Laura D'Angelo

Department of Economics, Management and Statistics (DEMS)
University of Milano Bicocca
Piazza dell'Ateneo Nuovo 1, 20126 Milano

✉ *laura.dangelo@unimib.it*
🏠 *laura-dangelo.github.io*

Current position

Postdoctoral researcher in Statistics (Dec 2021 –)
Department of Economics, Management and Statistics (DEMS)
University of Milano Bicocca
Supervisor: Prof. Bernardo Nipoti.

Education

PhD in Statistics
Oct 2018 – Nov 2021; defense on May 4, 2022
Department of Statistical Science, University of Padova
- Thesis: "Bayesian modeling of calcium imaging data"
- Supervisor: Prof. Antonio Canale
- Co-supervisor: Prof. Michele Guindani.

Master's Degree in Statistics
Oct 2015 – Nov 2017
Department of Statistical Science, University of Padova
- Thesis: "Bayesian nonparametric models: applications in insurance"
- Supervisor: Prof. Antonio Canale
- Final mark: 110/110 *cum laude*.

Bachelor's Degree in Statistics, Economics and Finance
Oct 2012 – Sep 2015
Department of Statistical Science, University of Padova
- Thesis: "Covariate-specific area under the ROC curve"
- Supervisor: Prof. Gianfranco Adimari
- Final mark: 110/110 *cum laude*.

Visiting periods

Department of Statistics, University of California, Irvine.
Irvine, CA; USA.
Jan 2020 – Nov 2020
Supervisor: Prof. Michele Guindani.

Awards

- ISBA Poster Award, ISBA 2022.
- Junior travel award, ISBA 2022.
- Best Student/Postdoc Contributed Paper Award, ISBA 2021.

Work experience

Data analyst at BIP, Milan (Jan 2018 – Sep 2018).

Research interests

- Bayesian modeling
- Model-based clustering
- Computational statistics

Publications

- D'Angelo L. and Canale A. (2022) Efficient posterior sampling for Bayesian Poisson regression. *Journal of Computational and Graphical Statistics*, 1-10, doi.org/10.1080/10618600.2022.2123337.
- D'Angelo, L. (2022) Bayesian nonparametric clustering of spatially-referenced spike train data, in *Book of Short Papers SIS 2022*, 514-519, ISBN: 9788891932310.
- Denti F., D'Angelo, L. and Guindani, M. (2022) Bayesian approaches for capturing the heterogeneity of neuroimaging experiments, in *Book of Short Papers SIS 2022*, 17-29, ISBN: 9788891932310.
- D'Angelo L., Canale A., Yu Z. and Guindani M. (2022) Bayesian nonparametric analysis for the detection of spikes in noisy calcium imaging data. *Biometrics*, 1-13, doi.org/10.1111/biom.13626.
- D'Angelo L. and Canale A. (2021) Contributed Discussion on: "Centered Partition Processes: Informative Priors for Clustering", in Bayesian Analysis, 16(1), 356-358.
- D'Angelo L., Canale A., Yu Z. and Guindani M. (2021) Detection of neural activity in calcium imaging data via Bayesian mixture models, in *Book of Short Papers SIS 2021*, 745-750, ISBN: 9788891927361.
- D'Angelo L. (2019) Model based clustering in group life insurance via Bayesian nonparametric mixtures, in *Book of Short Papers SIS 2019*, 781-786, ISBN: 9788891915108.

Software

- D'Angelo L. (2021) "bpr: Fitting Bayesian Poisson Regression", *R package*, CRAN.R-project.org/package=bpr

Conference presentations

- Invited talk: "Bayesian nonparametric clustering of spatially-referenced spike train data"; *SIS 2022*, Caserta, Italy; June 22 – 24, 2022.
- Discussant at the solicited session "Bayesian inference for complex random structures"; *SIS 2022*, Caserta, Italy; June 22 – 24, 2022.
- Contributed talk: "Bayesian nonparametric analysis for the detection of spikes in noisy calcium imaging data"; *JSM 2021*; August 8 – 12, 2021.
- Contributed talk: "Bayesian nonparametric analysis for the detection of spikes in noisy calcium imaging data"; *ISBA 2021*, June 23 – July 2; 2021.
  Pre-recorded video available at youtu.be/SLLSJVuFnMs.
- Contributed talk: "Detection of neural activity in calcium imaging data via Bayesian mixture models"; *SIS 2021*, Pisa, Italy; June 21 – 25, 2021.
- Talk: "Efficient posterior sampling for Bayesian Poisson regression"; Junior session at the *Bayesian Nonparametrics for Complex Data, Concluding workshop*, University of Padova; January 24, 2020.
- Contributed talk: "Model based clustering in group life insurance via Bayesian nonparametric mixtures"; *SIS 2019*, Milan, Italy; June 12 – 14, 2019.

Poster presentations

- "Clustering activation patterns of spatially-referenced neurons"; *Statistical methods and models for complex data*, Padova, Italy; September 21 – 23, 2022.
- "Clustering activation patterns of spatially-referenced neurons"; *ISBA 2022*, Montreal, Canada; June 27 – July 1, 2022.

Seminars

- "Analysis of calcium imaging data via nested mixture models"; seminar during the MSc course of Bayesian Statistics, Department of Mathematics, Politecnico di Milano; October 28, 2022.
- "Clustering activation patterns of spatially-referenced neurons"; virtual seminar at the Department of Statistics, ITAM, Mexico; September 2, 2022.
- Presentation of the topic and data description at the Data Research Camp, San Servolo Island, Venice, Italy; July 12, 2022.

Teaching experience

- Classes on the use of Latex for scientific writing and bibliography management (1 CFU). April 2021, University of Padova.
- Tutor: lectures and exercises for the courses of Statistics (Advanced) and Mathematical Analysis 1. October 2016 – June 2017, University of Padova.

Workshops

- Bayesian Nonparametrics for Complex Data, Concluding workshop. January 24, 2020; Department of Statistical Sciences, University of Padova, Padova, Italy.
- Data Research Camp, San Servolo Island, Venice, Italy. July 2 – 5, 2019. 3-day meeting where groups of young scholars, advised by a senior researcher, were asked to develop innovative methods and models to analyze a common dataset.

Service

Memberships

- International Society for Bayesian Analysis
- Società Italiana di Statistica

Referee for:
Computational Statistics and Data Analysis; Statistical Science; Statistics in Medicine.

Computer skills

- Languages: R, Rcpp (good); C/C++, Python (basic).
- Other: Latex (good); GitHub (basic); HTML, CSS (basic).

Languages

Italian (native); English (good).

Data Hackathons

- June 27 – 28, 2017: First prize winner at Stats Under the Stars[3], Florence.