

# Daniele Durante: Curriculum Vitae

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CONTACT INFORMATION	Department of Decision Sciences Sciences Bocconi University Via Roentgen, 1, 20136 Milano	✉: <a href="mailto:daniele.durante@unibocconi.it">daniele.durante@unibocconi.it</a> web: <a href="https://danieledurante.github.io/web/">https://danieledurante.github.io/web/</a> Date of birth: 28/02/1988
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RESEARCH INTERESTS	Network Science, Bayesian Nonparametrics, Neuroscience, High Dimensional Inference, Statistical Machine Learning, Tensor Factorization, Stochastic Processes, Functional Data.
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POSITIONS	<b>Assistant Professor</b> at the Department of Decision Sciences of Bocconi University. Milan, Italy. 01/09/2017— Today.
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## Past Academic and Business Positions

Post-doctoral Research Fellow. Università degli Studi di Padova, Department of Statistical Sciences. Padova, Italy. (02/2016 — 08/2017).

Adjunct Professor. Department of Economics and Management, Ca' Foscari University. Venice, Italy. (Academic year 2015/2016).

Visiting Research Scholar. Department of Statistical Sciences, Duke University. Durham, NC, USA. (03/2014 — 02/2015).

Research Assistant at Università degli Studi di Padova (01/2013 — 04/2013) and Ca' Foscari University (02/2012).

Teaching Assistant. Università degli Studi di Padova, Department of Statistical Sciences. Exercises and small lectures for undergraduates. (10/2011—10/2012).

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EDUCATION	<b>Università degli Studi di Padova</b> , Padova, Italy  Ph.D. in Statistical Sciences. Department of Statistical Sciences (2013–2016) <ul style="list-style-type: none"><li>• Ph.D. Thesis Topic: <i>Bayesian nonparametric modeling of network data</i></li><li>• Advisors: Bruno Scarpa and David B. Dunson</li></ul> M.S. in Statistical Sciences. Department of Statistical Sciences (2010–2012) <ul style="list-style-type: none"><li>• M.S. Thesis Topic: <i>Locally adaptive Bayesian covariance regression</i></li><li>• Advisors: Bruno Scarpa and David B. Dunson</li></ul> B.S. in Statistics, Economy and Finance. Department of Statistical Sciences (2007–2010)
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AWARDS	<b>Academic and Research Awards</b> <ul style="list-style-type: none"><li>• Winner of the <i>Mitchell Prize</i>. International Society for Bayesian Analysis. (2018).</li><li>• Winner of the <i>2018 Ph.D. Thesis Award in Statistics</i>. Italian Statistical Society. (2018).</li><li>• Awarded the <i>2017 JASA Theory &amp; Methods Invited Paper</i>. American Statistical Association. (2017).</li><li>• Winner of the <i>David P. Byar Award</i>. Biometrics Section of the American Statistical Association. (2015).</li><li>• Winner of the <i>ISBA Lifetime Members Junior Researcher Award</i>. International Society for Bayesian Analysis. (2014).</li><li>• Winner of the <i>Grand Data Challenge</i> of the 2014 International Conference on Social Computing, Behavioral-Cultural Modeling &amp; Prediction. (2014).</li><li>• Winner of the <i>Laplace Award</i>. Section on Bayesian Statistical Sciences of the American Statistical Association. (2013).</li></ul>
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## OUTREACH

### Videos and Multimedia Projects

- *The Geometry of Relationships*. A TEDx talk on network data and models. (2018).  
Link of the video: [https://www.youtube.com/watch?v=mcHz\\_ycaC6Q](https://www.youtube.com/watch?v=mcHz_ycaC6Q).
- *My Statistician Friend*. Honorable mention in the video contest sponsored for the International Year of Statistics 2013. (2013).  
Link of the video: <https://www.youtube.com/watch?v=yU2qQyWUnnU>.
- *The Statistical Calendar*. Awarded as the best outreach project of Statistics in the multimedia competition: "La statistica e la professione di statistico: idee per la promozione e la diffusione". ISTAT, Rome. (2012).  
Link of the project: <http://cal.stat.unipd.it/eng/index.html>.

### Press Releases and Videos on my Research

- Creative people have better interconnected brains. *Duke Today* — • Do you have a 'superbrain'? Study finds creative people have better connected brains. *Daily Mail* — • Brain scans could reveal if children are naturally creative - and help them pick a career. *The Mirror* — • Sei creativo? Allora il tuo cervello è più connesso. *Il Bo Magazine*.
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## FUNDING

### Research Projects

- "Predicting Performance from Network Data". ARO (\$742,129). PI: David Dunson. Contribution and position: Member of the research group, support in writing the proposal and help in conceiving the key ideas.
  - "Bayesian Learning for High-Dimensional Low Sample Size Data". ONR (\$448,913). PI: David Dunson. Contribution and position: Member of the research group.
  - "Bayesian Inference on Brain Network Data". Università degli Studi di Padova (€25,244). PI: Bruno Scarpa. Contribution and position: Member of the research group, support in writing the proposal and help in conceiving the key ideas.
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## PUBLICATIONS

### Refereed Journals

1. Durante, D. (2019+). Conjugate Bayes for Probit Regression via Unified Skew-Normals. *Biometrika*. In press.
2. 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.
3. 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.
4. Canale, A., Durante, D. and Dunson, D. B. (2018). Convex Mixture Regression for Quantitative Risk Assessment. *Biometrics*, 74, 1331–1340.
5. Russo, M., Durante, D. and Scarpa, B. (2018). Bayesian Inference on Group Differences in Multivariate Categorical Data. *Computational Statistics & Data Analysis*, 126, 136–149.
6. Canale, A., Durante D., Paci L. and Scarpa, B. (2018). Connecting Statistical Brains. *Significance*, 15, 38–40.
7. Durante, D. and Dunson, D. B. (2018). Bayesian Inference and Testing of Group Differences in Brain Networks. *Bayesian Analysis*, 13, 29–58.
8. 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).

9. Durante, D., Mukherjee, N. and Steorts, R. C. (2017). Bayesian Learning of Dynamic Multilayer Networks. *Journal of Machine Learning Research*, 18, 1–29.
10. Wang, L., Durante, D., Jung, R. E. and Dunson, D. B. (2017). Bayesian Network-Response Regression. *Bioinformatics*, 33, 1859–1866.
11. Durante, D. (2017). A Note on the Multiplicative Gamma Process. *Statistics & Probability Letters*, 122, 198–204.
12. 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.
13. Durante, D. and Dunson, D. B. (2016). Locally Adaptive Dynamic Networks. *Annals of Applied Statistics*, 10, 2203–2232.
14. Durante, D. and Dunson, D. B. (2014). Nonparametric Bayes Dynamic Modelling of Relational Data. *Biometrika*, 101, 883–898.
15. Durante, D. and Dunson, D. B. (2014). Bayesian Dynamic Financial Networks with Time-Varying Predictors. *Statistics & Probability Letters*, 93, 19–26.
16. 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.

#### Edited Books

1. Canale, A., Durante D., Paci L. and Scarpa, B. [Eds.] (2019). *Studies in Neural Data Science*. Springer *Proceedings in Mathematics and Statistics*, Springer.

#### Refereed Conference Proceedings and Book Chapters

1. Durante, D. and Dunson, D. B. (2016). Bayesian Nonparametric Modeling of Dynamic International Relations. *Proceedings of the XLVIII Conference of the Italian Statistical Society*, 1–13.
2. Durante, D. and Dunson, D. B. (2015). Bayesian Regression with Network Predictors. *Proceedings of the XLVII Conference of the Italian Statistical Society*, 1–7.
3. 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. [ENGLISH VERSION].
4. Durante, D. and Dunson, D. B. (2014). Bayesian Logistic Gaussian Process Models for Dynamic Networks. *Artificial Intelligence and Statistics (AISTAT)*. *Journal of Machine Learning Research-Workshop & Proceedings*, 33, 194–201.
5. 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.
6. Durante, D., Scarpa, B. and Dunson, D. B. (2013). Locally Adaptive Bayesian Multivariate Time Series. *Advances in Neural Information Processing Systems (NIPS)*, 26, 1664–1672.
7. Durante, D. (2012). Qualitative Latent Variables: a Comparison Between SEM and LCA. *Quaderni di Statistica*, 14, 97–100.

#### Manuscripts Under Review

1. Durante, D. and Rigon, T. (2018). Conditionally Conjugate Mean-Field Variational Bayes for Logistic Models. *arXiv:1711.06999*. (Submitted).
2. Rigon, T. and Durante, D. (2018). Logit Stick-Breaking Priors for Bayesian Density Regression. *arXiv:1701.02969*. (Submitted).

- Conjugate Bayes for probit regression via unified skew-normals. *Department of Statistics, Computer Science and Applications, University of Florence*. Florence, Italy (January 24, 2019) — • Unified skew-normals for Bayesian probit regression and classification via BARTS. *Department of Computer and Information Science, Linköpings Universitet*. Linköping, Sweden (November 7, 2018) — • Conjugate Bayes for probit regression via unified skew-normals. *Department of Statistical Sciences, University of Padova*. Padova, Italy (June 8, 2018) — • Convex mixture regression for quantitative risk assessment. *Department of Decision Sciences, Bocconi University*. Milan, Italy (May 4, 2017) — • Bayesian nonparametric modeling of network data. *School of Mathematics and Statistics, University College of Dublin*. Dublin, Ireland (October 5, 2017), *Department of Statistical Science, Duke University*. Durham, USA (February 17, 2017), and *Department of Statistical Science, University College of London*. London, UK (February 8, 2017), and *Department of Decision Sciences, Bocconi University*. Milan, Italy (February 2, 2017), and *School of Basic Sciences, EPFL*. Lausanne, Switzerland (January 19, 2017) — • Recent advances and open questions in statistical modeling of structural brain networks. *Department of Psychology, University of Padova*. Padova, Italy (November 7, 2016) — • Bayesian nonparametric modeling of networks. *Department of Statistical Science, Università Cattolica*. Milan, Italy (February 18, 2016) — • Bayesian connectomics. *Department of Mathematics and Statistics, Lancaster University*. Lancaster, UK (October 8, 2015).

### Invited Presentations

- Conjugate Bayes for probit regression via unified skew-normals. *ERCIM 2018*. Pisa, Italy (December, 2018) — • Convex mixture regression for quantitative risk assessment. *IISA 2017*. Hyderabad, India (December, 2017) and *ERCIM 2017*. London, UK (December, 2017) — • Statistical models and predictive strategies for dynamic face-to-face contact networks. *BISP10*. Milan, Italy (June, 2017) — • Bayesian nonparametric modeling of populations of networks. *JSM2017*. Baltimore, USA (August, 2017) and *BNP11*. Paris, France (June, 2017) — • Bayes and graphs. *ARS'17*. Naples, Italy (May, 2017) — • Bayesian modeling of networks in business intelligence. *Isaac Newton Institute*. Cambridge, UK (August, 2016) — • Bayesian connectomics. *ISBA2016*. Sardinia, Italy (June, 2016) — • Nonparametric Bayes modeling of dynamic international relations. *SIS2016*. Salerno, Italy (June, 2016) — • Bayesian regression with network predictors. *SIS2015*. Treviso, Italy (September, 2015) — • Inference on group differences in brain networks. *JSM2015*. Seattle, USA (August, 2015) — • The compass for young statisticians. *Una giornata in ricordo di Lorenzo Bernardi*. Padova, Italy (May, 2015) — • Bayesian inference on network data. *ARS'15*. Capri, Italy (April, 2015) — • Friends in joy and sorrow: Analysis of the 2007-2012 global financial crisis via Bayesian nonparametric dynamic networks. *SBP 2014*. Washington DC, USA (April, 2014).

### Contributed Presentations and Poster Presentations

- Conjugate Bayes for probit regression via unified skew-normals. *ISBA2018*. Edinburgh, Scotland (June, 2018) — • Nonparametric Bayes dynamic modeling of relational data. *ISBA2014*. Cancun, Mexico (July, 2014) — • Bayesian logistic Gaussian process models for dynamic networks. *AISTAT2014*. Reykjavik, Iceland (April, 2014) — • Locally adaptive Bayesian multivariate time series. *JSM2013*. Montreal, Canada (August, 2013) — • Analysis of Italian financial market via Bayesian covariance regression. *BAYSM2013*. Milan, Italy (June, 2013) — • Qualitative latent variables: a comparison between SEM and LCA. *Methods and models for latent variables*. Naples, Italy (May, 2012).

## Editorial Boards

Associate Editor for the *Journal of Computational and Graphical Statistics* since 2018.

## Referee Service

Journal of the Royal Statistical Society, Series B; Annals of Statistics; Annals of Applied Statistics; Biometrics; Biometrika; Bayesian Analysis; Journal of the American Statistical Association; Computational Statistics & Data Analysis; Statistics and Computing; Artificial Intelligence and Statistics; Journal of Computational and Graphical Statistics; Journal of Multivariate Analysis; Network Science.

## Organization of Scientific Events

- Joint organizer of the “*Bayesian Young Statisticians Meeting BAYSM2018*”. Warwick, 2-3 July, 2018
  - Member of the scientific committee of “*SIS 2018: 49th Scientific Meeting of the Italian Statistical Society*”. Palermo, 20-22 June, 2018
  - Joint organizer of “*StartUpResearch*”. Siena, 25-27 June, 2017 (Satellite event of the SIS intermediate scientific meeting)
  - Joint organizer of “*Stats under the Stars II*”. Salerno, 7-8 June, 2016 (Satellite event of the SIS intermediate scientific meeting)
  - Chair of the event “*Stats under the Stars*”. Padova, 8-9 September, 2015 (Satellite event of the SIS intermediate scientific meeting)
  - Joint organizer of “*Statistica e Data Science per il Business*”. Padova, 8 September, 2015 (Satellite event of the SIS intermediate scientific meeting)
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## TEACHING EXPERIENCE

### Excellence in Teaching Certificates

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

### Courses Taught

#### Bocconi University

Department of Decision Sciences

- Machine Learning. (Academic year 2018/2019).
- Advanced Mathematics and Statistics – Module 2 (Advanced Statistical Methods). (Academic year 2017/2018).
- Statistics – Module 1 (Theory and Methods). (Academic years 2017/2018).
- Applied Survival (Duration) Data Analysis [Ph.D. course]. (Academic years 2017/2018).
- Topics in Statistical and Machine Learning [Ph.D. course]. (Academic years 2017/2018 and 2018/2019).

#### Ca' Foscari University

Department of Economics and Management

- Data Analysis [ET2005]. (Academic year 2015/2016).

#### Università degli Studi di Padova

Department of Statistical Sciences

- Advanced Case Studies [SECS-S/01]. (Academic year 2016/2017).
  - Introduction to network analysis (specialist lectures during the class: Analisi dei Dati e Data Mining). (Academic years 2015/2016 and 2014/2015).
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Updated February 4, 2019