CURRICULUM VITAE

Giacomo Zanella

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Employment

2019 - present	**Assistant Professor in Statistics** at **Bocconi University**, Dept. of Decision Sciences.
2016 - 2019	**Post-Doctoral Researcher** in Statistics at **Bocconi University**, funded by the European Research Council grant "New Directions in Bayesian NonParametrics".
2016 - present	**Affiliated** to the Bocconi Institute for Data Science and Analytics (BIDSA), the Innocenzo Gasparini Intitute for Economics research (IGIER) and the De Castro Statistics initiative at the Collegio Carlo Alberto (Turin, Italy).
2015 - 2016	**EPSRC Doctoral Prize fellow** in the Mathematical Sciences at the **University of Warwick** (UK), Department of Statistics. Academic sponsor: **Gareth O. Roberts**. The Engineering and Physical Sciences Research Council (EPSRC) Doctoral Prize is a prestigious scheme aimed to "recruit the best PhD students receiving EPSRC support" and "to improve retention of the very best students in research careers" (EPSRC website).

Education

2012 - 2015	**PhD in Statistics** at the **University of Warwick**. Supervisor: **Wilfrid S. Kendall**. Thesis title: Bayesian complementary clustering, MCMC and Anglo-Saxon place-names. PhD Viva: January 2016. Examiners: Victor Panaretos (EPFL), Yee Whye Teh (Oxford).
2012	Visiting student at **Chalmers University of Technology**, Goteborg, Sweden.
2010 - 2012	**Master degree** in **Mathematics**, **110/110 cum laude**, Grade Average 29.7/30. University of Milan (Università degli Studi di Milano), Italy. Master thesis: *Branching-Stable Point Processes*. Supervisors: V.Capasso, S.Zuyev.
2007 - 2010	**Bachelor degree** in **Mathematics**, **110/110 cum laude**, Grade Average: 29.0/30. University of Milan, Italy. Thesis: *Maps and plans in optimal transportation theory.*
2005 - 2006	Exchange year (4^{th} year of High School) at **St. Dominic's High School**, London, UK.
2002 - 2007	**Scientific High School** (Liceo Sacro Cuore), Milan, Italy. Final score: **100/100**.

Teaching and Supervision experience

2022 - present	**Course Director**: Stochastic processes and simulation in the natural sciences. Bocconi University, BSc School
2021 - present	**Course Director**: Advanced Computational Statistics. Bocconi University, PhD School
2021 - present	**Lecturer**: Bayesian Theory I. Bocconi University, PhD School
2020	**Course Director**: Introduction to Statistics. Bocconi University, PhD School
2019 - 2023	**Lecturer**: Machine Learning II. Bocconi University, MSc School
2018 - 2022	**Course Director**: Applied Stochastic Processes. Bocconi University, BSc School
2017 - 2022	**Lecturer**: Bayesian Statistical methods. Bocconi University, MSc School
2016 - 2019	**Lecturer**: Mathematics&Statistics: Module 2. Bocconi University, BSc School
2017 - present	**Supervision** of BSc., M.Sc. and PhD students. Bocconi University.
2015	Teaching Assistant: ABS2015 Summer School for PhD students. Como, Italy
2013 - 2015	Teaching Assistant: Applied Stochastic Processes. University of Warwick, BSc School
2012 - 2015	Teaching Assistant: Probability Theory. University of Warwick, BSc School

Main publications and papers under review

M.Goplerud, O.Papaspiliopoulos and G.Zanella (2024+) **Partially factorized variational inference for high-dimensional mixed models**. *Submitted, preprint at arXiv:2312.13148*

F.Ascolani, G.O.Roberts and G.Zanella (2024+) **Scalability of Metropolis-within-Gibbs schemes for high-dimensional Bayesian models**. *Submitted, preprint at arXiv:2403.09416*

F.Ascolani and G.Zanella (2024) **Complexity of Gibbs Samplers through Bayesian Asymptotics**. *Annals of Statistics, in press.*

L.Silva and G.Zanella (2024) **Robust leave-one-out cross-validation for high-dimensional Bayesian models**. *Journal of the American Statistical Association, in press.*

L.Mauri and G.Zanella (2024) **Robust Approximate Sampling via Stochastic Gradient Barker Dynamics**. *International Conference on Artificial Intelligence and Statistics (AISTATS 2024), oral presentation.*

P.Gagnon, F.Maire and G.Zanella (2023) **Improving multiple-try Metropolis with local balancing**. *Journal of Machine Learning Research, 24(248):1-59.*

O.Papaspiliopoulos, T.Stumpf-Fétizon and G.Zanella(2023) **Scalable Bayesian computation for crossed and nested hierarchical models**. *Electronic Journal of Statistics, 17(2): 3575-3612.*

N.Anceschi, A.Fasano, D.Durante and G.Zanella (2023) **Bayesian conjugacy in probit, tobit, multinomial probit and extensions: A review and new results**. *Journal of the American Statistical Association, 118(542), 1451-1469.*

J.Vogrinc, S.Livingstone and G.Zanella (2023) **Optimal design of the Barker proposal and other locally-balanced Metropolis-Hastings algorithms**. *Biometrika, 110(3), 579-595.*

F.Ascolani, A.Lijoi, G.Rebaudo and G.Zanella (2022) **Clustering consistency with Dirichlet process mixtures**. *Biometrika, 110(2), 551-558.*

B.Betancourt, G.Zanella and R.Steorts (2022) **Random Partition Models for Microclustering Tasks**. *Journal of the American Statistical Association, 117(539), 1215-1227.*

A.Fasano, D.Durante and G.Zanella (2022) **Scalable and Accurate Variational Bayes for High-Dimensional Binary Regression Models**. *Biometrika, 109(4), 901-919.*

S.Livingstone and G.Zanella (2022) **The Barker proposal: combining robustness and efficiency in gradient-based MCMC**. *Journal of the Royal Statistical Society: Series B (Statistical Methodology), 84(2), 496-523.*

G.Zanella and G.O.Roberts (2021) **Multilevel linear models, Gibbs samplers and multigrid decompositions**. *Bayesian Analysis (with discussion), 16(4), 1309-1391. Recipient of 2022 Lindley Prize.*

M.Hird, S.Livingstone, G.Zanella (2021) **A fresh take on 'Barker dynamics' for MCMC**. *Proceedings of MCQMC2020*

O.Papaspiliopoulos, G.Roberts, and G.Zanella (2020) **Scalable inferences for crossed random effect models**. *Biometrika, 107(1), 25-40.*

G.Zanella (2020) **Informed proposals for local MCMC in discrete spaces**. *Journal of the American Statistical Association (T&M), 115(530), 852-865.*

G.Zanella and G.Roberts (2019) **Scalable importance tempering and Bayesian variable selection**. *Journal of the Royal Statistical Society: Series B (Statistical Methodology), 81(3), 489-517.*

A.Lee, S.Tiberi and G.Zanella (2019) **Unbiased approximations of products of expectations**. *Biometrika, 106(3), 708-715.*

O.Papaspiliopoulos and G.Zanella (2017) **A note on MCMC for nested multilevel regression models via belief propagation**. Technical report. ArXiv preprint at arXiv:1704.06064

G.Zanella, M.Bedard, W.Kendall (2017) **A Dirichlet form approach to MCMC Optimal Scaling**. *Stochastic Processes and their Applications.* 127(12), 4053-4082.

G.Zanella, B.Betancourt, J.Miller, H.Wallach, A.Zaidi, R.Steorts (2016) **Flexible Models for Microclustering with Applications to Entity Resolution**. *Advances in Neural Information Processing Systems (NIPS)* 27, 1417-1425.

G.Zanella (2015) **Random partition models and complementary clustering of Anglo-Saxon place-names**, *Annals of Applied Statistics*. 9(4), 1792-1822.

G.Zanella and S.Zuyev (2015) **Branching-Stable point processes**, *Electronic Journal of Probability*. 20 (119), 1-26.

D.Bissacco, V.Catanese, A.Fossati, S.Salvati, M.Carmo, G.Zanella and P.Settembrini (2015) **Effect of Chronic Kidney Disease on Long-Term Survival in Asymptomatic Patients Undergoing Carotid Endarterectomy**. *Journal of Vascular Surgery*, 61(6):67S.

Grants, Fellowships and Awards

2022-2028	**PI for a ERC Starting Grant** for the project "Provable Scalability for high-dimensional Bayesian Learning" in the panel PE1 (Mathematics). Funding: 1.488.673 euros
2022	**2022 Lindley Prize** awarded for innovative research in Bayesian Statistics by the International Society for Bayesian Analysis
2020 - 2024	Bocconi **Research Excellence Award**. Bocconi University.
2020	**National Scientific Qualification** as Associate Professor in Statistics
2018	**Marie Sklodowska-Curie Actions Seal of Excellence**, for an Individual Fellowship application (certicate awarded to applications scoring above 85%)
2017	**Savage Award** (Honorable Mention). International Society for Bayesian Analysis.
2017	**John Copas Prize** in Statistics (for best PhD thesis). Faculty of Science of the University of Warwick
2015 - 2016	**PI for a UK EPSRC grant**. Project title: MCMC theory for discrete spaces. Duration: 12 months. Funding: 39.868£
2015	**Giving to Warwick Prize** (for outstanding teaching contributions). Department of Statistics. University of Warwick.
2014 - 2016	**Junior Travel Award** for ISBA 2014, MCMSki V (2015) and ISBA 2016 conferences.
2014	**Honourable mention for poster**, MCMSki IV conference.
2013	**Warwick Awards for Teaching Excellence** (nomination). University of Warwick.
2012 - 2015	Center for Research in Statistical Methodology **(CRiSM) PhD studentship**
2008 - 2010	Incentives for students enrolled in Chemistry, Physics and Mathematics degrees. Award assigned by the University of Milan
2007	**Merit scolarship from INdAM** (National Institute of High Mathematics). Monetary award assigned through national examination to 40 students in Mathematics across all Italy.

Invited Presentations

Conferences, workshops and seminars (selection): StaTalk, Rome (09/2023); SODS workshop at ICML 2023, Hawaii, US (07/2023); University of Jyvaskyla, Department of Mathematics and Statistics, Finland (06/2023); Workshop on Theory for Scalable, Modern Statistical Methods, Bocconi University, Milan (04/2023); BayesComp 2023, Levi, Finland (03/2023); Bicocca University, Department of Economics, Management and Statistics, Milan (2022/12); FUSION workshop, CIRM Marseille (2022/10); ISPNS 2022, Cyprus (2022/06); Imperial College, Mathematics (2022/06); ESSEC Business School (2022/03); U. of Padova, Statistical Sciences (2022/03); King's College, Mathematics (2021/12); Joint Statistical Meetings, Washington State (2021/08); ISBA Conference (2021/07); U.of Bristol, Mathematics (2021/03); BayesComp 2020, U.of Florida, (2020/01); Probabilistic Coupling and Geometry Workshop, U.of Warwick (2019/12); European Meeting of Statisticians, Palermo (2019/07); Texas A&M, Statistics (2019/02); Purdue, Statistics (2019/02); Duke, Statistical Science (2019/01); U.of Toronto, Statistical Science (2019/01); U.of Cambridge, StatsLab (2019/01); CIRM Masterclass in Bayesian Statistics, Luminy (2018/10); EPFL, Mathematics (2018/03); BayesComp 2018; U.of Southampton, Mathematical Sciences (2017/12); ERCIM 2017 (2017/10); LMS Symposium on Markov Processes, Durham (2017/07); Greek Stochastics, Milos (2017/07); BISP10, Milan (2017/07)

Other academic activities and institutional responsibilities

2023	Member of the **Savage Award Committee** (T&M section)
2020 - present	**Associate Editor** for *Statistical Science*
2022	Judge for the **SBSS Student Paper Competition**
2020 - 2021	Member of the Seminar on Stochastic Processes **(SSP 2021) tutorial committee**
2020 - present	**Board member** of the Ph.D. in Statistics and Computer Science. Bocconi University
2019 - present	**Co-organizer** of the Statistics Seminar Series of Bocconi University.
2020	Co-organizer of the Webinar Series "Junior Bayes Beyond the Borders", sponsored by ISBA.
2018	Organizer of invited session on "Scalable Inferences for Hierarchical Models" at BayesComp2018, UPF, Barcelona, Spain.
2015 - present	**Referee for** (selected): Journal of the Royal Statistical Society series B; Annals of Statistics, Biometrika; Journal of the American Statistical Association (T&M and A&CS); Statistical Science; Bayesian Analysis; Annals of Applied Statistics; Annals of Applied Probability; Statistics and Computing; Journal of Computational and Graphical Statistics; IEEE transactions in Information Theory; Computational Statistics & Data Analysis; Journal of Machine Learning Research.
2014 - present	**Visiting research periods** at the Athens University of Economics and Business, University of Warwick, Duke University, Chalmers University of Technology
2017	**Invited participant to the Isaac Newton Institute** scientific programme on "Scalable inference; statistical, algorithmic, computational aspects", University of Cambridge, UK.
2016 - present	Referee for Neural Information Processing Systems (**NeurIPS**) and International Conference on Machine Learning (**ICML**) conference proceedings.

IT skills

R, **Python**, **C**, **MatLab**, Maple, Wolfram Mathematica, **LaTeX**, Microsoft Office Programs, Adobe Photoshop.

Languages

Italian (mother tongue); **English** (fluent). **IELTS certificate with band score 8.0/9** (July 2012).