Giacomo Francisci

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ACADEMIC POSITIONS		
Akademischer Mitarbeiter		Apr. 2024–present

- University of Ulm, Institute of Mathematical Finance, Germany.

Postdoctoral Research Fellow   Apr. 2022–Mar. 2024

- George Mason University, Department of Statistics, VA, U.S.

EDUCATION

Ph.D. in Mathematics and Statistics (Cotutelle Program)   Nov. 2018- Feb. 2022

- University of Trento, Department of Mathematics, Italy.
- University of Cantabria, Department of Mathematics, Statistics and Computation, Spain.

M.Sc. in Mathematics (Double Degree Program)   Sep. 2016– Oct. 2018

- University of Trento, Department of Mathematics, Italy.
- Eberhard Karls Universität Tübingen, Department of Mathematics, Germany.

B.Sc. in Mathematics   Sep. 2013– Jul. 2016

- University of Trento, Department of Mathematics, Italy.

RESEARCH INTERESTS

- Branching processes, branching random walk.
- Depth functions, local depth functions, multidimensional quantiles.
- Deviation inequalities.
- Empirical processes.
- Nonparametric statistics.
- Stochastic processes.

RESEARCH WORK AND PUBLICATIONS

9. Statistical depth functions for subspaces (Giacomo Francisci and Claudio Agostinelli).

8. Tree-indexed autoregressive processes (Giacomo Francisci and Anand Vidyashankar).

7. Functional limit laws for the intensity measure of point processes and applications (Giacomo Francisci and Anand Vidyashankar), arXiv preprint arXiv:2402.05087.

6. Generalization of the simplicial depth: no vanishment outside the convex hull of the distribution support (Giacomo Francisci, Alicia Nieto-Reyes, and Claudio Agostinelli), arXiv preprint arXiv:1909.02739.

5. Branching Processes in Random Environments with Thresholds (Giacomo Francisci and Anand Vidyashankar), Advances in Applied Probability, 56(2), 2024.

4. Statistical depth in abstract metric spaces (Gery Geenens, Alicia Nieto-Reyes, and Giacomo Francisci), Statistics and Computing, 33(46), 2023.

3. Analytical and statistical properties of local depth functions motivated by clustering applications (Giacomo Francisci, Claudio Agostinelli, Alicia Nieto-Reyes, and Anand N. Vidyashankar), Electronic Journal of Statistics, 17(1), 2023.

2. A method to automate the prediction of student academic performance from early stages of the course (Alicia Nieto-Reyes, Rafael Duque, and Giacomo Francisci). Mathematics, 9(21), 2021.

1. Functional symmetry and statistical depth for the analysis of movement patterns in Alzheimer's patients (Alicia Nieto-Reyes, Heather Battey, and Giacomo Francisci), Mathematics, 9(8), 2021.

TALKS AND SEMINARS	10. "Uniform limit theorems for tree-indexed random variables and applications", Institute of Mathematical Finance, Universität Ulm, Germany, 05/06/2024.
	9. "Tree-indexed autoregressive processes", The 6th International Workshop on Branching Processes and their Applications, Spain, Badajoz, 04/12/2024.
	8. "Empirical processes on trees and applications to depth functions", CMStatistics 2023, Berlin, Germany, 12/16/2023.
	7. "Depth Functions and Their Applications to Classification and Clustering", R. Clifton Bailey Statistics Seminar Series, Department of Statistics, George Mason University, USA, 09/29/2023.
	6. "Depth functions for tree-indexed processes", Cladag 2023, Salerno, Italy, 09/11/2023.
	5. "Depth functions: asymptotics and applications", Institute of Mathematical Finance, Universität Ulm, Germany, 06/29/2023.
	4. "Branching Processes in Random Environments with Thresholds", Third International Workshop on Stochastic Processes and Their Applications, Virtual Workshop, 01/19/2023.
	3. "Clustering via local depth functions", CMStatistics 2022, London, UK, 12/18/2022.
	2. "Local depth and clustering", Workshop: Learning Tools and Applied Quantitative Methods for Decision Making, Bozen, Italy, 12/10/2020.
	1. "A modification of the simplicial depth", European Meeting of Statisticians, Palermo, Italy, 07/23/2019.

REVIEWER FOR	Bernoulli, Journal of Mathematical Analysis and Applications, Journal of Nonparametric Statistics, Machine Learning, Stochastic Models, and Test.

TEACHING	2. Summer 2024

- Continuous Time Financial Mathematics (Exercise Classes).
- Nonlinear Time Series Analysis (Exercise Classes).
- Practical Financial Engineering / WiMa-Praktikum II (Seminar).

1. Spring 2023

- Probability for Engineers.

COMPUTER SKILLS	

- *Operating systems*: Android, Linux, Windows.
- *Programming Languages*: R.
- *Technical Softwares*: LaTeX, Wolfram Mathematica, MATLAB.

LANGUAGES	English (Professional working proficiency), German (Professional working proficiency), Italian (Native proficiency), and Spanish (Limited working proficiency).