

## **Gabriele Soffritti** - *Short curriculum vitae*

(as of April 2025)

Full professor of statistics at the Department of Statistical Sciences of the Alma Mater Studiorum - Università di Bologna, Italy (since 2023).

<https://www.unibo.it/sitoweb/gabriele.soffritti/en>

### **1. Education, qualifications and previous positions**

- 1992: Master degree in Statistics and economics, Faculty of Statistical Sciences, Alma Mater Studiorum - Università di Bologna, Italy.
- 1992: National qualification to work as a statistician in Italy.
- 1996: Ph.D. in statistics, Department of Statistical Sciences, Alma Mater Studiorum - Università di Bologna, Italy.
- 1996 – 2006: Researcher in statistics, Department of Statistical Sciences, Alma Mater Studiorum - Università di Bologna, Italy.
- 2006 – 2022: Associate professor of statistics, Department of Statistical Sciences, Alma Mater Studiorum - Università di Bologna, Italy.

### **2. Roles held at the Alma Mater Studiorum - Università di Bologna**

- 2018 – 2022: Chair of the joint teacher-student committee for first- and second-cycle (bachelor's and master's) degrees of the Department of Statistical Sciences.
- 2022 to date: Director of the master's degree in Statistical Sciences at the Department of Statistical Sciences (<https://corsi.unibo.it/2cycle/StatisticalSciences>).

### **3. Positions in scientific societies**

- Since 1996: Member of the Italian Statistical Society (SIS).
- Since 2003: Member of the Data Analysis and Classification section of the Italian Statistical Society (SIS – CLADAG).
- Since 2006: Member of the International Association for Statistical Computing (IASC).
- Since 2024: Member of the Royal Statistical Society (RSS).

### **4. Selected teaching activities**

- Since the academic year 2018/2019:

- Analysis of categorical data (30 hours, 6 ECTS) in the master’s degree in Statistical Sciences of the University of Bologna (in English); part of the teaching activities concerns the R software and the use of certain functions available in R for the analysis of categorical data;
  - Statistics (60 hours, 10 ECTS) in the master’s degree in Statistics, Economics and Business of the University of Bologna (in Italian);
  - Data Analysis (30 hours, 4 ECTS) in the bachelor’s degree in Statistics of the University of Bologna (in Italian); part of the teaching activities concerns the R software and the use of certain functions available in R for data analysis.
- For the academic years 2009/10 – 2017/18:
    - Analysis of categorical data (60 hours, 10 ECTS) in the master’s degree in Statistical Sciences of the University of Bologna (in Italian); part of the teaching activities concerned the R software and the use of certain functions available in R for the analysis of categorical data.
    - Statistics C.A. (60 hours, 10 ECTS) in the master’s degree in Statistics, Economics and Business at the University of Bologna (in Italian).

## 5. Selected research projects

- 2017–2019: Statistical analysis of anomalies; project of the University of Bologna (member).
- 2013–2015: Multivariate statistical models for risk assessment; Italian national project (member).
- 2007–2008: Multivariate statistical methods for evaluating the efficiency and effectiveness of health services; Italian national project (member).
- 2006–2007: Classification and regression trees for asymmetrical response variables and unbalanced classes; Italian national project (member).
- 2006–2007: Archaeometric methods for the study of ancient glass; project of the University of Bologna (member).
- 2004–2005: New multivariate statistical methods of classification and dimensional reduction for evaluation and customer satisfaction in services; Italian national project (member).
- 2004–2006: Latent variable models for classification and dimension reduction; project of the University of Bologna (member).
- 2002–2004: Non-parametric methods for statistical analysis of complex data. Italian national project (member).

## 6. Selected scientific papers

- G. Perrone, G. Soffritti (2024). “Parsimonious seemingly unrelated contaminated normal cluster-weighted models”. *Journal of Classification*, 41, pp. 533 – 567.
- G. Perrone, G. Soffritti (2023). “Seemingly unrelated clusterwise linear regression for contaminated data”. *Statistical Papers*, 64, pp. 883 – 921.
- C. Diani, G. Galimberti, G. Soffritti (2022). “Multivariate cluster-weighted models based on seemingly unrelated linear regression”. *Computational Statistics & Data Analysis*, 171, article number: 107451, pp. 1 – 24.
- G. Galimberti, L. Nuzzi, G. Soffritti (2021). “Covariance matrix estimation of the maximum likelihood estimator in multivariate clusterwise linear regression”. *Statistical Methods & Applications*, 30, pp. 235 – 268.
- G. Soffritti (2021). “Estimating the covariance matrix of the maximum likelihood estimator under linear cluster-weighted models”. *Journal of Classification*, 38, pp. 594 – 625.
- G. Galimberti, G. Soffritti (2020). “A note on the consistency of the maximum likelihood estimator under multivariate linear cluster-weighted models”. *Statistics & Probability Letters*, 157, article number: 108630, pp. 1 – 5.
- G. Galimberti, G. Soffritti (2020). “Seemingly unrelated clusterwise linear regression”. *Advances in Data Analysis and Classification*, 14, pp. 235 – 260.
- S. Ranciati, G. Galimberti, G. Soffritti (2019). “Bayesian variable selection in linear regression models with non-normal errors”. *Statistical Methods & Applications*, 28, pp. 323 – 358.
- G. Galimberti, A. Manisi, G. Soffritti (2018). “Modelling the role of variables in model-based cluster analysis”, *Statistics and Computing*, Volume 28, Issue 1, pp. 145 – 169.
- C. Sacco, R. Di Michele, G. Semprini, F. Merni, G. Soffritti (2018). “Joint assessment of handedness and footedness through latent class factor analysis”. *Laterality*, Vol. 23, No. 6, pp. 643 – 663.
- G. Galimberti, E. Scardovi, G. Soffritti (2016). “Using mixtures in seemingly unrelated linear regression models with non-normal errors”. *Statistics and Computing*, Volume 26, Issue 5, pp. 1025 – 1038.
- G. Galimberti, G. Soffritti (2014). “A multivariate linear regression analysis using finite mixtures of  $t$  distributions”. *Computational Statistics & Data Analysis*, Volume 71, March 2014, pp. 138 – 150.
- F. Merni, R. Di Michele, G. Soffritti (2014). “Assessment of handedness using latent class factor analysis”. *Laterality*, Vol. 19, No. 4, pp. 405 – 423.

- G. Galimberti, G. Soffritti (2013). “Using conditional independence for parsimonious model-based Gaussian clustering”. *Statistics and Computing*, Volume 23, Issue 5, pp. 625 – 638.
- G. Galimberti, G. Soffritti, M. Di Maso (2012). “Classification trees for ordinal responses in R: the rpartScore package”. *Journal of Statistical Software*, Vol. 47 (Issue 10), pp. 1 – 25.
- G. Galimberti, G. Soffritti (2012). “Tree-based methods and decision trees”, in *Modern Analysis of Customer Surveys: with applications using R*, pp. 283 – 307, Chichester: John Wiley & Sons.
- G. Soffritti, G. Galimberti (2011). “Multivariate linear regression with non-normal errors: a solution based on mixture models”. *Statistics and Computing*, Volume 21, pp. 523 – 536.
- G. Galimberti, G. Soffritti (2010). “Finite mixture models for clustering multilevel data with multiple cluster structures”. *Statistical Modelling*, Vol. 10 (3), pp. 265 – 290.
- G. Cavrini, G. Galimberti, G. Soffritti (2009). “Evaluating patient satisfaction through latent class factor analysis”, *Health & Place*, Vol. 15, pp. 210 – 218.
- G. Galimberti, G. Soffritti (2007). “Model-based methods to identify multiple cluster structures in a data set”. *Computational Statistics & Data Analysis*, Vol. 52, pp. 520 – 536.
- R. Miglio, G. Soffritti (2004). “The comparison between classification trees through proximity measures”. *Computational Statistics & Data Analysis*, Vol. 45, pp. 577 – 593.
- G. Soffritti (2003). “Identifying multiple cluster structures in a data matrix”. *Communications in Statistics. Simulation and Computation*, Vol. 32, pp. 1151 – 1177.

## 7. Editorial experiences

- 2006 – 2017: Member of the Executive Board of the journal *Statistica*.
- 2011 – 2014: Member of the Editorial Board of the journal *Statistical Methods and Applications* (section Methods).
- 2019 to date: Associate editor of the journals:
  - *Communications in Statistics: Theory and Methods*;
  - *Communications in Statistics: Simulation and Computation*;
  - *Communications in Statistics: Case Studies, Data Analysis and Applications*.

## 8. Organisation of scientific events

- 4th Meeting of the SIS – CLADAG, Bologna (IT), 22-24/09/2003 (member of the Organizing Committee).
- SIS – CLADAG School on *Multivariate statistical methods for the analysis of clustered data*, Bologna (IT), 19 – 21/02/2007 (member of the Organizing Committee).
- XLV Meeting of the Italian Statistical Society, Padova (IT) 16 – 18/06/2010 (member of the Scientific Program Committee).
- Joint Meeting of the SIS – CLADAG and Gesellschaft für Klassifikation (German Classification Society), Firenze (IT), 8 – 10/09/2010 (member of the Scientific Program Committee).
- Clustering and regression analysis of complex real-life data, invited session of the conference COMPSTAT 2023 (25th International Conference on Computational Statistics), Birkbeck, University of London (UK), 22–25 August 2023 (organiser);
- Advances in finite mixtures for regression and clustering, invited session of the conference COMPSTAT 2024 (26th International Conference on Computational Statistics), University of Giessem (GER), 27–30 August 2024 (organiser).