

Daniele Durante: Curriculum Vitae

CONTACT INFORMATION	Department of Decision Sciences Bocconi University Via Röntgen, 1, 20136 Milan	✉: daniele.durante@unibocconi.it web: https://danieledurante.github.io/web/
RESEARCH INTERESTS	(Social) Network Analysis, Bayesian Methods and Computation, Binary and Categorical Data, Latent Variables Models, Bayesian Nonparametrics, Statistical Learning in High Dimension	
CURRENT ACADEMIC POSITIONS	Assistant Professor Bocconi University, Department of Decision Sciences Research Affiliate <ul style="list-style-type: none">Bocconi Institute for Data Science and Analytics [BIDSA]; DONDENA Centre for Research on Social Dynamics and Public Policy; Laboratory for Coronavirus Crisis Research [COVID LAB]	09/2017 — Present
PAST ACADEMIC POSITIONS	Post-Doctoral Research Fellow University of Padova, Department of Statistical Sciences Adjunct Professor Ca' Foscari University, Department of Economics and Management Visiting Research Scholar Duke University, Department of Statistical Sciences	02/2016 — 08/2017 12/2015 — 12/2016 03/2014 — 02/2015
EDUCATION	University of Padova , Department of Statistical Sciences Ph.D. in Statistics. Department of Statistical Sciences <ul style="list-style-type: none">Ph.D. Thesis Topic: <i>Bayesian nonparametric modeling of network data</i>Advisor: Bruno Scarpa. Co-advisor: David B. Dunson M.Sc. in Statistical Sciences. Department of Statistical Sciences B.Sc. in Statistics, Economics and Finance. Department of Statistics	2013 — 2016 2010 — 2012 2007 — 2010
AWARDS	Excellence in Teaching Award. Bocconi University Early-Career Scholar Award for Contributions to Statistics. Italian Statistical Society Research Excellence Award. Bocconi University Leonardo da Vinci Medal. Italian Ministry of University and Research Research Excellence Award. Bocconi University Innovation in Teaching Award. Bocconi University National Scientific Qualification for Associate Professor in Statistics [13/D1] Doctoral Thesis Award in Statistics. Italian Statistical Society Mitchell Award. International Society for Bayesian Analysis Theory-Methods Editor's Invited Paper [JASA]. American Statistical Association Byar Award. Biometrics Section. American Statistical Association Lifetime Members Junior Award. International Society for Bayesian Analysis Laplace Award. Bayesian Statistical Sciences Section. American Statistical Association	2022 2021 2021 2020 2020 2020 2018 2018 2017 2017 2015 2014 2013
EDITORIAL ACTIVITY	Associate Editor Journal of Multivariate Analysis Biometrika Journal of Computational and Graphical Statistics	09/2021 — Present 08/2019 — Present 09/2018 — Present

Referee [selected — alphabetical order]

Annals of Applied Statistics; Annals of Statistics; AISTATS; Bayesian Analysis; Biometrics; Biometrika; Computational Statistics & Data Analysis; Journal of the American Statistical Association; Journal of Computational and Graphical Statistics; Journal of Machine Learning Research; Journal of Multivariate Analysis; Journal of the Royal Statistical Society, B; Journal of the Royal Statistical Society, C; Network Science; NeurIPS; Sankhya A; Statistica Neerlandica; Social Networks; Statistical Science; Statistics and Computing.

SERVICE TO PROFESSION

Positions in Scientific Societies

— [SIS] Member of the selection committee for the Early-Career Scholar Award	2022
— [ISBA] Chair of the Blackwell–Rosenbluth Award scientific committee	2022
— [ISBA] Vice-Chair of the Blackwell–Rosenbluth Award scientific committee	2021
— [IMS] Member of the IMS committee on nominations	2020
— [ISBA] Member of the ISBA Task Team for codes of conduct and procedures	2019/18
— [ISBA] Chair of the J-ISBA Section	2018
— [SIS] Chair of the Y-SIS Section	2018
— [ASA] Member of the selection committee for the Laplace Award	2018
— [ISBA] Chair–Elect of the J-ISBA Section	2017
— [SIS] Secretary of the Y-SIS Section	2017

Membership to Scientific Societies

American Statistical Association [ASA], International Society for Bayesian Analysis [ISBA], Italian Statistical Society [SIS], Institute of Mathematical Statistics [IMS], Italian Association for Population Studies [AISP].

Organization of Scientific Events

Organizing committee of Junior Bayes Beyond the Borders. Milan	2021/2020
Organizing committee of SELECT workshop. Milan	2021/2020
Local committee of sis2019 Conference. Milan	2019
Chair of Stats under the Stars 5. Milan	2019
Organizing committee of BAYSM2018 meeting. Warwick	2018
Scientific committee of sis2018 Conference. Palermo	2018
Scientific committee of StartUpResearch. Siena	2017
Organizing committee of Stats under the Stars 2. Salerno	2016
Chair of Stats under the Stars 1. Padova	2015
Organizing committee of Statistica e Data Science per il Business. Padova	2015

Sessions Organized at Conferences

Session organized at sis2022. Caserta	2022
Session organized at COMPSTAT2022. Bologna	2022
Session organized [with J-ISBA] at IV COBAL. Lima	2019
Session organized [with Y-SIS] at ERCIM2018. Pisa	2018
Session organized [with J-ISBA] at ISBA2018. Edinburgh	2018
Session organized [with J-ISBA] at JSM2017. Baltimore	2017

Outreach

— [SUS] Founder and leading organizer of “Stats Under the Stars” “Stats Under the Stars” (SUS) is a series of Data Science hackathons for university students, organized annually, since 2015, all over Italy and endorsed by the Italian Statistical Society.	2015 — Present
— [TEDx talk] The Geometry of Relationships (≈ 42000 views on YouTube) https://www.ted.com/talks/daniele_durante_daniele_durante_la_geometria_delle_relazioni	2018

SERVICE TO UNIVERSITY

Positions in Boards and Committees

Member of the Bocconi Junior Hiring Committee (DEC Department)	2022 — Present
Mentor at the IGIER–BIDSA Visiting Student Initiative	2019 — Present
Coordinator of the DEC Seminars Series	2019 — Present

Coordinator of the BIDS Seminar Series	2018 — Present
Program committee member of the MSc in DS&BA	2018 — Present
Faculty board member of Ph.D. in Statistics & Computer Science	2017 — Present

Doctoral thesis committee member of the Ph.D. in Statistics: Marta Crispino [2018], Michele Peruzzi [2019], Amir Khorrami Chokami [2019] and Tommaso Rigon [2020]

Students and Postdocs Supervised or Co-supervised

- **Current Ph.Ds and Postdocs**
 - Federico Pavone [Ph.D.], Francesco Pozza [Ph.D.], Valentina Ghidini [Ph.D.], Niccoló Anceschi [Ph.D.], Patric Dolmeta [Ph.D.], Gregor Zens [Postdoc]
- **Former Ph.Ds and Postdocs**
 - Sirio Legramanti [Ph.D. and Postdoc. 2021 ASA–SBSS Student Paper Award]. Now Assistant Professor in Statistics at the University of Bergamo, Italy. <https://siriolegramanti.wordpress.com/>.
 - Augusto Fasano [Ph.D. 2022 Savage Award Finalist in Applied Methodology]. Now Scientific Officer at the Research Centre of the European Commission. <https://sites.google.com/view/augustofasano>
- **Current and Former BSc and MSc Students**
 - I have supervised about 20 MSc students and 10 BSc students in both applied and research-oriented theses on a broad range of topics, covering Network Science, Dynamic Models, Machine Learning, Multi-armed Bandits, Recommender Systems, and VB, among others.

Innovation in Teaching

Bocconi Data Science Challenges platform. I have designed and then developed in collaboration with BUILT a platform for online data-analytics challenges that can be used by students as a gaming and learning experience in the context of the Data Science courses. **2019**

Outreach Events and Projects

Invited speaker for the Bocconi Job Lab project [Online]	2021
Invited speaker for the Bocconi Snack News project [Bologna]	2019
Invited speaker for the Bocconi Ph.D. BEAT program	2019
Chair of the hackathon Stats under the Stars 5	2019

Collaborations with the Bocconi Magazine VIA SARFATTI 25

L'algoritmo della luna che prevede il futuro [N.10, 2019], Come studiare le reti di connessione [N.03, 2018], Il cervello? Un social network biologico. Comprenderlo aiuterà l'AI [N.12, 2017]

FUNDINGS AND GRANTS

Unit coordinator (CO-PI) of the PRIN [MIUR] project “Unfolding the SEcrets of LongEvity: Current Trends and future prospects [SELECT]”. PI: Stefano Campostrini	2019 — 2022
Member of the research group of the ERC project “Individual Decisions and Macroeconomic Robustness [INDIMACRO]”. PI: Massimo Marinacci	2017 — 2019
Member of the research group of the project funded by the University of Padova “Bayesian Inference on Brain Network Data”. PI: Bruno Scarpa	2016 — 2017
Member of the research group of the ONR project “Bayesian Learning for High-Dimensional Low Sample Size Data”. PI: David Dunson	2014 — 2017

PUBLICATIONS

Citations from Google Scholar • TOTAL: 726 • — • H-INDEX: 14 • — • I10-INDEX: 17
Codes • <https://github.com/danieledurante>

Manuscripts [UNDER REVIEW]

1. Pavone, F., Legramanti, S., **Durante, D.** (2022) Learning and forecasting of age-specific period mortality via B-spline processes with locally-adaptive dynamic coefficients. *arXiv:2209.12047 (in review)*.
2. Legramanti, S., **Durante, D.**, Alquier, P. (2022) Concentration and robustness of discrepancy-based ABC via Rademacher complexity. *arXiv:2206.06991 (in review)*.

3. Anceschi, N., Fasano, A., **Durante, D.**, Zanella, G. (2022) Bayesian conjugacy in probit, tobit, multinomial probit and extensions: A review and new results. *arXiv:2206.08118 (in review)*.

Published Articles [PEER-REVIEWED]

4. Fasano, A., **Durante, D.** and Zanella, G. (2022+) Scalable and accurate variational Bayes for high-dimensional binary regression models. *Biometrika*. In Press.
5. Legramanti S., Rigon, T., **Durante, D.** and Dunson, D.B. (2022) Extended stochastic block models with application to criminal networks. *Annals of Applied Statistics*, 16, 2369–2395.
6. Cao, J., **Durante, D.** and Genton, M. (2022) Scalable computation of predictive probabilities in probit models with Gaussian process priors. *Journal of Computational and Graphical Statistics*, 31, 709–720.
7. Fasano, A., and **Durante, D.** (2022) A class of conjugate priors for multinomial probit models which includes the multivariate normal one. *Journal of Machine Learning Research*, 23, 1–26.
8. Legramanti S., Rigon, T. and **Durante, D.** (2022) Bayesian testing for exogenous equivalence structures in stochastic block-models. *Sankhya A*, 84, 108–126.
9. Fasano, A., Rebaudo, G., **Durante, D.** and Petrone, S. (2021) A closed-form filter for binary time series. *Statistics and Computing*, 31, 1–20.
10. Rigon, T. and **Durante, D.** (2021) Tractable Bayesian density regression via logit stick-breaking priors. *Journal of Statistical Planning and Inference*, 211, 131–142.
11. Legramanti, S., **Durante, D.** and Dunson, D. B. (2020) Bayesian cumulative shrinkage for infinite factorizations. *Biometrika*, 107, 745–752.
12. **Durante, D.** (2019) Conjugate Bayes for probit regression via unified skew-normal distributions. *Biometrika*, 106, 765–779.
13. **Durante, D.** and Rigon, T. (2019) Conditionally conjugate mean-field variational Bayes for logistic models. *Statistical Science*, 34, 472–485.
14. **Durante, D.**, Canale, A. and Rigon, T. (2019) A nested expectation-maximization algorithm for latent class models with covariates. *Statistics & Probability Letters*, 146, 97–103.
15. Rigon T., **Durante, D.** and Torelli, N. (2019) Bayesian semiparametric modelling of contraceptive behavior in India via sequential logistic regressions. *Journal of the Royal Statistical Society: Series A*, 182, 225–247.
16. **Durante, D.** and Dunson, D. B. (2018) Bayesian inference and testing of group differences in brain networks. *Bayesian Analysis*, 13, 29–58.
17. Canale, A., **Durante, D.** and Dunson, D. B. (2018) Convex mixture regression for quantitative risk assessment. *Biometrics*, 74, 1331–1340.
18. Russo, M., **Durante, D.** and Scarpa, B. (2018). Bayesian inference on group differences in multivariate categorical data. *Computational Statistics & Data Analysis*, 126, 136–149.
19. Canale, A., **Durante, D.**, Paci, L. and Scarpa, B. (2018) Connecting statistical brains. *Significance*, 15, 38–40.
20. **Durante, D.**, Dunson, D. B. and Vogelstein, J. T. (2017) Nonparametric Bayes modeling of populations of networks. *Journal of the American Statistical Association*, 112, 1516–1530 (with discussion).
21. **Durante, D.**, Dunson, D. B. and Vogelstein, J. T. (2017) Rejoinder: Nonparametric Bayes modeling of populations of networks. *Journal of the American Statistical Association*, 112, 1547–1552.
22. **Durante, D.**, Mukherjee, N. and Steorts, R. C. (2017) Bayesian learning of dynamic multilayer networks. *Journal of Machine Learning Research*, 18, 1–29.

23. Wang, L., **Durante, D.**, Jung, R. E. and Dunson, D. B. (2017) Bayesian network-response regression. *Bioinformatics*, 33, 1859–1866.
24. **Durante, D.** (2017) Invited discussion of “Sparse graphs using exchangeable random measures”. *Journal of the Royal Statistical Society: Series B*, 79, 55–56.
25. **Durante, D.** (2017) A note on the multiplicative gamma process. *Statistics & Probability Letters*, 122, 198–204.
26. **Durante, D.**, Paganin, S., Scarpa, B. and Dunson, D. B. (2017) Bayesian modelling of networks in complex business intelligence problems. *Journal of the Royal Statistical Society: Series C*, 66, 555–580.
27. **Durante, D.** and Dunson, D. B. (2016) Locally adaptive dynamic networks. *Annals of Applied Statistics*, 10, 2203–2232.
28. **Durante, D.** and Dunson, D. B. (2014) Nonparametric Bayes dynamic modelling of relational data. *Biometrika*, 101, 883–898.
29. **Durante, D.** and Dunson, D. B. (2014) Bayesian dynamic financial networks with time-varying predictors. *Statistics & Probability Letters*, 93, 19–26.
30. **Durante, D.**, Scarpa, B. and Dunson, D. B. (2014) Locally adaptive factor processes for multivariate time series. *Journal of Machine Learning Research*, 15, 1493–1522.

International Conference Proceedings and Book Chapters [PEER-REVIEWED]

31. **Durante, D.** and Guindani, M. (2020) Bayesian methods in brain networks. *Wiley StatsRef-Statistics Reference Online*, 1–10.
32. Aliverti, E., **Durante, D.**, and Scarpa, B. (2020). Projecting proportionate age-specific fertility rates via Bayesian skewed processes. *Developments in Demographic Forecasting*. 89–103.
33. Aliverti, E. and **Durante, D.** (2019) Spatial modeling of brain connectivity data via latent distance models with nodes clustering. *Statistical Analysis and Data Mining: The ASA Data Science Journal*, 12, 185–196.
34. **Durante, D.** and Dunson, D.B. (2014) Bayesian logistic Gaussian process models for dynamic networks. *AISTAT Conference Proceedings*, 33, 194–201.
35. **Durante, D.**, Scarpa, B. and Dunson, D. B. (2013) Locally adaptive Bayesian multivariate time series. *NEURIPS Conference Proceedings*, 26, 1664–1672.

National Conference Proceedings and Book Chapters [PEER-REVIEWED]

36. Legramanti S., Rigon, T., **Durante, D.** (2022). Bayesian clustering of brain regions via extended stochastic block models. *Proceedings of the 51th Conference of the Italian Statistical Society*, 45–51.
37. Mazzuco, S., Aliverti, E., **Durante, D.** and Campostrini, S. (2021). Causes of death patterns and life expectancy: looking for warning signals. *Proceedings of the 50th Conference of the Italian Statistical Society*, 16–21.
38. **Durante, D.** and Dunson, D. B. (2016) Bayesian nonparametric modeling of dynamic international relations. *Proceedings of the 48th Conference of the Italian Statistical Society*.
39. **Durante, D.** and Dunson, D. B. (2015) Bayesian regression with network predictors. *Proceedings of the 47th Conference of the Italian Statistical Society*.
40. **Durante, D.**, Vidotto, D. and Vettori, S. (2015) La bussola del ricercatore statistico. In Campostrini S., Ghellini, G. and Tuzzi, A. [Eds.] *Con Senso di Misura, Riflessi Statistici da Alcuni Allievi di Lorenzo Bernardi*. CLEUP, 25–36.
41. **Durante, D.** (2014) Analysis of Italian financial market via Bayesian dynamic covariance models. In Lanzarone, E. and Ieva, F. [Eds.] *The Contribution of Young Researchers to Bayesian Statistics*. Springer, 63, 171–177.

42. **Durante, D.** (2012) Qualitative latent variables: a comparison between SEM and LCA. *Quaderni di Statistica*, 14, 97–100.

Edited Books

43. Argiento, R., **Durante D.** and Wade, S. [Eds.] (2019) Bayesian Statistics and New Generations. *Springer Proceedings in Mathematics and Statistics*, Springer.
44. Canale, A., **Durante D.**, Paci, L. and Scarpa, B. [Eds.] (2018) Studies in Neural Data Science. *Springer Proceedings in Mathematics and Statistics*, Springer.

PRESENTATIONS

Seminars

- [2022] School of Finance, Actuarial Studies, Statistics, **Australian National University**.
- [2022] ISBA–BNP seminar series, **Online** [joint with Sirio Legramanti]
- [2021] Dept. of Business and Economics, **Universitat Pompeu Fabra**.
- [2021] School of Mathematics, **The University of Edinburgh**. [online]
- [2020] Dept. of Statistics, **Rice University**. [online]
- [2019] Dept. of Statistics, Computer Science and Applications, **University of Florence**.
- [2019] Computer, Electrical and Mathematical Science Division, **KAUST**.
- [2018] Dept. of Computer and Information Science, **Linköpings Universitet**.
- [2018] Dept. of Statistical Sciences, **University of Padova**.
- [2017] School of Mathematics and Statistics, **University College of Dublin**.
- [2017] Dept. of Statistical Science, **Duke University**.
- [2017] Dept. of Statistical Science, **University College of London**.
- [2017] Dept. of Decision Sciences, **Bocconi University**.
- [2017] School of Basic Sciences, **EPFL**.
- [2016] Dept. of Statistical Science, **Università Cattolica**.
- [2016] Dept. of Mathematics and Statistics, **Lancaster University**.

Special Lectures and Keynotes

- [2022] **Colombo Lecture**
Conference on statistical methods and models for complex data. Padova, Italy

Invited Presentations

- [**upcoming**] IMS International Conference on Statistics and Data Science. Florence, Italy.
- [2022] Workshop on unification algorithmique d’analyses statistiques multiples. Luminy, France.
- [2022] O’BAYES 2022 Conference. Santa Cruz, USA.
- [2022] Climbing mortality models workshop. Misurina, Italy
- [2022] Conference on statistical methods and models for complex data. Padova, Italy
- [2022] ISNPS 2022 Symposium on Nonparametric Statistics. Paphos, Cyprus
- [2022] ECOSTA 2022 Conference on Econometrics and Statistics. Kyoto, Japan [Online]

- [2021] 5th EAC–ISBA Conference. Online
- [2021] BIRS workshop on Foundations of Objective Bayesian Methodology. Online
- [2021] PRIN–SELECT Intermediate Workshop. Venice, Italy
- [2021] JSM 2021 Conference [American Statistical Association]. Online
- [2021] 5th European Conference on Social Network [EUSN2021]. Online
- [2021] SIS 2021 Conference [Italian Statistical Society]. Online

- [2020] ERCIM 2020 Conference on Computational and Methodological Statistics. Online

- [2019] IISA 2019 Conference [International Indian Statistical Association]. Mumbai, India
- [2019] ERCIM 2019 Conference on Computational and Methodological Statistics. London, UK
- [2019] 44th Spring Lecture Series. Fayetteville, USA

- [2018] ERCIM 2018 Conference on Computational and Methodological Statistics. Pisa, Italy
- [2018] SIS 2018 Conference [Italian Statistical Society]. Palermo, Italy
- [2018] The Mathematics of Subjective Probability [MSP] 2018 Conference. Milan, Italy

- [2017] IISA 2017 Conference [International Indian Statistical Association]. Hyderabad, India
- [2017] ERCIM 2017 Conference on Computational and Methodological Statistics. London, UK
- [2017] Workshop on Bayesian Inference and Stochastic Processes BISP10. Milan, Italy
- [2017] 11th Conference on Bayesian Nonparametrics BNP11. Paris, France
- [2017] ARS'17 International Workshop on Social Network Analysis. Naples, Italy
- [2016] Workshop on Network Science and its Applications SNAW02. Cambridge, UK
- [2016] ISBA 2016 [International Society for Bayesian Analysis]. Sardinia, Italy
- [2016] SIS 2016 Conference [Italian Statistical Society]. Salerno, Italy
- [2015] SIS 2015 Conference [Italian Statistical Society]. Treviso, Italy
- [2015] JSM 2015 Conference [American Statistical Association]. Seattle, USA
- [2015] ARS'15 International Workshop on Social Network Analysis. Capri, Italy

Contributed Presentations and Poster Presentations

- [2018] ISBA 2018 Conference [International Society for Bayesian Analysis]. Edinburgh, UK.
- [2014] ISBA 2014 Conference [International Society for Bayesian Analysis]. Cancun, Mexico.
- [2014] Artificial Intelligence and Statistics Conference 2014. Reykjavik, Iceland.
- [2013] JSM 2013 Conference [American Statistical Association]. Montreal, Canada.
- [2013] BAYSM2013 [International Society for Bayesian Analysis]. Milan, Italy.

TEACHING EXPERIENCE

Excellence in Teaching Certificates

BEAT—Bocconi Excellence in Advanced Teaching by BUILT. Bocconi University [2018 Edition]

Teaching Awards

- **Excellence in Teaching Award.** Bocconi University [Graduate School — MSc] **2022**
- **Innovation in Teaching Award.** Bocconi University [Graduate School — MSc] **2020**

Courses Taught at SDA Bocconi School of Management

AXA Italia — Mastering Data for Insurance [Executive Course] **2022**

Courses Taught at Bocconi University

Machine Learning [MSc]	2018 — Present
Optimization [MSc]	2021 — Present
Statistical Machine Learning [Ph.D.]	2021 — Present
Advanced Python Programming for Economics, Management and Finance [BSc]	2020 — 2021
Topics in Statistical and Machine Learning [Ph.D.]	2017 — 2020
Applied Survival (Duration) Data Analysis [Ph.D.]	2017 — 2018
Advanced Mathematics and Statistics – Module 2 [BSc]	2017 — 2018
Statistics – Module 1 (Theory and Methods) [BSc]	2017 — 2018

Past Courses. Data Analysis [BSc] (**2015–2016**). Ca' Foscari University — Advanced Case Studies [MSc] (**2016–2017**). University of Padova