Carlo Orsi's

Curriculum Vitæ et Studiorum

PERSONAL INFORMATION

First name	Carlo
Family name	Orsi
Gender	Male
Date of birth	August 9, 1977
Place of birth	Milan (Italy)
Nationality	Italian
Address	c/o Scuola IMT Alti Studi Lucca
	Piazza San Francesco, 19 - 55100 Lucca (Italy)
E-mail	carlo.orsi@imtlucca.it

CURRENT POSITION

Assistant Professor in Statistics (SSD STAT-01/A) at IMT School for Advanced Studies Lucca according to Article 24, Paragraph 3, Letter a) of Law 240/2010

From Nov 15, 2023 to date

Position achieved after passing an open competition based on qualifications, an oral examination in Italian and a research seminar in English

CURRENT RESEARCH INTERESTS: non-central probability distributions over the unit simplex, multi-output Gaussian process regression, change point analysis, applied statistics to tourism, medicine and engineering.

EDUCATION AND TRAINING

Ph.D. in Statistics at University of Milan-Bicocca (XXVII Cycle)

Nov 1, 2011 - Oct 31, 2014

PH.D. SCHOLARSHIP obtained after passing an open competition based on qualifications, a written test and an oral examination

FINAL EVALUATION: Very good

THESIS DEFENDED ON DEC 10, 2014: "*Estensioni non centrali della distribuzione e del processo di Dirichlet*" ("*Non-central extensions of the Dirichlet distribution and process*")

SOFTWARE used to perform statistical analyses: *Mathematica*

ABSTRACT

In the present thesis some mixtures of Beta and Dirichlet distributions are discussed. Particular attention is focused on the Non-central Beta and Dirichlet distributions. Indeed, a more easily tractable alternative version of these is presented. The main properties and features of both the new and the standard Non-central Beta and Dirichlet distributions are studied. Especially, various representations are introduced, the variety of shapes taken on by the densities is illustrated, approximations of such functions are obtained, general moments formulas are achieved and, from a Bayesian point of view, the conjugality with respect to the

Binomial and Multinomial sampling schemes is addressed. Two non-central extensions of the Dirichlet process based on the aforesaid types of Non-central Dirichlet distributions are then defined in the Bayesian non-parametric setting. The marginal finite-dimensional characteristics and a representation of the discrete trajectories of such processes are derived.

ATTENDED COURSES listed by type with GRADE/EVALUATION of the relative final exams (if applicable, in brackets):

- MATHEMATICS COURSES: Mathematical analysis I (evaluation: good), Linear algebra (grade: 30/30 and honours), Mathematical analysis II (evaluation: excellent), Advanced matrix algebra, Theory of measure and abstract integration (grade: 30/30 and honours)
- COURSES IN BASIC STATISTICAL DISCIPLINES: Theory of probability I (evaluation: excellent), Discrete and continuous, one-dimensional and two-dimensional random variables, Estimation theory: methods, optimality and asymptotics in parametric estimation (grade: 30/30 and honours), Tests of hypotheses, Theory of interval estimation (grade: 30/30), Bayesian statistical models
- COURSES IN THEORETICAL INSIGHTS OF STATISTICS: Theory of probability II (evaluation: excellent), Non-parametric tests (grade: 30/30 and honours), Optimal and sub-optimal tests (grade: 30/30), Likelihood-ratio tests
- COURSES IN THE MOST IMPORTANT APPLICATIVE FIELDS OF STATISTICS: Multivariate statistical analysis (evaluation: excellent; *use of SAS software*), Regression models for categorical dependent variables (*use of* R *software*), Introduction to econometrics, Design of experiments, Analysis of economic time series
- COURSES IN COMPUTER KNOWLEDGE OF STATISTICAL PACKAGES: Introduction to *Mathematica* 7.0, Jackknife and Bootstrap (grade: 30/30; *use of Mathematica software*), Data Mining (*use of SAS Enterprise Miner software*), Programming in R (*use of* R *software*).

Attendance of "ABS14 - *Applied Bayesian Statistics Summer School on Applied Bayesian Nonparametrics*", Como

June 16-20, 2014

Summer School organized by the Institute of Applied Mathematics and Information Technology "Enrico Magenes" at National Research Council (IMATI-CNR) and by Catholic University of the Sacred Heart in Milan

Theoretical lessons held by Prof. Michael Jordan, Department of Electrical Engineering and Computer Science and Department of Statistics at University of California in Berkeley (USA) Practical lessons held by Prof. François Caron, Department of Statistics at University College Oxford in UK (*use of MATLAB programming language*).

Visiting Student at the Ph.D. Programme in Statistics of Bocconi University, Milan

Sept-Nov, 2012

ATTENDED COURSES:
Bayesian non-parametrics (24 hours), *Computational statistics* (24 hours; *use of MATLAB programming language*), *Mixture models* (24 hours).

Master's Degree in Biostatistics and Experimental Statistics (specialization in Experimental Statistics) at University of Milan-Bicocca

Jan 11, 2006 - Jul 7, 2011

FINAL GRADE: 110/110 and honours
THESIS: "*Aspetti teorici delle principali distribuzioni a priori non parametriche discrete*" ("*Theoretical aspects of the main discrete non-parametric a priori distributions*")
ABSTRACT
The main tools to accomplish Bayesian non-parametric inferences are discussed in the present

thesis. Two issues are to be faced in order to allow for the implementation of inferences in the aforesaid framework. The first one is to introduce a random probability measure P on an appropriate measurable space. The second one is to give a mathematical formulation to the initial opinion you have about the class of the distribution functions over such space. This means choosing a suitable *a priori* distribution for P. Specifically, attention is paid on the Dirichlet process, that is the first non-parametric *a priori* distribution introduced in the literature (Ferguson, 1973), the Species Sampling Models, which form an intuitive and general class of discrete random probability measures (Pitman, 1996) and the Gibbs measures, these latter being special Species Sampling Models which induce a clustering data structure characterized by a reinforcement of the largest groups (Gnedin and Pitman, 2005).

Arithmetic MEAN of the GRADES obtained on the taken exams weighted by the number of University Credits (CFU): 29.4/30
TAKEN EXAMS with relative GRADE, CFU and ACADEMIC DISCIPLINE (SSD) in brackets:

- Applied mathematics (grade: 28/30, CFU: 3, SSD: MATH-03/A)
- Advanced probability (grade: 28/30, CFU: 3, SSD: MATH-03/A)
- Stochastic processes (grade: 30/30 and honours, CFU: 6, SSD: STAT-01/A; *use of* R *software*)
- Environmental statistics (grade: 30/30, CFU: 3, SSD: STAT-01/A)
- Spatial statistics (grade: 30/30 and honours, CFU: 6, SSD: STAT-01/A; *use of* R *software*)
- Multivariate statistical analysis (grade: 30/30 and honours, CFU: 6, SSD: STAT-01/A; *use of SAS software*)
- Statistical quality control (grade: 30/30, CFU: 6, SSD: STAT-01/A; *use of SAS software*)
- Integrative course in Epidemiology (grade: 30/30, CFU: 1, SSD: MEDS-24/A; *use of SAS software*)
- Population surveys (grade: 30/30, CFU: 6, SSD: STAT-01/A)
- Thematic cartography (grade: 25/30, CFU: 6, SSD: CEAR-04/A)
- Integrative course in Design of experiments I (grade: 30/30, CFU: 1, SSD: STAT-01/A)
- Design of experiments II (grade: 30/30 and honours, CFU: 6, SSD: STAT-01/A; *use of SAS software*)
- Analysis of economic time series (grade: 28/30, CFU: 6, SSD: STAT-02/A)
- Sampling theory (grade: 30/30, CFU: 6, SSD: STAT-01/A)
- Theory of statistical inference (grade: 30/30, CFU: 6, SSD: STAT-01/A)
- Decision theory (grade: 30/30 and honours, CFU: 6, SSD: MATH-06/A)
- Programming language laboratory (grade: 30/30, CFU: 2, SSD: STAT-01/A; *use of SAS software*)
- Databases systems (grade: 30/30, CFU: 6, SSD: IINF-05/A)
- Survival analysis (grade: 29/30, CFU: 6, SSD: MEDS-24/A; *use of STATA software*)
- Elements of environmental sciences (grade: 25/30, CFU: 6, SSD: BIOS-05/A)
- Ecology (grade: 30/30, CFU: 4, SSD: BIOS-05/A)

Attendance of "*Popolazione e territorio. Strumenti per la descrizione e l'analisi a livello locale. Corso progredito*" ("*Population and territory. Tools for local-level description and analysis. Advanced course*"), Padua

June 29-Jul 1, 2006 — Summer School organized by the Department of Statistical Sciences at University of Padua and by the Italian Statistical Society

COURSES:

Metodi statistici per l'analisi di dati areali (*Statistical methods for the analysis of areal data*): spatial trend and maps smoothing, introduction to spatial correlation, models for spatial data (*use of* R *software*)

Introduzione ai modelli multilevel (*Introduction to multilevel models*): extensions of the hierarchical linear model, examples of informative hierarchical structures, cases study (*use of aML software*).

Bachelor's Degree in Statistics (specialization in Experimental Research) at University of Milan-Bicocca

Mar 14, 2001 - Dec 16, 2005

FINAL GRADE: 110/110 and honours

THESIS: "*Qualificazione e comparazione della domanda turistica delle province di Mantova e Verona nel quinquennio 1999-2003*" ("*Characterization and comparison of the tourist demands in Mantua and Verona's areas during the five years 1999-2003*")

SOFTWARES used to perform statistical analyses: SAS, R.

ABSTRACT

The present thesis represents the result of my collaboration with the Department of Sociology and Social Research at University of Milan-Bicocca to the *Progetto Specifico* (*Specific Project*) "*Sistemi turistici locali in Lombardia e Veneto: il case study di Mantova e Verona*" ("*Local tourist systems in Lombardy and Veneto: the case study of Mantua and Verona*") of the *Programma di Ricerca Scientifica di Rilevante Interesse Nazionale* (*Scientific Research Programme of Major National Interest*) "*Sistemi turistici locali: reti territoriali e politiche pubbliche*" ("*Local tourist systems: territorial networks and public policies*"), 2003. Exploring the feasibility of an inter-regional local tourist system between Lombardy and Veneto was the goal of the aforesaid project. Therefore, statistical analyses of the tourist demands in the neighbouring areas of Mantua and Verona were performed in order to provide all the information considered necessary to support the decisions to be taken in this connection. To this end, the arrivals and the presences collected by all the tourist accommodation establishments in Mantua and Verona's areas were assumed as study populations and classified with respect to the year (over the five years 1999-2003), the month (each considered in its own), the zone (the agricultural regions in Mantua's provincial territory and the local tourist systems in Verona's one), the accommodation type and the nationality. The data at hand were thus analyzed by using the multivariate statistical method of the multiple correspondences. Such method enabled us to explore the way the abovementioned factors are associated with one another in the two study populations. This issue was accomplished by simultaneously plotting the levels of the above variables in a Cartesian coordinate system whose axes represent the two independent components that best explain the latent structure of the data. This procedure was firstly used in order to characterize the tourist demand in each of the two aforesaid provincial territories and then to compare them in the same terms. The first most decisive component of Mantua's tourist movement was identified in the contrast between the economic viability resulting from the business tourism, on one side and the culture-gastronomy combination supported by the new Italian middle class, on the other. The mixture of the urban dimension, characterized by art and cultural events, with the rural one turned out to be the second component. With reference to Verona's provincial territory, the contrast between the summer mass tourism in the area of the lake of Garda and the tourism in the town of Verona during the low season came to light. Finally, the strong attraction of Mantua's tourist movement toward the tendency to the deseasonalization of the tourist flows in the town of Verona emerged from the comparison between Mantua and Verona's territories.

Arithmetic MEAN of the GRADES obtained on the taken exams weighted by the number of University Credits (CFU): 29.4/30

TAKEN EXAMS with relative GRADE, CFU and ACADEMIC DISCIPLINE (SSD) in brackets:

- Mathematics I (grade: 28/30, CFU: 6, SSD: MATH-03/A)
- Mathematics II (grade: 28/30, CFU: 6, SSD: MATH-03/A)

- Mathematics III (grade: 30/30 and honours, CFU: 6, SSD: MATH-03/A)
- Linear algebra (grade: 30/30, CFU: 12, SSD: MATH-02/A)
- Theory of measure (grade: 30/30 and honours, CFU: 6, SSD: MATH-03/A)
- Statistics (grade: 30/30 and honours, CFU: 12, SSD: STAT-01/A)
- Economic statistics (grade: 30/30, CFU: 12, SSD: STAT-02/A)
- Medical statistics (grade: 30/30, CFU: 5, SSD: MEDS-24/A)
- Demography (grade: 30/30, CFU: 6, SSD: STAT-03/A)
- Microeconomics (grade: 30/30, CFU: 6, SSD: ECON-01/A)
- Computational statistics (grade: 26/30, CFU: 10, SSD: INFO-01/A; *use of Microsoft Office package*)
- Programming language laboratory (grade: 28/30, CFU: 5, SSD: INFO-01/A; *use of SAS software*)
- Mathematical statistics (grade: 30/30, CFU: 12, SSD: STAT-01/A)
- Theory of statistical inference (grade: 30/30, CFU: 5, SSD: STAT-01/A)
- Sampling theory (grade: 28/30, CFU: 5, SSD: STAT-01/A)
- Multivariate statistical analysis (grade: 30/30 and honours, CFU: 10, SSD: STAT-01/A; *use of* R *and IBM SPSS softwares*)
- Introduction to log-linear models (evaluation: approved, CFU: 1, SSD: STAT-01/A; *use of IBM SPSS software*)
- Statistical quality control (grade: 30/30, CFU: 5, SSD: STAT-01/A; *use of SAS software*)
- Design of experiments (grade: 30/30 and honours, CFU: 5, SSD: STAT-01/A)
- Applied statistics in biological sciences (grade: 30/30 and honours, CFU: 5, SSD: MEDS-24/A)
- Antropometrics and biometrics (grade: 30/30, CFU: 5, SSD: MEDS-24/A; *use of SAS software*)
- Epidemiology I (grade: 30/30, CFU: 5, SSD: MEDS-24/A)
- Epidemiology II (grade: 30/30, CFU: 5, SSD: MEDS-24/A; *use of SAS software*)

Enrolled in the Degree Course of Mechanical Engineering at Polytechnic of Milan

Sept 18, 1996 - Mar 13, 2001

TAKEN EXAMS with relative GRADE (in brackets):

- Mathematical analysis I (grade: 28/30)
- Geometry (grade: 30/30)
- Mathematical analysis II (grade: 30/30 and honours)
- General physics I (grade: 28/30)
- Foundations of computer science (grade: 26/30, *use of C and Fortran computer programming languages; the successful completion of this exam demanded the implementation of an interactive environment aimed at performing algebraic operations on numerical matrices using C*)

Scientific High School Diploma

Sept, 1991 - Jul, 1996

Graduated from the Scientific Lyceum "Renato Donatelli" in Milan

FINAL GRADE: 60/60

EXPERIENCE IN ACADEMIC TEACHING

A.Y. 2018/19

ADJUNCT PROFESSOR of the undergraduate-level courses in:

- *Calcolo delle probabilità e statistica matematica* (*Probability and statistics*), 48 hours, Bachelor's Degree Programme in Computer and Automation Engineering
- *Calcolo numerico* (*Numerical calculus*), 72 hours, Bachelor's Degree Programme in Management Engineering

and of the postgraduate-level course in:

- *Probabilità e statistica matematica* (*Probability and maths statistics*), 48 hours, Master's Degree Programme in Management Engineering

at the Faculty of Engineering of Polytechnic University of Marche (Ancona).

A.Y. 2017/18 Adjunct Professor of the undegraduate-level course in:
- *Analisi matematica* (*Mathematical analysis*), 60 hours, Bachelor's Degree Programme in Science of Architecture

at the Faculty of Architecture and Design of University of Camerino.

Adjunct Professor of the undergraduate-level courses in:
- *Analisi matematica 2* (*Mathematical analysis 2*), 72 hours, Bachelor's Degree Programme in Civil and Environmental Engineering
- *Matematica 2* (*Mathematics 2*), 72 hours, Bachelor's Degree Programme in Management Engineering

at the Faculty of Engineering of Polytechnic University of Marche (Ancona).

A.Y. 2015/16 Teaching assistant of the undergraduate-level courses in:
- *Psicometria* (*Psychometrics*), 40 hours, Bachelor's Degree Programme in Psychological Sciences and Techniques
- *Matematica e statistica* (*Mathematics and statistics*), 20 hours, Bachelor's Degree Programme in Geologic Sciences
- *Statistica* (*Statistics*), 40 hours, Bachelor's Degree Programme in Economics and Finance

at the Faculty of Humanities, the Faculty of Science and the Faculty of Economics, Law and Political Sciences of University of Cagliari, respectively.

Adjunct Professor of the realignment course in:
- *Logica-Matematica* (*Logic-Mathematics*), 40 hours, addressed to the new students enrolled in the Bachelor's Degree Programme in Economics and Business Management

at the Faculty of Economics, Law and Political Sciences of University of Cagliari.

A.Y. 2014/15 Teaching assistant of the undergraduate-level courses in:
- *Statistica II - modulo Teoria* (*Statistics II - Theory module*), 40 hours
- *Statistica II - modulo Laboratorio* (*Statistics II - Laboratory module*), 30 hours (*use of* R *software*),
- *Analisi statistica multivariata - Modelli statistici* (*Multivariate statistical analysis - Statistical models*), 48 hours (*use of* R *software*),
- *Statistica III* (*Statistics III*), 32 hours (*use of* R *software*),

Bachelor's Degree Programmes in Statistical and Economic Sciences and in Statistics and Information Management at the School of Economics and Statistics of University of Milan-Bicocca.

Teaching assistant of the undergraduate-level course in:
- *Statistica* (*Statistics*), 40 hours, Bachelor's Degree Programme in Economics and Business Management

at the Faculty of Economics, Law and Political Sciences of University of Cagliari.

A.Y. 2013/14 Teaching assistant of the undergraduate-level courses in:
- *Statistica II - modulo Teoria* (*Statistics II - Theory module*), 20 hours, Bachelor's Degree Programmes in Statistical and Economic Sciences and in Statistics and Information Management
- *Statistica* (*Statistics*), 24 hours, Bachelor's Degree Programme in Organization Sciences

at the School of Economics and Statistics and the Faculty of Sociology of University of Milan-Bicocca, respectively.

A.Y. 2012/13 TEACHING ASSISTANT of the undergraduate-level courses in:
- *Statistica* (*Statistics*), 26 hours, Bachelor's Degree Programme in Organization Sciences
- *Statistica territoriale ed ambientale* (*Spatial and environmental statistics*), 12 hours, Bachelor's Degree Programme in Statistics and Information Management

at the Faculty of Sociology and the Faculty of Statistical Sciences of UNIVERSITY OF MILAN-BICOCCA, respectively.

A.Y. 2009/10 TEACHING ASSISTANT of the undergraduate-level course in:
- *Statistica* (*Statistics*), 40 hours, Bachelor's Degree Programme in Psychological Sciences and Techniques

at the Faculty of Psychology of VITA-SALUTE SAN RAFFAELE UNIVERSITY (Milan).

A.Y. 2007/08 ADJUNCT PROFESSOR of the professionalizing course in:
- *Potenzialità statistiche di Excel* (*Statistical potential of Excel*), 28 hours, Project *Fondo Sociale Europeo* (*European Social Fund*): "*Percorsi di alta formazione: post-laurea, moduli professionalizzanti e tirocini formativi*" ("*Advanced training courses: post-graduate studies, professionalizing modules, training internships*")

at the Faculty of Economics of UNIVERSITY OF INSUBRIA (Varese).

PROFESSIONAL EXPERIENCE

Research Assistant in Probability and Mathematical Statistics (SSD MATH-03/B) at the Department of Industrial Engineering and Mathematical Sciences of Polytechnic University of Marche, Ancona

May 1, 2019 - Aug 31, 2020

Position obtained after passing an open competition based on qualifications and an oral examination.

Research Project: "*Metodologie e strumenti per analisi statistiche ed il calcolo delle probabilità nello studio di processi di Manifattura Ibrida ed Additiva*" ("*Methods and tools for statistical analyses and probability calculus in the study of Hybrid and Additive Manufacturing processes*").

Main responsibilities: study of methods aimed at computing corrective factors to adjust the disassembly time of liaisons in industrial products by controlling for one or more confounding variables and derived from data mining processes based on the observation of real de-manufacturing activities.

Research Assistant in Statistics (SSD STAT-01/A) at the Institute of Applied Mathematics and Information Technology "Enrico Magenes" of National Research Council (IMATI-CNR), Milan

Jan 1-Feb 4, 2015

Position achieved after passing an open competition based on qualifications and an oral examination.

Research Project: "*Analisi statistica di dati derivanti da esperimenti di tri-generazione, da rilevazioni dell'inquinamento acustico, da frantumazione di schede elettroniche*" ("*Statistical analyses of data from tri-generation experiments, measurements of acoustic pollution and crushing of electronic boards*").

Main responsibilities: investigating peculiarities of the data, reporting of inconsistencies and unclear aspects, preparation and graphical exploration of the final data set.

Research Collaborator in Statistics (SSD STAT-01/A) at the Department of Economics, Management and Statistics of University of Milan-Bicocca

Jan 26-Mar 5, 2015

Position obtained after passing an open competition based on qualifications and an oral examination.

Research Project: "*Costruzione, analisi e applicazione di modelli mistura con particolare riferimento a inferenza classica per dati composizionali e inferenza bayesiana parametrica e non parametrica*" ("*Definition, analysis and application of mixture models with specific reference to classical inference for compositional data and parametric and non-parametric Bayesian inference*").

Main responsibilities: analysis of the Non-central Beta distributions.

Statistician at the University Centre for Statistics in the Biomedical Sciences of Vita-Salute San Raffaele University, Milan

Jul 1, 2007 - Dec 31, 2009

Collaboration in teaching activities: preparation of teaching material, correction of written tests, students' reception and assistance in the implementation of the statistical analyses needed to the completion of students' graduation theses.

Member of the Local Organizing Committee of the 3rd International Meeting of IMS (Institute of Mathematical Statistics) and ISBA (International Society for Bayesian Analysis) "*MCMSki: Markov Chain Monte Carlo in theory and practice*" held in Bormio (Italy) on Jan 9-11, 2008: responsible for the organization of the bus transport of 150 academic researchers from/to Lombard airports to/from the Congress venue.

Collaboration with the Functional Unit of Psychology and the Department of Neurology of the Scientific Institute Hospital San Raffaele (Milan) in the Research Project "*Analisi dei dati sugli aspetti cognitivi della sclerosi multipla*" ("*Statistical analyses of data on the cognitive aspects of multiple scleroris*"): in charge of the statistical analyses of data on cognitive performances, affective and clinical variables of 752 multiple sclerosis patients treated with Glatiramer Acetate or Interferon-Beta in a two-year observational longitudinal multicentre Italian study carried out in 79 centres and supported by the pharmaceutical company "Sanofi-Aventis".
Use of SAS and IBM SPSS softwares.

Statistician at the business consulting company "Safe Well Work - System for People", Busto Arsizio

Dec, 2008 - Jan, 2009

Main responsibilities: statistical analyses of data on companies staff aimed at identifying possible occurrences of stress correlated to work due to discrimination based on gender, civil status and internal organization of the responsibilities; analysis of the employee turnover.
Use of SAS software.

Statistician at the market research company "Carlo Erminero & Co. Ricerca e Customer Intelligence", Milan

Oct, 2006

Main responsibilities: data analyses based on multivariate statistical methods such as correspondence analysis, factorial analysis and linear model.
Use of IBM SPSS and R *softwares.*

Statistical assistant at the pharmaceutical consulting company "Cross Research", Mendrisio (Switzerland)

June 11, 2003 - Jul 31, 2006

CRO (Contract Research Organization) dealing with planning, co-ordination, monitoring and reporting of Phase 1 and Phase 2 clinical studies supported by European Sponsors and run

at the in-house Phase 1 Unit (Arzo, Switzerland) and Wien Medical University Hospital (Austria).

In charge of the following statistical and data management activities accomplished by using SAS SOFTWARE:

- design of clinical trials
- sample size calculation
- writing the statistical sections of the study protocol
- development of the randomization list
- writing Data Management Plan and Data Validation Plan
- preparation of the Case Report Form based on the study protocol
- implementation of the electronic Case Report Form by means of SAS/FSP and Datatrak softwares
- management of the study database
- preparation of SECs and Queries addressed to the Clinical Phase
- coding of adverse events and concomitant medications by means of MedDRA and WHO-DD databases
- preparation of tables, listings and figures
- statistical analyses of the primary parameters
- safety considerations
- pharmacokinetic and pharmacodynamic analyses by means of Kinetica software
- writing the statistical report
- editing and review of the company Standard Operating Procedures relating to statistical and data management activities

Statistical support for the following PUBLICATION:

Stuebner, P., Horak, F., Zieglmayer, R., Arnáiz, E., Leuratti, C., Pérez, I. and Izquierdo, I. (2006): *Effects of rupatadine vs placebo on allergen-induced symptoms in patients exposed to aeroallergens in the Vienna Challenge Chamber*. Annals of Asthma, Allergy & Immunology, 96(1) 37-44 (download)

In *Acknowledgments*: "We thank Dr Vasiliki Alexandrou and **Carlo Orsi**, Cross SA, for the statistical analysis".

INTERNAL TRAINING COURSES ATTENDED:

- "*How to create a database in SAS/FSP*" (Feb, 2003)
- "*Introduction to pharmacokinetics*" and "*Introduction to Kinetica 4.2*" (Sept, 2003)
- "*Sample size: fundamental for the success*" (Apr, 2004).

PUBLICATIONS

ARTICLES IN PEER-REVIEWED JOURNALS:

[1] **Orsi, C.** (2025): *On the non-central Dirichlet distribution*. Journal of Statistical Computation and Simulation, 95(8) 1822-1886 (download)

[2] **Orsi, C.** (2022): *On the conditional noncentral beta distribution*. Statistica Neerlandica, 76(2) 164-189 (download)

[3] **Orsi, C.** (2022): *New Developments on the Non-Central Chi-Squared and Beta Distributions*. Austrian Journal of Statistics, 51(1) 35-51 (download)

[4] Ongaro, A. and **Orsi, C.** (2015): *Some results on non-central beta distributions*. Statistica, 75(1) 85-100 (download)

ABSTRACTS IN PEER-REVIEWED JOURNALS:

[5] Canale, S., Falautano, M., Martinelli, V., Di Serio, C., Moiola, L., Radaelli, M., Leopizzi, E., **Orsi, C.** and Comi, G. (2009): *Cognitive and affective 24-month follow-up of multiple sclerosis patients treated with glatiramer acetate or interferon-β: the "Immunomodulating*

Treatments Affective and Cognitive Aspects" (ITACA) study. Multiple Sclerosis, 15(9_suppl) S228 (download)

Other publications:

[6] **Orsi, C.** (2014): *Estensioni non centrali della distribuzione e del processo di Dirichlet* (*Non-central extensions of the Dirichlet distribution and process*). Ph.D. Thesis in Statistics, School of Economics and Statistics, University of Milan-Bicocca (download)

[7] **Orsi, C.** (2006): *Analisi statistica dei flussi turistici nelle aree di Mantova e Verona* (*Statistical analysis of the tourist flows in Mantua and Verona's areas*). Annali Italiani del Turismo Internazionale (Italian Annals of International Tourism), 1(1) 227-261 (download)

Conference papers:

[8] Ongaro, A. and **Orsi, C.** (2014): *On Non-central Beta distributions*. Proceedings of the 47th Scientific Meeting of the Italian Statistical Society. In: Cabras, S., Di Battista, T. and Racugno, W. (Eds.), CUEC (Cooperativa Universitaria Editrice Cagliaritana), ISBN: 978-88-8467-874-4 (download)

Preprint:

[9] **Orsi, C.** (2021): *A Novel Approach to Handling the Non-Central Dirichlet Distribution*. Arxiv preprint 2108.08947 (download)

[10] **Orsi, C.** (2021): *A New Class of Non-Central Dirichlet Distributions*. Arxiv preprint 2107.14392 (download)

[11] **Orsi, C.** (2017): *New insights into non-central beta distributions*. Arxiv preprint 1706.08557 (download)

PARTICIPATION IN CONFERENCES

June 12, 2014 Paper "*On Non-central Beta distributions*" presented at the 47th Scientific Meeting of the Italian Statistical Society in the Contributed Paper Session CP8 "*Advances in Statistical Modelling*", Cagliari (Italy)

Sept 11, 2009 Poster *Cognitive and affective 24-month follow-up of multiple sclerosis patients treated with glatiramer acetate or interferon-β: the "Immunomodulating Treatments Affective and Cognitive Aspects" (ITACA) study* presented at the 25th ECTRIMS Meeting, Düsseldorf (Germany)

Mar 27, 2006 Paper "*Analisi statistica dei flussi turistici nelle aree di Mantova e Verona*" ("*Statistical analysis of the tourist flows in Mantua and Verona's areas*") presented at the Conference "*Nuove risorse dalla conoscenza: una ricerca per la progettazione operativa del sistema turistico inter-regionale Mantova-Verona*" ("*New resources from knowledge: a research for the operational planning of the inter-regional tourist system between Mantua and Verona's areas*"), Mantua (Italy), organized by Culture Councillorship of Mantua and University of Milan-Bicocca.

LANGUAGE COMPETENCE

Italian **Mothertongue**

English **Excellent - Level: C1** *(Common European Reference Framework (CERF): A1/2 basic user - B1/2 independent user - C1/2 proficient user)*

COMPUTER SKILLS

Advanced	Microsoft Windows operating system and Microsoft Office package;
	Mathematica, R, SAS (BASE, STAT, IML, GRAPH, FSP modules), IBM SPSS softwares; LaTeX document preparation system
Intermediate	MATLAB and C programming languages; STATA software
Basic	Fortran programming language

I, the undersigned, declare the veracity of all the information contained in the present document in accordance with the articles 46, 47 of the Italian D.P.R. 445/2000 and s.m.i. .

Lucca, May 16, 2025

Carlo Orsi