

PERSONAL INFORMATION

Paolo Stefano Giudici



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WORK EXPERIENCE

01/03/2007–Present

Full Professor

Department of Economics and Management, University of Pavia, Pavia (Italy)

Academic research, teaching and consulting, focused on data science analysis in finance and financial technology.

01/03/2000–28/02/2007

Associate Professor

Department of Economics and Quantitative methods, University of Pavia, Pavia (Italy)

Academic research, teaching and consulting, focused on data mining analysis in economics and management.

01/11/1993–28/02/2000

Researcher

Department of Economics and Quantitative methods, University of Pavia, Pavia (Italy)

Academic research and teaching, focused on graphical network models and their applications

EDUCATION AND TRAINING

01/01/1998–31/12/1998

Post doctoral research

EQF level 8

Cambridge University, Cambridge (United Kingdom)

Research activity on computational methods for graphical network models

01/01/1995–31/12/1997

Post doctoral research

EQF level 8

Department of Mathematics, University of Bristol, Bristol (United Kingdom)

Research activity on graphical network models

01/01/1991–31/12/1993

PhD in Statistical Methodology

EQF level 8

University of Trento, Trento (Italy)

Advanced research training in statistical analysis. Phd thesis dissertation on: "Bayesian graphical Gaussian models"

01/09/1989–31/12/1990

Master of Science in Statistics

EQF level 7

University of Minnesota, Minneapolis (United States)

Research, teaching and consulting training in Statistical Analysis. Master thesis dissertation on: "Meta-

analysis for categorical data"

01/09/1984–30/06/1989

Master of Science in Economics (Italian Laurea)

EQF level 7

Bocconi University, Milan (Italy)

Advanced education in Economics and Quantitative Economics. Graduation degree: 110/110 with honor (cum laude).

PERSONAL SKILLS

Mother tongue(s) Italian

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
TOEFL certificate					
French	B1	B1	B1	B1	B1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
 Common European Framework of Reference for Languages

Communication skills

Very good communication skills, recognised by important appointments, as follows.

Financial risk management associations: honorary member and President of the Scientific committee of the Italian Association for Financial Industry Risk Management (since 2013); member of the Scientific committee of Assofintech, the Italian Fintech Association; Global Association of Risk Professional Association (GARP) prize for best risk management paper of the year 2016.

Statistical Societies: member of the Italian Statistical society since 1993: president of the Data analysis section (2013-2015), member of the professional accreditation committee (since 2015). member of the Italian Econometric Society (since 2015) Member of the Bayesian analysis society (since 1999). Member of the Society for financial econometrics (since 2015).

Academic governance: member of the Italian committee for the academic promotion in statistics (2018-2020), member of the department committee for academic promotion (2016-); previously member of the Board of the department (2012-2016); delegate of the Rector of the University for teaching and research quality assessment (2010-2013); member of the University Audit board (2005-2010).

Organisational / managerial skills

Very good organisational skills, recognised by important responsibilities, as follows.

Principal European coordinator of the H2020 coordinated and support action project "FIN-TECH: financial supervision and technological compliance", 2019-2020, which, with a total budget of 2,500k euro, aims at creating uniform European fintech risk management models.

Principal investigator of ten research projects, with a total funding of about 1,500k euro, mostly employed to hire young researchers:

Multivariate Statistical models for Risk Assessment (MISuRA - Italian Ministry of University and Research (IMUR) PRIN programme, 2013-2015);

MUity industry Semantic based business INtelliGence applications (MUSING - EU VI framework programme, 2006-2010);

Multivariate models for the evaluation of academic quality and risks (IMUR PRIN programme, 2009-2010);

Statistical models for web-based evaluation of teaching quality (IMUR CNVSU programme, 2009-2010);

Data mining methods for small and medium enterprises (IMUR FIRB programme, 2006-2009);

Multivariate statistical methods for the evaluation of public utility services (IMUR PRIN programme, 2007-2009);

Statistical models for e-business (IMUR PRIN programme, 2005-2006);

Technologies for an integrated promotion of the Valtellina district (Cariplo Foundation, 2011-2013);

Technologies for Made in Italy (@bilita - Italian Ministry of Development programme, 2010-2012);

Technologies for the promotion of the Ancient Pieve di Mazzo (Cariplo Foundation, 2006-2008).

Principal coordinator of the following international scientific conferences: Classification and Data analysis (Cagliari, 2015; Pavia, 2011); Operational Risk Management (Pavia, 2007); Statistical models for data mining (Ghislieri college Pavia, 2000; Borromeo college Pavia, 2001 and 2003); Advanced research schools in data mining (Rome, 2000; Lugano, 2001); European Science Foundation workshops (Structural learning in graphical models, Tirano, 1998; Inference and Prediction in financial risk management, Tirano, 1999).

Editor in chief of the scientific journal: "Artificial Intelligence in Finance", Frontiers.

Associate editor of the scientific journals: "Digital Finance", "Statistical methods and Applications", "Applied Stochastic models for business and industry", "Computational statistics".

Job-related skills

Academic teaching.

Full Professor of Financial Data Science and Statistics at the Department of Economics and Management of the University of Pavia. Coordinator of the Phd programme in Financial Technology, within the Computer Engineering school.

He has supervised about 170 Master's students and 12 Phd students.

Most of them currently work in the financial industry, in IT consulting companies or as academic researchers.

Academic consulting.

Member of the group of experts selected by the the Italian Economic Development Ministry to develop an Artificial Intelligence Strategy, 2019.

Independent member of the board of directors of the banking group Credito Valtellinese and, within the board, member of the risk and audit committees (since 2010); independent member of the board of directors of Bancaperta (an on-line bank controlled by Credito Valtellinese, 2007-2010).

Research fellow at the University College London center for Blockchain Technologies (since 2017)

Research fellow at the Monetary and Economic Department of the Bank of International Settlements, Basel (2016-2017; 2019-).

Advisory board member for the Blockchain Based Account Bank start-up, London (2017-2018).

Director of the University of Pavia Fintech laboratory (formerly Data Mining laboratory) which, since 2001, carries out research and consulting projects, for leading institutions such as the European Commission, the Bank for International Settlements, the Asian Development Bank Institute, the Bank of Italy, the Deutsche Bundesbank, the Italian Banking Association, Cariplo Foundation, IntesaSanPaolo, Unicredit, BancoBPM, UBI, MPS, BPS, Creval, Mediolanum, Nexi, Neosurance, Neoexperience, Sirti, Accenture, KPMG, Mediaset, Mondadori, SAS Institute, Sky.

Academic research.

Researcher author of 70 high quality publications in the Scopus database, and a book on "Applied data mining", with an h-index of 17 (Scopus).

Most publications are in quantitative finance journals such as: Journal of Financial Stability, Journal of Banking and Finance, Quantitative Finance, Journal of Business and Economics Statistics, Journal of the Operational Research Society, Machine Learning, Physica A (statistical mechanics), Computational Statistics and data analysis, Journal of the Statistical Society (series B), Biometrika. A selected list of publications follows.

20. (2019) Ahelegbey, D., Giudici, P. and Hadji-Misheva, B. Latent factor models for credit scoring in P2P systems. Physica A, statistical mechanics and its applications.

19. (2019) Avdjev, Stefan, Giudici, Paolo And Spelta, Alessandro. Measuring contagion risk in international banking. Journal of Financial Stability.

18. Paolo Giudici, Iman Abu Hashish (2018) . What determines bitcoin exchange prices? A network

VAR approach. Finance Research Letters

17. (2017) Pejman Abedifar, Paolo Giudici, Shatha Hashem. Heterogeneous market structure and systemic risk: evidence from dual banking systems. *Journal of Financial Stability* 33 (2017), 96–119.
16. (2017) Paolo Giudici, Peter Sarlin, Alessandro Spelta. The interconnected nature of financial systems: direct and common exposures. *Journal of Banking and Finance*.
15. (2017) Paolo Giudici, Laura Parisi. Sovereign risk in the Euro area: a multivariate stochastic process approach. *Quantitative Finance*, 17 (12).
14. (2017) Paola Cerchiello, Paolo Giudici, Giancarlo Nicola: Twitter data models for bank risk contagion. *Neurocomputing*, 264, 50-56
13. (2017) Raffaella Calabrese, Johan Elkind, Paolo Giudici. Measuring bank contagion using binary spatial regression models. *Journal of the Operational Research Society*, (1), 1-9.
12. (2016) Paolo Giudici, Alessandro Spelta. Graphical network models for international financial flows. *Journal of Business and Economic Statistics*, 34 (1), pp. 126-138.
11. (2015) Raffaella Calabrese, Paolo Giudici. Estimating bank default with generalised extreme value regression models. *Journal of the Operational Research society* (2015) , pp. 1-10.
10. (2011) (Silvia Figini, Paolo Giudici). Statistical merging of rating models, *Journal of the operational research society*, vol- 62, pp. 1067-1074.
9. (2008) (Luciana Dalla Valle, Paolo Giudici). A Bayesian approach to estimate the Marginal loss distributions in Operational Risk management. *Computational Statistics and data analysis*, 52, 3107-3127
8. (2004) (Chiara Cornalba, Paolo Giudici) Statistical models for operational risk management. *Physica A: Statistical Mechanics and its applications*, vol. 338, n.1-2, pp.166-17
7. (2003) (Roberto Castelo, Paolo Giudici) Improving MCMC model search for data mining. *Machine learning*, vol. 50, n. 1-2, pp 127-158
6. (2003) (Steve Brooks, Paolo Giudici, Gareth Roberts). Efficient construction of reversible jump MCMC proposal distributions (with discussion). *Journal of The Royal Statistical Society, series B*, vol. 1 (65), pp 3-55.
5. (2003) (Paolo Giudici) *Applied data mining: statistical methods for business and industry*. Wiley, London. Chinese translation, 2005. Second edition (with Silvia Figini), 2009. Italian editions: Mc Graw Hill 2001, 2005.
4. (2002) (Paolo Giudici, Gianluca Passerone) Data Mining of association structures to model consumer behaviour. *Computational Statistics and data analysis*, vol. 38, n.4, pp 533-541
3. (2001) (Paolo Giudici, Elena Stanghellini) Bayesian Inference for graphical factor analysis models. *Psychometrika*, vol. 66, n.4, pp. 577-592
2. (2000) Paolo Giudici, Tobias Ryden, Pierre Vandekerkhove, 32). Likelihood-ratio tests for hidden Markov models. *Biometrics*, vol. 56, pp. 742-747
1. (1999) (Paolo Giudici, Peter Green). Decomposable graphical gaussian model determination. *Biometrika*, vol. 86,i n.4, pp 785-801.

Academic research.

Presenter of several talks in international conferences, held in many different countries. In particular, invited talks and lectures in the following Institutions:

University of Washington, Seattle (1997); Isaac Newton Institute, Cambridge (1998); Siemens AG, Munich (1999); Trinity College, Dublin (2000); Max-PlanckInstitute for Physics, Munich (2001); Royal Statistical Society, London (2002); SAMSI Institute, Duke University (2003); University of Leuven (2003); University Rey Carlos III of Madrid (2003); ETH Politechnic of Zurich (2004); SAS Institute, Las Vegas (2005,2006); Barclays Bank, London (2006); Imperial College of London (2007); Swedish Statistical Society (2007); Science and Letters Academy, Milan (2007); Credit research centre, Edinburgh (2008, 2013); Tunisian Statistical Society (2010); Academia Sinica, Taipei (2011); University of California at Berkeley (2012); EU Joint Research Centre, Ispra (2012); European Central Bank, Frankfurt (2014); Italian Parliament (2014, 2015); Canadian Statistical Society (2015); Deutsche Bundesbank, Frankfurt (2015); Big data value Association, Den Haag (2016); Bank of International Settlements, Basel (2016); Bank of Italy (2016); Frankfurt School of Finance and Management (2017); University of Nottingham Ningbo conference (2017); Financial data science conference Reading (2017), Italian Parliament finance commission (2017), Cryptocurrency conference, Humboldt University Berlin (2017), European Banking Authority, London (2017), Asian Development Bank Institute, Tokyo (2017), European Securities and Markets Authority, Paris (2018), Google (2018),

China Construction Bank (2018), Unicredit (2018), Zurich AI in finance conference (2018), Frankfurt networks in AI conference, Lugano (2018), Budapest (2018), Stu Hunter conference (2019), EBA London (2019).

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem-solving
Proficient user	Proficient user	Independent user	Independent user	Proficient user

Digital skills - Self-assessment grid

Coordination of research groups through digital networking. At the University department level, through shared Dropbox folders. At the international level, through Dropbox and Telephone/Skype conferences. At a relational research level (and for advanced teaching purposes), a Facebook group (Fintech Network) is used to learn and disseminate the latest developments in Data Science and Financial Technology; Twitter, Facebook, LinkedIn, Research Gate and Academia.edu accounts are used to selectively learn and disseminate the same developments.