Antonio Canale

CONTACT
INFORMATION

Dipartimento di Scienze Statistiche
Università degli Studi di Padova
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35121 Padova, Italy

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RESEARCH
INTERESTS

Bayesian nonparametrics, functional data analysis, causal inference, extreme value analysis, factor models, multiscale methods, data science, machine learning, applied statistics.

CURRENT
POSITION

Associate professor,
Dipartimento di Scienze Statistiche, Università degli Studi di Padova. (since 03/2020)

PAST POSITIONS

Assistant professor, (*Ricercatore SECS-S/01, Legge 240/10 tipo B*),
Dipartimento di Scienze Statistiche, Università degli Studi di Padova. (from 03/2017 to 02/2020)

Fixed term assistant professor, (*Ricercatore SECS-S/01, Legge 240/10 tipo A*),
Dipartimento ESOMAS, Università degli Studi di Torino. (from 10/2012 to 02/2017)

Research Affiliate,
de Castro Statistics Initiative, Collegio Carlo Alberto (from 02/2013 to 05/2018)

Postdoctoral fellow,
Dipartimento di Statistica e Matematica applicata "Diego de Castro", Università degli Studi di Torino (from 01/2012 to 09/2012)

EDUCATION

Università degli Studi di Padova, Padova, Italy

- Ph.D., Statistics (*Dottorato di ricerca in Statistica*), Department of Statistical Sciences (From 1/2009 to 12/2011, thesis defence 02/2012)

- M.S., Statistics and Computer Science (*Laurea Specialistica in Statistica e Informatica*), School of Statistics (From 10/2006 to 07/2008, thesis defence 07/2008)

- B.S., Statistics and Management (*Laurea Triennale in Statistica e Gestione delle Imprese*), School of Statistics (From 10/2003 to 02/2006, thesis defence 02/2006)

AWARDS

- Third place, *Best Paper Award in Climate Data Sciences*, ADIA lab, Arab Emirates, (2025)

- Winner, *Jim Dooge Award 2024* — for the most outstanding paper appeared in 2024 in *Hydrology and Earth System Sciences*, European Geoscience Union, (2025)

- *Honorable Mention, Lindley Prize 2022 — for innovative research in Bayesian Statistics that is presented at an ISBA World Meeting and accepted for publication in the journal Bayesian Analysis* (2024)

- *Abilitazione Scientifica Nazionale a professore di I fascia, settore 13/D1* (National Scientific Qualification for Full Professor in Statistics), from September 2019

- *Abilitazione Scientifica Nazionale a professore di II fascia, settore 13/D1* (National Scientific Qualification for Associate professor in Statistics), from April 2017

- Winner of the *Young Statistician Award* sponsored by the European Network on Business and Industrial Statistics (2017)

- Finalist of the *L.J. Savage Award 2013* for outstanding doctoral dissertations in Bayesian econometrics and statistics (Applied Methodology section) sponsored by the American Statistical Association, International Society of Bayesian Analysis and NBER-NSF (2014)

- Winner of the competition *"Statistica, Open Data e Società" ("Statistics, Open data and Society")*, Municipality of Milan and Università Cattolica, Milan, Italy (11/2013)

- Winner of the competition *"Technology foresight and Statistics for the future"*, Bar Camp, SCo 2013, Milan, Italy (09/2013)

- Bologna Experience for Superior Talents - 2006, ALMA graduate school, Bologna, Italy (09/2006)

CONFERENCES
PRESENTATION

Plenary presentations

- Bayesian dimensionality reduction; *International Workshop on Statistical Modelling*, Trieste, July, 18-22, 2021

- Shallow learning for data science; *SIS 2019 Intermediate meeting*, Milan, Italy, June 12-14, 2019

- Constrained Functional Time Series: an Application to demand and supply curves in the Italian Natural Gas Balancing Platform; *ENBIS-17*, Naples, Italy, September 9-14, 2017

Invited presentations

- Bayesian nonparametrics mixtures for principal stratification, *14th International Conference on Bayesian Nonparametrics*, Los Angeles, 23-27 June 2025

- Bayesian nonparametrics mixtures for principal stratification, 52^a *riunione scientifica SIS*, Bari, 17-20 June 2024

- Bayesian nonparametrics for principal stratification; *16th International Conference of the ERCIM WG on Computational and Methodological Statistics*, Berlino, Germania, dicembre 16-18, 2023

- A discussion on "Nested Nonparametric Processes" by F. Camerlenghi, *O'Bayes*, Santa Cruz, California, USA, 5-10 September 2022 (invited discussant)

- Bayesian nonparametric analysis of calcium imaging data, *CSDA & EcoSta Workshop on Statistical Data Science*, Bologna, 26-28 August 2022

- Escaping the curse of dimensionality in model-based clustering; *Working Group on Model-Based Clustering Summer Session*, $A\theta\eta\nu\alpha$, Greece, 25-30 October, 2021

- Bayesian non-asymptotic extreme value hierarchical models *14th International Conference of the ERCIM WG on Computational and Methodological Statistics*, London, UK, December, 2021

- Bayesian clustering of high-dimensional data *13th International Conference of the ERCIM WG on Computational and Methodological Statistics*, London, UK, December, 2020

- Constrained Functional Time Series; *10th International Conference of the ERCIM WG on Computational and Methodological Statistics*, London, UK, December 16-18, 2017

- Multiscale mixtures of kernels; *11th conference on Bayesian Nonparametrics*, Paris, France, June 26-30, 2017

- Scalable multiscale density estimantion; *SisBayes Meeting*, Rome, Italy, February 7-8, 2017

- Statistics and Data Science; *Data Science and its Relationship to Big Data and Data-Driven Decision Making*, Google, Milan, Italy, January 17, 2017

- Constrained Functional Time Series: an Application to the Italian Natural Gas Balancing Platform; *Mercati energetici e metodi quantitativi: un ponte tra Università e Aziende*, Padova, Italy, October 8, 2015

- Multiscale Bernstein Polynomial for densities; *7th International Conference of the ERCIM WG on Computing and Statistics*, Pisa, Italy, December 6–8, 2014

- Statistics: pushed or pulled by technology? *Barcamp@SC0 2013*, Milan, Italy, September 12, 2013

- A Bayesian nonparametric model for data on different scale of measure; an application to customer base management of telecommunications companies; *SIS Scientific Meeting 2013*, Brescia, Italy, 16-18 June, 2013

- Bayesian multivariate mixed-scale density estimation; *5th International Conference of the ERCIM WG on Computing and Statistics*, Oviedo, Spain, December 1–3, 2012

- Bayesian nonparametric models for count data. Phone traffic analysis; *Final workshop on Bayesian nonparametric models for functional data: theory and applications in biometry and marketing*, Padova, Italy, October 5, 2012

- Informative Bayesian inference for the skew normal; *Third Palestinian Conference on Modern Trends in Mathematics and Physics*, Hebron, Palestine, July 16–18, 2012

- A Bayesian nonparametric model for count functional data; *SIS Scientific Meeting 2012*, Rome, June 20-22, 2012

- Dirichlet process mixture of rounded skew normal for the estimation of probability mass functions; *IV international skew workshop*, Santiago, Chile, May 16-19 2011

- Some Inferential results on the extended skew-normal distribution in the scalar case; *Summer mini conference in Statistic and probability*, McMaster University, Hamilton, Ontario, Canada, July 31, 2009

Contributed presentations

- Multiscale Bernstein Polynomial for densities; *10th Conference on Bayesian Nonparametrics*, Raleigh, NC, USA, June 22-26, 2015

- Age-specific probability of childbirth via Bayesian nonparametric location-scale-shape mixtures; *International Biometric Conference*, Florence, Italy, 6-11 July, 2014

- Bayesian nonparametric spatial modelling of ordinal periodontal data; *SIS 2014*, Cagliari, Italy, 9-14 June, 2014

- Analysis of demand and supply curves in the Italian natural gas market through functional time series. *SCO 2013*, Milan, Italy, 9-11 September, 2013

- Bayesian nonparametric predictions for count time series; *Final Conference of PRIN 2008*, Naples, May 17–19, 2012

- Bayesian modeling of count processes; *SCo 2011*, Padova, Italy, September 19-21 2011

- Bayesian Kernel mixtures for counts; *Applied Bayesian Summer School*, Bolzano, Italy, June 11-15 2010 (participants talk)

- Statistical aspects in the extended skew normal model; *Workshop on Skew Symmetric Distributions*, Benevento, Italy, March 16–20 2009

- Some preliminar results on the information matrix of the extended skew normal model; *Workshop on Skew Symmetric Probability Distributions*, Bertinoro (FC), Italy, April 6 - 10 2008

Poster presentations

- Convex Mixture Regression for Quantitative Risk Assessment; *2018 ISBA world meeting*, Edinburgh, UK, 24-29 June, 2018

- Bayesian nonparametric location-scale-shape mixtures; *9th Bayesian Nonparametric workshop*, Amsterdam, Netherlands, 9-13 June, 2013

- Bayesian multivariate mixed-scale density estimation; *2012 ISBA world meeting*, Kyoto, Japan, June 25–29, 2012

- Bayesian Kernel mixtures for counts; *8th Bayesian Nonparametric workshop*, Veracruz, Mexico, June 26-30 2011

INVITED SEMINARS	*Institut 3IA Côte d'Azur*, Université Côte d'Azur (15/5/25), *ADIA Lab*, Abu Dhabi (7/5/25), *Dipartimento di Scienze Statistiche*, Università degli Studi di Bologna (19/03/2025), *Institute for Statistics and Mathematics*, WU Vienna University of Economics and Business, (26/4/2024), *Department of Biostatistics*, University of Oslo, (9/11/2023), *Bayesian Nonparametric Section of the International Society for Bayesian Analysis*, Webinar series, (14/06/2023), *Dipartimento di Scienze Economiche*, Università degli Studi di Milano Bicocca, (12/02/2023), *Dipartimento di Scienze Economiche*, Università degli Studi di Bergamo, (16/10/2022), *Department of Statistics*, Rice University, (8/02/2021, *web seminar, due to CoViD-19 travel restrictions*), *Department of Mathematics*, University of Oslo, (21/04/2020, *web seminar, due to CoViD-19 travel restrictions*), *Department of Biostatistics*, Virginia Commonwealth University, (2/11/2018), *Department of Statistical Science*, Duke University, (7/09/2018), *Autorità per le Garanzie nelle Comunicazioni*, Roma, (14/03/2017), *Department of Decision Sciences*, Bocconi University (12/05/2016), *School of Mathematics And Statistics*, University College Dublin (31/03/2016), Trinity College Dublin (30/03/2016), *School of Computer Science and Statistics*, *Department of Statistics*, University of Bologna (19/11/2015), *Department of Statistical Sciences*, Università Cattolica, Milano (14/11/2013), *Dipartimento di Scienze Economiche, Aziendali, Matematiche e Statistiche "Bruno de Finetti"*, Università degli Studi di Trieste (16/10/2013); *Department of Economics and Statistics*, Università degli studi di Udine (26/09/2013); *PhD school in Statistics*, Università degli Studi di Padova (17/01/2013);

VISITING PERIODS

- Department of Statistical Science, Duke University, Durham, NC, USA (08/2018 – 12/2018)

- Statistical and Applied Mathematical Sciences Institute (SAMSI), NC, USA (06/2015)

- Department of Statistics and Data Science, University of Texas at Austin, TX, USA (10/2014)

- Department of Statistical Science, Duke University, Durham, NC, USA (07/2011 – 08/2011)

- Department of Statistical Science, Duke University, Durham, NC, USA (02/2010 – 12/2010)

- Department of Mathematics and Statistics, McMaster University, Canada (07/2009 – 08/2009)

FUNDING

Research projects

- Member of the project "REENACT: A multidisciplinaRy approach to improve Energy-use EfficieNcy in AgriCulTure" grantor: Centro Studi "Giorgio Levi Cases" (2024-2025)

- Local coordinator of the project "RISE: Rethinking and Innovating Statistics for Extremes" grant: *PRIN 2022*; grator: MUR (2023-2025)

- Member of the project "RESILIENCE – Extreme Storms in the Italian North-East: frequency, impacts and projected changes" grant: Ricerca Scientifica di Eccellenza; grantor: Fondazione Cariparo (2022-2025)

- Principal investigator of "Bayesian models for single-cell RNA-Seq data"; grant: *SID: Investimento Strategico di Dipartimento*; grantor: Dipartimento di Scienze Statistiche, Università degli Studi di Padova (2021-2023)

- Principal investigator of "Bayesian nonparametrics for complex data"; grant: *STARS: Supporting Talent in Research*; grantor: Università degli Studi di Padova (2018-2019)

- Principal investigator of "Locally nonconcurrent functional regression models"; grant: *SID: Investimento Strategico di Dipartimento*; grantor: Department of Statistical Sciences, Università degli Studi di Padova (2018-2019)

- Co-investigator of "Modern Bayesian nonparametric methods"; grant: *PRIN2015: Progetto di Rilevanza Nazionale*; grantor: Italian Ministry of Education, Universities, and Research (2016-2018)

- Co-investigator of "Bayesian inference on brain network data"; grant: *Progetto di Ricerca di Ateneo*; grantor: Università degli Studi di Padova (2016-2017)

- Principal investigator of the project "Bayesian inference for high-complexity multidimensional data"; grant: *Progetto Giovani Ricercatori*, grantor: Università degli Studi di Torino (2013-2015)

SERVICE TO
PROFESSION

Editorial Activity

- *Associate Editor*

  Econometrics and Statistics (2025-)

  Computational Statistics and Data Analysis (2018-2024)

  Journal of the Royal Statistical Society, Series C (Applied Statistics) (2019-2022)

- *Referee* (in ordine alfabetico): Advances in Data Analysis and Classification, Annals of Applied Statistics, Bayesian Analysis, Biometrical journal, Biometrics, Biometrika, Computational Statistics, Computational Statistics and Data Analysis, Electronic Journal of Statistics, Hydrology and Earth System Sciences, International Journal of Forecasting, Journal of Applied Statistics, Journal of the American Statistical Association, Journal of Computational and Graphical Statistics, Journal of Business and Economic Statistics, Journal of the Korean Statistical Society, Journal of Multivariate Analysis, Journal of Machine Learning Research, Journal of the Royal Statistical Society (Series B), Journal of the Royal Statistical Society (Series C), Journal of Statistical Computation and Simulation, Operations Research, Sankhyā, Statistical Methods and Applications, Statistics and Computing, Statistics and Probability Letters;

- *Reviewer for*: Mathematical Reviews

- *Reviewer for*: CRC press, Taylor and Francis Group

Positions in Academic Societies

- Coordinator SIS-BAYES group of the Italian Statistical Society (since 2024)

- Elected member of the Board of Directors, International Society for Bayesian Analysis (2024-2026)

- Chair, Sponsorship Committee, International Society for Bayesian Analysis (08/2023)

- Elected member of the board (2018-2022) of the Statistics and Data Science Section (SIS-SDS) of the Italian Statistical Society;

- Elected member of the board (2014-2015) and chair (2015) of the young section (ySIS) of the Italian Statistical Society;

Organization of Scientific Events

- Scientific committee and Local organizing commitee chair SISBAYES 2024, Padova, September 2025

- Scientific committee GRASPA 2024, Roma, September 2025

- Scientific committee CLADAG 2023, Salerno, September 2023

- Scientific committee IMS International Conference on Statistics and Data Science, Firenze, December 2022

- Scientific and Local committee of Data Research Camp 2022, Venezia, July, 2022

- Organizer of the invited session *Advances in Bayesian factor models*, ISBA2022, Montreal, Canada, Junne, 2022

- Scientific Program Committee od LI scientific meeting of the Italian Statistical Society, Caserta, June 2022

- Joint Organizer of the organized track-session *Bayesian semi- and non-parametric modelling* of the CMStatistics2020, e-conference, December 2020

- Joint Organizer of the organized track-session *Bayesian semi- and non-parametric modelling* of the CMStatistics2019, London, December 2019

- Member of the Scientific and Organizing commitee of the Data Research Camp 2019, Venice, July, 2019

- Joint Organizer of the organized session *Bayesian Modelling and Computation* of the CM-Statistics2018, Pisa, December 2018

- Member of the scientific committee of the Joint Meeting of SIS-SDS and itENBIS on Statistics and Data Science: new Developments for Business and Industrial Applications, Torino, May 2018

- Member of the organising committee of the 5th StaTalk, Padova, November 2017

- Joint Organizer of the specialised session *Data Science for Business* of the 49th scientific meeting of the Italian Statistical Society, Florence, June 2017

- Joint Organizer of the satellite event Start Up Research of the 49th scientific meeting of the Italian Statistical Society, Pontignano, June 2017

- Member of the scientific program committee of the 48th scientific meeting of the Italian Statistical Society, Salerno, June 2016

- Member of the organising committee of the 2nd StaTalk on Bayesian Nonparametrics, Moncalieri, February 2016

- Member of the organising committee of StatisticAll, Treviso, September 2015

- Chair of the conference Statistica e Data Science per il Business, Padova, 8th September, 2015 (Satellite events of the SIS intermediate scientific meeting);

- Joint organiser of Stats under the Stars, Padova, 8th-9th September, 2015 (Satellite events of the SIS intermediate scientific meeting);

Dissemination and outreach

- Co-organizer of DataBeers Padova

Statistical papers

43. Giampino, A., Canale, A., Nipoti, B. (2025) A Bayesian Model for Co-clustering Ordinal Data with Informative Missing Entries, *Statistics and Computing*, in press

42. Stolf, F., Canale, A., (2025) Bayesian Adaptive Tucker Decompositions for Tensor Factorization, *Journal of Computational and Graphical Statistics*, in press

41. Zorzetto, D., Bargagli-Stoffi, F., Canale, A., Dominici, F. (2024) Confounder-Dependent Bayesian Mixture Model: Characterizing Heterogeneity of Causal Effects in Air Pollution Epidemiology, *Biometrics,* 80, 2,

40. Schiavon, L., Nipoti, B., Canale, A. (2024) Accelerated structured matrix factorization, *Journal of Computational and Graphical Statistics*, 33, 3, 917–927

39. Kowal, D., Canale, A.(2023) Semiparametric Functional Factor Models with Bayesian Rank Selection, *Bayesian Analysis*, 18, 1161-1189 *(honorable mention Lindley prize, 2022)*

38. Stolf, F., Canale, A., (2023) A hierarchical Bayesian non-asymptotic extreme value model for spatial data, *Environmetrics*, 34, 7

37. Bernardi, M., Canale, A., Stefanucci, M., (2023) Locally Sparse Function-on-function Regression, *Journal of Computational and Graphical Statistics*, 32, 3, 985-999

36. D'Angelo, L., Canale, A., (2023), Efficient posterior sampling for Bayesian Poisson regression, *Journal of Computational and Graphical Statistics*, 32, 3, 917–926

35. Chandra, N. K., Canale, A., Dunson, D.B., (2023), Escaping the curse of dimensionality in Bayesian model based clustering, *Journal of Machine Learning Research*, 24, 144, 1–42

34. D'Angelo, L., Canale, A., Yu, Z., Guindani, M. (2023) Bayesian nonparametric analysis for the detection of spikes in noisy calcium imaging data, *Biometrics*, 79, 2, 1370–1382

33. Canale, A., Lijoi, A., Nipoti, B., Prünster, I., (2023) Inner spike and slab Bayesian nonparametric models, *Econometrics and Statistics*, 27, 120–135

32. Canale, A., Corradin, R., Nipoti, B., (2022) Importance conditional sampling for Pitman-Yor mixtures, *Statistics and Computing*, 32, 40

31. Schiavon, L., Canale, A., Dunson, D. (2022) Generalized infinite factorization models, *Biometrika*, 109, 3, 817–835,

30. Corradin, R., Canale, A., Nipoti, B., (2021), BNPmix: an R package for Bayesian nonparametric modelling via Pitman-Yor mixtures, *Journal of Statistical Software*, 100, 15

29. Stefanucci, M., Canale, A., (2021), Multiscale stick-breaking mixture models, *Statistics and Computing*, 31, 13

28. Barrientos A. F., Canale, A., (2021), A Bayesian goodness-of-fit test for regression, *Computational Statistics and Data Analysis*, 155, 107104

27. Schiavon, L., Canale, A., (2020), On the truncation criteria in infinite factor models, *Stat*, 9(1), e298

26. Kowal, D. R., Canale, A., (2020), Simultaneous Transformation and Rounding (STAR) Models for Integer-Valued Data, *Electronic Journal of Statistics*, 14, 1744–1772

25. Rossini, J., Canale, A., (2019), Quantifying prediction uncertainty for functional-and-scalar to functional autoregressive models under shape constraints, *Journal of Multivariate Analysis*, 170, 221–231

24. Durante, D., Canale, A., Rigon, T. (2019), A nested expectation-maximization algorithm for latent class models with covariates, *Statistics and Probability letters*, 146, 97–103

23. Kon Kam King, G., Canale, A., & Ruggiero, M. (2019), Bayesian functional forecasting with locally-autoregressive dependent process, *Bayesian Analysis*, 14, 1121–1141.

22. Carmona, C., Nieto-Barajas, L., Canale, A. (2019), Model-based approach for household clustering with mixed scale variables, *Advances in Data Analysis and Classification*, 13, 559–583

21. Canale, A., Durante, D., Dunson, D. (2018), Convex Mixture Regression for Quantitative Risk Assessment, *Biometrics*, 74, 1331–1340

20. Canale, A., Lijoi, A., Nipoti, B., Prünster, I., (2017), On the Pitman-Yor process with spike and slab base measure, *Biometrika*, 104, 3, 681–697

19. Canale, A., (2017), msBP: An R package to perform Bayesian nonparametric inference using multiscale Bernstein Polynomials mixtures, *Journal of Statistical Software*, 78, 6

18. Canale, A., Prünster, I., (2017), Robustifying Bayesian nonparametric mixtures for count data, *Biometrics*, 73, 174–184

17. Canale, A., De Blasi, P., (2017), Posterior asymptotics of nonparametric location-scale mixtures for multivariate density estimation, *Bernoulli Journal*, 23, 379–404

16. Canale, A., Ruggiero, M., (2016), Bayesian nonparametric forecasting of monotonic functional time series, *Electronic Journal of Statistics*, 10, 3265–3286

15. Canale, A., Vantini, S., (2016), Constrained Functional Time Series: Applications to the Italian Gas Market, *International Journal of Forecasting*, 32, 1340–1351

14. Canale, A., Kenne Pagui, E. K., Scarpa, B., (2016), Bayesian modeling of university first-year students' grades after placement test, *Journal of Applied Statistics*, 43, 3015–3029

13. Bandyopadhyay D., Canale, A., (2016), Nonparametric spatial ordinal models for clustered periodontal data, *Journal of the Royal Statistical Society-Series C*, 65, 619–640.

12. Kenne Pagui, E. C., Canale, A., (2016), Pairwise likelihood inference for multivariate ordinal responses with applications to customer satisfaction, *Applied Stochastic Models in Business and Industry*, 32, 273–282

11. Canale, A., Dunson, D. B., (2016), Multiscale Bernstein polynomials for densities, *Statistica Sinica*, 26, 3, 1175–1195

10. Bisaglia, L., Canale, A., (2016), Bayesian nonparametric forecasting for INAR models, *Computational Statistics and Data Analysis*, 100, 70–78.

9. Canale, A., Scarpa, B., (2016), Bayesian nonparametric location-scale-shape mixtures, *Test*, 25, 1, 113–130.

8. Canale, A., Dunson, D. B., (2015), Bayesian multivariate mixed-scale density estimation, *Statistics and Its Interface*, 8, 2, 195–201.

7. Canale, A., (2015), A note on regions of given probability for the extended skew-normal distribution, *Communications in Statistics*, 44, 2507–2516

6. Canale, A., Scarpa, B., (2015), Age-specific probability of childbirth. Smoothing via Bayesian nonparametric mixture of rounded kernels, *Statistica*, 75, 1, 101–110.

5. Canale, A., Lunardon, N., (2015), Churn prediction in telecommunications industry. A study based on Bagging classifiers, *Statistica applicata - Italian Journal of Applied Statistics*, 24, 3, 279–290

4. Canale, A., Dunson, D. B., (2013), Nonparametric Bayes modelling of count processes, *Biometrika*, 100, 4, 801–816

3. Bisaglia, L., Canale, A., (2012), Bayesian nonparametric predictions for count time series, *Quaderni di Statistica*, 14, 49–52

2. Canale, A., Dunson, D. B., (2011), Bayesian Kernel Mixtures for Counts, *Journal of American Statistical Association*, 106, 1528–1539

1. Canale, A., (2011), Statistical aspects in the extended skew-normal model, *Metron*, LXIX, 3, 279–295

Collaborative papers

- Pilotto, A., Ashton, N.J., Lupini, A., Battaglio, B., Zatti, C., Trasciatti, C., Gipponi, S., Cottini, E., Grossi, I., Salvi, A. and de Petro, G., 2024. Plasma NfL, GFAP, amyloid, and p-tau species as Prognostic biomarkers in Parkinson's disease *Journal of Neurology*, 271, 7537–7546.

- Dallan, E., Borga, M., Fosser, G., Canale, A., Roghani, B., Marani, M., Marra, F. (2024) A Method to Assess and Explain Changes in Sub-Daily Precipitation Return Levels From Convection-Permitting Simulations, *Water Resources Research*, 60, 5 (*Third place, ADIA Lab, Best Paper Award in Climate Data Sciences*)

- Marra, F., Koukoula, M, Canale, A., Peleg, N., (2024) Predicting extreme sub-hourly precipitation intensification based on temperature shifts, *Hydrology and Earth System Sciences*, 28, 2, 375–389, (*Jim Doge Award 2024*)

- Zorzetto, E., Canale, A., Marani, M., (2024) A Bayesian Non-Asymptotic Extreme Value Model for Daily Rainfall Data, *Journal of Hydrology*, 628, 130378

- Padovani, A., Canale, A., Schiavon, L., Masciocchi, S., Imarisio, A., Risi, B., Bonzi, G., De Giuli, V., Di Luca, M., Ashton, N.J., Blennow, K., Zetterberg, H., Pilotto, A. (2022) Is amyloid involved in acute neuroinflammation? A CSF analysis in encephalitis, *Alzheimer's & Dementia*, 18, 11, 2167–2175

- Cristillo, V., Pilotto, A., Cotti Piccinelli, S, Bonzi, G., Canale, A., Gipponi, S., Bezzi, M., Leonardi, M., Padovani A., & the Neuro Covid Next Study group (2022), Premorbid vulnerability and disease severity impact on Long-COVID cognitive impairment, *Aging Clinical and Experimental Research*, 34, 257–260

- Pilotto, A., Cristillo, V., Cotti Piccinelli, S., Zoppi, N., Bonzi, G., Sattin,D., Schiavolin, S., Raggi, A., Canale, A., Gipponi, S., Libri, I., Frigerio, M., Bezzi, M., Leonardi, M., and Padovani, A., (2021), Long-term neurological manifestations of COVID-19: prevalence and predictive factors, *Neurological Sciences*, 42, 4903–4907.

- Pilotto, A, Canale, A. Schiavon, L., [. . .] Padovani, A. Does neuroinflammation impact on amyloid beta pathways? Evidences from a consecutive series of encephalitis, *Journal of the Neurological Sciences*, 429

- Livsey J., Alavaisha, E. Tumbo, M., Lyon, S. W., Canale, A., Cecotti, M., Lindborg, R., and Manzoni S., (2020), Soil carbon, nitrogen and phosphorus contents along a gradient of agricultural intensity in the Kilombero Valley, Tanzania, *Land*, 9, 121

- Barbon, S., Stocco, E., Dalzoppo, D., Todros, S., Canale, A., Boscolo-Berto, R., . . . , & Porzionato, A. (2020). Halogen-Mediated Partial Oxidation of Polyvinyl Alcohol for Tissue Engineering Purposes. *International Journal of Molecular Sciences,* 21(3), 801.

Books (as Editor)

- Canale, A., Luati, A., Mazzuco, S., Piccarreta, R., Sartori, N., and Secchi, P. (Eds.) (2025), Advances in Neural Data Science, Data Research Camp 2022, Venice, Italy, July 12–15, Springer Proceedings in Mathematics and Statistics, ISBN 978-3-031-70637-0

- Canale, A., Durante, D., Paci, L., and Scarpa, B. (Eds.) (2019), Studies in Neural Data Science, StartUp Research 2017, Springer Proceedings in Mathematics and Statistics, ISBN 978-3-030-00038-7

Book chapters and international conference proceedings

- Wang, Y., Canale, A., Dunson, D.B., (2016), Scalable geometric density estimation, In *Artificial Intelligence and Statistics (AISTATS)*, *Proceedings of Machine Learning Research*, 51, 857–865 (*AISTATS Best Student paper Award*)

- Canale, A., Lijoi, A., Prüenster I., (2016), Bayesian Nonparametrics. In *Wiley StatsRef: Statistics Reference Online*, John Wiley & Sons, Ltd.

Discussion papers

- Canale, A., Schiavon, L., Stolf, F. (2024) Invited discussion on: "Sparse Bayesian Factor Analysis When the Number of Factors Is Unknown" by Frühwirth-Schnatter, S. Hosszejni, D., and Lopes, H. F., *Bayesian Analysis*,

- D'Angelo, L., Canale, A., (2021) Contributed discussion on: "Centered partition processes: Informative priors for clustering" by Paganin, S., Herring, A. H., Olshan, A. F. and Dunson, D. B., *Bayesian Analysis*, 16, 356–358

Dissemination

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

Thesis

- Canale A., (2012), Bayesian nonparametric models for count data with applications to customer base management, *PhD Thesis*, Department of Statistical Sciences, University of Padova

- Canale A., (2008), Aspetti statistici nella normale asimmetrica estesa, *Tesi di laurea specialistica*, Dipartimento di Scienze Statistiche,

Software

- Bernardi, M., Stefanucci, M., R., Canale, A. fdaSP: Sparse Functional Data Analysis Methods, *R package*

- Canale, A., Durante, D., Falcioni, A., Galtarossa, L., Rigon T., CoMiRe: Convex Mixture Regression, *R package*

- Corradin, R., Canale, A., Nipoti, B. BNPmix: Bayesian Nonparametric Mixture Models, *R package*

- Canale, A., msBP: Multiscale Bernstein Polynomials for Densities, *R package*

- Carmona C., Nieto-Barajas L., Canale, A., BNPMIXcluster: Bayesian Nonparametric Model for Clustering with Mixed Scale Variables, *R package*

- Canale, A., rmp: Rounded Mixture Package, *R package*

- Kenne Pagui, E. C., Canale, A., Plordprob: Multivariate Ordered Probit Model via Pairwise Likelihood, *R package*