Federico Mattiello

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Current

04/2012 – today: **Researcher**/Ph.D. student at the Department of "Mathematical Modelling, Statistics and Bioinformatic", Ghent University, Gent.

Topics: statistical data integration in early-stage drug development, differential abundance in gut microbiome experiments.

Education

10/2010 – 02/02/2015: **Ph.D. degree**
at Department of "Statistical Sciences", University of Bologna, Bologna. Title of the thesis: *"Permutation-Based Stochastic Ordering Using Pairwise Comparisons"*

10/2008 – 07/2010: Master's degree
in "Statistics and Informatics", University of Padova, Padova.

10/2004 – 03/2008: Bachelor's Degree
in "Statistics and Information Technologies", University of Padova, Padova.

09/1999 – 07/2004: High School Diploma,
Industrial-Technical Certificate, specialisation in Computer Science, I.T.I.S., Este.

Research Collaborations

IAP-StUDyS: within the network of projects funded by the E.U. (belonging to "Phase VII" implementation) through the Belgian Science Policy Office. Topic I'm focusing on is developing models for **microbiome 16S sequencing data**.

QSTAR: project funded by the Flemish "Agency for Innovation by Science and Technology", and by Janssen Pharmaceutica. Main goal was to assess if **integration of transcriptomics data** into early-stage drug development could help the decision-making process (qstar-consortium.org).

Publications

- **Federico Mattiello**, *et al.* . A Web Application for Sample Size and Power Calculation in Case-Control Microbiome Studies. Submitted in June to *Bioinformatics*.
- **Federico Mattiello**, Olivier Thas, and Bie Verbist (2015). Principal Bicorrelation Analysis: Unraveling Associations Between Three Data Sources. *Journal of Biopharmaceutical Statistics*. To appear.
- **Federico Mattiello** (2015). Permutation-Based Stochastic Ordering Using Pairwise Comparisons. *Ph.D. Thesis*. Doctorate in "Statistical Methodology for The Scientific Research" (direct link).
- Rosa G. Arboretti, Livio Corain, Daniele Gomiero, and **Federico Mattiello** Nonparametric multivariate ranking methods for global performance indexes. *Quaderni di Statistica*, **12**:79-106, 2010

LinkedIn ResearchGate

"Hard" Skills

R: Advanced knowledge/power user.

Reporting: in particular with **R**, **knitr** and LaTeX

Shiny©: for developing interactive web application with **R** as underlying workhorse.

Others: some C++ experience, Windows© and Linux (limited knowledge) OSs.

"Soft" Skills

- I'm always **interested in learning**, looking for cultural and scientific stimuli. Whether you come from Taiwan (just an example), or you want to talk about (bio)statistics, physics, oriental philosophy, movies, literature etc. I'm all ears (well, I talk as well of course).
- Presenting to a non-statistical audience it's fun, because I have to remove frills and convey the take-home message effectively.
- I'm open-minded and collaborative when in a team, but if I see that something can be done better by myself I go for it.
- I do my best when I **face new problems** that challenge me intellectually and that require reasoning and creativity. I'm not satisfied until the work is well done, although I can live with (barely) sub-optimal ones in case of narrow deadlines.

Interests

Research: high-dimensional data, data integration, permutation tests and NonParametric Combination Methodology, Probabilistic Index Models, regularization (sparse) methods, statistical simulation, statistical modelling, machine learning...basically anything related to (bio)statistics.

Personal: I like to read books related to statistics, mathematics, popular science (physics, mathematics, logic), psychology, oriental philosophy, and novels dealing with journeys and different cultures. I like a lot of movies but my favourite ones come from Italy, Japan, France, U.K., Hollywood, and Bollywood.

Languages

	Understanding		Speaking	Writing
	Listening	Reading		
Italian:	Native Language			
English:	C1[a]	C1	C1	C1
Dutch:	B2	B2	B1	B1
French:	A1	A1	A1	A1
Spanish:	A1	A1	A1	A1

[a] C1: Proficient User, B1-B2: Independent User, A1: Basic User