Curriculum Vitae

Prof. Dr. Pasquale Cirillo

Contact details

E-mail:
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Expertise

- Research: risk modeling and management, extreme value theory, machine learning.
- Pioneer in online teaching.
- Extensive statistical consulting experience.

Past and present positions

2024-today	Dondena Research Fellow, Bocconi University, Milan, Italy.
2021-today	**Professor of Data Science**, Zurich University of Applied Sciences (ZHAW), Winterthur, Switzerland.
2019-2023	Visiting Professor of Risk and Probability, FRE Department, New York University, New York, USA.
2020-2021	Associate Professor of Risk and Forecasting, University of Nicosia, Nicosia, Cyprus.
2018-2020	Associate Professor of Applied Probability, Delft University of Technology, Delft, The Netherlands.
2012-2018	Assistant Professor of Applied Probability, Delft University of Technology, Delft, The Netherlands.
2008-2012	Postdoc Researcher in Applied Statistics, University of Bern, Bern, Switzerland.

Education

Degrees

2012	**Habilitation in Applied Statistics**, University of Bern, Bern, Switzerland.
2008	**PhD in Statistics**, Bocconi University, Milan, Italy.
2005	Licenza Specialistica in Economic Sciences, Sant'Anna School of Advanced Studies, Pisa, Italy.
2004	MSc in Econometrics, University of Pisa, Pisa, Italy.
2003	BA Hons in Mathematics and Statistics for Economics, University of Pisa, Pisa, Italy.

Additional relevant training

2023	SAS Educator, The SAS Institute, Wallisellen, Switzerland.
2015	EWI-KO University Teaching Qualification for Mathematics, Delft University of Technology, Delft, The Netherlands.
2007	SAS Certified Programmer, The SAS Institute, Milan, Italy.

Honors and awards

2023	DIZH Fellow, Canton of Zurich, Switzerland.
2018	Education Fellow, Delft University of Technology.
2015	Special praise from the Board of Directors of Delft University of Technology for online teaching achievements.
2010	Young Talents Grant, University of Bern.
2006	Premio Ultimo Novecento.

Research

My research interests lie at the intersection of probability, statistics, machine learning, and risk theory, with main applications in finance and economics.

Funded Research Projects

2024-2026 DIZH Fellowship on machine learning enhanced climate risk measures.
Amount: CHF 188'710
Role: Main Investigator

2019-2022 H2020 Marie Skłodowska-Curie ITN EID Nr. 813261 ABC-EU-XVA: "Valuation Adjustments for Improved Risk Management"
Amount: €1'550'869.20
https://cordis.europa.eu/project/id/813261
Role: I was responsible for one of the subprojects (Wrong-way Risk and CVA)

2015-2019 CSC Grant for 1 PhD position at Delft University of Technology to work on urn models for credit risk
Amount: the cost of 1 PhD student for 4 years (about €280'000)
Student: Dr. Dan Cheng
Role: Supervisor and co-investigator

2015-2018 H2020 Marie Skłodowska-Curie ITN EID Nr. 643045 WakEUpCall: "Applied mathematics for risk measures in finance and insurance, in the wake of the crisis"
Amount: €1'522'617.12
https://cordis.europa.eu/project/id/643045/
Role: I was responsible for one of the subprojects (Risk Measures beyond VaR).

2013-2017 FP7 Marie Skłodowska-Curie Career Integration Grant Nr. 618794 Multivariate Shocks: "When bad things come together: multivariate shocks, interacting risks and their applications in economics"
Amount: €100'000
https://cordis.europa.eu/project/id/618794
Role: Main investigator

Selected publications

1. L. Souto, P. Cirillo, C. Oosterlee (2025). The Heston-Queue-Hawkes Process: A New Self-Exciting Jump-Diffusion Model for Options Pricing, and an Extension of the COS Method for Discrete Distributions. Journal of Computational and Applied Mathematics 454, 116177.

2. L. Souto, C. Oosterlee, P. Cirillo (2023). AIDA: Analytic Isolation and Distance-based Anomaly Detection Algorithm. Pattern Recognition 141, 109607.

3. F. Petropoulos,...,P. Cirillo et al. (2022). Forecasting: theory and practice. International Journal of Forecasting 38, 705-871.

4. L. Souto, P. Cirillo (2021). Joint and survivor annuity valuation with a bivariate reinforced urn process. Insurance: Mathematics and Economics 99, 174-189.

5. N.N. Taleb, Y. Bar-Yam, P. Cirillo (2020). On single-point forecasts for fat-tailed variables. International Journal of Forecasting 38, 413-422.

6. P. Cirillo, N.N. Taleb (2020). Tail risk of contagious diseases. Nature Physics 16, 606-613.

7. A. Fontanari, P. Cirillo, I. Eliazar, C. Oosterlee (2020). Portfolio risk and the quantum majorization of correlation matrices. IMA Journal of Management Mathematics 32, 257–282.

8. D. Chen, P. Cirillo (2018). A reinforced urn process modeling of recovery rates and recovery times. Journal of Banking and Finance 96, 1-17.

9. A. Fontanari, P. Cirillo, C. Oosterlee (2018). From concentration profiles to concentration maps. New tools for the study of loss distributions. Insurance: Mathematics and Economics 78, 13-29.

10. P. Cirillo, N.N. Taleb (2016). Expected shortfall estimation for apparently infinite-mean models of operational risk. Quantitative Finance 16, 1485-1494.

Teaching

Courses at all levels, from bachelor to postdoc and **executive education**, on campus and online (including **MOOCs**).
For my teaching, I have received excellent evaluations from the students, and I also won prizes.
From 2014 to 2020, I was the coordinator of the **Financial Engineering Specialization** of the Master in Applied Mathematics at TU Delft.
At present, I am the **Head of Studies of the CAS in Artificial Intelligence and Data Analysis** at ZHAW.

Funded Education Projects

2018-2020 Education Fellow: Risk on Campus, Delft University of Technology
Amount: €50'000
https://www.tudelft.nl/teachingacademy/faces-stories/education-fellows
Role: Main responsible

2012-2013 An Introduction to Credit Risk Management MOOC, edX.org and Delft University of Technology
Amount: €10'000
Role: Main responsible

Supervision of students

PhD

2015-2019 Dr. Andrea Fontanari, Delft University of Technology (Lorenz analysis, quantitative risk theory)
2016-2020 Dr. Shuaiqiang Liu (co-supervisor), Delft University of Technology (finance, machine learning)
2015-2022 Dr. Dan Cheng, Delft University of Technology (urn models, credit risk modeling)
2019-2024 Dr. Luis Souto, Utrecht University and CWI (machine learning, credit risk modeling)
2023-2027 Mr. Sylvain Rossi, ZHAW and UZH (climate risk, machine learning)

Master and Bachelor

Since 2012, I have supervised 84 students in statistics, financial mathematics, machine learning, and risk modeling: 24 bachelor students, and 60 master students.

Language Skills

Italian	Mother tongue
English	Fluent
French	Fluent
Dutch	Good
German	Good