Fausto Colantoni

Curriculum Vitae

Current Position

2024-Present **Postdoctoral researcher**, University of Rome "La Sapienza", Department of Basic and Applied Sciences for Engineering , Scientific coordinator: Mirko D'Ovidio.

Education

2020–2023 **PhD student in Mathematical Models for Engineering, Electromagnetics and Nanosciences**, University of Rome "La Sapienza", curriculum in Mathematics for Engineering, Advisor: Mirko D'Ovidio, Final mark: Excelent cum laude.
Thesis defended on January 22, 2024

2018–2020 **Master's degree in Applied Mathematics**, University of Rome "La Sapienza", Final mark: 110/110 cum laude; Thesis on random graphs.

2015–2018 **Bachelor's Degree in Mathematics**, University of Rome "La Sapienza", Final mark: 110/110 cum laude; Thesis on percolation.

Research interest

Probability, stochastic processes and PDEs' connections. Boundary conditions involving non-local operators for diffusion equations. Time-changed stochastic processes, functionals and related dynamics.

Gamma subordinator and Variance Gamma process. Non-local equations, connections with special functions.

Publications and preprints

F. Colantoni, M. D'Ovidio, "On the inverse gamma subordinator", Stochastic Analysis and Applications 41.5 (2023), 999-1024.

F. Colantoni, "Variance Gamma (nonlocal) equations", Modern Stochastics: Theory and Applications 10.4 (2023): 413-424.

F. Colantoni, M. D'Ovidio, "Non-local Boundary Value Problems for Brownian motions" , Submitted, arXiv:2209.14135 (2023).

F. Colantoni, "Non-local skew and non-local sticky Brownian motions", Submitted, arXiv:2310.15034 (2023).

S. Bonaccorsi, F. Colantoni, M. D'Ovidio, "Non-local vertex conditions for the Brownian motions on star graphs" , In preparation.

Teaching Activity

2022–2023 **Teaching assistant for Probability calculus (in Italian)**, University of Rome "La Sapienza"; Degree course in Management Engineering.

2022–2023 **Teaching assistant for Probability and statistics (in Italian)**, University of Rome "La Sapienza"; Degree course in Environmental Engineering.

2021–2022 **Teaching assistant for Probability and statistics (in Italian)**, University of Rome "La Sapienza"; Degree course in Environmental Engineering.

2020–2021 **Teaching assistant for Probability and statistics (in Italian)**, University of Rome "La Sapienza"; Degree course in Environmental Engineering.

Invited Talk

December 11, 2023 *Non-local boundary conditions for Brownian motions*, Probability and NonLocal Operators 4.
Scuola Superiore Meridionale, Naples.

May 12, 2023 *New results for Gamma subordinator, its inverse and related time-changed processes*, Workshop on Fractional Calculus, Special Functions and Applications.
University of Rome "La Sapienza".

December 2, 2022 *Variance Gamma (non-local) equation*, Workshop Probability and Non-local Operators 3.
University of Turin.

June 13, 2022 *Fractional boundary conditions and related stochastic processes*, Third Italian Meeting on Probability and Mathematical Statistics.
Alma Mater Studiorum - University of Bologna.

October 29, 2021 *On the inverse gamma subordinator*, Workshop Probability and Non-local Operators.
University of Rome "La Sapienza".

Conference and schools

December 5-7, 2022 *Recent advances in direct and inverse problems for PDEs and applications*.
University of Rome "La Sapienza".

June 13-16, 2022 *Third Italian Meeting on Probability and Mathematical Statistics*.
Alma Mater Studiorum - University of Bologna.

April 19-22, 2022 *Optimal control and fractional dynamics*.
Isaac Newton Institute, Cambridge, UK.

June 8, 2021 *Diffusion in Inhomogeneous and Irregular Environments*.
University of Rome "La Sapienza", online event.

Research visits

2023 *Università degli Studi di Trento. Host: Stefano Bonaccorsi, 2 months*.
Reseacrh activity on Brownian motions on star graphs, non-local vertex conditions.

Scholarships and additional educational activities

2023 *Member of the project "Anomalous Phenomena on Regular and Irregular Domains: Approximating Complexity for the Applied Sciences"*, Project funded by MUR, PRIN 2022, Principal Investigator M. D'Ovidio.

2022 *Member of the project "Fractional evolution equations and control problems"*, University of Rome "La Sapienza".

2021 *Member of the project "Effect of fractional time derivatives in evolution equations"*, University of Rome "La Sapienza".

2020–2023 *PhD scholarship, 36^o cycle*, University of Rome "La Sapienza".

2019–2020 *Excellence path for Master's programme in Applied Mathematics*, University of Rome "La Sapienza", 6 available positions.

2016–2018 *Excellence path for Bachelor's Degree in Mathematics*, University of Rome "La Sapienza", 30 available positions.

2015–2020 *Benefits for outstanding students*, University of Rome "La Sapienza", reimbursement of five years of university fees.

Languages

English: Good; **Italian**: Mother Tongue; **Spanish**: Basic.

Skills & Abilities

Programming (medium-low level): C ,Python, Matlab.
Software: LaTeX, Office.

Autorizzo il trattamento dei dati personali presenti nel CV ai sensi del D.Lgs. 2018/101 e del GDPR (Regolamento UE 2016/679).