

Federico Polito

Curriculum Vitae

Department of Mathematics *G Peano*, University of Torino
Via Carlo Alberto, 10, 10123, Torino, Italy

Tel: +39 011 6702862

Email: federico.polito@unito.it

Website: www.federicopolito.it

ScopusID: 35093114500

ResearcherID: E-9327-2012

ORCID: 0000-0003-1971-214X

Current Position

December 2011–Present. Researcher (MAT/06 – Probability and Mathematical Statistics), Department of Mathematics, University of Torino, Italy.

Education and Qualification

March 2017. Scientific Habilitation for Associate Professor positions (A1/03, MAT/06).

July 2011. Qualified for a researcher position (idoneo, 2nd position). Institute of Applied Mathematics and Information Technology (IMATI), National Research Council (CNR), Milan, Italy.

January 2011. PhD In Statistical Methodology. Department of Statistical Sciences, “Sapienza” University of Rome, Italy. Advisor: Enzo Orsingher.

November 2010–October 2011. PostDoc, Nestor – Mathematics Department, “Tor Vergata” University in Rome, Italy. Supervisor: Maurizio Talamo.

2005–2011. Collaboration. Institute for Complex Systems (ISC), National Research Council (CNR) Rome, Italy. Supervisor: Alberto Petri. Main topics: Granular materials, Models for traffic systems.

2006–2007. Scientific Internship. Institute for Complex Systems (ISC), National Research Council (CNR), Rome, Italy. Supervisor: Alberto Petri (ISC–CNR). Description: Analysis of data collected from sheared granular media and acoustic emissions.

July 2006. Degree in Statistics (MSc). “Sapienza” University of Rome, Italy. Grade: 110/110 cum laude. Supervisors: Francesco Battaglia, Alberto Petri. Title of dissertation: Analysis of acoustic emission signals by time series models (in Italian).

Research

Research Interests

Stochastic processes driven by PDEs and difference-differential equations with non-local operators such as anomalous diffusions, time-changed Lévy processes, fractional point processes.

Preferential attachment random graphs and their continuous-time limits.

Stochastic processes with underlying branching structures.

International Collaborations

- Department of Applied Mathematics and Statistics, ICMC, Universidade de São Paulo, São Carlos, Brazil;
- Department of Mathematics and Statistics, Louisiana Tech University, Ruston, USA;
- Department of Mathematics and Statistics, University of Houston–Downtown, Houston, USA;
- Department of Mathematics and Computer Science, Freie Universität, Berlin, Germany;
- Department of Mathematics, Saarland University, Saarbrücken, Germany;
- Department of Financial Mathematics, Fraunhofer Institute for Industrial Mathematics (ITWM), Kaiserslautern, Germany;
- Institute of Mathematics, “Sts Cyril and Methodius” University, Skopje, Republic of Macedonia;

- Department of Probability Theory, Statistics and Actuarial Mathematics, T. Shevchenko National University of Kiev, Ukraine;
- Department of Mathematics, University of Sussex, Brighton, UK;
- Institute of Physiology, Academy of Sciences, Prague, Czech Republic.

Research Visits and Stays Abroad

- Academic visit to the Institute of Physiology, Academy of Sciences, Prague, Czech Republic. July 9–July 14, 2017.
- Academic visit to the Department of Applied Mathematics and Statistics, ICMC, Universidade de São Paulo, São Carlos, Brazil. August 20–August 27, 2016.
- Academic visit to the Institute of Physiology, Academy of Sciences, Prague, Czech Republic. May 27–June 4, 2015.
- Academic visit to the Department of Mathematics, University of Sussex, Brighton, UK. January, 2015.
- Academic visit to the Faculty of Applied Mathematics and Cybernetics (chair of Probability and Mathematical Statistics), Tomsk State University, Tomsk, Russia. November 18–November 20, 2014.
- Academic visit to the Department of Mathematics, Saarland University, Germany. October 27–October 31, 2014.
- Academic visit to the Institute of Physiology, Academy of Sciences, Prague, Czech Republic. September 9–October 5, 2013.
- Academic visit to the Faculty of Applied Mathematics and Cybernetics (chair of Probability and Mathematical Statistics), Tomsk State University, Tomsk, Russia. May 4–May 12, 2011.
- PIMS Summer School in Probability. Pacific Institute for the Mathematical Sciences and Microsoft Research. University of Washington, Seattle WA, USA. June–July 2010.
- PIMS-UBC 2008: Summer School in Probability: An Accelerate BC Graduate Training Event. Pacific Institute for the Mathematical Sciences, University of British Columbia, Vancouver, Canada. June–July 2008.

Publications and Preprints

- Articles in International Journals
 32. Studies on Generalized Yule Models. **Modern Stochastics: Theory and Applications**, Vol. 6 (1), 41–55, 2019.
 31. A note on Hadamard fractional differential equations with varying coefficients and their applications in probability (with R Garra and E Orsingher). **Mathematics**, Vol. 6 (1), 4, 2018.
 30. On a class of Time-fractional Continuous-state Branching Processes (with L Andreis and L Sacerdote). **Markov Processes and Related Fields**, Vol. 23 (4), 591–607, 2017.
 29. Fractional Diffusion-Telegraph Equations and their Associated Stochastic Solutions (with M D’Ovidio). **Theory of Probability and its Applications**, Vol. 62 (4), 692–718, 2017 (English version: Vol. 62 (4), 552–574, 2018).
 28. Generalized Nonlinear Yule Models (with P Lansky and L Sacerdote). **Journal of Statistical Physics**, Vol. 165 (3), 661–679, 2016.
 27. Some Properties of Prabhakar-type Fractional Calculus Operators (with Z Tomovski). **Fractional Differential Calculus**, Vol. 6 (1), 2016.
 26. A Generalization of the Space-Fractional Poisson Process and its Connection to some Lévy Processes (with E Scalas). **Electronic Communications in Probability**, Vol. 21, art. 20, 2016.
 25. Random Graphs Associated to some Discrete and Continuous Time Preferential Attachment Models (with A Pachon and L Sacerdote). **Journal of Statistical Physics**, Vol. 162 (6), 1608–1638, 2016.
 24. Fractional diffusions with time-varying coefficients (with R Garra and E Orsingher). **Journal of Mathematical physics**, Vol. 56 (9), art. 093301, 2015.

23. Transient behavior of fractional queues and related processes (with DO Cahoy and V Phoha). **Methodology and Computing in Applied Probability**, Vol. 17 (3), 739–759, 2015.
 22. State-dependent Fractional Point Processes (with R Garra and E Orsingher). **Journal of Applied Probability**, Vol. 52 (1), 18–36, 2015.
 21. On Firing Rate Estimation for Dependent Interspike Intervals (with E Benedetto and L Sacerdote). **Neural Computation**, Vol. 27 (3), 699–724, 2015.
 20. The role of detachment of in-links in scale-free networks (with P Lansky and L Sacerdote). **Journal of Physics A: Mathematical and Theoretical**, Vol. 37, art. 345002, 2014.
 19. Hilfer–Prabhakar Derivatives and Some Applications (with R Garra, R Gorenflo and Z Tomovski). **Applied Mathematics and Computation**, Vol. 242, 576–589, 2014.
 18. Fractional Klein–Gordon Equations and Related Stochastic Processes (with R Garra and E Orsingher). **Journal of Statistical Physics**, Vol. 155 (4), 777–809, 2014.
 17. Parameter Estimation for Fractional Birth and Fractional Death Processes (with DO Cahoy). **Statistics and Computing**, Vol. 24 (2), 211–222, 2014.
 16. On Some Operators Involving Hadamard Derivatives (with R Garra). **Integral Transforms and Special Functions**, Vol. 24 (10), 773–782, 2013.
 15. On the Integral of Fractional Poisson Processes (with E Orsingher). **Statistics and Probability Letters**, Vol. 83 (4), 1006–1017, 2013.
 14. Randomly Stopped Nonlinear Fractional Birth Processes (with E Orsingher). **Stochastic Analysis and Applications**, Vol. 31 (2), 262–292, 2013.
 13. Renewal processes based on generalized Mittag–Leffler waiting times (with DO Cahoy). **Communications in Nonlinear Science and Numerical Simulation**, Vol. 18 (3), 639–650, 2013.
 12. Fractional calculus modelling for unsteady unidirectional flow of incompressible fluids with time-dependent viscosity (with R Garra). **Communications in Nonlinear Science and Numerical Simulation**, Vol. 17 (12), 5073–5078, 2012.
 11. Compositions, Random Sums and Continued Random Fractions of Poisson and Fractional Poisson Processes (with E Orsingher). **Journal of Statistical Physics**, Vol. 148 (2), 233–249, 2012.
 10. Analytic solutions of fractional differential equations by operational methods (with R Garra). **Applied Mathematics and Computation**, Vol. 218 (1), 10642–10646, 2012.
 9. Simulation and Estimation for the Fractional Yule Process (with DO Cahoy). **Methodology and Computing in Applied Probability**, Vol. 14 (2), 383–403, 2012.
 8. Coupled systems of fractional equations related to sound propagation: analysis and discussion (with R Garra). **Journal of Mathematical Physics**, Vol. 53 (4), art. 043502, 2012.
 7. The space-fractional Poisson process (with E Orsingher). **Statistics and Probability Letters**, Vol. 82 (4), 852–858, 2012.
 6. On a fractional binomial process (with DO Cahoy). **Journal of Statistical Physics**, Vol. 146 (3), 646–662, 2012.
 5. A note on fractional linear pure birth and pure death processes in epidemic models (with R Garra). **Physica A**, Vol. 390 (21–22), 3704–3709, 2011.
 4. On a Fractional Linear Birth–Death Process (with E Orsingher). **Bernoulli**, Vol. 17 (1), 114–137, 2011.
 3. Fractional Pure Birth Processes (with E Orsingher). **Bernoulli**, Vol. 16 (3), 858–881, 2010.
 2. Fractional Non-Linear, Linear and Sublinear Death Processes (with E Orsingher and L Sakhno). **Journal of Statistical Physics**, Vol. 141 (1), 68–93, 2010.
 1. Analysis of Metal Cutting Acoustic Emission by Time Series Models (with A Petri, G Pontuale and F Dalton). **The International Journal of Advanced Manufacturing Technology**, Vol. 48 (9–12), 897–903, 2010.
- Articles in Conference Proceedings & Other Publications
 7. Fractional Klein–Gordon equation for linear dispersive phenomena: analytical methods and applications (with R Garra and E Orsingher), *Proceedings of the International Conference on Fractional Differentiation and Its Applications (ICFDA)*, 1–6, Catania, Italy, 2014.
 6. Discussion on the paper “On Simulation and Properties of the Stable Law by L. Devroye and L. James” (with M D’Ovidio). *Statistical Methods and Applications*, Vol. 23 (3), 359–363, 2014.

5. Superprocesses as models for information dissemination in the Future Internet (with L Sacerdote, M Garetto and M Sereno), *Proceedings of Mathematical Models and Methods for Planet Earth*, 157–170, Springer, 2014.
 4. Fractional Branching Processes. PhD Thesis. Department of Statistical Sciences, “Sapienza” University of Rome, Italy, 2011.
 3. Composition of Poisson Processes (with E Orsingher). *Proceedings of the XIV International EM Conference on Eventological Mathematics and related fields*, 13–18, Krasnoyarsk, Russia, 2010.
 2. A Brief Review on Some Fractional Point Processes (with E Orsingher). *Proceedings of the PCI2010 Third International Conference*, Vol. II, 14–19, Baku, Azerbaijan, 2010.
 1. Some results on time-varying fractional partial differential equations and birth-death processes (with E Orsingher). *Proceedings of the XIII International EM Conference on Eventological Mathematics and Related Fields*, 23–27. Krasnoyarsk, Russia, 2009.
- Preprints
 3. A Mixed Anti-preferential and Preferential Attachment Model of Graph Evolution (with U De Ambroggio and L Sacerdote). *Submitted*.
 2. On the continuous-time limit of the Barabási–Albert random graph (with A Pachon and L Sacerdote). *Submitted*.
 1. On discrete-time semi-Markov processes (with A Pachon and C Ricciuti). *Submitted*.

Talks and Conferences

- Invited Talks
 16. Fractionality in discrete time: an application to Preferential attachment models, 9th International Workshop on Applied Probability (IWAP 2018), session: Fractional Stochastic Processes, June 2018, Budapest, Hungary.
 15. Prabhakar Operators and Related Stochastic Processes, Dipartimento di Matematica e Applicazioni “Renato Caccioppoli”, Università di Napoli Federico II, September 2016, Naples, Italy.
 14. The Space-Fractional Poisson Process and Extensions, Recent Developments in Probability Theory and Stochastic Processes, Department of Statistical Sciences, “Sapienza” University of Rome, September 2016, Rome, Italy.
 13. Prabhakar Operators and Related Stochastic Processes, Congress of the Italian Society of Industrial and Applied Mathematics (SIMAI), session: Stochastic Models for Fractional Processes, Politecnico di Milano, September 2016, Milano, Italy.
 12. Generalized Yule models, First Joint Meeting Brazil – Italy in Mathematics, August 2016, Rio de Janeiro, RJ, Brazil.
 11. Prabhakar Operators and Related Stochastic Processes, Department of Applied Mathematics and Statistics, Institute of Mathematics and Computer Science (ICMC), University of São Paulo, August 2016, São Carlos, SP, Brazil.
 10. Queues, non-local operators and time change, Department of Mathematics, University of Sussex, January 2015, Brighton, UK.
 9. Queues, non-local operators and time change, Chair of Probability and Mathematical Statistics – Faculty of Applied Mathematics and Cybernetics, Tomsk State University, November 2014, Tomsk, Russia.
 8. On the fractional Poisson process and related topics, Stochastics Research Seminar – Department of Mathematics, Saarland University, October 2014, Saarbrücken, Germany.
 7. On the fractional Poisson process and related topics, DISIT Department, University of Eastern Piedmont, May 2013, Alessandria, Italy.
 6. Fractional Calculus and its Applications to Point Processes, Dipartimento di Scienze Matematiche, Politecnico di Torino, May 2012, Torino, Italy.
 5. Fractional Calculus and its Applications to Diffusion, Department of Mathematics, University of Torino, May 2012, Torino, Italy.
 4. Fractional Branching Processes, Workshop on Fractional Calculus and its Applications, Department of Statistical Sciences, “Sapienza” University of Rome, May 2011, Rome, Italy.

3. Fractional Branching Processes, Chair of Probability and Mathematical Statistics, Faculty of Applied Mathematics and Cybernetics, Tomsk State University, May 2011, Tomsk, Russia.
 2. Fractional Branching Processes, Laboratorio Nestor, Mathematics Department, Università di Roma "Tor Vergata", November 2010, Rome, Italy.
 1. Branching Processes and Fractionality, Statistical Mechanics and Complexity Development Center – INFN/ISC, CNR and Physics Department, "Sapienza" University of Rome, December 2009, Rome, Italy.
- Other Talks
 24. On discrete-time semi-Markov processes, 6th Fractional Calculus, Probability and Non-local Operators: Applications and Recent Developments, September 2018, Bilbao, Spain.
 23. Persistent Memory by Fractionality: an Application to Random Graph Processes, 12th International Vilnius Conference on Probability Theory and Mathematical Statistics and 2018 IMS Annual Meeting on Probability and Statistics, July 2018, Vilnius, Lithuania (chairman of the session).
 22. Generalized nonlinear Yule models, Fractional Calculus, Probability and Non-Local Operators, November 2015, Bilbao, Spain.
 21. Random Graphs Associated to some Discrete Time Preferential Attachment Models, 2015 IMS China International Conference on Statistics and Probability, July 2015, Kunming, China.
 20. Some Time-changed Point Processes, Jülich-Torino Workshop on Computational Neurosciences, Department of Mathematics, University of Torino, April 2015, Torino, Italy.
 19. Continuous Limit of Time-changed Branching Processes, ITMM – Information Technologies and Mathematical Modelling, November 2014, Anzhero-Sudzhensk, Russia.
 18. Continuous Limit of Time-changed Branching Processes, SPA – Stochastic Processes and their Applications, July 2014, Buenos Aires, Argentina.
 17. Diffusion-Telegraph Equations and Related Stochastic Processes, Fractional Calculus, Probability and Non-local Operators, November 2013, Bilbao, Spain.
 16. Fractional Klein-Gordon equation and Related Processes, Fractional Calculus, Probability and Non-local Operators, November 2013, Bilbao, Spain.
 15. A Fractional Diffusion-Telegraph Equation and its Stochastic Solution, EMS – European Meeting of Statisticians, July 2013, Budapest, Hungary.
 14. The Space-Fractional Poisson Process, Modern Stochastics: Theory and Applications III, September 2012, Kiev, Ukraine.
 13. The Space-Fractional Poisson Process, IWAP – International Workshop on Applied Probability, June 2012, Jerusalem, Israel.
 12. Randomly Stopped Nonlinear Fractional Birth Processes, I Riunione Scientifica – Department of Statistical Sciences, February 2011, Rome, Italy.
 11. Fractional Branching Processes, Department of Statistical Sciences, "Sapienza" University of Rome, October 2010, Rome, Italy.
 10. Subordinated Pure Birth Processes, Modern Stochastics: Theory and Applications II, September 2010, Kiev, Ukraine.
 9. The Fractional Linear Birth-Death Process, 2010 PIMS Summer School in Probability, Pacific Institute for the Mathematical Sciences & Microsoft Research, University of Washington, June 2010, Seattle (WA), USA.
 8. Fractional Stochastic Population Growth, Comunicazione e Ricerca – I giovani si incontrano, Department of Statistics, Probability and Applied Statistics, "Sapienza" University of Rome, June 2010, Rome, Italy.
 7. A Fractional Generalisation of the Linear Birth-Death Process, 9th German Open Conference on Probability and Statistics, March 2010, Leipzig, Germany.
 6. A fractional generalisation of the linear birth-death process, XXIV Riunione Scientifica – Department of Statistics, Probability and Applied Statistics, February 2010, Rome, Italy.
 5. Fractional Pure Birth Processes, SPA 2009 – Stochastic Processes and their Applications, July 2009, Berlin, Germany.
 4. Fractional Birth Processes, SARD – Stochastic Analysis and Random Dynamical Systems, June 2009, Lviv, Ukraine.

3. Fractional Pure Birth Processes, XXIII Riunione Scientifica – Department of Statistics, Probability and Applied Statistics, February 2009, Rome, Italy.
 2. Time Series Analysis – ARMA Models Applied to the Analysis of Acoustic Emissions, Institute for Complex Systems – National Research Council, July 2006, Rome, Italy.
 1. ARMA Models Renewal Processes and Acoustic Emission, Institute for Complex Systems – National Research Council, February 2006, Rome, Italy.
- Posters
 5. Extensions of the Yule model, First Italian Meeting on Probability and Mathematical Statistics, June 2017, Torino, Italy.
 4. First Passage Times R Package, BioComp 2012, June 2012, Vietri Sul Mare, Italy.
 3. Stochastic Analysis of Metal Cutting Acoustic Emissions, FSM – Fluctuation and Scaling in Materials, July 2007, Todi, Italy.
 2. Flow of Autonomous Traffic on a Single Multi-Lane Street, FSM – Fluctuation and Scaling in Materials, July 2007, Todi, Italy.
 1. Flow of Autonomous Traffic on a Single Multi-Lane Street, StatPhys XXIII, July 2007, Genoa, Italy.

Grants & Funded Projects: Coordination and Participation

- Principal Investigator of the research project “MEG – Memory in Evolving Graphs”, funded by Compagnia di San Paolo and University of Torino (66462.45 euros). Independently evaluated by the European Science Foundation (ESF), 2017–2019.
- Coordinator of the research project “Sviluppo e analisi di processi Markoviani e non Markoviani con applicazioni”, Università di Torino, 2017–2018.
- Receiver of the FFABR grant, ANVUR/MIUR, 2017.
- Coordinator of the research project “Funzionali di processi Markoviani e non Markoviani”, Università di Torino, 2013–2014.
- Visiting Researcher for the individual visiting research grant “Fractional processes as models in information diffusion” (16/10291-0), August 19, 2016 - September 02, 2016, funded by FAPESP. Principal investigator: Pablo Martin Rodriguez.

Member of the following further funded projects:

- “Modelli Stocastici e Applicazioni”, 2017. Coordinator: E. Di Nardo.
- “Modelli aleatori”, 2016. Coordinator: R. Sirovich.
- “Application driven Markov and non-Markov models”, 2014. Coordinator: C. Zucca.
- “Stochastic modelling beyond diffusions”, 2014. Coordinator: E. Bibbona.
- “Modelli stocastici e statistici per le applicazioni”, 2013. Coordinator: C. Zucca.
- “Processi stocastici con applicazioni”, 2012. Coordinator: L. Sacerdote.
- “AMALFI Project (Advanced Methodologies for the Analysis and Management of the Future Internet)”, Computer Science and Mathematics Departments, University of Torino, 2012. Coordinator: M. Garetto.
- “Voli aleatori in spazi euclidei”, Sapienza Università di Roma, 2010. Coordinator: E. Orsingher.
- “Composizione di processi aleatori e relative equazioni differenziali”, Sapienza Università di Roma, 2009. Coordinator: E. Orsingher.
- “Processo di Poisson frazionario multidimensionale”, Sapienza Università di Roma, 2009. Coordinator: L. Beghin.
- “Integrazione stocastica rispetto a pseudo-processi”, Sapienza Università di Roma, 2008. Coordinator: E. Orsingher.
- “Processi di Poisson e di nascita lineare frazionari”, Sapienza Università di Roma, 2008. Coordinator: F. Battaglia.

Organization of Conferences and Seminars

- Organizer of “Giornata di Benvenuto”, a one-day conference thought to welcome our new colleagues at the Mathematics Department, University of Torino, Italy, September 19, 2019.
- I have organized the session “Probability and non-local operators: anomalous diffusive dynamics” at the “Second Italian Meeting on Probability and Mathematical Statistics”, Vietri sul Mare, Italy, June 17–20, 2019.
- I have been part of the Organizing Committee of the international conference “Neural Coding 2018”, Torino, Italy, September 9–14, 2018.
- I have been part of the Organizing Committee of the “First Italian Meeting on Probability and Mathematical Statistics”, Torino, Italy, June 19–22, 2017.
- Co-organizer of the “Probability & Mathematical Statistics Seminars”, Department of Mathematics, University of Torino, 2015–present.
- Co-organizer of the “Tutorati d’Approfondimento”, a series of seminars on specific topics dedicated to Bachelor’s students, Department of Mathematics, University of Torino, 2014/2015–present.

Further Information

- Coauthors (20 – affiliation at the time of collaboration):
 - Enzo Orsingher (Statistics Department, “Sapienza” University of Rome, Italy).
 - Dexter O. Cahoy (Department of Mathematics and Statistics, Louisiana Tech University, Ruston, USA. Now at the Department of Mathematics and Statistics, University of Houston–Downtown, Houston, USA).
 - Alberto Petri (Institute for Complex Systems, National Research Council, Rome, Italy).
 - Rudolf Gorenflo (Department of Mathematics and Computer Science, Freie Universität Berlin, Germany).
 - Živorad Tomovski (Institute of Mathematics, “Sts Cyril and Methodius” University, Skopje, Republic of Macedonia).
 - Fergal Dalton (Institute for Complex Systems, National Research Council, Rome, Italy).
 - Ludmila Sakhno (Department of Probability Theory, Statistics and Actuarial Mathematics, T. Shevchenko National University of Kiev, Ukraine).
 - Giorgio Pontuale (Institute for Complex Systems, National Research Council, Rome, Italy).
 - Roberto Garra (Dipartimento di Scienze di Base e Applicate per l’Ingegneria, “Sapienza” University of Rome, Italy).
 - Vir V. Phoha (College of Engineering and Science, Louisiana Tech University, Ruston, USA).
 - Laura Sacerdote (Mathematics Department, University of Torino, Italy).
 - Elisa Benedetto (Mathematics Department, University of Torino, Italy).
 - Luisa Andreis (Mathematics Department, University of Padova, Italy).
 - Mirko D’Ovidio (Dipartimento di Scienze di Base e Applicate per l’Ingegneria, “Sapienza” University of Rome, Italy).
 - Matteo Sereno (Computer Science Department, University of Torino, Italy).
 - Michele Garetto (Computer Science Department, University of Torino, Italy).
 - Petr Lansky (Institute of Physiology, Academy of Sciences, Prague, Czech Republic).
 - Enrico Scalas (Department of Mathematics, University of Sussex, Brighton, UK).
 - Angelica Pachon (Mathematics Department, University of Torino, Italy).
 - Costantino Ricciuti (Mathematics Department, University of Torino, Italy).
- Research Supervisor for a two-year PostDoc position within the Project “MEG – Memory in Evolving Graphs” Università di Torino/Compagnia di San Paolo (Costantino Ricciuti, Tamás Makai), December 2017–November 2019.
- Research Supervisor for a three-month PostGrad fellowship “Development of anti-preferential random graph models”, May 2018–August 2018.
- Member of the Research Committee, Department of Mathematics, University of Torino, 2012–present. Elected in secret ballot.

- Member of the Scientific Board of the PhD programme in “Pure and Applied Mathematics”, Turin Doctoral School of Mathematical Sciences (University of Torino and Politecnico di Torino), 2016–present.
- Member of the Committee for the Assignment of 4 PostDoc positions, Department of Mathematics, University of Torino, 2015.
- Member of the Committee for the Assignment of 2 PostDoc positions, Department of Mathematics, University of Torino, 2017/2018.
- Member of the Committee for the Assignment of 1 PostDoc positions (project MEG), Department of Mathematics, University of Torino, 2017.
- Member of the Dissertation Committee (final PhD defense) for the PhD in Methodological Statistics, Department of Statistical Sciences, “Sapienza” University of Rome, 2015–2016.
- Member of the yearly evaluation committee, PhD programme in “Pure and Applied Mathematics”, Turin Doctoral School of Mathematical Sciences (University of Torino and Politecnico di Torino), 2017.
- Member of: SIMAI (Italian Society of Industrial and Applied Mathematics) 2016–present; Complex System Society, 2018–present; INDAM–GNAMPA (Gruppo Nazionale per l’Analisi Matematica, la Probabilità e le loro Applicazioni, Istituto Nazionale di Alta Matematica “F. Severi”), 2015–present; INDAM–GNCS (Gruppo Nazionale per il Calcolo Scientifico, Istituto Nazionale di Alta Matematica “F. Severi”), 2012–2014. Former member of Bernoulli Society and of the European Mathematical society.
- Member of the “Probability and Mathematical Statistics” research group, Department of Mathematics, University of Torino, 2012–present.
- Member of the joint research group Department of Mathematics, University of Torino/Intesa SanPaolo directed by G. Paini “Big Data e Internet of Things, ambiti finanziario e assicurativo”. Coordinator: L. Sacerdote, 2015–2017.
- Referee for ANVUR (Agenzia Nazionale di Valutazione del Sistema Universitario e della Ricerca), VQR 2011–2014.
- Reviewer for Mathematical Reviews (AMS), 2011–present.
- Referee for the following international journals:
 1. Mathematische Nachrichten;
 2. Stochastic Analysis and Applications;
 3. Modern Stochastics: Theory and Applications;
 4. Journal of Physics A;
 5. Mathematical Methods in the Applied Sciences;
 6. Fractional Calculus & Applied Analysis;
 7. Applied Mathematics and Computation;
 8. Journal of Multivariate Analysis;
 9. Physica A;
 10. Mathematics and Computers in Simulation;
 11. Reports on Mathematical Physics;
 12. Advances in Applied Probability;
 13. Methodology and Computing in Applied Probability;
 14. Statistics and Probability Letters;
 15. Journal of Statistical Physics;
 16. PLOS One;
 17. Nonlinear Dynamics;
 18. Computational and Applied Mathematics;
 19. Biometrical Journal;
 20. Mathematical Biosciences and Engineering;

21. Biological Cybernetics;
22. Statistics;
23. Publications de l'Institut Mathématique;
24. Annals of Operations Research;
25. International Journal of Stochastic Analysis;
26. International Journal of Nonlinear Sciences and Numerical Simulation;
27. Chaos, Solitons & Fractals;
28. Applied Mathematical Modelling;
29. Journal of Economic Interaction and Coordination;
30. International Journal of Advanced Manufacturing Technology;
31. Communications in Nonlinear Science and Numerical Simulation;
32. Hacettepe Journal of Mathematics and Statistics;
33. Numerical Linear Algebra with Applications.

Teaching

- Member of the Scientific Board of the PhD programme in “Pure and Applied Mathematics”, Turin Doctoral School of Mathematical Sciences (University of Torino and Politecnico di Torino), 2016–present.
- Take part in the organization of the M.Sc. in Stochastics and Data Science (LM-40), Department of Mathematics, University of Torino, 2015–present.
- Member of the Erasmus and Internationalisation Committee, M.Sc. in Stochastics and Data Science (LM-40), Department of Mathematics, University of Torino, 2015–present.
- Teaching manager for international mobility of M.Sc. in Stochastics and Data Science, March 2018–present.
- Member of the International Relations Committee, Department of Mathematics, University of Torino, 2016–present.
- Supervision of 30 Bachelor’s theses and the following M.Sc.’s theses:
 1. G. Devecchi “Tempo di primo passaggio attraverso una barriera per un moto Browniano frazionario”, M.Sc.’s thesis, M.Sc. in Matematics, 2011/2012, Torino.
 2. L. Andreis “Processi di diramazione generalizzati”, M.Sc.’s thesis, M.Sc. in Matematics, 2012/2013, Torino (awarded as best M.Sc.’s thesis, Mathematics Department, 2012/2013). Then PhD student at the Mathematics department, University of Padova. Now postdoctoral researcher at Weierstrass Institute for Applied Analysis and Stochastics.
 3. A. Boccadamo “Funzioni di Hermite e teoremi limite”, M.Sc.’s thesis, M.Sc. in Matematics, 2014/2015, Torino.
 4. S. Scotta “Il modello di Simon e alcune sue generalizzazioni: proprietà e procedure di stima”, M.Sc.’s thesis, M.Sc. in Matematics, 2015/2016, Torino. Now PhD student under the ERC funded project “Hydrodynamic Limits and Equilibrium Fluctuations: universality from stochastic systems”, Mathematics Department, Técnico Lisboa.
 5. F. Croce “Processi di Poisson generalizzati: metodi di stima”, M.Sc.’s thesis, M.Sc. in Matematics, 2015/2016, Torino. Now PhD student at Department of Mathematics and Computer Science, Saarland University, Saarbruecken, Germany.
 6. L. Ravera “Alcune proprietà dei Continuous-state branching processes e di alcuni processi collegati”, M.Sc.’s thesis, M.Sc. in Matematics, 2016/2017, Torino.
 7. S. Bruno “Time-changed Hermite processes”, M.Sc.’s thesis, M.Sc. in Stochastics and Data Science, 2016/2017, Torino. Now PhD student at EPSRC Centre for Doctoral Training in Statistical Applied Mathematics (SAMBa), University of Bath, UK.
 8. U. De Ambroggio “Anti-preferential attachment random graphs”, M.Sc. in Stochastics and Data Science, 2017/2018, Torino. Future PhD student at Department of Mathematical Sciences, University of Bath, UK.

9. R. Guarnaschelli "Modelli di evoluzione di popolazioni basati su distribuzioni a variazione regolare", M.Sc.'s thesis, M.Sc. in Mathematics, 2017/2018, Torino.
10. L. Risso "Preferential attachment random graphs: analysis and extensions", M.Sc. in Stochastics and Data Science, 2017/2018, Torino.

I have also co-supervised 3 further M.Sc.'s theses for the M.Sc. in Mathematics, University of Torino.

I am currently supervising 2 M.Sc.'s students and 6 Bachelor's students.

Courses Taught

- 2018–2019: *Mathematical Modelling*, Bachelor in Mathematics (Percorso di Eccellenza), Department of Mathematics, University of Torino (1 ECTS).
- 2018–2019: *Probability and Statistics*, Bachelor in Mathematics, Department of Mathematics, University of Torino (7 ECTS).
- 2018–2019: *Probability Theory*, M.Sc. in Stochastics and Data Science (LM-40), Department of Mathematics, University of Torino (4 ECTS).
- 2017–2018: *Probability and Statistics*, Bachelor in Mathematics for Finance and Insurance, Department of Mathematics, University of Torino (7 ECTS).
- 2017–2018: *Probability Theory*, M.Sc. in Stochastics and Data Science (LM-40), Department of Mathematics, University of Torino (4 ECTS).
- 2016–2017: *Probability and Statistics*, Bachelor in Mathematics, Department of Mathematics, University of Torino (1 ECTS).
- 2016–2017: *Probability Theory*, M.Sc. in Stochastics and Data Science (LM-40), Department of Mathematics, University of Torino (4 ECTS).
- 2016–2017: *Probability and Statistics*, Bachelor in Mathematics for Finance and Insurance, Department of Mathematics, University of Torino (7 ECTS).
- 2015–2016: *Introduction to Fractional Calculus and its Relations to Stochastic Processes*, M.Sc. and PhD Course, Department of Applied Mathematics and Statistics, Institute of Mathematics and Computer Science (ICMC), University of São Paulo, São Carlos, SP, Brazil (M.Sc. & Doctoral course).
- 2015–2016: *Stochastic Processes*, M.Sc. in Stochastics and Data Science (LM-40), Department of Mathematics, University of Torino (2 ECTS).
- 2015–2016: *Probability Theory*, M.Sc. in Stochastics and Data Science (LM-40), Department of Mathematics, University of Torino (2 ECTS).
- 2015–2016: *Probability and Statistics*, Bachelor in Mathematics for Finance and Insurance, Department of Mathematics, University of Torino (7 ECTS).
- 2015–2016: *Probability and Statistics*, Bachelor in Mathematics, Department of Mathematics, University of Torino (3 ECTS).
- 2014–2015: *Probability and Statistics*, Bachelor in Mathematics for Finance and Insurance, Department of Mathematics, University of Torino (7 ECTS).
- 2014–2015: *Probability and Statistics*, Bachelor in Mathematics, Department of Mathematics, University of Torino (3 ECTS).
- 2013–2014: *Probability and Statistics*, Bachelor in Mathematics for Finance and Insurance, Department of Mathematics, University of Torino (7 ECTS).
- 2013–2014: *Probability and Statistics*, Bachelor in Mathematics, Department of Mathematics, University of Torino (3 ECTS).
- 2013–2014: *Valutazione Statistica dei Dati: Cluster Analysis*, Master in Processi Produttivi Chimico Biologici, University of Torino.
- 2012–2013: *Probability and Statistics*, Bachelor in Mathematics for Finance and Insurance, Department of Mathematics, University of Torino (7 ECTS).

2012–2013: *Probability and Statistics*, Bachelor in Mathematics, University of Torino (3 ECTS).

2012–2013: *Statistical Techniques: Cluster Analysis*, Master in Materials, Mathematics and Models for production and Design, University of Torino.

2012–2013: *Introduction to Fractional Calculus*, Department of Statistical Sciences, “Sapienza” University, Rome (Doctoral course).

2012–2013: *Probability*, M.Sc. in Mathematics (LM-40), Department of Mathematics, University of Torino (2 ECTS).

2011–2012: *Stochastic Processes*, M.Sc. in Mathematics (LM-40), Department of Mathematics, University of Torino (2 ECTS).

2011–2012: *Probability and Statistics*, Bachelor in Mathematics for Finance and Insurance, Department of Mathematics, University of Torino (3 ECTS).

2009–2010: *Statistics*, Faculty of Economics, LUISS Guido Carli University, Rome (Teaching assistant).

2008–2009: *Mathematics 3*, Faculty of Statistical Sciences, “Sapienza” University, Rome (Teaching assistant).

2007–2009: *Introduction to R*, Faculty of Statistical Sciences, “Sapienza” University, Rome (Introduction to basic R programming).

Languages

English: Good

Italian: Fluent (My native language)