Entropy chaos and BEC. Poster presented by a collaborator: Invariance properties of SDEs with applications to stochastic calculus.
12. Stochastic Partial Differential Equations and Applications X (30 May-4 June, Levico, 2016). Talk: Entropy chaos and BEC. Second talk presented by a collaborator: Symmetries of SDEs and applications.
13. Mathematical Challenges in Quantum Mechanics (8-13 February 2016), Bressanone, Italy. Talk presented by a collaborator: Entropy Chaos and Bose-Einstein Condensation.
14. Stochastic and Symmetry (5-6 October 2015), Department of Mathematics, Milano. Organization (scientific and local).Talk presented by a collaborator (F.C. De Vecchi): Symmetries of Stochastic Differential Equations.
15. Classic and Stochastic Mechanics Workshop (8-11 June 2015) and Conference on Geometric Analysis (12-13 June 2015), Lausanne. Invited by Sergio Albeverio. Talk: A Doob-h-transform of the Gross-Pitaevskii Hamiltonian.
16. Invitation to the CIB (EPFL) semester Geometric Mechanics, Variational&Stochastic Methods (9-11 February and 7-11 June 2015) (S. Albeverio, A. Cruzeiro, D. Holm) as visiting researcher.
17. Interacting particle systems in thermodynamic models (26-30 January 2015) GSSI L'Aquila. Invited by Barbara Ruediger. Talk: Bose-Einstein-Condensation: an interacting particle system.
18. International Conference on Stochastic Analysis and Applications (14-19 October 2013) Hammamet (Tunisia). Invited by H. Ouerdiane. Talk: A Doob h-transform of the Gross-Pitaevskii Hamiltonian.
19. International Conference on Stochastic Analysis and Applications (10-15 October 2011) Hammamet (Tunisia). Invited by H. Ouerdiane. Talk: Stochastic description of a Bose-Einstein Condensate.
20. International Conference on Stochastic Analysis and Applications (12-17 October 2009) Hammamet (Tunisia).
21. International Conference on Stochastic Analysis and Applications (22-27 October 2001) Hammamet (Tunisia). Invited by H. Ouerdiane. Talk:

Scattering into Cones and Flux across Surface Theorem: a probabilistic approach.

22. Seminar at the Department of Mathematics, University of Bonn: The flux across surfaces theorem in Quantum Mechanics: a probabilistic approach, (July 2001)
23. Probability summer school at St. Flour XXX. Lectures given by S. Albeverio, W. Schachermayer, M. Talagrand (August, 2000)
24. Infinite Dimension Stochastic Analysis (18-22 May, 1999) Lipsia
25. Seminar: Markovian Diffusions, Schroedinger operators and Dirichlet forms, Department of Mathematics, May 1998, Bologna, Italy).
26. Stochastic Partial Differential Equations and Applications IV (6-11 January 1997) Levico Terme, CIRM, Trento. Talk: Non-symmetric diffusions: a complex approach via Dirichlet forms.
27. Stochastic Analysis, Random Fields and Applications,16-21 September 1996, Centro S. Franscini, Monte Verità, Ascona, Svizzera. Poster section.
28. Stochastic Mechanics and its Applications, Certosa di Pontignano, 15-18 November 1995, Siena. Title of the talk: Ground-state transformations in the non-symmetric case
29. Classical and Quantum evolution: Deterministic and Stochastic, University of Bielefeld, 10-14 June 1995. Title of the talk: Non Symmetric Diffusions and Related Hamiltonians.
30. Advanced Topics in Applied Mathematics and Theoretical Physics, Complex Systems: classical and quantum aspects. Title of the talk: Convergence in the Carlen Diffusion class by dynamical properties.
31. Fifth Symposium of the European Science Program on Stochastic Analysis, University of Bonn, 4-8 October 1994
32. Seminar: Stochastic Variational Principles and Quantum Mechanics, Department of Physics, April 1993, Padova, Italy
33. Advances in Dynamical Systems and Quantum Physics, Capri, 19-22 May 1993
34. Seminar: Mathematical Structure of the General Lagrangian Equations in Stochastic Mechanics, Invited by Gianfausto Dell'Antonio. SISSA, October 1992, Trieste, Italy.
35. Forme di Dirichlet (C.I.M.E.), Summer school in Varenna, Como, 8-19 June 1992
36. Stochastic process, Physics and Geometry, Locarno, 24-29 June 1991
37. Probabilistic Methods in Mathematical Physics, Certosa di Pontignano, Siena, 6-11 Maggio 1991

Recent personal funds

- Transition grant of 15.000 euro (Università degli Studi di Milano, 2016) for having coordinated an European network of Academies and Industries for the submission of two Marie-Slokovska-Curie ETN projects (2016 and 2017) titled: Symmetry&Invariance in Stochastic Dynamics.
- INDAM contributions for doctorate schools (2018) and conferences (2019).
- Contributions from University of Milan for various research projects (Fondi Sostegno Ricerca).
- Principal investigators of a GNAMPA (INDAM) project: Lie's symmetries analysis of stochastic optimal control and applications (founded for 2020)
- Responsible of an INDAM dissemination project: Viaggi allucinanti in mondi senza la matematica (founded for 2021).
- PhD-position on PON-RECT-EU "Ricerca e Innovazione" (2021) for the project on ***Modellizzazione matematica e analisi dei dati per lo studio dell'impatto dei cambiamenti climatici e ambientali sul degrado dei Beni Culturali in ambienti interni ed esterni***
- DAAD scholarship: Research Stays for University Academics and Scientists, 2022 (3 months) at University of Wuppertal, Prof. Barbara Rudiger and at HCM, University of Bonn, Prof. Sergio Albeverio, Dr. Francesco C. De Vecchi.

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Participation to the following PRIN (Italian national funds)

2009 Dalla microscala alla macroscala in sistemi stocastici di particelle interagenti in dinamica di popolazione (Coordinators: Iannelli Mimmo, Morale Daniela)
2006 Modelli stocastici a molti gradi di libertà: teoria e applicazioni (Coordinators: Campanino Massimo, Dai Pra Paolo)
2004 Modelli stocastici in dimensione finita ed infinita e limiti di scala (Coordinators: Gandolfi Alberto, Morato Laura Maria)
2003 Problemi limite per processi con struttura spaziale e algoritmi stocastici (Coordinators: Gandolfi Alberto, Morato Laura Maria)
2001 Campi aleatori spazio-temporali con applicazioni a problemi industriali, alla scienza dei materiali, allo studio dei sistemi biologici e alle scienze cognitive (Coordinators: Gandolfi Alberto, Capasso Vincenzo)

PhD thesis supervised:

1) Lie symmetry analysis and geometrical methods for finite and infinite dimensional stochastic differential equations (2018) by Francesco Carlo De Vecchi. (Advisor), Co-supervisor: Paola Morando.
2) Stochastic equations with fractional noise: continuity problems and (2019) by Luca Maria Giordano. Joint-supervision together with: Daniela Morale (Università di Milano), Lluis Quer-Sardanyons and Maria Jolis (University of Barcelona).

3) Stochastic modelling and simulation for the study of degradation phenomena in Cultural Heritage by Francesca Arceci (in corso di svolgimento) (Advisor). Co-advisor: Daniela Morale.

Master thesis supervised (in Italian)

- a.a. 2000-2001 Stime della velocità di convergenza alla stazionarietà per Catene di Markov non reversibili (Laura Riva)
- a.a. 2004-2005 Stime della velocità di convergenza alla stazionarietà per Catene di Markov su gruppi finiti (Chiara Anna Laura Romano)
- a.a 2005-2006 Teoria delle Catene di Markov e applicazioni alla Biologia (Veronica Sala)
- a.a. 2009-2010 Diffusioni localmente interagenti ed equazione di Burgers (Gabriele Giroletti)
- a.a 2011-2012 Catene di Markov: processi di nascita e morte e gestione di un sistema a coda (Aristotile Fantoni)
- a.a. 2012-2013 Entropia di Shannon e confronto di clustering (Valeria Zucca)
- a.a. 2012-2013 Diffusioni con killing: distribuzione quasi stazionaria (Giuditta Sara Negri)
- a.a. 2013-2014 Symmetries of Diffusion Processes with Applications (co-advisor of Francesco C. De Vecchi)
- a.a. 2013-2014 Simmetrie di equazioni differenziali stocastiche (Maria Teresa Pellegrino)
- a.a. 2013-2014 Simmetrie di SDE: un nuovo approccio di simulazione numerica (Angela Altieri)
- a.a. 2014-2015 Simmetrie del Moto Browniano bidimensionale e generalizzazioni (Luca Forni)
- a.a. 2016-2017 Simmetrie di SDE e cambio di misura di probabilità (Giorgio Innocenti)
- a.a. 2016-2017 Simmetrie di SDE e Trasformazione di Doob (Francesca De Masi)
- a.a. 2017-2018 Mean-field type stochastic optimal control and BEC (Andrea Romano)
- a.a. 2018-2019 A stochastic approach to Bose-Einstein Condensation: time-dependent case (Filippo Torta)
- a.a. 2018-2019 Reduction of SDEs via Girsanov symmetries (Elena Cattarin)
- a.a.2018-2019 Condensazione di Bose-Einstein: approccio al caso generale tramite entropia relativa (Claudio Russo Introito)
- a.a.2018-2019 Condensato di Bose-Einstein: una descrizione tramite processo di Cox (Annalisa Cassani)
- a.a. 2019-2020 Condensazione di Bose-Einstein: un caso di controllo ottimo stocastico (Gloria Bortolotti)

- a.a. 2019-2020 Modelli matematici per il degrado dei beni culturali marmorei: introduzione di un modello stocastico (Andrea Ubiali) (joint supervision con Daniela Morale, Mario Maurelli)
- a.a. 2019-2020 Symmetries of SDEs: various applications (Matteo Burrini)

Partecipazione Commissioni Esaminatrici

- Commissioni di Laurea Magistrale e Lauree Triennali, Dipartimento di Matematica, Università degli Studi di Milano.
- Commissione finale conferimento dottorato di ricerca del candidato Nicolò Cangiotti, 14/02/20, Università di Trento.
- Commissione esaminatrice di ammissione al corso di dottorato in Scienze Matematiche a.a. 2021/2022 (XXXVIII ciclo), Università degli Studi di Milano.

Teaching activities:
(in Italian)

Verona-Biotecnology and Information Science:

- a.a 1993-1994: Esercitazioni di Analisi II, Calcolo delle Probabilità e Statistica (Calculus of Probability and Statistics)(Assistant Professor)
- a.a. 1994-1995: Esercitazioni di Analisi II, Calcolo delle Probabilità e Statistica (Calculus of Probability and Statistics) (Assistant Professor)
- a.a 1996-1997: Calcolo delle Probabilità e Statistica (Calculus of Probability and Statistics)(Assistant Professor)
- a.a 1997-1998: Corso di Calcolo delle Probabilità e Statistica (Calculus of Probability and Statistics)(Assistant Professor)
- a.a 1998-1999: Corso di Calcolo delle Probabilità e Statistica (Calculus of Probability and Statistics)(Assistant Professor)
- a.a 1999-2000: Corso di Calcolo delle Probabilità e Statistica (Calculus of Probability and Statistics)(Assistant Professor)

Milano-Department of Mathematics:

- a.a. 2000-2001: Calcolo delle Probabilità (Probability Theory) (docente responsabile, Corso di Laurea in Matematica), Esercitazione di Calcolo delle Probabilità II e di Statistica Matematica II.
- a.a. 2001-2002: Laboratorio di Calcolo delle Probabilità (docente responsabile), Esercitazioni di Calcolo delle Probabilità II e di Statistica Matematica II.
- a.a. 2002-2003: Esercitazioni di CPSM1, Esercitazioni di Calcolo delle Probabilità I

- a.a. 2003-2004: congedo per maternità (maternity leave)
- a.a.2004-2005: Esercitazioni di CPSM1 (30 ore), Corso di Metodi Matematici e Statistici (24 ore) (Laurea magistrale in Biologia).
- a.a 2005-2006: Esercitazioni di Statistica Matematica (24 ore), Metodi Matematici e Statistici (30 ore, Corso per Laurea magistrale in Biologia)
- a.a. 2006-2007: Calcolo delle Probabilità (Probability Theory) (42 ore, docente responsabile, Laurea Magistrale in Matematica), Esercitazioni di Statistica Matematica I(24 ore).
- a.a. 2007-2008: Calcolo delle Probabilità (Probability Theory) (42 ore, docente responsabile, Laurea magistrale in Matematica).
- a.a. 2008-2009: Calcolo delle Probabilità (Probability Theory) (42 ore, docente responsabile, Laurea magistrale in Matematica). Laboratorio di Metodi Matematici e Statistici (Mathematical Methods and Statistics) (40 ore, docente responsabile, Laurea triennale in Biologia).
- a.a. 2009-2010: Laboratorio di Metodi Matematici e Statistici (Mathematical Methods and Statistics) (40 ore, docente responsabile, Laurea triennale in Biologia), Esercitazioni di Statistica Matematica (24 ore)
- a.a. 2010-2011: Calcolo delle Probabilità (Probability Theory)(26 ore, Markov Chains Theory), Esercitazioni di Calcolo delle Probabilità e Statistica Matematica II (22 ore)
- a.a. 2011-2012: Calcolo delle Probabilità (Probability Theory) (26 ore, Markov Chains Theory), Laboratorio di Metodi Matematici e Statistici (Mathematical Methods and Statistics) (40 ore, docente responsabile, Laurea triennale in Biologia), Laboratorio di Calcolo delle Probabilità e Statistica Matematica I (12 ore MATLAB).
- a.a 2012-2013: Calcolo Stocastico (Stochastic Calculus) (24 ore Stochastic Differential Equations Laurea Magistrale in Matematica), Calcolo delle Probabilità (Probability Theory) (26 ore, Markov Chains Theory), Laboratorio di CPSM1(24 ore MATLAB), Laboratorio di Metodi Matematici e Statistici (Mathematical Methods and Statistics) (32 ore, Laurea triennale in Biologia)
- a.a. 2013-2014: Calcolo Stocastico (Stochastic Calculus) (31 ore, docente responsabile), Calcolo delle Probabilità (Probability Theory) (26 ore, Markov Chains Theory), Esercitazioni di Calcolo delle Probabilità e Statistica Matematica II (22 ore).
- a.a. 2014-2015: sabbatical year
- a.a. 2015-2016: Calcolo Stocastico (Stochastic Calculus) (52 ore, docente responsabile), Esercitazioni di Calcolo delle Probabilità e Statistica Matematica II (22 ore).
- a.a. 2016-2017: Calcolo delle Probabilità (Probability Theory) (26 ore, Markov Chains Theory), Laboratorio di Calcolo delle Probabilità e Statistica Matematica I (24 ore, MATLAB), Esercitazioni di Calcolo delle Probabilità e Statistica Matematica II (22 ore).
- a.a. 2017-2018: Calcolo delle Probabilità (Probability Theory) (26 ore, Markov Chains Theory), Metodi Matematici e Statistici (Mathematical Methods and Statistics) (40 ore, docente responsabile, Laurea triennale in Biologia), Istituzioni di Matematica e Statistica (20 ore, Laurea triennale in Scienze Naturali).

- a.a. 2018-2019: Calcolo delle Probabilità (Probability Theory) (51 ore, docente responsabile), Metodi Matematici e Statistici (Mathematical Methods and Statistics) (40 ore, Laurea triennale in Biologia).
- a.a. 2019-2020: Calcolo delle Probabilità (Probability Theory) (51 ore, docente responsabile), Metodi Matematici e Statistici (Mathematical Methods and Statistics) (24 ore, Laurea triennale in Biologia).
- a.a 2020-2021: Probabilità Avanzata (Advanced Probability) (51 ore, docente co-responsabile), Metodi Matematici e Statistici (Mathematical Methods and Statistics) (24 ore, Laurea triennale in Biologia), Modulo di Statistica (20 ore, Laurea triennale in Scienze Naturali).
- a.a 2021-2022: Probabilità Avanzata (Advanced Probability) (51 ore, docente co-responsabile), Istituzioni di Matematiche e Statistiche: Modulo di Statistica Linea A-L (12 ore, Laurea triennale in Scienze naturali), Modulo di Statistica Linea M-Z (20 ore, Laurea triennale in Scienze Naturali).

Attività di tutoraggio per matricole *(dal a.a 2015-2016 ad oggi).*

Fumane, Verona 09/08/2022