

Chiara Giusy Genovese

Curriculum Vitae

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Personal information

First name Chiara Giusy
Last name Genovese
Place and date of birth Barcellona P.G. (Italy), 27 August 1987
Nationality Italian

Current Position

Oct 2015 – present **Phd Student in Statistics, Department of Statistical Sciences "Paolo Fortunati", University of Bologna.**
tutored by Prof. Monia Lupparelli, University of Bologna.

Work experience and education

- A.Y. 2016/2017 **Teaching Assistant: Statistics for Data Analysis, University of Bologna.**
Prof. Monia Lupparelli - Second cycle degree programmes in Economics and Accounting.
School of Economics, Management and Statistics, University of Bologna.
- A.Y. 2016/2017 **Teaching Assistant: International Demography, University of Bologna.**
Prof. Aurora Angeli - Second cycle degree programmes in International Relations and
Local and Global Development
- A.Y. 2016/2017 **Teaching Assistant: Economic and Business Demography, University of Bologna.**
Prof. Aurora Angeli - First cycle degree programmes in Statistical Sciences

July 2014 – Sep 2015 **Research Fellowship, CIRC - "Giorgio Prodi" Cancer Research Center, University of Bologna.**

Scholarship in Bioinformatics for Genome Analysis of next-generation sequencing data in Oncology - coordinated by Prof. Guido Biasco. S. Orsola Hospital, University of Bologna.

- **AIMS:**
 - usage and development of bio-informatics pipeline for genetic data analysis to discover novel deleterious mutation causative of examined Pathologies: detection of Single Nucleotide Polymorphisms (SNPs), Insertions, Deletion (InDels) and Structural Variants (SVs) in Exome sequencing;
 - RNA-sequencing data analysis for gene expression;
 - study of prognostic factors associated with overall survival and progression-free survival in patients with specific diseases, i.e. Melanomas and Gist.
- **METHODS:**
 - procedures to elaborate sequenced raw data using Burrow-Wheeler transformation to align the reads against the reference genome, GATK and Samtools for Bayesian variants call and genotyping;
 - count data modeling and normalization for RNA-seq data;
 - survival data analysis using specific functions (Kaplan Meyer Survival Function, Nelson-Aalen), tests (Log-Rank test, Wilcoxon Mann-Whitney) and models (Cox).

June 2015 **CSAMA - Statistics and Computing in Genome Data Science, Brixen.**

Intensive course on statistical and computational analysis of multi-omics studies in biology and biomedicine - organized by University of Padua and Bioconductor and coordinated by Wolfgang Huber (EMBL).

A.Y. 2014/2015 **Teaching Assistant: Statistics for Data Analysis, University of Bologna.**

Prof. Monia Lupporelli - Second cycle degree programmes in Economics and Accounting. School of Economics, Management and Statistics, University of Bologna.

3-5 December 2014 **Advanced training course in Bioinformatics, University of Firenze.**

Bioinformatics for NGS data analysis.

22-24 September 2014 **Python for computational science, CINECA, Bologna.**

Key features of Python Language, Syntax and some scientific tools as Numpy and Matplotlib

June 2014 **MSc in Statistics with Honors and Distinction, University of Bologna..**

"Regression Models for Count Data with Overdispersion : An application in Genetics."
Prof. Cinzia Viroli

- **AIM:** statistical modeling for over-dispersed genetics data: model comparison through simulation study and a real genetic data-set of patients affected by Cervix Cancer.
- **METHODS:** analysis of modeling choice in the framework of Generalized Linear Model, a wide and flexible class of statistical models, in order to unravel the peculiar linkage between over-dispersion and zero-inflation; implementation of a simulation study to discuss and evaluate the performances (through rAIC, relative Akaike Information Criterion) of both the Negative Binomial and Zero-Inflated Poisson in comparison to the Poisson regression model, considering an ever increasing amount of zeroes; application to a real data-set using R pscl and MASS packages in order to compare theoretical and empirical results.

Sep 2013 – July 2014 **Research Assistant, University of Bologna.**

Research Assistant on the collection and elaboration of a new dataset in the project "Does early day care improve children's outcomes? The effect of formal day care at 0-3 on cognitive ability, personality traits, behavioral disorders, and health at 8-13", funded by ISA (Institute of Advanced Studies), Ministry of Education, University and Research, EIEF (Einaudi Institute for Economics and Finance) and Hera Group - coordinated by Prof. Andrea Ichino, Prof. Giulio Zanella, Margherita Fort, Alessia Tessari. Department of Economics, University of Bologna.

- **AIM:** evaluation of the effect of having attended day care (i.e., nursery school) between age 0 and 3 on cognitive skills, non-cognitive abilities, behavioral disorders, and health at age 8-13, as well as on mothers' fertility and labor supply. This project contributes to a new and fruitful interdisciplinary research area at the intersection of statistics, economics, psychology and cognitive sciences.
- **METHODS:** analysis of a representative sample of 400 families based on a quasi-experimental setting: a regression discontinuity design generated by the rationed access to public day care facilities (asili nido) in Bologna.

Novembre 2010 **BS in Statistics and Economics, University of Milan.**

"Assessing firm's financial soundness through balance sheet ratios and ratings". Prof. Simona Caterina Minotti, Prof. Vittoria Cerasi.

- **AIM:** verifying consistency between the classification based on financial ratios and the ratings-based one, on a real data set of 1000 Italian wine companies.
- **METHODS:** reducing dimensionality and capturing data complexity by Principal Component Analysis; identifying homogeneous groups of firms through model-based clustering on a Gaussian mixture.

May 2009 – July 2009 **Internship supported by University of Milan.**

Research and elaboration of business data, calendar management and data entry. Cdie – Centro di Iniziativa Europeo, Milan.
www.cdiecoop.it

- **AIM:** technical support services aimed at the design, monitoring and evaluation of complex programs for firms; promotion and participation in projects, researches and system actions for local development and human resources.
- **METHODS:** research and elaboration of business data to monitor and get information on calls for proposals and tenders issued by community, national and regional authorities.

Publications

December 2015 **BMC Genomics** – "Whole exome sequencing (WES) on formalin-fixed, paraffin-embedded (FFPE) tumor tissue in gastrointestinal stromal tumors"
Authors: A.Astolfi, M.Urbini, V.Indio, M.Nannini, C.G.Genovese, D.Santini, M.Saponara, A.Mandrioli, G.Ercolani, G.Brandi, G.Biasco, M.A.Pantaleo

October 2015 **Oncotarget** – "Whole transcriptome sequencing identifies BCOR internal tandem duplication as a common feature of clear cell sarcoma of the kidney"
Authors: A.Astolfi, F.Melchionda, D.Perrotti, M.Fois, V.Indio, M.Urbini, C.G.Genovese, P.Collini, N.Salfi, M.Natron, P.D'Angelo, F. Spreafico, A.Pession

June 2015 **Pancreatology** – "Discovery of new potentially actionable mutations in pancreatic ductal adenocarcinoma by next generation sequencing"
Authors: M.Di Marco, S.Durante, S.Vecchiarelli, E.Grassi, A.Astolfi, V.Indio, C.G.Genovese, R.Panzacchi, M.Santini, R.Casadei, C.Ricci, G.Ercolani, G.Biasco

Computer Skills

Os Windows, GNU/Linux

Software and languages R, Python, Bash, Stata, SPSS, OpenBUGS, SAS, Samtool, GATK, MuTect, \LaTeX , Office

Languages

Italian mother tongue

English good

Spanish fluent – DELE B2 issued and recognised by the Ministry of Education and Culture of Spain

German basic