

## Address

DIMA, Dipartimento di Matematica, Università degli Studi di Genova  
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## Education

PhD in Statistics, Department of Statistics, The University of Warwick, UK, 1998  
MSc (laurea) in Mathematics, University of Genova, 1993  
High School Diploma in Classics, Liceo Classico Mazzini, Genova, 1987

## Research interests

Design and analysis of experiments, mathematical and algebraic statistics, statistical modelling and applications

## Career

- since 2019, Full professor in Statistics, Department of Mathematics, University of Genova
- 2007, Associate Professor, Department of Mathematics, University of Genova
- 2004-2006, Associate Professor, Department of Mathematics, Politecnico di Torino, Progetto MIUR Rientro dei Cervelli (Brain drain program of Italian Ministry of Education)
- 2001-2007, Lecturer/Associate Professor, Department of Statistics, Warwick (on leave in 2004-2007)
- 1999-2001, Post-doctoral fellow at EURANDOM, NL
- 1998-1999, Senior Research Fellow, in a joint project of the Department of Engineering, Statistics, Biology at Warwick
- August 1995-1998, Research Fellow, Department of Statistics, Warwick
- February 1994-July 1995, Research Assistant, Engineering Design Centre, City University, London

## Professional activities

2019-2021 Chair of the undergraduate and master degrees offered by the Department of Mathematics  
2007-10/2016-19 Chair (or Vice-chair) of the undergraduate degree course in Statistics, Mathematics and Data Management  
2017-2019 Quality Assurance Manager of DIMA (RAQ DIMA)  
2014-2019 member of the Quality assurance committee of the Scuola di Scienze MFN, Genova  
2016-2018 member of the Council of the Scuola di Scienze MFN, Genova  
2013-2018 member of the 'giunta di Dipartimento'  
since 2012 member of the panel of the PhD program in Mathematics and Applications, Genova  
2004-2006 member of the panel of the PhD program in Mathematics and Engineering, Torino  
2002-2003 first year exam secretary, Unix Computers liason officer, Department of Statistics, Warwick

## Affiliations

2012-15/2017-2018 Associate fellow at ISSIA-CNR  
2007-16 Associate Fellow, Department of Statistics, Warwick  
Chartered member di ENBIS, member of executive committee 2000-2002 and pro-tempore secretary 2000-2001  
Member of the professional associations INDAM-GNAMPA, RSS, BS, SIS

## Supervision responsibility

4 postdocs, 7 PhD (3 current, 2 co-supervised), more than 50 master and undergraduate theses

## Summary of refereed publications

35 international journals, 1 monograph, 1 edited volume, 11 book chapters, 22 conference proceedings

## Selected publications

- M Leonelli, ER, JQ Smith *Coherent combination of probabilistic outputs for group decision making: an algebraic approach*, *OR Spectrum* 42:2, 499–528, 2020
- Fassino, ER, MP Rogantin) Cubature rules and expected value of some complex functions, *Journal of Algebraic Statistics*, Issue in honor of S E Fienberg, 10:1, 115–127, 2019
- E Pesce, ER, H P Wynn *Experimental design issues in big data. The question of bias*, In: Greselin F, Deldossi L, Bagnato L, Vichi M (eds) *Statistical Learning of Complex Data*. CLADAG 2017. *Studies in Classification, Data Analysis, and Knowledge Organization*. Springer, Cham, pp 193–20, 2019 - S Barani, ER et 7 al *Temporal scaling of earthquake-moment release and implications for earthquake occurrence probability*, *Scientific Reports* 8:1, 1–11, 2018
- A Bigatti, C Görge, ER, JQ Smith *Discovery of statistical equivalence classes using computer algebra*, *International Journal of Approximate Reasoning* 95, 167–184, 2018
- M Leonelli, ER, JQ Smith *A symbolic algebra for the computation of expected utilities in multiplicative influence diagrams*, *Annals of Mathematics and Artificial Intelligence* 81:34, 273–313, 2017
- S Massa, ER *Algebraic Representation of Gaussian Markov Combinations*, *Bernoulli* 23:1, 626–644, 2017
- ER, N Rudak, S Kuhnt *Numerical algebraic fan of a design for statistical model building*, *Statistica Sinica*, 26, 1021–1035, 2016
- C Fassino, ER, G Pistone *The algebra of interpolatory cubature formulae for generic nodes*, *Statistics and Computing*, 24:4, 615–632, 2014
- ER, J Q Smith, P Thwaites *Causal analysis with Chain Event Graphs*, *Artificial Intelligence* 174:12-13, 889–909, 2010
- ER *A brief history of algebraic statistics* (opening lecture of the 8th German Open Conference of Probability and Statistics). *Metrika* 69, 397–418, 2009
- M J Chappell, G Margaria, ER, H P Wynn *Differential algebra methods for the study of the structural identifiability of biological rational polynomial models*. *Mathematical Biosciences*, 174, 1–26, 2001
- G Pistone, ER, H P Wynn *Algebraic Statistics*. Chapman and Hall/CRC, Boca Raton, 2000

## PI in grants and awards

- 2019-2022 UniGe funded project, Advances in the theory and application of Algebraic Statistics for CEGs with forays into Information Geometry
- 2014 DLTM FESR-POR Liguria, *Efficacia operativa, funzioni e compiti: un ambiente multi-dimensionale per la definizione di un'unità navale*. Referent for the DIMA group
- 2014 INAIL/AUSIND *Analisi dello stato di conoscenza, attuazione e gestione del DUVRI tra le imprese della Liguria, con particolare riferimento alle difficoltà incontrate*. Responsible for the DIMA group
- 2013-5 FP7-PEOPLE-2011-IOF Scientist in charge of *General Markov Models* beneficiary Dr Piotr Zwiernik
- 2013-4 Fondazione Carige in charge of *RADAR, Centro di competenza su metodi in tempo reale di Fraud Detection e Antiriciclaggio*
- 6/7-2012 DAAD fellowship for a study period in Dortmund, Germany
- 2004-6 MIUR Brain Drain program, beneficiary with the project *Non-commutative formal power series and chaotic representation of stochastic processes*

## Other relevant information

- since 2019 expert member of Technical-Scientific section for the (Ligurian) Regional Statistical Committee
- evaluator for FPT-PEOPLE-2013-MATENG-IXF Panel MAT-ENG (EU), NSF (USA), Royal Society (UK), NWO (the Netherlands), Research Council (Norway), Marsden Fund (New Zealand)
- member of the exam boards for 11 PhD theses
- reviewer for journals and proceedings in mathematics, statistics and their applications; book proposal reviewer for Cambridge University Press and Chapman & Hall/CRC Press
- member of the scientific committee of 10+ international workshops and conferences
- invited speaker to 30+ conferences, workshops, departmental seminars
- since 2017 member of the Editorial Board of Algebraic Statistics (fka Journal of Algebraic Statistics)

## Teaching

Mathematical statistics, applied statistics, graphical modelling, stochastic processes for second, third year undergraduates and master students; design of experiments and stochastic processes for PhD students; invited lecturer to four international schools on algebraic statistics; training staff course in statistics for IIT (Italian Institute of Technology), Asl2 (Azienda Sanitaria Ligure), UniGe (University of Genova).