

Marta Catalano

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Luiss University

<https://martacatalano.github.io>

Academic Positions

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| Sep 2023 – Present | Assistant Professor of Statistics, Luiss University. |
| Sep 2021 – Sep 2023 | Harrison Early Career Assistant Professor, Warwick University. |
| Feb 2021 – Sep 2021 | Postdoctoral Researcher, University of Torino. Supervisor: Pierpaolo De Blasi. |

Education

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| 2016 – 2021 | Ph.D. in Statistics , Bocconi University (Milan, Italy). Advisors: Antonio Lijoi and Igor Prünster. Thesis: <i>On Complex Dependence Structures in Bayesian Nonparametrics: a Distance-based Approach</i> . |
| 2016 – 2017 | Master in Big Data Analytics & Social Mining , University of Pisa and CNR (Italy). Grade: Excellent. |
| 2012 – 2015 | M.Sc. in Mathematics , Sapienza University of Rome (Italy). Grade: 110/110 with honors. |
| 2012 – 2013 | Erasmus Program , École Normale Supérieure de Lyon (France). |
| 2009 – 2012 | B.Sc. in Mathematics , Sapienza University of Rome (Italy). Grade: 110/110 with honors. |

Publications

▷ PREPRINTS

- Catalano, M., Lavenant, H. (2024+). Merging Rate of Opinions via Optimal Transport on Random Measures. *Submitted*.

▷ PEER-REVIEWED PUBLICATIONS

1. Catalano, M., Lavenant, H. (2024). Hierarchical Integral Probability Metrics: A distance on random probability measures with low sample complexity. *International Conference on Machine Learning*, forthcoming.
2. Catalano, M., Lavenant, H., Lijoi, A., Prünster, I. (2023). A Wasserstein Index of Dependence for Random Measures. *Journal of the American Statistical Association*, forthcoming.
3. Catalano, M., Del Sole, C., Lijoi, A., Prünster, I. (2023). A Unified Approach to Hierarchical Random Measures. *Sankhya A*, forthcoming.
4. Catalano, M., Lijoi, A., Prünster, I., Rigon, T. (2023). Bayesian modeling via discrete nonparametric priors. *Japanese Journal of Statistics and Data Science*, 6, 607–624.
5. Catalano, M., De Blasi, P., Lijoi, A., Prünster, I. (2022). Posterior Asymptotics for Boosted Hierarchical Dirichlet Process Mixtures. *Journal of Machine Learning Research*, 23 (80), 1–23.
6. Catalano, M., Lijoi, A., Prünster, I. (2021). Measuring Dependence in the Wasserstein Distance for Bayesian Nonparametric Models. *The Annals of Statistics*, 49 (5), 2916–2947. [Winner of the ASA-SBSS 2021 Student Paper Competition]
7. Catalano, M., Lijoi, A., Prünster, I. (2020). Approximation of Bayesian Models for Time-to-event Data. *Electronic Journal of Statistics*, 14, 3366–3395.

▷ CONFERENCE PROCEEDINGS AND BOOK CHAPTERS

7. Catalano, M., Del Sole, C. (2023). A Note on the Dependence Structure of Hierarchical Completely Random Measures. In *Bayesian Statistics, New Generations New Approaches. BAYSM 2022*, 463, 77–85, Springer, Cham.
8. Catalano, M., Lavevant, H., Lijoi, A., Prünster, I. (2022). Wasserstein distance and applications to Bayesian nonparametrics. *Book of Short Papers of the Italian Statistical Society*, Pearson, 1491–1496.
9. Catalano, M., Lijoi, A., Prünster, I. (2021). Transport Distances on Random Vectors of Measures: Recent Advances in Bayesian Nonparametrics. In *Advances in Probability and Mathematical Statistics*, Birkhäuser (Springer), 59–70.

10. Catalano, M., Lijoi, A., Prünster, I. (2019). Bayesian Model Comparison based on Wasserstein Distances. *Book of Short Papers of the Italian Statistical Society*, Pearson, 167-172.

▷ DISCUSSIONS

11. Catalano, M., Fasano, A., Giordano, M., Rebaudo G. (2024). Discussion of “Root and community inference on the latent growth process of a network” by H. Crane and M. Xu *Journal of the Royal Statistical Society Series B*, *forthcoming*.
12. Catalano, M., Fasano, A., Rebaudo G. (2023). Marta Catalano, Augusto Fasano, and Giovanni Rebaudo’s contribution to the discussion of ‘Martingale posterior distributions’ by Fong, Holmes and Walker. *Journal of the Royal Statistical Society Series B: Statistical Methodology*, 85, 1406–1407.
13. Ascolani, F., Catalano, M., Prünster, I. (2023). Invited discussion of “Evaluating Sensitivity to the Stick-Breaking Prior in Bayesian Nonparametrics” by Giordano, R., Liu, R., Jordan, M. I., and Broderick, T. *Bayesian Analysis*, 18(1):287.

Research Awards

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| Jun 2022 | Faculty of Science, Engineering and Medicine Postdoctoral Prize, University of Warwick. |
| May 2022 | Lifetime Members Junior Researcher Award, International Society for Bayesian Analysis (ISBA). |
| Mar 2022 | Finalist, L.J. Savage Award ‘Theory and Methods’, American Statistical Association (ASA), ISBA, NBER-NSF. |
| Oct 2021 | Blackwell-Rosenbluth Award, j-ISBA. |
| Apr 2021 | New Researcher Travel Award, Institute of Mathematical Statistics (IMS). |
| Jan 2021 | 2021 Student Paper Competition, ASA-SBSS. |

Funding

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| Jun 2022 | Research Development Fund, University of Warwick. |
| Jun 2022 | Heilbronn Small Grant, Heilbronn Institute for Mathematical Research (Bristol). |
| Mar 2022 | Travel grant, BNP 2022 Networking Event. |
| Mar 2022 | Travel grant, ISBA 2022 World Meeting. |
| Nov 2020 | Travel grant, WiML workshop co-located with NeurIPS 2020. |
| Sep 2020 | Special financial support (6 months), Bocconi University. |
| Jun 2019 | Travel grant, Objective Bayes Methodology (O’Bayes) 2019 conference. |
| Jun 2019 | Travel grant, BNP12 conference. |
| Sep 2016 | Ph.D. scholarship (4 years), Bocconi University. |
| Apr 2016 | Merit-based partial tuition waiver, Pisa University. |
| 2009 – 2012 | Excellence path (merit-based additional training activities), Sapienza University. |
| 2009 – 2012 | Student award (merit-based 3 years full tuition waiver), Sapienza University. |

Seminars and Conference Presentations

▷ SEMINARS

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| May 2024 | Webinar series, Bayesian Nonparametric Section of ISBA (virtual). |
| May 2023 | Statistics Seminars, Imperial College London (London, UK). |
| Dec 2022 | Statistics Seminars, Collegio Carlo Alberto (Torino, Italy). |
| Nov 2022 | Department of Mathematics, University of York (York, UK). |
| May 2022 | StatML CDT, Imperial College London & University of Oxford (London, UK). |
| May 2022 | S3AI, JK Universität Linz (virtual). |
| May 2022 | School of Mathematics, University of Edinburgh (Edinburgh, UK). |
| Mar 2022 | Department of Economics and Finance, Luiss (Rome, Italy). |
| Mar 2022 | School of Mathematics, Cardiff University (Cardiff, UK). |
| Feb 2022 | Department of Mathematics, University of Warwick (Coventry, UK). |

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| Nov 2021 | Department of Statistics, University of Warwick (Coventry, UK). |
| Nov 2021 | Department of Statistical Science, University College London (London, UK). |
| May 2021 | Department of Economics, University of Bergamo (Bergamo, Italy, virtual). |
| Feb 2021 | Department of Statistics and Data Science, Cornell University (Ithaca, NY, virtual). |

▷ INVITED TALKS AT CONFERENCES

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| Dec 2024 | VII Latin American Congress of Bayesian Statistics & 17th Brazilian Meeting of Bayesian Statistics (Belo Horizonte, Brazil). |
| Sep 2024 | Workshop <i>Recent Developments in Dependence Modelling</i> (Ischia, Italy). |
| Aug 2024 | Bernoulli-IMS 11th World Congress in Probability and Statistics (Bochum, Germany). |
| Jul 2024 | Workshop on Bayesian learning and network analysis, Vietnam Institute for Advanced Study in Mathematics (Hanoi, Vietnam). |
| Jul 2024 | Interpretable Inference via Principled BNP Approaches in Biomedical Research and Beyond, National University of Singapore (Singapore). |
| Jun 2024 | International Symposium on Nonparametric Statistics (Braga, Portugal). |
| Jun 2024 | 4th Italian Meeting on Probability and Mathematical Statistics (Roma, Italy). |
| Apr 2024 | Workshop <i>Applications of Optimal Transport</i> , Institut d'Études Scientifiques de Cargèse (Corsica, France). |
| Nov 2023 | Autumn School in Bayesian Statistics at CIRM (Marseille, France). |
| Aug 2023 | 6th International Conference on Econometrics and Statistics (Tokyo, Japan). |
| Jun 2023 | Workshop <i>Distance-based Methods in Machine Learning</i> , UCL (London, UK). |
| Apr 2023 | SIAM-IMA Student Chapter Conference, University of Manchester (Manchester, UK). |
| Jun 2023 | Emerging Topics in Applications of Optimal Transport, ETH (Zürich, Switzerland). |
| Dec 2022 | International Indian Statistical Association (Bangalore, India). |
| Oct 2022 | 13th International Conference on Bayesian Nonparametrics (Puerto Varas, Chile). |
| Jul 2022 | Bernoulli Young Researcher Event (virtual). |
| Jun 2022 | 16th World Meeting of the International Society of Bayesian Analysis (Montreal, Canada). |
| Jun 2022 | 3rd Italian Meeting on Probability and Mathematical Statistics (Bologna, Italy). |
| May 2022 | Workshop on Bayesian nonparametrics, Postech (Pohang, Korea). |
| Apr 2022 | BNP Networking Workshop (Nicosia, Cyprus). |
| Nov 2021 | BIRS-CMO Workshop on Foundations of Objective Bayesian Methodology (Oaxaca, Mexico). |
| Nov 2021 | Junior Bayes Beyond the Borders (virtual). |
| Oct 2021 | OxWaSP Annual Workshop (virtual). |
| Aug 2021 | Joint Statistical Meetings (virtual). |
| Jun 2021 | 15th World Meeting of the International Society of Bayesian Analysis (virtual). |
| Jun 2021 | 4th International Conference on Econometrics and Statistics (virtual). |
| Apr 2021 | One World YoungStatS webinar (virtual). |
| Dec 2020 | 13th International Conference of the ERCIM WG on Computational and Methodological Statistics (virtual). |
| Nov 2020 | BAYSM:O Bayesian Young Statisticians Meeting: Online (virtual). |
| Dec 2019 | 15th Latin American Congress of Probability and Mathematical Statistics (Mérida, Mexico). |
| Jun 2019 | SIS 2019: Smart Statistics for Smart Applications (Milan, Italy). |
| Jun 2019 | 2nd Italian Meeting on Probability and Mathematical Statistics (Vietri sul Mare, Italy). |

▷ CONTRIBUTED TALKS AT CONFERENCES

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| Jun 2022 | 51st Scientific Meeting of the Italian Statistical Society (Caserta, Italy). |
| May 2022 | 100 UMI - 800 UniPD (Padova, Italy). |
| Aug 2020 | Bernoulli-IMS One World Symposium 2020 (virtual). |

▷ POSTER PRESENTATIONS

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| Dec 2020 | 15th Women in Machine Learning Workshop co-located with NeurIPS 2020 (virtual). |
| Dec 2020 | Joint Affinity Groups, NeurIPS 2020 (virtual). |
| Jun 2019 | Objective Bayes Methodology Conference (Warwick, UK). |
| Jun 2019 | 12th International Conference on Bayesian Nonparametrics (Oxford, UK). |

Teaching

- ▷ Module Leader, *Machine Learning*, Luiss University (AY 2023/2024).
- ▷ Module Leader, *Advanced Statistics*, Luiss University (AY 2023/2024).
- ▷ Module Leader, *Bayesian Forecasting and Intervention*, University of Warwick (AY 2022/2023, 2021/2022).
- ▷ International Visiting Professor, short course *Dependent Nonparametric Priors via Completely Random Measures*, University of Torino (AY 2022/2023).
- ▷ Teaching Assistant, *Numerical and Statistical Methods for Finance*, University of Torino (AY 2020/2021).
- ▷ Teaching Assistant, *Data Analysis*, Bocconi University (AY 2020/2021, 2019/2020, 2018/2019, 2017/2018).
- ▷ Teaching Assistant, *Mathematics and Statistics*, Bocconi University (AY 2018/2019, 2017/2018).

Editorial Work

- ▷ Editorial Board Member, *ACM Transactions on Probabilistic Machine Learning* (2023–Present).
- ▷ Reviewer for *Annals of Statistics*, *Biometrika*, *Electronic Journal of Statistics*, *Journal of Business & Economic Statistics*, *Journal of Computational and Graphical Statistics*, *Journal of Machine Learning Research*, *Journal of the American Statistical Association*, *Operations Research*, *Springer*, *Statistica Sinica*, *Statistics & Probability letters*.
- ▷ Program Committee Member, 2021 NeurIPS Workshop *Your Model is Wrong: Robustness and Misspecification in Probabilistic Modeling*.
- ▷ Project Evaluator, Research Grants Council (RGC) of Hong Kong.

Professional Activities

▷ SCIENTIFIC COMMITTEE MEMBER

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| Aug 2024 | 3rd Bayesian Nonparametrics Networking Workshop (Singapore). |
| Apr 2024 | Workshop <i>Applications of Optimal Transport</i> , Institut d'Études Scientifiques de Cargèse (Corsica, France). |
| Jun 2023 | Workshop <i>Approximation Methods in Bayesian Analysis</i> , CIRM (Marseille, France). |
| Aug 2022 | j-ISBA Blackwell-Rosenbluth Award 2022. |

▷ SESSION ORGANIZER

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| Aug 2024 | Bernoulli-IMS 11th World Congress in Probability and Statistics (Bochum, Germany). |
| Jul 2024 | Invited session, 17th World Meeting of the International Society of Bayesian Analysis (Venice, Italy) |
| Jun 2024 | 4th Italian Meeting on Probability and Mathematical Statistics (Roma, Italy). |
| Aug 2023 | 6th International Conference on Econometrics and Statistics (Tokyo, Japan). |
| Jun 2023 | Workshop <i>Approximation Methods in Bayesian Analysis</i> , CIRM (Marseille, France). |
| Jun 2022 | Solicited session by y-SIS, 2022 SIS conference (Caserta, Italy). |

▷ ORGANIZING COMMITTEE MEMBER

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| Jun 2022 | BNP poster awards, ISBA 2022 (Montreal, Canada). |
| Jun 2021 | Junior Live Presentations ISBA@CIRM Mirror Workshop (Marseille, France). |
| Dec 2020 | Volunteer and Poster Mentor, WiML workshop co-located with NeurIPS 2020 (virtual). |

▷ SERVICE TO SCIENTIFIC SOCIETIES

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| 2022 – 2023 | Treasurer, BNP section of ISBA. |
| 2021 | Chair, ISBA <i>ad-hoc</i> Committee for Junior Awards. |
| 2021 – 2022 | Board Member, Young Italian Statistical Society (y-SIS). |

▷ SERVICE TO THE DEPARTMENT

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| 2023 | Organizing Committee Member, Statistics Internship Scheme, University of Warwick (Coventry, UK). |
| 2022 | Coordinator, <i>Tour of Statistics</i> seminar series, University of Warwick (Coventry, UK). |
| 2020 – 2021 | Coordinator, biweekly internal seminar series, Bocconi BayesLab (Milano, Italy). |
| Sep 2019 | Volunteer, European Researchers' Night (Milano, Italy). |

Research Networks and Scientific Societies

- ▷ Research Affiliate, “de Castro” Statistics Initiative, Collegio Carlo Alberto, Torino (2020–Present).
- ▷ Research Affiliate, BayesLab, Bocconi Institute for Data Science and Analytics (2020–Present).
- ▷ Member of the international *Complex Data Modeling Research Network* (2020–Present).
- ▷ Member of *Women in Machine Learning* (2021–Present).
- ▷ Member of Scientific Societies: *American Statistical Association*, *Bernoulli Society*, *Institute of Mathematical Statistics*, *International Society for Bayesian Analysis*, *Italian Statistical Society* (SIS).