

UNIVERSITY OF MILAN

Public selection for recruiting No.____ tenure track researcher(s) (RTT) for competition sector _____01/A3_____, (scientific-disciplinary sector

MAT/06_, (announcement published in Official Gazette No. G.U. 35 _____ of _____30/04/2024_____) - Competition code 5540

Francesco lafrate

CURRICULUM VITAE

PERSONAL DATA (DO NOT INCLUDE YOUR PERSONAL ADDRESS AND LANDLINE OR MOBILE PHONE NUMBER)

SURNAME	IAFRATE
NAME	FRANCESCO
DATE OF BIRTH	[22, 05, 1992]

QUALIFICATIONS

DEGREE

(Specify full degree name, University, date, etc.)

B.Sc., Statistical Sciences, Sapienza University of Rome, Mark 110 cum laude/110 Thesis on “Lagrange Multipliers test” (2014)

M.Sc., Statistical Sciences, Sapienza University of Rome. Mark 110 cum laude/110 Thesis on “Fractional Telegraph Equation and related Stochastic Processes” (2016)

DOCTORAL DEGREE OR EQUIVALENT QUALIFICATION EARNED IN ITALY OR ABROAD / MEDICAL SPECIALISATION DIPLOMA OR EQUIVALENT QUALIFICATION, FOR THE RELEVANT SECTORS, EARNED IN ITALY OR ABROAD

(Specify qualification full name, institution, date, etc.)

PhD in Methodological Statistics, Sapienza University of Rome, Department of Statistical Sciences. Advisor: prof. E. Orsingher. Thesis entitled "Functionals of drifted Brownian motion and tempered fractional equations". Date 17/02/2020.

RESEARCH CONTRACTS, RESEARCH FELLOWSHIP CONTRACTS, POSTDOCTORAL SCHOLARSHIPS OR SIMILAR CONTRACTS

(Specify, for each contract, university/institution, starting and termination date, etc.)

Postdoctoral Research Assistant, Sapienza University of Rome, Department of Statistical Sciences. 01/02/2020 - 31/01/2020

Fellow Researcher (RTDA) - Sapienza University of Rome, Department of Basic and Applied Sciences for Engineering (SBAI). 01/07/2021 - 30/06/2024

TEACHING ACTIVITIES AT ITALIAN OR FOREIGN UNIVERSITIES

(Specify academic year, university, degree course, number of hours etc.)

PhD courses.

Probability for Data Science. Statistical Sciences Ph.D Programme, Sapienza University of Rome, April 2024, 18 h.

Probability for Data Science, Statistical Sciences Ph.D Programme, Sapienza University of Rome. June 2023, 15 h.

Undergraduate Courses.

2020, 2022, 2023, 2024, Probability, Management Engineering, Sapienza University of Rome, 60 h

2018, 2020, Probability and Statistics, Mechanical Engineering, Sapienza University of Rome, 30 h

2024 Probability and Statistics, Electronic Engineering, Sapienza University of Rome, 30 h

Teaching Assistant

2017, 2018 Probability and Statistics, Computer Engineering, Sapienza University of Rome, 40h

2017, 2018, Probability, Management Engineering, Sapienza University of Rome, 40h

2017, 2018, 2019, Probability and Applications to Finance, Economics and Finance LUISS University, 40h

ATTESTED TRAINING OR RESEARCH ACTIVITIES AT QUALIFIED ITALIAN OR FOREIGN INSTITUTIONS

(Specify academic year, institution, course, period, etc.)

01/12/2024 - 31/03/2024, Visiting scholar, Harvard University, Institute for Quantitative Social Sciences

27/02/2024 - 27/02/2024, Visiting scholar, Fordham University of New York, Department of Mathematics.

ORGANISATION, SUPERVISION AND COORDINATION OF NATIONAL AND INTERNATIONAL RESEARCH GROUPS, OR PARTICIPATION IN THEM

(For each entry, specify year, role, research group, etc.)

Anomalous Phenomena on Regular and Irregular Domains: Approximating Complexity for the Applied Sciences, PRIN 2022. Role: Investigator

Fractal and Fractional, "Fondi Ateneo 2022", Role: Investigator

Stochastic models related to fractional porous medium equations. "Fondi Ateneo 2018", Role: Investigator

SPEAKING AT NATIONAL AND INTERNATIONAL CONFERENCES AND CONVENTIONS

(Specify conference/convention title, date, etc.)

- Elastic Net estimation for diffusion processes, Dynstoch 2024, May 22 2024, Kiel, Germany.
- Regularized statistical problems for diffusion processes. Invited. February 28 2024, Fordham University, New York City
- Pathwise optimization for adaptive Bridge-type estimators: applications to SDEs. Invited. 16th International Conference of the ERCIM WG on Computational and Methodological Statistics, December 16-18 2023, Berlin (hybrid)
- Path dynamics of time-changed Lévy processes: a martingale approach. Workshop: Fractional Calculus, Special Functions and Applications, May 12, 2023, Roma
- Some families of random fields related to multiparameter Lévy processes. Workshop: Probability and Non-Local Operators 3, Dicembre 2, 2022, Torino
- Bridge-type estimation with mixed-rate asymptotics: applications to SDE's. Workshop: Mathematics for Artificial Intelligence and Machine Learning, November 24, 2022, Torino
- Non-local boundary conditions and elastic drifted Brownian motions, Invited. Third Italian Meeting on Probability and Mathematical Statistics, June 13-16, 2022, Bologna
- Porting the Yuima package to Python: difficulties and feasibility, Invited. 14th International Conference of the ERCIM WG on Computational and Methodological Statistics, December 18-20, 2021, London (online)
- Tempered fractional derivatives and related drifted Brownian motions. Workshop: Probability and non-local operators, October 29, 2021, Roma
- Tempered fractional derivatives and related drifted Brownian motions. International Conference on Fractional Differentiation and its Applications, 6-8 September 2021, Varsavia (online)
- Adaptive lq penalized estimation for diffusion processes in Yuima package. Third Yuima Workshop, Brixen, 28 June 2019.
- Tempered fractional derivatives and related Brownian motions. Second Italian Meeting of Probability and Mathematical Statistics, Vietri sul Mare, June 17-20, 2019.

QUALIFICATIONS UNDER ART.24, PARAGRAPH 3.a AND 3.b, OF LAW No.240/2010 OF 30 DECEMBER 2010

(Specify whether it is a type A or type B contract, University, contract effective date and end date, etc.)

RTD-A, Sapienza University of Rome, Department of Basic and Applied Sciences for Engineering (SBAI).
01/07/2021 - 30/06/2024.

SCIENTIFIC PRODUCTION

SCIENTIFIC PUBLICATIONS

De Gregorio A., lafrate F. (2021). Telegraph random evolutions on a circle. STOCHASTIC PROCESSES AND THEIR APPLICATIONS, vol. 141, p. 79-108, ISSN: 0304-4149, doi: 10.1016/j.spa.2021.07.001

lafrate F., Orsingher E. (2019). Some Results on the Brownian Meander with Drift. JOURNAL OF THEORETICAL PROBABILITY, ISSN: 0894-9840, doi: 10.1007/s10959-019-00891-3

De Gregorio, A., lafrate, F. Regularized bridge-type estimation with multiple penalties. Ann Inst Stat Math 73, 921-951 (2021). <https://doi.org/10.1007/s10463-020-00769-w>

D'Ovidio, Mirko, and Francesco lafrate. "Elastic drifted Brownian motions and non-local boundary conditions." Stochastic Processes and their Applications 167 (2024): 104228. DOI <https://doi.org/10.1016/j.spa.2023.104228>

lafrate, F.; Orsingher, E. On the Fractional Wave Equation. Mathematics 2020, 8, 874. <https://doi.org/10.3390/math8060874>

lafrate, Francesco, and Enzo Orsingher. "On the sojourn time of a generalized Brownian meander." Statistics & Probability Letters 168 (2021): 108927. <https://doi.org/10.1016/j.spl.2020.108927>

lafrate, Francesco, and Claudio Macci. "Asymptotic results for the last zero crossing time of a Brownian motion with non-null drift." Statistics & Probability Letters 166 (2020): 108881. DOI <https://doi.org/10.1016/j.spl.2020.108927>

F. lafrate & E. Orsingher (2020) The last zero-crossing of an iterated Brownian motion with drift, Stochastics, 92:3, 356-378, DOI: 10.1080/17442508.2019.1624752

Mirko D'Ovidio, Francesco lafrate, Enzo Orsingher, Drifted Brownian motions governed by fractional tempered derivatives, Modern Stoch. Theory Appl. 5(2018), no. 4, 445-456, DOI 10.15559/18-VMSTA114

PREPRINTS AND WORKING PAPERS

Network Stochastic Differential Equations, with S. Iacus, working paper

Adaptive Elastic Net estimation for diffusion processes, with A. De Gregorio, D. Frisardi, S. Iacus working paper

Path dynamics of time-changed Lévy processes: a martingale approach, with A. De Gregorio, preprint (2023)

Pathwise optimization for adaptive Bridge-type estimators, with A. De Gregorio, preprint (2022)

Some families of random fields related to multiparameter Lévy processes, with C. Ricciuti, arXiv preprint arXiv:2211.00346 (2022)

WORKSHOPS, CONFERENCES AND GRADUATE SCHOOLS ATTENDANCE

European Meeting of Statisticians- EMS 2019, Palermo July 2019.

Bocconi Summer School in Advanced Statistics and Probability: Random Graphs and Complex Networks, Como July 2019.

YUIMA Summer School on Computational and Statistical Methods for Stochastic Processes, Brixen, June 2019.

6th Workshop on Fractional Calculus, Probability and Non-Local Operators, Bilbao, September 2018.

IST Austria Summer School in Probability and Mathematical Physics, Vienna, June 2018. First Italian Meeting of Probability and Mathematical Statistics, Turin, June 2017.

REVIEWER

I served as referee for the following journals:

Stochastics and Dynamics, Methodology and Computing in Applied Probability, Journal of Probability and Statistics, Computational and Applied Mathematics, Metron.

Date

31/05/2024

Place

Roma