



# Marta Pittavino

## Curriculum Vitae

### Academic positions

#### Current

Sept. 2017 – present **Research Fellow**, *University of Geneva (UNIGE)*, Geneva School of Economy and Management (GSEM), Research Center for Statistics (RCS), Geneva, Switzerland.  
**Coordinator New Master Program**: Master of Science in Business Analytics.  
<https://www.unige.ch/gsem/en/programs/masters/business-analytics/>.

#### Past

Jan. 2016 – **Postdoctoral Fellow**, *Nutritional Methodology and Biostatistics Group (NMB)*:  
Aug. 2017 <https://www.iarc.fr/en/research-groups/NMB/index.php>, International Agency for Research on Cancer (IARC), World Health Organization (WHO), Lyon, France,  
*Research Project*: “Bayesian hierarchical models to integrate dietary exposure and biomarker measurements for the risk of cancer”.  
Supervisors: Dr. Martyn Plummer and Dr. Pietro Ferrari.

Aug. 2013 – **Research Assistant**, *Applied Statistics Group*: <https://www.math.uzh.ch/as>,  
Dec. 2015 *Institute of Mathematics (I-MATH)*, University of Zurich, UZH, Switzerland.

Jan. 2012 – **Research Assistant**, *Section of Epidemiology*: <http://www.vetepi.uzh.ch/en.html>,  
July 2013 *Vetsuisse Faculty*, University of Zurich, UZH, Switzerland.

### Education

March 2016 **PhD in Biostatistics and Epidemiology**, *PhD Program of Life Science Zurich Graduate School*, University of Zurich, Switzerland, *PhD Thesis*: “Additive Bayesian Networks for Multivariate Data: Parameter Learning, Model Fitting and Applications in Veterinary Epidemiology”.  
Thesis Supervisor: Prof. Reinhard Furrer. Jury: Prof. Paul Torgerson, UZH, Prof. Leonhard Held, UZH, Dr. Fraser Lewis, Office of Health Economics.

2009 – 2011 **Master of Science in Mathematics**, *Applied Orientation*, 110/110 cum Laude, *University of Torino*, Master Thesis: “Epidemiological models for goat breeding”.  
Thesis Supervisors: Prof. Mario Giacobini and Prof. Ezio Venturino.

2006 – 2009 **Bachelor of Science in Mathematics**, *Università degli Studi di Torino*, Italy, Undergraduate Thesis: “Biforcazione nella speciazione: una prospettiva matematica”.

2001 – 2006 **Maturità Scientifica**, *Liceo Scientifico ‘Giuseppe Peano’*, Diploma Thesis: “Il sistema periodico”, Cuneo, Italy.

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## Awards and scholarships

- December 2016 **French Scientific Qualification for 'Maître de Conférences', Section 26: Applied Mathematics and Statistics**, conferred by the French National Council of University: "Conseil national des universités" (CNU).
- June 2013 **Award "Silver Medal" and prize "Luciana Picco Botta"**, sponsored by *Università degli Studi di Torino*, university wide award for the best mathematical thesis of the current academic year: <http://matematicalm.campusnet.unito.it/do/home.pl/View?doc=medaglia.html>.
- Dec. 2012 **Scholarship "Attività di ricerca post laurea all'estero"**, funded by the *Caligara Foundation*, to develop research activity post graduation related to interdisciplinary scientific subjects.
- May 2011 **Scholarship "Tesi magistrale di cultura interdisciplinare"**, promoted by *Caligara Foundation*, for the development of original master thesis linked to interdisciplinary scientific topics: <http://www.fondazionecaligara.it/>.
- June 2010 **Grant "Soggiorno studio all'estero"**, granted by the *University College Renato Einaudi*, to allow the best students, living in the College, to spend two or three weeks to study English in a foreign country, <http://www.collegioeinaudi.it/>.
- Dec. 2009 **Grant "Homo Sapiens-Sapiens"**, funded by *Inps*, nation wide grant to reward Italian students with the best grades in their bachelor studies.

## Past professional experiences

- June 2011 - Dec. 2011 **Internship at Det Norske Veritas, DNV**, Quality control and certification of products, processes and systems, Torino, Italy.
- Oct. 2008 - Feb. 2010 **Student guide for the geometrical mathematical exhibition "Riflessioni & Riflessioni"**, *Regional Museum of Natural Science*, Metropolitan City of Torino.
- July 2006 and July 2007 **Supervising students at summer language school in UK**, *Cirencester and Broadstairs*, Royal Agricultural University and Kent school of English.

## Teaching experiences

- September 2017 - present **TA, instructor and grader, University of Geneva, GSEM**, *Teach and grade all statistical lectures for the graduate students of the 'M.Sc. in Business Analytics'*.  
"Creating Value Through Data Mining" (S402010); "Data Quality and Data Collection Strategies" (S402012); "Statistical Methodologies for Business" (S411031); "Machine Learning" (S403011); "Analytics Consulting" (S401016).
- Jan. 2012 - Dec. 2015 **TA, instructor and grader, University of Zurich, UZH**, *Taught and graded lectures for undergraduate and graduate level theoretical and applied statistics courses*.  
"Selected Topics in Statistics" (STA 380); "Practical Bioinformatics" (BIO 334); "Likelihood Inference" (STA 402); "Statistische Modellierung" (STA 121); "Applied Statistical Modelling" (STA 220); "Epidemiologie&Statistik" (EPI 134).
- 2009 - 2011 **Instructor for Math Olympiads, Mathesis**, <http://www.mathesistorino.it/>, Lectured, prepared problem sets, organized contest simulations for high school students.
- 2009 - 2010 **TA, undergraduate course instructor, University of Torino**, *Gave exercise lectures and graded for undergraduate level math and lab courses*.

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## Research Interests

Bayesian inference, Additive Bayesian networks, Bayesian hierarchical and graphical models applied to epidemiological and bio-medical studies, Markov Chain Monte Carlo techniques, choice of suitable priors for complex data, biomathematics.

## PhD Thesis

March 2016 **Pittavino M**, "Additive Bayesian Networks for Multivariate Data: Parameter Learning, Model Fitting and Applications in Veterinary Epidemiology", Universität Zürich.

## Publications

### Articles in refereed journals

- Feb. 2018 **Pittavino M**, Furrer R, "Additive Bayesian networks for an epidemiological analysis of swine diseases". *Submitted*.
- Jan. 2018 **Pittavino M**, Furrer R, "Conjugate Priors for Additive Bayesian Networks". *Submitted*.
- May 2017 **Pittavino M**, Dreyfus A, Heuer C, Benschop J, Wilson P, Torgerson P, Furrer R, "Data on *Leptospira interrogans* sv Pomona in Meat Workers in New Zealand". *Data in Brief* 13 (2017), 587-596, ELSEVIER.
- April 2017 **Pittavino M**, Dreyfus A, Heuer C, Benschop J, Wilson P, Torgerson P, Furrer R, "Comparison between Generalized Linear Modelling and Additive Bayesian Network. Identification of Factors associated with the Incidence of Antibodies against *Leptospira interrogans* sv Pomona in Meat Workers in New Zealand.". *Acta Tropica* 173 (2017), 191-199, ELSEVIER.
- November 2016 Van der Lely S, Stefanovic M, Schmidhalter M, **Pittavino M**, Furrer R, Kessler T, Mehnert U, "Protocol for a prospective, randomized study on neurophysiological assessment of lower urinary tract function in a healthy cohort", *BMC Urology* (2016) 16:69, BioMed Central.
- February 2016 Hartnack S, Springer S, **Pittavino M**, Grimm H, "Attitudes of Austrian veterinarians towards euthanasia in small animal practice: impacts of age and gender on views on euthanasia", *BMC Veterinary Research* (2016) 12:26, BioMed Central.
- January 2014 **Pittavino M**, Ferreri L, Giacobini M, Bertolotti L, Rosati S, Venturino E, "A CAEV epidemiological model for goat breeding", *Applied Mathematics and Computation* 227 (2014), ELSEVIER, 156-163.
- August 2011 Ajraldi V, **Pittavino M**, Venturino E "Modeling herd behavior in population systems", *Nonlinear Analysis: Real World Applications* 12 (2011), ELSEVIER, 2319-2338.

### Manuscripts in preparation

**Pittavino M** and Beata G, Ferrero G, De Bortoli M, Sacerdote L, "A Bayesian networks approach for analyzing post-transcriptional biological mechanisms".

**Pittavino M**, Johansson M, Plummer M, Ferrari P, "A Bayesian hierarchical model to integrate dietary exposure and biomarker measurements for the risk of kidney and lung cancer".

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## Proceedings and R package reports

- November 2016 Kratzer G, **Pittavino M**, Lewis FI, Furrer R: "abn: an R package for modelling multivariate data using additive Bayesian networks ", Technical report for the "abn" R package, version 1.0.2. Available from the Comprehensive R Archive Network (CRAN): "Comprehensive R Archive Network": [https://cran.r-project.org/web/packages/abn/vignettes/abn\\_v1.0.2.pdf](https://cran.r-project.org/web/packages/abn/vignettes/abn_v1.0.2.pdf).
- November 2016 Kratzer G, **Pittavino M**, Lewis FI, Furrer R: "R package "abn": Modelling Multivariate Data with Additive Bayesian Networks ", Detailed description of the different functions of the "abn" R package. Available from CRAN: "Comprehensive R Archive Network", <https://cran.r-project.org/web/packages/abn/abn.pdf>.
- Dec. 2012 Panero M, **Pittavino M** "GeoGebra e le curve di Bézier", *Proceedings of the Fifth Biannual National Conference DI.FI.MA. (Didattica della Fisica e della Matematica)*, Edited by Robutti, O. and Mosca, M., Torino, 547-556.
- May 2012 **Pittavino M**, Ferreri L, Giacobini M, Bertolotti L, Rosati S, Venturino E, "Influence of Small Ruminant Lentivirus infection on the replacement rate in goat breeding", *Hystrix, the Italian Journal of Mammology*, 169.

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## Seminars and conferences

### Invited seminars talks

- October 2018 Statistics seminars, Research Center for Statistics, Univ. of Geneva, **Switzerland**.
- Dec. 2017 Welcome Home Workshop 2017, *Round Table Leader*, University of Torino, **Italy**.
- August 2017 Statistics seminars, International Agency for Research on Cancer, Lyon, **France**.
- April 2017 Biostatistics seminars, Department of Mathematics, Univ. of Zurich, **Switzerland**.
- Dec. 2016 Welcome Home Workshop 2016, University of Torino, **Italy**.
- March 2016 Probability seminars, Department of Mathematics, University of Torino, **Italy**.
- Dec. 2014 Welcome Home Workshop 2014, University of Torino, **Italy**.
- April 2014 VPHI Seminar, University of Bern, **Switzerland**.
- Dec. 2013 Welcome Home Workshop 2013, University of Torino, **Italy**.
- Dec. 2013 VPH Annual Conference 2013, University of Bern, **Switzerland**.
- May 2013 ZGSM Graduate Colloquium, University of Zurich, **Switzerland**.
- Dec. 2012 Welcome Home Workshop 2012, University of Torino, **Italy**.
- October 2011 Vth Biannual National Conference DI.FI.MA. 2011, University of Torino, **Italy**.

### Contributed talks at conferences

- Aug. 2015 Joint Statistical Meeting 2015 (JSM 2015), Seattle, **USA**.
- June 2015 Joint Meeting of the International Biometric Society (IBS), Austro-Swiss and Italian Regions (IROeS 2015), Milan, **Italy**.
- Sept. 2014 DACH Epidemiologietagung 'Tiergesundheit und Okonomie' (DACH 2014), Zurich, **Switzerland**.
- July 2014 27th International Biometric Conference (IBC 2014), Florence, **Italy**.

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### Poster presentations at conferences

- May 2017 Early Career Scientists Association (ECSA) Day, IARC, WHO, Lyon, **France**.
- June 2016 International Conference for IARC's 50th Anniversary, Lyon, **France**.
- Oct. 2015 World Statistics Day 2015, University of Zurich, **Switzerland**.
- July 2014 Bayesian Biostatistics 2014, University of Zurich, **Switzerland**.
- May 2012 VIII Italian Congress of Teriology, Piacenza, **Italy**.

### Computer skills

- Programming R, JAGS, WinBUGS (Unix and Windows), Rattle, Statistica, SAS,  $\LaTeX$ , Sweave, Mathematica, MATLAB, Maple, Bash/Unix Utilites, C/C++ (basic knowledge).
- R package* **abn**: an R package for data modelling with additive Bayesian networks. **Contributor and Former Maintainer**. Available from the Comprehensive R Archive Network (CRAN), <http://cran.r-project.org/package=abn> and explained in detail on the related website: <http://www.r-bayesian-networks.org/>.

### Languages

- Italian **Mothertongue**
- English **Fluent**
- French **Fluent**
- German **Intermediate**
- Spanish **Basic**

### Society memberships

Swiss Statistical Society (SSS), International Biometric Society (IBS), Italian Statistical Society (SIS), International Society for Bayesian Analysis (ISBA).

### Organization of scientific meeting

- May 2017 Member of the organizing committee "Early Career Scientists Association" (ECSA) from the International Agency for Research on Cancer (IARC): <http://training.iarc.fr/en/ecs/>. Co-organizer of the "**4th ECSA Scientific and Carrer Day**", 7 May 2017, IARC, Lyon, France.
- June 2016 Member of the organizing and volunteering team for the "**IARC's 50th Anniversary**": <http://iarc-conference2016.com/>, 7 - 10 June 2016, Lyon, France.
- October 2015 Organizer, together with the Applied Statistics Group members from the I-Math Institute, of the "**World statistics day**", 20 October 2015, Universität Zürich, Campus Irchel, Switzerland: [https://www.math.uzh.ch/as/?news\\_as](https://www.math.uzh.ch/as/?news_as).

### Attended courses

- December 2016 **Stat-XP Course**: statistics to analyse OMICs data and characterise the exposome, Imperial College London, 28 November - 02 December, London, United Kingdom.

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