

# Daniele Durante: Curriculum Vitae

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CONTACT INFORMATION	Department of Decision Sciences Bocconi University
RESEARCH INTERESTS	Network Science, Computational Social Science, Latent Variables Models, Complex Data, Bayesian Methods & Computation, Demography, Statistical Learning in High Dimension, Categorical Data
CURRENT ACADEMIC POSITIONS	<b>Assistant Professor</b> Bocconi University, Department of Decision Sciences <b>09/2017 — Present</b> <b>Research Affiliate</b> <ul style="list-style-type: none"><li>• Bocconi Institute for Data Science and Analytics [BIDSA]</li><li>• DONDENA Centre for Research on Social Dynamics and Public Policy</li><li>• Laboratory for Coronavirus Crisis Research [COVID CRISIS LAB]</li></ul>
PAST ACADEMIC POSITIONS	<b>Post-Doctoral Research Fellow</b> <b>02/2016 — 08/2017</b> University of Padova, Department of Statistical Sciences <b>Adjunct Professor</b> <b>12/2015 — 12/2016</b> Ca' Foscari University, Department of Economics and Management <b>Visiting Research Scholar</b> <b>03/2014 — 02/2015</b> Duke University, Department of Statistical Sciences
EDUCATION	<b>University of Padova</b> , Department of Statistical Sciences <b>Ph.D. in Statistics.</b> Department of Statistical Sciences <b>2013 — 2016</b> <ul style="list-style-type: none"><li>• Ph.D. Thesis Topic: <i>Bayesian nonparametric modeling of network data</i></li><li>• Advisor: Bruno Scarpa. Co-advisor: David B. Dunson</li></ul> <b>M.Sc. in Statistical Sciences.</b> Department of Statistical Sciences <b>2010 — 2012</b> <b>B.Sc. in Statistics, Economics and Finance.</b> Department of Statistics <b>2007 — 2010</b>
AWARDS	<b>Early-Career Scholar Award for Contributions to Statistics.</b> Italian Statistical Society <b>2021</b> <b>Bocconi Research Excellence Award.</b> Bocconi University <b>2021</b> <b>Leonardo da Vinci Medal.</b> Italian Ministry of University and Research <b>2020</b> <b>Bocconi Research Excellence Award.</b> Bocconi University <b>2020</b> <b>Bocconi Innovation in Teaching Award.</b> Bocconi University <b>2020</b> <b>National Scientific Qualification for Associate Professor in Statistics [13/D1]</b> <b>2018</b> <b>Doctoral Thesis Award in Statistics.</b> Italian Statistical Society <b>2018</b> <b>Mitchell Award.</b> International Society for Bayesian Analysis <b>2017</b> <b>Theory-Methods Editor's Invited Paper [JASA].</b> American Statistical Association <b>2017</b> <b>Byar Award.</b> Biometrics Section. American Statistical Association <b>2015</b> <b>Lifetime Members Junior Award.</b> International Society for Bayesian Analysis <b>2014</b> <b>Laplace Award.</b> Bayesian Statistical Sciences Section. American Statistical Association <b>2013</b>
EDITORIAL ACTIVITY	<b>Associate Editor</b> <b>Biometrika</b> <b>08/2019 — Present</b> <b>Journal of Computational and Graphical Statistics</b> <b>09/2018 — Present</b> <b>Referee [selected]</b> Journal of the Royal Statistical Society, B; Annals of Statistics; Annals of Applied Statistics; Journal of the Royal Statistical Society, C; Biometrics; Biometrika; Bayesian Analysis; Journal of the American Statistical Association; Computational Statistics & Data Analysis; Statistics and Computing; Journal of Computational and Graphical Statistics; Journal of Multivariate Analysis; Network Science; Journal of Machine Learning Research; Statistica Neerlandica; Sankhya A; Statistical Science; NeurIPS; AISTATS.

**Positions in Scientific Societies**

<b>Member</b> of the IMS committee on nominations. Institute of Mathematical Statistics	<b>2020</b>
<b>Chair</b> of the J-ISBA Section. International Society for Bayesian Analysis	<b>2018</b>
<b>Chair</b> of the Y-SIS Section. Italian Statistical Society	<b>2018</b>
<b>Laplace Award</b> committee member. American Statistical Association	<b>2018</b>
<b>Chair–Elect</b> of the J-ISBA Section. International Society for Bayesian Analysis	<b>2017</b>
<b>Secretary</b> of the Y-SIS Section. Italian Statistical Society	<b>2017</b>

**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**

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

**Sessions Organized at Conferences**

<b>Session organized</b> at COMPSTAT2020. Bologna	<b>2020</b>
<b>Session organized</b> [with J-ISBA] at IV COBAL. Lima	<b>2019</b>
<b>Session organized</b> [with Y-SIS] at ERCIM2018. Pisa	<b>2018</b>
<b>Session organized</b> [with J-ISBA] at ISBA2018. Edinburgh	<b>2018</b>
<b>Session organized</b> [with J-ISBA] at JSM2017. Baltimore	<b>2017</b>

**Outreach Videos and Multimedia Projects**

<b>The Geometry of Relationships.</b> TEDx talk. Montebelluna	<b>2018</b>
<b>My Statistician Friend.</b> International Year of Statistics ASA. United States	<b>2013</b>
<b>The Statistical Calendar.</b> ISTAT. Rome	<b>2012</b>

**Positions in Bocconi Boards and Committees**

<b>Coordinator</b> of the DEC Seminars Series	<b>2019 — Present</b>
<b>Coordinator</b> of the BIDS Seminars Series	<b>2018 — Present</b>
<b>Program committee member</b> of the MSc in DS&BA	<b>2018 — Present</b>
<b>Faculty board member</b> of Ph.D. in Statistics & Computer Science	<b>2017 — Present</b>
<b>Mentor</b> at the IGIER–BIDS Visiting Student Initiative	<b>2019 — Present</b>
<b>Doctoral thesis committee member</b> of the Ph.D. in Statistics: Marta Crispino [2018], Michele Peruzzi [2019], Amir Khorrami Chokami [2019] and Tommaso Rigon [2020]	

**Bocconi Students Supervised**

Federico Pavone [Ph.D.], Niccolò Anceschi [Ph.D.], Sirio Legramanti [Ph.D. and Postdoc], Augusto Fasano [Ph.D.] + 13 [MSc] + 4 [BSc].

**Bocconi Events and Projects**

<b>Invited speaker</b> for the Bocconi Snack News project [Bologna]	<b>2019</b>
<b>Invited speaker</b> for the Bocconi Ph.D. BEAT program	<b>2019</b>
<b>Chair</b> of the hackathon Stats under the Stars 5	<b>2019</b>

**Bocconi Innovation in Teaching**

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

**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]

- 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**

**Citations from Google Scholar** • TOTAL: 546 • — • H-INDEX: 12 • — • I10-INDEX: 14

### Refereed Journals

1. Fasano, A., Rebaudo, G., **Durante, D.** and Petrone, S. (2021) A closed-form filter for binary time series. *Statistics and Computing*, 31, 1–20.
2. Legramanti S., Rigon, T. and **Durante, D.** (2021) Bayesian testing for exogenous equivalence structures in stochastic block-models. *Sankhya A*. In Press.
3. Rigon, T. and **Durante, D.** (2021) Tractable Bayesian density regression via logit stick-breaking priors. *Journal of Statistical Planning and Inference*, 211, 131–142.
4. Legramanti, S., **Durante, D.** and Dunson, D. B. (2020) Bayesian cumulative shrinkage for infinite factorizations. *Biometrika*, 107, 745–752.
5. **Durante, D.** and Guindani, M. (2020) Bayesian methods in brain networks. *Wiley StatsRef-Statistics Reference Online*, 1–10.
6. **Durante, D.** (2019) Conjugate Bayes for probit regression via unified skew-normal distributions. *Biometrika*, 106, 765–779.
7. **Durante, D.** and Rigon, T. (2019) Conditionally conjugate mean-field variational Bayes for logistic models. *Statistical Science*, 34, 472–485.
8. **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.
9. 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.
10. **Durante, D.** and Dunson, D. B. (2018) Bayesian inference and testing of group differences in brain networks. *Bayesian Analysis*, 13, 29–58.
11. Canale, A., **Durante, D.** and Dunson, D. B. (2018) Convex mixture regression for quantitative risk assessment. *Biometrics*, 74, 1331–1340.
12. Russo, M., **Durante, D.** and Scarpa, B. (2018). Bayesian inference on group differences in multivariate categorical data. *Computational Statistics & Data Analysis*, 126, 136–149.
13. **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).
14. **Durante, D.**, Mukherjee, N. and Steorts, R. C. (2017) Bayesian learning of dynamic multilayer networks. *Journal of Machine Learning Research*, 18, 1–29.
15. Wang, L., **Durante, D.**, Jung, R. E. and Dunson, D. B. (2017) Bayesian network-response regression. *Bioinformatics*, 33, 1859–1866.
16. **Durante, D.** (2017) A note on the multiplicative gamma process. *Statistics & Probability Letters*, 122, 198–204.
17. **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.
18. **Durante, D.** and Dunson, D. B. (2016) Locally adaptive dynamic networks. *Annals of Applied Statistics*, 10, 2203–2232.

19. **Durante, D.** and Dunson, D. B. (2014) Nonparametric Bayes dynamic modelling of relational data. *Biometrika*, 101, 883–898.
20. **Durante, D.** and Dunson, D. B. (2014) Bayesian dynamic financial networks with time-varying predictors. *Statistics & Probability Letters*, 93, 19–26.
21. **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, Book Chapters and Discussions [PEER-REVIEWED]

22. Aliverti, E., **Durante, D.**, and Scarpa, B. (2020). Projecting proportionate age-specific fertility rates via Bayesian skewed processes. *Developments in Demographic Forecasting*. 89–103.
23. 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.
24. Canale, A., **Durante, D.**, Paci, L. and Scarpa, B. (2018) Connecting statistical brains. *Significance*, 15, 38–40.
25. **Durante, D.** (2017) Discussion of “Sparse graphs using exchangeable random measures”. *Journal of the Royal Statistical Society: Series B*, 79, 55–56.
26. **Durante, D.** and Dunson, D.B. (2014) Bayesian logistic Gaussian process models for dynamic networks. *AISTAT Conference Proceedings*, 33, 194–201.
27. **Durante, D.**, Scarpa, B. and Dunson, D. B. (2013) Locally adaptive Bayesian multivariate time series. *NIPS Conference Proceedings*, 26, 1664–1672.

#### National Conference Proceedings, Book Chapters and Discussions [PEER-REVIEWED]

28. **Durante, D.** and Dunson, D. B. (2016) Bayesian nonparametric modeling of dynamic international relations. *Proceedings of the XLVIII Conference of the Italian Statistical Society*.
29. **Durante, D.** and Dunson, D. B. (2015) Bayesian regression with network predictors. *Proceedings of the XLVII Conference of the Italian Statistical Society*.
30. **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.
31. **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.
32. **Durante, D.** (2012) Qualitative latent variables: a comparison between SEM and LCA. *Quaderni di Statistica*, 14, 97–100.

#### Edited Books

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

#### Manuscripts Under Review and In Preparation

1. Legramanti S., Rigon, T., **Durante, D.** and Dunson, D.B. (2021) Extended stochastic block models with application to criminal networks. *arXiv:2007.08569* [In review]
2. Cao, J., **Durante, D.** and Genton, M. (2020) Scalable computation of predictive probabilities in probit models with Gaussian process priors. *arXiv:2009.01471* [revision requested]
3. 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 requested]
4. Fasano, A., **Durante, D.** and Zanella, G. (2020) Scalable and accurate variational Bayes for high-dimensional binary regression models. *arXiv:1911.06743* [revision requested]

**Seminars**

- [2020] Department of Statistics, **Rice University**. USA [online]
- [2019] Department of Statistics, Computer Science and Applications, **University of Florence**. Italy — Computer, Electrical and Mathematical Science and Engineering Division, **King Abdullah University of Science and Technology** [KAUST]. Saudi Arabia
- [2018] Department of Computer and Information Science, **Linköpings Universitet**. Sweden — Department of Statistical Sciences, **University of Padova**. Italy
- [2017] School of Mathematics and Statistics, **University College of Dublin**. Ireland — Department of Statistical Science, **Duke University**. USA — Department of Statistical Science, **University College of London**. UK — Department of Decision Sciences, **Bocconi University**. Italy — School of Basic Sciences, **EPFL**. Switzerland
- [2016] Department of Statistical Science, **Università Cattolica**. Italy — Department of Mathematics and Statistics, **Lancaster University**. UK

**Invited Presentations**

- [**upcoming**] EAC-ISBA 2021 [International Society for Bayesian Analysis]. Dali, China
- [**upcoming**] ISNPS 2021 Symposium on Nonparametric Statistics. Paphos, Cyprus
- [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. Edinburgh, UK. [2014] ISBA 2014 Conference. Cancun, Mexico.
- [2014] SBP2014. Washington, USA. [2014] AISTAT 2014. Reykjavik, Iceland. [2013] JSM 2013 Conference. Montreal, Canada. [2013] BAYSM2013. Milan, Italy.

**Excellence in Teaching Certificates**

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

**Courses Taught at Bocconi University**

Machine Learning [MSc]	<b>2018 — Present</b>
Topics in Statistical and Machine Learning [Ph.D.]	<b>2017 — Present</b>
Applied Survival (Duration) Data Analysis [Ph.D.]	<b>2017 — 2018</b>
Advanced Mathematics and Statistics – Module 2 [BSc]	<b>2017 — 2018</b>
Statistics – Module 1 (Theory and Methods) [BSc]	<b>2017 — 2018</b>

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