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

Network Science, Bayesian Methods and Computation, Categorical Data, Bayesian Nonparametrics
Latent Variables Models, Statistical Learning in High Dimension

CURRENT ACADEMIC POSITIONS

Assistant Professor
Bocconi University, Department of Decision Sciences   **09/2017 — Present**

Research Affiliate

- 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]

PAST ACADEMIC POSITIONS

Post–Doctoral Research Fellow   **02/2016 — 08/2017**
University of Padova, Department of Statistical Sciences

Adjunct Professor   **12/2015 — 12/2016**
Ca' Foscari University, Department of Economics and Management

Visiting Research Scholar   **03/2014 — 02/2015**
Duke University, Department of Statistical Sciences

EDUCATION

University of Padova, Department of Statistical Sciences

Ph.D. in Statistics. Department of Statistical Sciences   **2013 — 2016**

- Ph.D. Thesis Topic: *Bayesian nonparametric modeling of network data*
- Advisor: Bruno Scarpa. Co-advisor: David B. Dunson

M.Sc. in Statistical Sciences. Department of Statistical Sciences   **2010 — 2012**

B.Sc. in Statistics, Economics and Finance. Department of Statistics   **2007 — 2010**

AWARDS

Early–Career Scholar Award for Contributions to Statistics. Italian Statistical Society	**2021**
Bocconi Research Excellence Award. Bocconi University	**2021**
Leonardo da Vinci Medal. Italian Ministry of University and Research	**2020**
Bocconi Research Excellence Award. Bocconi University	**2020**
Bocconi Innovation in Teaching Award. Bocconi University	**2020**
National Scientific Qualification for Associate Professor in Statistics [13/D1]	**2018**
Doctoral Thesis Award in Statistics. Italian Statistical Society	**2018**
Mitchell Award. International Society for Bayesian Analysis	**2017**
Theory–Methods Editor's Invited Paper [JASA]. American Statistical Association	**2017**
Byar Award. Biometrics Section. American Statistical Association	**2015**
Lifetime Members Junior Award. International Society for Bayesian Analysis	**2014**
Laplace Award. Bayesian Statistical Sciences Section. American Statistical Association	**2013**

EDITORIAL ACTIVITY

Associate Editor

Journal of Multivariate Analysis	**09/2021 — Present**
Biometrika	**08/2019 — Present**
Journal of Computational and Graphical Statistics	**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; Statistical Science; Statistics and Computing.

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SERVICE TO
PROFESSION

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Positions in Scientific Societies

— [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 COMPSTAT2020. Bologna   **2020**
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"*   **2015 — Present**
"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.

— [TEDX talk] **The Geometry of Relationships** ($\approx$ 40000 views on YouTube)   **2018**
https://www.ted.com/talks/daniele_durante_daniele_durante_la_geometria_delle_relazioni

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SERVICE TO
UNIVERSITY

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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 BIDSA Seminars 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 Supervised or Co–supervised

Federico Pavone [**Ph.D.**], Francesco Pozza [**Ph.D.**], Valentina Ghidini [**Ph.D.**], Niccoló Anceschi [**Ph.D.**], Sirio Legramanti [**Ph.D. and Postdoc**], Augusto Fasano [**Ph.D.**] + 20 [**MSc students**] + 7 [**BSc students**].

Innovation in Teaching

<u>**Bocconi Data Science Challenges**</u> 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: 606 • —— • H–INDEX: 12 • —— • I10–INDEX: 14
Codes • https://github.com/danieledurante

Manuscripts under Review

1. Cao, J., **Durante, D.** and Genton, M. (2021) Scalable computation of predictive probabilities in probit models with Gaussian process priors. *arXiv:2009.01471* [revision submitted]

2. Fasano, A., and **Durante, D.** (2020) A class of conjugate priors for multinomial probit models which includes the multivariate normal one. *arXiv:2007.06944* [revision submitted]

Published Articles [PEER–REVIEWED]

3. Fasano, A., **Durante, D.** and Zanella, G. (2022) Scalable and accurate variational Bayes for high–dimensional binary regression models. *Biometrika.* In Press.

4. Legramanti S., Rigon, T., **Durante, D.** and Dunson, D.B. (2022) Extended stochastic block models with application to criminal networks. *Annals of Applied Statistics.* In Press.

5. Fasano, A., Rebaudo, G., **Durante, D.** and Petrone, S. (2021) A closed–form filter for binary time series. *Statistics and Computing*, 31, 1–20.

6. Legramanti S., Rigon, T. and **Durante, D.** (2021) Bayesian testing for exogenous equivalence structures in stochastic block–models. *Sankhya A.* In Press.

7. Rigon, T. and **Durante, D.** (2021) Tractable Bayesian density regression via logit stick-breaking priors. *Journal of Statistical Planning and Inference*, 211, 131–142.

8. Legramanti, S., **Durante, D.** and Dunson, D. B. (2020) Bayesian cumulative shrinkage for infinite factorizations. *Biometrika*, 107, 745–752.

9. **Durante, D.** and Guindani, M. (2020) Bayesian methods in brain networks. *Wiley StatsRef–Statistics Reference Online*, 1–10.

10. **Durante, D.** (2019) Conjugate Bayes for probit regression via unified skew-normal distributions. *Biometrika*, 106, 765–779.

11. **Durante, D.** and Rigon, T. (2019) Conditionally conjugate mean-field variational Bayes for logistic models. *Statistical Science*, 34, 472–485.

12. **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.

13. 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.

14. **Durante, D.** and Dunson, D. B. (2018) Bayesian inference and testing of group differences in brain networks. *Bayesian Analysis*, 13, 29–58.

15. Canale, A., **Durante, D.** and Dunson, D. B. (2018) Convex mixture regression for quantitative risk assessment. *Biometrics*, 74, 1331–1340.

16. Russo, M., **Durante, D.** and Scarpa, B. (2018). Bayesian inference on group differences in multivariate categorical data. *Computational Statistics & Data Analysis*, 126, 136–149.

17. Canale, A., **Durante, D.,** Paci, L. and Scarpa, B. (2018) Connecting statistical brains. *Significance*, 15, 38–40.

18. **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).

19. **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.

20. **Durante, D.,** Mukherjee, N. and Steorts, R. C. (2017) Bayesian learning of dynamic multilayer networks. *Journal of Machine Learning Research*, 18, 1–29.

21. Wang, L., **Durante, D.,** Jung, R. E. and Dunson, D. B. (2017) Bayesian network-response regression. *Bioinformatics*, 33, 1859–1866.

22. **Durante, D.** (2017) Invited discussion of "Sparse graphs using exchangeable random measures". *Journal of the Royal Statistical Society: Series B*, 79, 55–56.

23. **Durante, D.** (2017) A note on the multiplicative gamma process. *Statistics & Probability Letters*, 122, 198–204.

24. **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.

25. **Durante, D.** and Dunson, D. B. (2016) Locally adaptive dynamic networks. *Annals of Applied Statistics*, 10, 2203–2232.

26. **Durante, D.** and Dunson, D. B. (2014) Nonparametric Bayes dynamic modelling of relational data. *Biometrika*, 101, 883–898.

27. **Durante, D.** and Dunson, D. B. (2014) Bayesian dynamic financial networks with time–varying predictors. *Statistics & Probability Letters*, 93, 19–26.

28. **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]

29. Aliverti, E., **Durante, D.,** and Scarpa, B. (2020). Projecting proportionate age-specific fertility rates via Bayesian skewed processes. *Developments in Demographic Forecasting.* 89–103.

30. 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.

31. **Durante, D.** and Dunson, D.B. (2014) Bayesian logistic Gaussian process models for dynamic networks. AISTAT *Conference Proceedings*, 33, 194–201.

32. **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]

33. 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.

34. **Durante, D.** and Dunson, D. B. (2016) Bayesian nonparametric modeling of dynamic international relations. *Proceedings of the* XLVIII *Conference of the Italian Statistical Society.*

35. **Durante, D.** and Dunson, D. B. (2015) Bayesian regression with network predictors. *Proceedings of the* XLVII *Conference of the Italian Statistical Society.*

36. **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.

37. **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.

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

Edited Books

39. Argiento, R., **Durante D.** and Wade, S. [Eds.] (2019) Bayesian Statistics and New Generations. *Springer Proceedings in Mathematics and Statistics*, Springer.

40. 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**

[**2021**] Dept. of Business and Economics, **Universitat Pompeu Fabra**. Spain
[**2021**] School of Mathematics, **The University of Edinburgh**. Scotland [online]
[**2020**] Dept. of Statistics, **Rice University**. USA [online]
[**2019**] Dept. of Statistics, Computer Science and Applications, **University of Florence**. Italy
[**2019**] Computer, Electrical and Mathematical Science Division, **KAUST**. Saudi Arabia
[**2018**] Dept. of Computer and Information Science, **Linköpings Universitet**. Sweden
[**2018**] Dept. of Statistical Sciences, **University of Padova**. Italy
[**2017**] School of Mathematics and Statistics, **University College of Dublin**. Ireland
[**2017**] Dept. of Statistical Science, **Duke University**. USA
[**2017**] Dept. of Statistical Science, **University College of London**. UK
[**2017**] Dept. of Decision Sciences, **Bocconi University**. Italy
[**2017**] School of Basic Sciences, **EPFL**. Switzerland
[**2016**] Dept. of Statistical Science, **Università Cattolica**. Italy
[**2016**] Dept. of Mathematics and Statistics, **Lancaster University**. UK

Invited Presentations

[**upcoming**] EcoSta 2022 Conference on Econometrics and Statistics. Kyoto, Japan.
[**upcoming**] O'Bayes 2022 Conference. Santa Cruz, USA.
[**upcoming**] isba 2022 [International Society for Bayesian Analysis]. Montreal, Canada
[**upcoming**] isnps 2022 Symposium on Nonparametric Statistics. Paphos, Cyprus

[**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 Processess 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]

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' Foscarti University — Advanced Case Studies [Msc] (**2016–2017**). University of Padova

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