

Education

- 2016 **Ph.D. in Biostatistics**, *Universität Zürich, UZH*, Structured PhD Program in "Epidemiology and Biostatistics", Faculty of Science, Zurich, Switzerland. Supervisor: Prof. R. Furrer.
- 2009-2011 **M.Sc. in Mathematics**, graduated "**cum laude**", *Università degli Studi di Torino, UNITO*, Torino, Italy. Supervisors: Prof. E. Venturino and Prof. M. Giacobini.
- 2006-2009 **B.Sc. in Mathematics**, *Università degli Studi di Torino, UNITO*, Torino, Italy.
- 2001-2006 **Maturità Scientifica**, *Liceo Scientifico 'Giuseppe Peano'*, Cuneo, Italy.

Professional Experience

- 02/2023- **Assistant Professor in Statistics (RTD-A)**, *Università degli Studi di Firenze (UNIFI)*, Department of Statistics, Computer Science, Applications "Giuseppe Parenti" (DISIA).
- 09/2019- **Senior Lecturer (Maître d'enseignement et de recherche)**, *Université de Genève, UNIGE*,
01/2023 Research Center for Statistics, RCS, Geneva School of Economics and Management.
Lecturer for two Bachelor courses and a Master class, Master thesis advisor and Program Manager.
- 09/17-08/19 **Senior Research Associate**, *UNIGE, GSEM*, Geneva.
- 01/2016- **Post-doctoral Scientist**, *International Agency for Research on Cancer, IARC*, World Health
08/2017 Organization, Nutritional Methodology and Biostatistics Group, Lyon. P.I.: Dr. P. Ferrari.
- 2012-2015 **Research Assistant**, *Universität Zürich*, Section of Epidemiology and I-Math Institute, Zurich.
2011 **Junior Statistician**, *Det Norske Veritas, DNV GL*, Torino, Italy.
- 2009-2010 **Student Assistant**, *Università degli Studi di Torino*, Math Department, Torino.

Awards and Fellowships

- 2022 **GSEM Pedagogical Innovation Prize**, *Escape Game Learning*, launched by GSEM for developing and promoting innovative pedagogical methods: <https://www.unige.ch/gsem/fr/a-propos/actualites/all/2022/innovation-pedagogique/marta-pittavinos-project-selected-for-the-gsem-pedagogical-innovation-initiative/>.
- 2018 **ISBA Travel Award**, funded by the International Society for Bayesian Analysis.
- 2017 **French Scientific Qualification for 'Maître de Conférence'**, *Section 26: Applied Mathematics and Statistics*, conferred by the French "Conseil national des universités", CNU.
- 2013 **Best Master Thesis Awards**, *Awards "Silver Medal" and "Luciana Picco Botta"*, sponsored by *Università degli Studi di Torino*, for the best thesis in Mathematics for the year in which I graduated: <https://www.unito.it/ateneo/gli-speciali/i-migliori-laureati/anno-2010-2011>.
- 2012 **Fellowship "Post-graduate research abroad in interdisciplinary topics"**, funded by the *Caligara Foundation*, <https://www.fondazionecaligara.it/>.
- 2011 **Scholarship "Master Thesis in interdisciplinary topics"**, funded by *Caligara Foundation*.

Professional Services

Academic boards and committees

- 2022-2023 **Member**, *MaBAn Scientific Committee, Master Program Committee of the GSEM, UNIGE*.
- 2021-2023 **Vice President, Participatory Council**, '*Conseil Participatif*', of the *GSEM, UNIGE*.
- 2020-2021 **Member**, *Participatory Council, 'Conseil Participatif'*, of the *GSEM, UNIGE*.
- 2020-2023 **Member**, *Commission for the Renewal of Teaching Staff Mandates of the GSEM, UNIGE*.
- 2017-2023 **Member**, *MaBAn Advisory Board*, responsible for the partnership between the *GEM, 'Groupe-ment des Entreprises Multinationales'*, and *GSEM, UNIGE*.

Organization of scientific events

- 09/2022 **Organizer, Round Table for the UNIGE Data Science Day 2022**, UNIGE, Geneva, Switzerland.
2017-2023 **Organizer, MaBAn Speed Recruitment Meeting** event at GSEM, Geneva, Switzerland.
2016 **Co-organizer, Satellite Conference for "IARC's 50th Anniversary"** at IARC, Lyon, France.
2015 **Organizer, Event for "World Statistics Day"** at Campus Irchel, UZH, Zurich, Switzerland.

Teaching

Courses at UNIFI

Spring 2024 **Teoria e Pratica dei Modelli Statistici**, Master in Statistics and Data Science, taught in *Italian*.

Fall 2023 **Statistical Methods for Engineering**, Master in Sustainable Engineering, taught in *English*.

Lecturer at UNIGE, GSEM

Spring 2023 **Mathématiques II**, core course in the GSEM Bachelor, taught in *French*.

Spring 2023 **Forecasting with Applications in Business**, core course in the MaBAn, taught in *English*.

Fall 2022 **Statistical Modelling**, elective course in the GSEM Bachelor, taught in *English*.

Spring 2022 **Forecasting with Applications in Business**, core course in the MaBAn, taught in *English*.

Fall 2021 **Statistical Modelling**, elective course in the GSEM Bachelor, taught in *English*.

Spring 2021 **Mathématiques II**, elective course in the GSEM Bachelor, taught in *French*.

Spring 2021 **Forecasting with Applications in Business**, core course in the MaBAn, taught in *English*.

Fall 2020 **Statistical Modelling**, elective course in the GSEM Bachelor, taught in *English*.

Fall 2019 **Forecasting with Applications in Business**, core course in the MaBAn, taught in *English*.

Fall 2019 **Statistical Modelling**, elective course in the GSEM Bachelor, taught in *English*.

External lecturer for short courses

October 2022 **Refreshment of statistics**, continuous education course for the RESAL network.

May 2022 **Reminder on statistical tests**, continuous education course for scientists part of the RESAL.

November 2020 **Applied Statistical Regression Modelling for Biologists Using R**, course for PhD students.

May 2020 **Sample size calculations**, continuous education course for scientists part of the RESAL.

August 2020 **Reminder on statistical tests**, continuous education course for scientists part of the RESAL.

Senior teaching assistant at UNIGE, GSEM

2017-2019 **Analytics Consulting**, core course in the MaBAn and Master in Statistics.

2017-2019 **Creating Value Through Data Mining**, core course in the MaBAn.

2017-2019 **Data Quality and Data Collection Strategies**, core course in the MaBAn.

2017-2019 **Machine Learning**, core course in the MaBAn and Master in Statistics.

2017-2018 **Statistical Methodologies for Business**, core course in the MaBAn.

Teaching assistant at UZH, I-Math

Spring 2015 **Selected Topics in Statistics**, Minor Applied Probability and Statistics, Biostatistics Master.

Fall 2014 **Likelihood Inference**, Minor Applied Probability and Statistics, Master in Biostatistics.

Spring 2014 **Practical Bioinformatics**, Blockmodule for biology students.

Fall 2013 **Statistische Modellierung**, Minor Applied Probability and Statistics, Master in Biostatistics.

Spring 2013 **Applied Statistical Modelling**, Blockmodule for biology students.

Fall 2012 **Epidemiologie&Statistik**, Blockmodule for veterinary epidemiologists students.

Student assistant at UNITO, Math Department

Fall 2010 **Precorso di Matematica**, preparatory course for students starting the B.Sc. in Mathematics.

Fall 2009 **Laboratorio di Analisi Numerica**, lab course for students in the B.Sc. in Mathematics.

Research Interests

Additive Bayesian networks and Bayesian hierarchical models applied to epidemiological studies, choice of suitable priors, statistical data analysis, regression models, forecasting methods. Medical protocol drafting. Robust and mixed models regression techniques applied to tax and philanthropic data. Demographic study: estimation and forecast population.

Publications

Google Scholar <https://scholar.google.it/citations?user=rsV-vNEAAAJ&hl=it>. H-index: 8. Citations: 464.

Journal Articles

- Kratzer G, Lewis FI, Comin A, **Pittavino M** and Furrer R (2023). "Additive Bayesian Network Modelling with the R Package abn". *Journal of Statistical Software* 105:8.
- Gosetto L, **Pittavino M**, Falquet G, Ehrlerb F (2023). "Personalization of Mobile Apps for Health Behavior Change: Protocol for a Cross-sectional Study". *JMIR Research Protocols*; 12:e38603. <https://doi.org/10.2196/38603>. PMID: 36602850
- Wang J, Kuang Y, Shen S, Price M-J, Lu J, Sattar N, He J, **Pittavino M**, Xia H, Thomas G-N, Qiu X, Cheng K-K, Nirantharakumar K (2022). "Association of maternal lipid levels with birth weight and cord blood insulin: A Bayesian Network analysis". *BMJ Open*; 12:e064122.
- Lideikyte-Huber G and **Pittavino M** (2022). "Who donates and how? New evidence on the tax incentives in the canton of Geneva, Switzerland". *Journal of Empirical Legal Studies* 19:3.
- Maji M, Verhamme A, Rosdahl J, Garel T, Blaizot J, Mauerhofer V, **Pittavino M**, Victoria Feser MP, Chuniaud M, Kimm T, Katz H, and Haehnelt M (2022). "Predicting LyC emission of galaxies using their physical and Ly α emission properties". *Astronomy & Astrophysics* 663.
- Ochoa C, **Pittavino M**, Babo Martins S, Alcoba Wright FG, Bolon I, Ruiz de Castañeda RL, Joost S, Sharma SK, Chappuis F, Ray N (2021). "Estimating snakebite risk in the Terai, Nepal: a high-resolution geospatial and One Health analysis". *Scientific Reports* 11, 23868.
- **Pittavino M**, Dreyfus A, Heuer C, Benschop J, Wilson P, Torgerson P, Furrer R (2017). "Data on *Leptospira interrogans* sv Pomona in Meat Workers in New Zealand". *Data in Brief* 13, 587-596, ELSEVIER.
- **Pittavino M**, Dreyfus A, Heuer C, Benschop J, Wilson P, Torgerson P, Furrer R (2017). "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, 191-199, ELSEVIER.
- Van der Lely S, Stefanovic M, Schmidhalter M, **Pittavino M**, Furrer R, Kessler T, Mehnert U (2016). "Protocol for a prospective, randomized study on neurophysiological assessment of lower urinary tract function in a healthy cohort". *BMC Urology* 16:69, BioMed Central.
- Hartnack S, Springer S, **Pittavino M**, Grimm H (2016). "Attitudes of Austrian veterinarians towards euthanasia in small animal practice: impacts of age and gender on views on euthanasia". *BMC Veterinary Research* 12:26, BioMed Central.
- **Pittavino M**, Ferreri L, Giacobini M, Bertolotti L, Rosati S, Venturino E (2014). "A CAEV epidemiological model for goat breeding". *Applied Mathematics and Computation* 227, ELSEVIER, 156-163.
- Ajraldi V, **Pittavino M**, Venturino E (2011). "Modeling herd behavior in population systems". *Nonlinear Analysis: Real World Applications* 12, ELSEVIER, 2319-2338.

Conference Proceedings/Book Chapters

- **Pittavino M**, Arpino B, and Pirani E (2023). "Kinlessness in adult and old age across Europe". *Accepted for Publication in Book of Short Papers SIS 2023*, Pearson.
- Lideikyte-Huber G, **Pittavino M** and Peter H (2021). "Tax incentive for charitable giving: evidence from the Canton of Geneva, Switzerland". *Routledge Handbook of Taxation and Philanthropy*. <https://archive-ouverte.unige.ch/unige:157028>.

- Kratzer G, Furrer R and **Pittavino M** (2019). "Comparison between Suitable Priors for Additive Bayesian Networks". *Springer Proceedings in Mathematics & Statistics book series: Bayesian Statistics and New Generations, BAYSM 2018*. https://doi.org/10.1007/978-3-030-30611-3_10.
- **Pittavino M**, Furrer R (2018). "Additive Bayesian networks for an epidemiological analysis of swine diseases". *Book of Short Papers SIS 2018*, Proceedings of the 49th Meeting of the Italian Statistical Society, ISBN-978 889 191 0233, Pearson, 1160-1165. <https://meetings3.sis-statistica.org/index.php/sis2018/50th/paper/viewFile/1213/188>.
- **Pittavino M**, Ferreri L, Giacobini M, Bertolotti L, Rosati S, Venturino E (2012). "Influence of Small Ruminant Lentivirus infection on the replacement rate in goat breeding", *Hystrix, the Italian Journal of Mammology*, 169.
- Panero M, **Pittavino M** (2012). "GeoGebra e le curve di Bézier", *Proceedings of the Vth Biannual National Conference DI.FI.MA. (Didattica della Fisica e della Matematica)*, In: Robutti O, and Mosca M (eds), Torino, 547-556.

PhD Thesis

- **Pittavino M** (2016). "Additive Bayesian Networks for Multivariate Data: Parameter Learning, Model Fitting and Applications in Veterinary Epidemiology ", Universität Zürich. Available from the UZH Open Archive: <https://www.zora.uzh.ch/id/eprint/126930/9/20162782.pdf>.

Working papers

- **Pittavino M**, Johansson M, Plummer M, Ferrari P, "A Bayesian hierarchical framework to integrate dietary exposure and biomarker measurements into aetiological models". MedRxiv 2022. Available from: <https://doi.org/10.1101/2022.03.24.22272838>.
- **Pittavino M**, and Lideikyte-Huber G, "Charitable deductions: modelling of longitudinal taxpayers' data for time-regularity estimation and future predictions.". Submitted.
- **Pittavino M**, Furrer R, "Conjugate Priors for Additive Bayesian Networks".

Ongoing scientific collaborations and research projects

PNRR: AGE-IT	Collaborator in the PNRR project: PE8 - AGE-IT: A Novel Public-Private Alliance To Generate Socioeconomic, Biomedical And Technological Solutions For An Inclusive Italian Ageing Society . Forecasting kinship networks and kinless individuals.
Escape Game Learning	PI for the development of online "Escape Game Rooms" as a summative assessment tool for course evaluation. The Genially Academy software, https://academy.genial.ly , is used for the implementation. Research projects in collaboration with Anastasia Floru: https://www.unige.ch/innovations-pedagogiques/innovations/escape-game .
Taxation and Philanthropy	Regressions models for tax and philanthropic data: https://www.unige.ch/philanthropie/en/research-publication/research/philanthropy-and-taxation . In collaboration with Prof. Henry Peter and Dr. Giedre Lideikyte-Huber, from the Geneva Center for Philanthropy: https://www.unige.ch/philanthropie/en/centre/research-team/team .
Data Science For All	UNIGE pedagogical and statistical projects. Videos filming to explain statistical techniques, in a simple divulgative way: https://datascience.unige.ch/forall/videos .
P3 project	Statistics as a tool for the well-being of animal experimentation: https://www.unige.ch/p3/appel-projet/accueil-projets/printemps-2022/140 . Co-PI, in collaboration with Daniele Roppolo, Director of the UNIGE Rectorate Animal Experimentation: https://www.unige.ch/recherche/expanim/contact/contact .
One Health Approach	First One Health Approach to snakebite in Nepal. In collaboration with the UNIGE Faculty of Medicine, Institute of Global Health, Prof. Nicolas Ray and Carlos Ochoa: https://www.unige.ch/medecine/isg/en/research/one-health-unit/research-summary/ .

Languages

Italian **Mother tongue**
 English **Fluent**

French **Fluent**
German **Basic**

Master Students Supervision at UNIGE

Academic Master Thesis, linked to a research project

- 2022-2023 **Dose-Response Relationship for Tumor Growth Inhibition in Early Development Oncology Clinical Trial**, *Muresan I.-M.*, In collaboration with a biostatistics internship at Roche, Master in Statistics.
- 2022-2023 **Examining charitable giving and donors' characteristics for "Swiss Solidarity"**, *Da Mata Carneiro P.*, Co-supervision with Prof. G. Ugazio, Master in Statistics.
- 2021-2022 **Meta-analyses of survival rates: improving the extraction of the standard errors from reported 95% confidence intervals**, *Ello A. M.*, Co-supervision with Dr. Combescure Christophe, in collaboration with an internship at the "Unité d'Appui Méthodologique", from the "Hopitaux Universitaires de Genève", HUG, Geneva, Master in Statistics.
- 2021 **Financial Flows Forecasting: Prediction model of incomes in a trading company**, *Parkhomchuk V.*
- 2020-2021 **Behind the scenes of the 2020 Bitcoin's bull-cycle: A data-analytics perspective**, *Mendieta Zurita JE.*
- 2020 **Time Series Forecasting: Comparing Statistical And Machine Learning Models**, *Panschiri C.*
- 2020 **Time Series Forecasting With Geostatistical Modelling Versus Spatio-Temporal Modelling: Which Method Is More Suitable In Predicting Temperatures In Switzerland using open station data?**, *Harrisson O.*, Co-supervision with Dr. A. Papritz from ETH Zürich, Swiss Federal Institute of Technology in Zurich.

Business Master Thesis, linked to a company internship

- 2022-2023 **New tools for data visualization and data-driven based processes improvement**, *Da Silva M.*
- 2022-2023 **Improve reporting and data capabilities of online Swiss banking**, *Marchelewska K.*
- 2022-2023 **Management of resources in the emergency service from an analytical perspective**, *Rowe V.*
- 2022-2023 **Procurement & end-to-end supply chain optimization, through data analysis, at DuPont**, *Belkhechine A.*
- 2021-2022 **Supply Chain Management Datamart/Analytics Solution**, *Vemavarapu S. K.*
- 2021-2022 **Sales and Operations Planning cycle in the Europe, Middle East and Africa region within Becton Dickinson Regional Headquarter**, *Andriamasy H.*
- 2021-2022 **Forecasting monthly MRO spend in DuPont Water & Protection division**, *Tétreault-Falsafi L.*
- 2021-2022 **SAT: an innovative stock allocation tool for products with high out-of-stock risk**, *Soica J.*, Best average Bachelor student in GSEM Bachelor Program, graduated November 2020.
- 2020-2021 **Forecasting Sales For Pollen Allergy Products**, *Favrat M.*
- 2020-2021 **Population 2026 Project**, *Kalantzi V.*, Best average Master student in Business Analytics, MaBAn, graduated November 2021.
- 2020-2021 **PWC Certification Equal Salary**, *Kronnenber Y.*
- 2020-2021 **Health Indicators Dashboards**, *Solano, Rodriguez J. G.*
- 2020-2021 **Sales' Allocation For Reparable Components**, *Rozo, Velandia E. M.*
- 2020 **Automatic Dissemination Of COVID-19 Medical Stock Data**, *Pialopoulos J.*
- 2020 **The Importance Of Adequate Key Performance Indicators To Evaluate The Supply Chain In The Swiss Operational Centre of Médecins Sans Frontières**, *Rugi V.*

Seminars and Conferences

Invited talks

- 2023 *UPS Seminar*, Population and Society Unit (UPS), Department of Statistics, Computer Science, Applicatins "Giuseppe Parenti" (DISIA), Università di di Firenze (UNIFI), Firenze, **Italy**.
- 2023 *DISIA Welcome Seminar*, DISIA, UNIFI, Firenze, **Italy**.
- 2023 *Data Science Tools 2023*, Competence Center on Data Science (CCDS), Geneva, **Switzerland**.
- 2022 *CMStatistics 2022*, Computational and Methodological Statistics, King's College London, London, **UK**.
- Torino Seminar Series in "Stochastics and Mathematical Statistics"*, UNITO, Torino, **Italy**.
- Conférence AGEFI Magazine Philanthropie*, Geneva, **Switzerland**.
- Welcome Home Workshop 2022*, UNITO, Torino, **Italy**.
- UNIGE Data Science Day 2022*, UNIGE, Geneva, **Switzerland**.
- UNIGE Pedagogical Innovation Team Seminar 2022*, UNIGE, Geneva, **Switzerland**.
- MIT Statistics Seminars Series*, MIT, Boston, **USA**.
- 2021 *CMStatistics 2021*, Computational and Methodological Statistics, King's College London, London, **UK**.
- UNIGE Data Science Day 2021*, UNIGE, Geneva, **Switzerland**.
- 2020 *Welcome Home Workshop 2020*, UNITO, **virtual workshop**.
- Taxation and Philanthropy Conference 2020*, UNIGE, **virtual conference**.
- Launch of the new Data Science Competence Center*, UNIGE, Geneva, **Switzerland**.
- 2018 *Statistics seminars*, Research Center for Statistics, UNIGE, Geneva, **Switzerland**.
- 2017 *Welcome Home Workshop 2017, Round Table Leader*, UNITO, Torino, **Italy**.
- Statistics seminars*, International Agency for Research on Cancer, IARC, Lyon, **France**.
- Biostatistics seminars*, I-Math Institute, UZH, Zurich, **Switzerland**.
- 2016 *Probability seminars*, Math Department, UNITO, Torino, **Italy**.
- 2014 *VPHI Seminar*, UNIBE, Bern, **Switzerland**.
- 2013 *VPH Annual Conference 2013*, UNIBE, Bern, **Switzerland**.
- ZGSM Graduate Colloquium*, UZH, Zurich, **Switzerland**.
- 2012 *Welcome Home Workshop 2012*, UNITO, Torino, **Italy**.
- 2011 *Vth Biannual National Conference DI.FI.MA. 2011*, UNITO, Torino, **Italy**.

Contributed talks at conferences

- 2023 *Scientific Meeting Classification and Data Analysis Group, CLADAG 2023*, Salerno, **Italy**.
- 2023 *Scientific Meeting of Italian Statistical Society, SIS 2023*, Ancona, **Italy**.
- 2020 *Computational and Methodological Statistics*, King's College London, **virtual conference**.
- 2019 *Bayesian Biostatistics Lyon 2019, BAYES 2019*, Lyon, **France**.
- 2018 *Scientific Meeting of Italian Statistical Society, SIS 2018*, Palermo, **Italy**.
- 2015 *Joint Statistical Meeting 2015, JSM 2015*, Seattle, **USA**.
- Meeting of the International Biometric Society, IBS 2015*, Milan, **Italy**.
- 2014 *DACH Epidemiologietagung Tiergesundheit und Okonomie*, Zurich, **Switzerland**.
- 27th International Biometric Conference, IBC 2014*, Florence, **Italy**.

Poster presentations at conferences

- 2018 *Bayesian learning theory for complex data modelling*, IFSS 2018, Grenoble, **France**.
- International Society for Bayesian Analysis, ISBA 2018*, Edinburgh, **UK**.
- 2016 *International Conference for IARC's 50th Anniversary*, Lyon, **France**.
- 2014 *Bayesian Biostatistics 2014, BB 2014*, UZH, **Switzerland**.

Computational skills

Softwares R, Statistica, SAS, JAGS, WinBUGS (Unix and Windows), Stata, Mathematica, MATLAB.

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.

Date,
11.06.2023