

Fabio Rapallo

Curriculum vitae

PERSONAL DATA

Born in Genova, 6 May 1976.

BIO AND EDUCATION

Associate Professor of Probability and Mathematical Statistics, formerly assistant professor in the same field. I received the title of PhD. in Mathematics and Applications (2003), and the Degree in Mathematics (1999) cum laude from the University of Genova. During my PhD, I have visited several research centers, both university and corporate. I am author of about 40 publications, mostly on international peer-reviewed journals and I serve as reviewer for journals and research projects on a regular basis. In my teaching activity, I have gained extensive experience in teaching Probability, Statistics, and basic Mathematics classes.

UNIVERSITY CAREER

2015-	Associate Professor, Università del Piemonte Orientale
2006-2015	Assistant Professor, Università del Piemonte Orientale
2004-2006	Research Fellow, Università di Genova

UNIVERSITY POSITIONS

2013-2015	Member of the Department Committee
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SCIENTIFIC POSITIONS

2008-	Academic Editor of PLOS-ONE
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MAIN FIELDS OF INTEREST

1. Contingency tables
2. Algebraic and Geometric methods in Statistics
3. Statistical methods for Categorical Data
4. Design of Experiments
5. Biostatistics

CURRENT ISSUES OF RESEARCH

1. Algebraic Statistics

Abstract – 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. Geometric properties of Statistical models for finite sample spaces

Abstract – 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. Connections between log-linear models for contingency tables and designed experiments

Abstract – Connections between log-linear models for contingency tables and designed experiments.

4. Applied Statistics

Abstract – Probabilistic and Statistical methods for several fields of applications: from the statistical equilibrium in Economics to the analysis of large data-sets coming from Genomics/Proteomics experiments.

TOP FIVE PAPERS

1. F. Rapallo (2003), Algebraic Markov Bases and MCMC for Two-Way Contingency Tables. *Scandinavian journal of statistics*, 30, 385-397
2. F. Rapallo (2006), Markov bases and structural zeros. *Journal of Symbolic Computation*, 41, 164-172
3. F. Rapallo (2007), Toric statistical models: Parametric and binomial representations. *Annals of the Institute of Statistical Mathematics*, 59, 727-740
4. F. Rapallo and R. Yoshida (2010), Markov bases and subbases for bounded contingency tables. *Annals of the Institute of Statistical Mathematics*, 62, 785-805
5. C. Bocci, E. Carlini, F. Rapallo (2011), Perturbation of matrices and nonnegative rank with a view toward statistical models. *SIAM Journal on Matrix Analysis and Applications* 32, 1500-1512