Fabio Rapallo

Associate professor

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Education and training

1999
MSc in Mathematics

Università di Genova - Genova - IT

2003
PhD in Mathematics and applications

Università di Genova - Genova - IT

Academic experience

2004 - 2006
Post-Doc position

Università di Genova - Genova - IT

Statistics

2006 - 2015
Researcher

Università del Piemonte Orientale - Alessandria - IT

Probability and Mathematical Statistics

2015 - 2019
Associate Professor

Università del Piemonte Orientale - Alessandria - IT

Probability and Mathematical Statistics

Language skills

English
Proficient

French
Independent

Postgraduate research and teaching activity

PhD committees membership

Member of the PhD board in "Economics and Political Economy", Università di Genova, since 2019.

Research interests

1. Inference for multivariate categorical data with Algebraic Statistics. Application of Commutative Algebra and Computational Algebra to Probability and Statistics. Enumerative and combinatorial problems for contingency tables. Toric ideals and Markov bases for contingency tables. Non-asymptotic inference for complex models and for tables with structural zeros. Contingency tables with inequality constraints.

2. Statistical models for finite sample spaces with Algebraic Statistics. Toric models, polynomial representation and affine varieties. Non exponential models. Geometry of mixture models for contingency tables through the notion of nonnegative rank of a matrix.

3. Design of Experiments for Fractional Factorial Designs. Geometric characterization of the orthogonality and optimality properties of the designs.
4. Probability and Statistical methods for applied sciences: from statistical equilibrium in Economics to DNA microarray problems.

5. Bootstrap methods and permutation methods for multivariate distributions. Properties of smoothed estimators and power of tests.

6. Other applications to Medical Statistics and to Biostatistics.

Editorial activity

Associate Editor di 'Algebraic Statistics'.
Academic Editor di 'Plos ONE'.
Referee for several journals of Statistics and Probability.
Reviewer for AMS-MathSciNet and ZBMath.