

Gianna S. Monti

Curriculum Vitae

Personal Information

Position Associate Professor

Work Department of Economics, Management and Statistics

University of Milano-Bicocca

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🌐 <https://giannamonti.github.io/>

Maternity leave May - October, 2019. October, 2022 - February, 2023

h-index 12 (Scopus)



National Professional Qualifications

National Academic Qualification as Associate Professor of Statistics in the Italian higher education system, in the call 2021/2023 (Ministerial Decree n. 553/2021 and 589/2021) for the disciplinary field of 13/D1 - Statistics. (Academic Recruitment Field 13/D - Statistics and mathematical methods for decisions, according to the national classification).

Research interests

Compositional Data, Robust Statistics, Nonparametric Inference, Statistical Methods for Ecological Data, Mixture Models, Bayesian Hierarchical Modelling, Regression Methods for High-Dimensional Compositional Data, Microbiome Data Analysis.

Research visits

- 2018 Institute of Statistics and Mathematical Methods in Economics, Vienna University of Technology, Vienna, Austria (May).
- 2016 Institute of Statistics and Mathematical Methods in Economics, Vienna University of Technology, Vienna, Austria, (May).
- 2014 Department of Statistics and Probability Theory, Vienna University of Technology, Vienna, Austria, (Mar-May).
- 2012 Department of Mathematical Analysis and Applications of Mathematics, Palacký University Olomouc, Faculty of Science, Olomouc, Czech Republic, (Oct-Dec), (visiting funded by Palacký University).
- 2009 Department of Statistics, Stanford University, California (USA), (Jul-Oct).

Positions and Education

- Sept. 2022 **Associate Professor, Department of Economics, Management and Statistics, University of Milano-Bicocca, Italy.**
- Sept. 2008 - **Assistant Professor, Department of Statistics / Department of Economics, Management and Statistics, University of Milano-Bicocca, Italy.**
Aug 2022
- Jan 2007 - **Postdoctoral Research Fellow, Department of Statistics, University of Milano-Bicocca, Italy.**
Aug 2008
- 2007 **PhD in Statistics, University of Milano-Bicocca, Italy.**
- 2003 **Degree in Statistics for the Demographic and Social Sciences, University of Milano-Bicocca, Italy (bachelor and master degree, summa cum laude).**

Publications

Under review

1. Federico, L., Parzer, R., Monti, G.S., Villa, S. (2026). The use of *Porcellionides pruinosus* as biosensors: a first modelling approach to predict behavioral alterations. *Submitted to Environmental Toxicology and Chemistry.*
2. P. Galfrascoli, Monti, G.S., E. Ossola (2026) The greenness of European Green Bonds. *Submitted to Journal of Banking and Finance.*
3. Parzer, R., Mora, D., Colombo, E., Casalegno, A., Baricci, A., Monti, G.S. (2026). A Stochastic Recursive Nonlinear Regression Model for Recoverable Degradation in PEM Fuel Cells. *Submitted to Energy Systems.*

International peer-reviewed journals

1. Monti, G.S., Filzmoser, P. (2026). E-values for Stable and Robust Variable Selection in Microbiome Studies. **ERCIM News**, vol. 145, Special Theme: **E-values - Statistical Testing for the 21st Century**.
2. Monti, G.S., Mateu-Figueras, G., Pawlowsky-Glahn, V., Egozcue, J.J. (2026). The logratio Student's t distribution: a robust model for compositional data analysis. **Statistical Methods & Applications**, 0.1007/s10260-026-00856-x
3. Bonini, M., Cardarelli, E., Faccini, M., Sofiev, M., Palamarchuk, J., Pelagatti, M.M., Monti, G.S. (2026) Effects of climate change on pollen season features of herbaceous species in the Milan area, Northern Italy. **Scientific Reports**, 10.1038/s41598-026-41641-w
4. Monti, G.S., Pujolassos, M., Calle Rosingana, M., Filzmoser, P. (2025). Robust multivariate regression controlling false discoveries for microbiome data. **Bioinformatics**, 41, 9. <https://doi.org/10.1093/bioinformatics/btaf506>
5. Federico, L., Monti, G.S., Loureiro, S., Villa, S. (2024) Disaggregation behavior in the terrestrial isopod *Porcellionides pruinosus* as a new ecotoxicological endpoint for assessing infochemical disrupting activity, **Ecological Indicators**, 167, 112602. doi.org/10.1016/j.ecolind.2024.112602
6. Monti, G.S., Filzmoser, P. (2024) A robust knockoff filter for sparse regression analysis of microbiome compositional data, **Computational Statistics**, 39(1), 271-288. doi: 10.1007/s00180-022-01268-7.
7. Bonini, M., Monti, G.S., Pelagatti, M.M. et al. (2022) Ragweed pollen concentration predicts seasonal rhino-conjunctivitis and asthma severity in patients allergic to ragweed. **Scientific Reports** 12, 15921. doi:10.1038/s41598-022-20069-y
8. Monti, G.S., Filzmoser, (2022) P. Robust Logistic Zero-Sum Regression for Microbiome Compositional Data. **Advances in Data Analysis and Classification**, 1-24, doi: 10.1007/s11634-021-00465-4.
9. Tettamanzi, F., Bagnardi, V., Louca, P., Nogal, A., Monti, G.S., Mambrini, S.P., Lucchetti, E., Maestrini, S., Mazza, S., Rodriguez-Mateos, A., Scacchi, M., Valdes, A.M., Invitti, C., Menni, C. (2021) A High Protein Diet Is More Effective in Improving Insulin Resistance and Glycemic Variability Compared to a Mediterranean Diet—A Cross-Over Controlled Inpatient Dietary Study. **Nutrients**, 13(12):4380. doi: 10.3390/nu13124380.
10. Monti, G.S., Filzmoser, P. (2021). Sparse least trimmed squares regression with compositional covariates for high dimensional data, **Bioinformatics**, 37 (21), 3805–3814.
11. Rizzi, C., Villa, S., Chimera, C., Finizio, A., Monti, G.S. (2021). Spatial and temporal trends in the ecological risk posed by polycyclic aromatic hydrocarbons in Mediterranean Sea sediments using large-scale monitoring data. **Ecological Indicators**, 129(October 2021).
12. Migliorati, S., Monti, G.S., Vighi, M. (2021). Ecological Hazard Assessment via Species Sensitivity Distributions: The Non-Exchangeability Issue. **Biometrical Journal**, 63(4), 875-892.
13. Gentili, R., Solari, A., Diekmann, M., Duprè, C., Monti, G.S., Armiraglio, S., Assini, S., Citterio, S. (2018). Genetic differentiation, local adaptation, and phenotypic plasticity in fragmented populations of a rare forest herb. **PeerJ**,

6:e4929; doi: 10.7717/peerj.4929.

14. Monti, G.S., Filzmoser, P., Deutsch, R. (2018). A Robust Approach to Risk Assessment Based on Species Sensitivity Distributions. **Risk Analysis**, 38(10), 2073-2086.
15. Migliorati, S., Ongaro, A., Monti, G.S. (2017). A structured Dirichlet mixture model for compositional data: inferential and applicative issues. **Statistics and Computing**, 27(4), 963-983.
16. Villa, S., Migliorati, S., Monti, G.S., Holoubek, I., Vighi, M. (2017). Risk of POP mixtures on the Arctic food chain. **Environmental Toxicology and Chemistry**, 36(5), 1181-1192.
17. Machalova, J., Hron, K., Monti, G.S. (2016). Preprocessing of centred logratio transformed density functions using smoothing splines. **Journal of Applied Statistics**, 43(8), 1419-1435.
18. Monti, G.S., Migliorati, S., Hron, K., Hrůzová, K., Fišerová, E. (2015). Log-ratio approach in curve fitting for concentration-response experiments. **Environmental and Ecological Statistics**, 22(2), 275-295.
19. Villa, S., Migliorati, S., Monti, G.S., Vighi, M. (2012). Toxicity on the luminescent bacterium *Vibrio fischeri* (Beijerinck). II: Response to complex mixtures of heterogeneous chemicals at low levels of individual components. **Ecotoxicology and Environmental Safety**, 86, 93-100.
20. Sala, S., Migliorati, S., Monti, G.S., Vighi, M. (2012). SSD-based rating system for the classification of pesticide risk on biodiversity. **Ecotoxicology**, 21(4), 1050-1062.
21. Monti, G.S., Walther, G. (2010). Correlation analysis for proportions via updating and resampling. **Journal of Statistics: Advances in Theory and Applications**, 3(1), 17-26.
22. Vighi, M., Migliorati, S., Monti, G.S. (2009). Toxicity on the luminescent bacterium *Vibrio Fischeri* (Beijerinck). I: QSAR equation for narcotics and polar narcotics. **Ecotoxicology and Environmental Safety**, 72(1), 154-161.

Book Chapters

1. Monti, G.S., Mateu-Figueras, G. (2022). Full Normal Plot. In: Daya Sagar, B.S., Cheng, Q., McKinley, J., Agterberg, F. (eds) **Encyclopedia of Mathematical Geosciences**. Encyclopedia of Earth Sciences Series. Springer, Cham.
2. Monti, G.S., Mateu-Figueras, G., Hron, K. (2022). Additive Logistic Normal Distribution. In: Daya Sagar, B.S., Cheng, Q., McKinley, J., Agterberg, F. (eds) **Encyclopedia of Mathematical Geosciences**. Encyclopedia of Earth Sciences Series. Springer, Cham.
3. Mateu-Figueras, G., Monti, G.S., Egozcue, J.J. (2021). Distributions on the Simplex Revisited. In **Advances in Compositional Data Analysis: Festschrift in Honour of Vera Pawlowsky-Glahn**, P. Filzmoser, K. Hron, J.A. Martín-Fernández, J. Palarea-Albaladejo (eds). Springer, pp. 61-82.
4. Benedan, L., Monti, G.S. (2021). Predicting the Risk of Gambling Activities in Adolescence: A Case Study. In **Data Science and Social Research II. Studies in Classification, Data Analysis, and Knowledge Organization**, M. Zenga, P. Mariani (eds). Springer, pp. 47-57.
5. Migliorati, S., Monti, G.S. (2021). A Bayesian Mixture Model for Ecotoxicological Risk Assessment. In **Data Science and Social Research II. Studies in Classification, Data Analysis, and Knowledge Organization**, M. Zenga, P. Mariani (eds). Springer, pp. 281-291.
6. Monti, G.S., Filzmoser, P. (2020). High-Dimensional Regression with Compositional Covariates: A Robust Perspective. In **Book of short papers - SIS 2020**, N. Salvati, A. Pollice (eds). Pearson, pp. 105-110.
7. Migliorati, S., Monti, G.S. (2020). An improved sensitivity-data-based method for probabilistic ecological risk assessment. In **Book of short papers - SIS 2020**, N. Salvati, A. Pollice (eds). Pearson, pp. 822-827.
8. Monti, G.S., Solari, A. (2016). Slot Machine II. In **Ludocrazia. Un lessico dell'azzardo di massa**, M. Dotti, M. Esposito (eds). O barra O edizioni.
9. Monti, G.S., Solari, A. (2016). Probabilità. In **Ludocrazia. Un lessico dell'azzardo di massa**, M. Dotti, M. Esposito (eds). O barra O edizioni.
10. Monti, G.S., Solari, A. (2016). Gioco equo. In **Ludocrazia. Un lessico dell'azzardo di massa**, M. Dotti, M. Esposito (eds). O barra O edizioni.
11. Monti, G.S., Solari, A. (2016). Fallacia dello scommettitore. In **Ludocrazia. Un lessico dell'azzardo di massa**, M. Dotti, M. Esposito (eds). O barra O edizioni.
12. Monti, G.S., Mateu Figueras, G., Pawlowsky, V., Egozcue, J.J. (2016). A Regression Model for Compositional Data Based on the Shifted-Dirichlet Distribution. In **Compositional Data Analysis, Springer Proceedings in Mathematics & Statistics**, 187, J.A. Martín-Fernández, S. Thió-Henestrosa (eds). Springer New York LLC, pp. 127-143.
13. Monti, G.S., Mateu Figueras, G., Pawlowsky Glahn, V. (2011). *Notes on the Scaled Dirichlet distribution*. In **Compositional Data Analysis: Theory and Applications**, V. Pawlowsky Glahn, A. Buccianti (eds). Toronto, John Wiley & Sons, pp. 128-138.

Peer-reviewed conference proceedings

1. Monti, G.S., Parzer, R., Baricci, A. (2026). Modeling Non-monotonic Stochastic Degradation via Filter-Augmented Nonlinear Regression. In: Martella, F., Arima, S., Marino, M.F., Mollica, C. (eds) **Statistical Science: From Theory to Applied Research IV. SIS-FENStatS 2026 2026**. Italian Statistical Society Series on Advances in Statistics. Springer, Cham.
2. Monti, G.S., Pelagatti, M.M. (2025). Detecting Association in Microbiome Compositional Data: A Novel Approach. In **Methodological and Applied Statistics and Demography II. SIS 2024, Short Papers, Solicited Session**. A. Pollice, P. Mariani (eds).Springer.
3. Monti, G.S., Mateu-Figueras, G., Pawlowsky-Glahn, V., Egozcue, J.J. (2025). An Alternative to the Aitchison Atypicality Index. In **Statistics for Innovation IV SIS 2025, Short Papers, Contributed Sessions 3** (pp. 54-58). E. di Bella, V. Gioia, C. Lagazio, S. Zaccarin (eds). Springer Nature
4. Monti, G.S., Mateu-Figueras, G. (2023). The logratio Student t distribution. In **Statistical Learning, Sustainability and Impact Evaluation: Book of the Short Papers**. F.M. Chelli, M. Ciommi, S. Ingrassia, F. Mariani, M.C. Recchioni (eds.), pp. 1075-1078. Pearson.
5. Monti, G.S., Filzmoser, P. (2022) The knockoff filter for FDR control in robust ZeroSum regression in microbiome analysis, In **Book of Short Papers - IES2022 Innovation and Society 5.0: Statistical and Economic Methodologies for Quality Assessment**, 27 - 28. Lombardo, R., Camminatiello, I. and Simonacci, V. (eds). January 27-28, 2022, Capua, Italy.
6. Monti, G.S., Bonini, M., Ceriotti, V., Pelagatti, M., Ortolani, C. (2021). Compositional Data Techniques for the Analysis of the Ragweed Allergy. In **Book of Short Papers - SIS 2021 - 50th Scientific meeting of the Italian Statistical Society**. C. Perna, N. Salvati, F. Schirripa Spagnolo (eds), Pearson, pp. 1350-1355. June 21-25, 2021, Pisa, Italy.
7. Monti, G.S., Filzmoser, P. (2021). A Robust Approach to Microbiome-Based Classification Problems. In **Book of Short Papers - SIS 2021 - 50th Scientific meeting of the Italian Statistical Society**, C. Perna, N. Salvati, F. Schirripa Spagnolo (eds), Pearson, pp. 1326-1331. June 21-25, 2021, Pisa, Italy.
8. Bonini, M., Monti, G.S., Ceriotti, V., Re, E., Bramè, B., Bottero, P., et al. (2020). Features of ragweed allergy: symptoms and drug consumption related to airborne ragweed pollen concentrations in Northern Italy. In **Abstract Book of the 7th European Symposium on Aerobiology "Bioaerosols and Environmental Impacts"**, European Aerobiology Society. June 22-26, 2020, Cordoba, Spain.
9. Monti, G.S., Benedan, L., Mercandelli, M. (2019). A machine learning approach in the risk estimate of gambling in adolescents: a case study. In **Book of Abstracts of the Second International Conference on Data Science and Social Research (DSSR2019)**. February 4-5, 2019, University of Milano - Bicocca and Università IULM, Milan, Italy.
10. Mateu-Figueras, G., Monti, G.S., Ortego, M. (2019). Alternative Kolmogorov-Smirnov Test of Goodness of Fit Based on Aitchison Distance. In **Book of Abstracts of the 8th International Workshop on Compositional Data Analysis (CoDaWork2019)**. June, 3-8, 2019, Universitat Politècnica de Catalunya,

Terrassa (Barcelona), Spain.

11. Monti, G.S., Mateu-Figueras, G., Ortego, M., Pawlowsky-Glahn, V., Egozcue, J.J. (2018). Rethinking the Kolmogorov-Smirnov Test of Goodness of Fit in a Compositional Way. In **Book of Short Papers SIS2018 - 49th Meeting of the Italian Statistic Society**, A. Abbruzzo, E. Brentari, M. Chiodi, D. Piacentino (eds), Pearson, pp. 1379-1384. June 20-22, 2018, Palermo, Italy.
12. Monti, G.S., Mateu-Figueras, G., Ortego, M., Pawlowsky-Glahn, V., Egozcue, J.J. (2017). Modified Multivariate Kolmogorov-Smirnov Test of Goodness of Fit. In **Proceedings book of the 7th international Workshop on Compositional Data analysis (CoDaWork2017)**, K. Hron and R. Tolosana-Delgado (eds), pp.152-158. June 5-9, 2017, Abbazia San Salvatore (Siena), Italy.
13. Monti, G.S., Migliorati, S. (2017). Compositional approach to the analysis of species abundance data. In **Proceedings book of the 7th international Workshop on Compositional Data analysis (CoDaWork2017)**, K. Hron and R. Tolosana-Delgado (eds), pp. 141-151. June 5-9, 2017, Abbazia San Salvatore (Siena), Italy.
14. Monti, G.S., Filzmoser, P., Deutsch, R. (2016). Robust Estimation Approach for Hazardous Concentration Levels Using Species Sensitivity Distributions. In **Proceedings of the 11th International Conference in Computer Data Analysis and Modeling: Theoretical and Applied Stochastics**, S. Aivazian, P. Filzmoser, Y. Kharin (eds), Publishing center of BSU. September 6-10, 2016, Minsk, Belarus.
15. Crosato, L., Monti, G.S. (2015). A simplicial approach to inequality measurement. In **Proceedings of the SIS2015 conference: Statistics and Demography: the Legacy of Corrado Gini**. September 9–11, 2015, Treviso, Italy.
16. Monti, G.S., Mateu-Figueras, G., Pawlowsky-Glahn, V., Egozcue, J.J. (2015). Shifted-Dirichlet Regression vs Simplicial Regression: a comparison. In **Proceedings of the 6th International Workshop on Compositional Data Analysis (CoDawork 2015.)**, Thió-Henestrosa, S; Martín Fernández, JA (editors). June 1-5, 2015, L'Escala (Girona), Spain.
17. Monti, G.S., Mateu Figueras, G., Pawlowsky Glahn, V., Egozcue, J.J. (2014). Scaled-Dirichlet Covariate Models for Compositional Data. In **Proceedings of the 47th SIS Scientific Meeting of the Italian Statistical Society**, Cooperativa Universitaria Editrice Cagliaritano CUEC. June 10-14, 2014, Cagliari, Italy.
18. Monti, G.S., Hron, K., Filzmoser, P., Templ, M. (2013). Covariance-Based Outlier Detection for Compositional Data with Structural Zeros: Application to Italian Survey of Household Income and Wealth Data. In **Advances in Latent Variables**, E. Brentari, M. Carpita (eds). Vita e Pensiero, Milano.
19. Migliorati, S., Monti, G.S., Ongaro, A. (2012). Point and interval estimation for the Flexible Dirichlet model. In **Proceedings of the 2nd Stochastic Modeling Techniques and Data Analysis International Conference (SMTDA2012)**, C. Skiadas (eds), pp.177-190. June 5 - 8, 2012, Chania, Crete, Greece.
20. Ongaro, A., Migliorati, S., Monti, G.S. (2011). A new multivariate distribution as a basis for compositional data. In **Proceedings of 14th Applied Stochastic Models and Data Analysis Conference (AMSDA2011)**. June 7-10, 2011. University of Rome "La Sapienza", Italy.

21. Monti, G.S., Vighi, M. (2011). A Bayesian approach to model ECp in concentration–response experiments. In **Proceedings of 14th Applied Stochastic Models and Data Analysis Conference (AMSDA2011)**. June 7-10, 2011. University of Rome "La Sapienza", Italy.
22. Monti, G.S., Mateu-Figueras, G., Pawlowsky-Glahn, V., Egozcue, J.J. (2011). The shifted-scaled Dirichlet distribution in the simplex. In **Proceedings of the 4th International Workshop on Compositional Data Analysis (CoDaWork2011)**, Egozcue, J.J., Tolosana Delgado, R., Ortego Martinez, M.I. (eds). May 9-13, 2011, Sant Feliu de Guíxols, Spain.
23. Migliorati, S., Monti, G.S., Ongaro, A. (2010). The Flexible Dirichlet Family: Some Inferential Issues. In **Proceedings of Stochastic Modeling Techniques and Data Analysis International Conference (SMTDA2010)**, C. Skiadas (eds). June 8-11, 2010, Chania, Crete, Greece.
24. Papa, E., Kovarich, S., Monti, G.S., Gramatica, P., Vighi, M. (2009). Pesticides and Narcotics toxicity to *Vibrio* fishery studied by QSAR. In **SETAC Europe (Society of Environmental Toxicology and Chemistry) 19th Annual Meeting**, "Protecting ecosystem health: facing the challenge of a globally changing environment". 31 May - 4 June 2009, Göteborg, Sweden.
25. Monti, G.S. (2009). Analysis of correlation among components of a Flexible Dirichlet Distribution. In **Proceedings of the 6th Conference on Complex Models and Computational Intensive Methods for Estimation and Prediction (S.Co. 2009)**, Maggioli Editore, Santarcangelo di Romagna (RN), pp. 217-222. September 14-16, 2009, Milano, Italy.
26. Ongaro, A., Migliorati, S., Monti, G.S. (2008). A new distribution on the simplex containing the Dirichlet family. In **Proceedings of the 3rd Compositional Data Analysis Workshop (CODAWORK08)**. May 27-30, 2008, University of Girona, Spain.
27. Migliorati, S., Monti, G.S., Ongaro, A. (2008). E-M algorithm: an application to a mixture model for compositional data. In **Proceedings of the XLIV Meeting of the Italian Statistical Society (SIS2008)**, Cleup. June 25–27, 2008, Arcavacata di Rende, Italy.

Presentations

Invited talks and seminars

1. A Distribution-Free Independence Test via Canonical Correlation Analysis for Heterogeneous Data, **ICSDS - 2026 IMS International Conference on Statistics and Data Science**, December 15-18, 2026, Split, Croatia. *Invited talk.*
2. Integrating the Student's t Distribution into the Simplex: Theory and Applications. **ISI Regional Statistics Conference 2026**, June 3-5, 2026, La Valletta, Malta. *Invited talk.*
3. A Synthetic Green Indicator and Its Role in Green Bond Pricing. **IES 2025 - Statistical Methods for Evaluation and Quality**, June 25-27, 2025 - Brixen, Italy. *Invited talk.*
4. FDR control with knockoff e-values in robust multivariate compositional regression. **International Conference on Robust Statistics**, May 19–23, 2025, Stresa, Italy. *Invited talk.*
5. A robust approach to classification and regression tasks for microbiome data.

- March 24, 2021, **Department of Economics, University of Crete**, Greece. Invited seminar. (online)
6. CoDa in ecotoxicology, **Week-CoDaCourse with CoDaPack and R**. July 6, 2018, University of Girona, Spain. [Invited talk](#).
 7. L'azzardo che ti rovina ... probabilmente, joint work with Aldo Solari, **Curiosa-Mente - Aperitivi culturali a Villa Forno**. January 29, 2015, Cinisello Balsamo, Milan, Italy. [Invited seminar](#).
 8. Scaled-Dirichlet Regression for Compositional Data, **Olomoucian Days of Applied Mathematics (ODAM 2015)**. May 20, 2015, Olomouc, Czech Republic. [Invited talk](#).
 9. Concentration-Response Curves in Bioassays, within the **Project: A-Math-Net Applied Mathematics Knowledge Transfer Network CZ.1.07/2.4.00/17.0100, Statistical processing of experimental data**. November 16, 2012, Velké Losiny, Czech Republic. [Invited talk](#).

Contributed presentations

1. Modeling Non-Monotonic Stochastic Degradation via Filter-Augmented Nonlinear Regression. **SIS-FENStatS 2026**, June 22-25, 2026, University of Rome "La Sapienza", Italy.
2. An alternative to the Aitchison atypicality index. **Statistics for Innovation (SIS 2025)**, June 16-18, 2025, Genova, Italy.
3. AKE index: Awareness, Knowledge, Education on environmental pollution in Italian high-school students. **2nd International Conference on Advancing Sustainable Futures (ICASF 2024)**, December 11-12, 2024, Ritz Carlton, Khor Al Maqta'a, Abu Dhabi, UAE.
4. Detecting association in microbiome compositional data: a novel approach (Solicited Sessions: Advances in compositional data analysis and visualization) **Methodological and Applied Statistics and Demography – SIS 2024**, June 17-20, 2024, University of Bari Aldo Moro, Bari, Italy.
5. Detecting Association in Microbiome Compositional Data: a Novel Approach. **10th Compositional Data Analysis Workshop (CoDaWork'24)**, June 3-7, 2024, Girona, Spain.
6. A Robust Approach to Classification and Regression Tasks for Microbiome Data. **International Conference on Robust Statistics ICORS2021**. September 21-24, 2021, TU Wien, Austria. (online)
7. Simplicial regression: a useful tool in ecological risk assessment. **The 6th International Conference of the ERCIM WG on Computational and Methodological Statistics (ERCIM 2013)**. December 14-16, 2013, Senate House, University of London, UK.
8. Compositional data: distributions on the simplex and correlation analysis. August 25, 2009, **Department of Statistics, Stanford University**, CA. Statistics seminar.

Research Dissemination Papers

1. Benedan, L., Monti, G.S., Cerasi, V., Mari, S., & Orsenigo, J. (2020). Fattori di rischio e di protezione nel gioco d'azzardo in adolescenza: uno studio interdisciplinare. **Statistica & Società**.

2. Monti, G.S. (2020). Un approccio compositazionale allo studio del microbioma. **Statistica & Società**.

Scientific collaborations

Main National scientific collaborations

1. Department of Economics, Management and Statistics, University of Milano Bicocca
2. Department of Earth and Environmental Sciences, University of Milano Bicocca
3. Department of Statistics and Quantitative Methods at the University of Milano Bicocca
4. Department of Energy, Politecnico di Milano

Main International scientific collaborations

1. Department of Mathematical Analysis and Applications of Mathematics, Palacký University Olomouc, Czech Republic
2. Department of Computer Science, Applied Mathematics and Statistics, Universitat de Girona, Spain
3. Department of Civil and Environmental Engineering, Universitat Politècnica de Catalunya, Spain
4. Institute of Statistics and Mathematical Methods in Economics, Vienna University of Technology, Austria
5. Bioscience Department, Faculty of Sciences, Technology and Engineering, University of Vic – Central University of Catalunya, Vic 08500, Spain
6. Institut de Recerca i Innovació en Ciències de la Vida i de la Salut a la Catalunya Central (IRIS-CC), Vic 08500, Spain

Teaching

PhD courses

- *Modern Econometrics for management studies*, PhD course, Doctoral research in Business for Society, University of Milano-Bicocca, AcYr: 2025/26, 2024/25, 2023/24, 2022/23, 2021/22.
- *Mathematics & Statistics*, PhD course, Doctoral research in Business for Society, University of Milano-Bicocca, AcYr: 2023/24.
- *Statistics with R*, PhD course. Doctoral research in Chemical, Geological and Environmental Sciences, University of Milano-Bicocca, AcYr: 2014/15.
- *Programming with R*, PhD course. Doctoral research in Statistics of the University of Milano-Bicocca, AcYr: 2012/13.

Graduate / Master's level

- *Computational Statistics*, graduate level, master's degree in Statistical and Economic Sciences, University of Milano-Bicocca, AcYrs: 2025/26, 2024/25; 2023/24, 2022/23, 2021/22, 2020/21, 2019/20, 2018/19, 2017/18, 2016/17.
- *High Dimensional Data Analysis*, graduate level, master's degree in Data Science, University of Milano-Bicocca, AcYrs: 2025/26, 2024/25, 2023/24, 2022/23, 2021/22, 2020/21, 2019/20, 2018/19.
- *Element of statistical inference*, graduate level, master's degree in Statistical and Economic Sciences, University of Milano-Bicocca, AcYrs: 2012/13, 2011/12, 2010/11, 2009/10.
- *Programming with R*, graduate level, master's degree in Biostatistics, University of Milano-Bicocca, AcYrs: 2012/13, 2011/12, 2010/11, 2009/10.
- Teaching assistant for *Bayesian Inference*, graduate level, master's degree in Biostatistics, University of Milano-Bicocca, AcYrs: 2009/10, 2008/09.

Undergraduate / Bachelor's level

- *Multivariate Statistical Analysis - Exploratory Data Analysis*, undergraduate level, bachelor's degree in Statistical and Economic Sciences, University of Milano-Bicocca, AcYrs: 2025/26, 2024/25; 2023/24, 2022/23.
- *Statistics*, undergraduate level, bachelor's degree in Business economics and management, Bocconi University, AcYrs: 2025/26, 2024/25, 2023/24, 2021/22, 2020/21, 2019/20, 2018/19, 2017/18, 2016/17, 2015/16, 2014/15.
- *Multivariate Statistical Analysis*, undergraduate level, bachelor's degree in Statistical and Economic Sciences, University of Milano-Bicocca, AcYrs: 2017/2018, 2016/2017, 2014/15, 2013/14, 2012/13, 2011/12, 2010/11, 2009/10.
- Teaching assistant for *Statistics*, undergraduate level, bachelor's degree in Political Sciences, University of Milano, AcYr: 2005/06.
- *Introduction to R*, undergraduate level, MOOC course, Federica WebLearning, AcYr: 2018/19.

Other / Professional courses

- *Statistics and Probability Calculus*, Master in Health Statistics course, University of Milano-Bicocca, AcYr: 2004/05.

Software

In-depth knowledge of the programming environments for statistical computing and graphics, R/S-Plus. Discrete knowledge of software packages, Matlab, Mathematica, SPSS, SAS, Python, STATA, and OpenBUGS. Digital and Mathematical typesetting (LaTeX).

I contributed to the R Open-Source project as developer and maintainer of the package: RobZS, <https://github.com/giannamonti/RobZS>.

I contributed to the R Open-Source project as developer and maintainer of the package: RobMReg, <https://github.com/giannamonti/RobMReg>.

I contributed to the R Open-Source project as developer and maintainer of the package: Logratio-t, <https://github.com/giannamonti/Logratio-t>.

Conference and Workshop Organization

- Member of the Scientific Committee of *CoDaWork'28*: The 12th International Workshop on Compositional Data Analysis, June 5-9, 2028, Palafrugell (Costa Brava, Spain).
- Discussant of the solicited session *Spec 07 - Evolving Perspectives in Compositional Data* at SIS-FENStatS 2026, June 22-25, 2026, University of Rome "La Sapienza", Italy. Organizer and Chair: Violetta Simonacci.
- Member of the Scientific Committee of *CoDaWork'26*: The 11th International Workshop on Compositional Data Analysis, June 1-5, 2026, Coimbra (Portugal).
- Member of the Scientific Committee and Chair of the Session "Methods & Models" of *CoDaWork2024*: The 10th International Workshop on Compositional Data Analysis, June 3-7, 2024, Girona (Spain).
- Program Committee of the International Conference *Computer Data Analysis & Modelling 2022: Stochastics & Data Science*, September 6-10, 2022, Minsk, Belarus.
- Organizer and Chair of the solicited session *Compositional Data Analysis* at IES 2022: "Innovation and Society 5.0: Statistical and Economic Methodologies for Quality Assessment". January 27-28, 2022, Capua, Italy.
- Organizer and Chair of the solicited session *Composition in the Data Science Era* at SIS 2021 - 50th Scientific meeting of the Italian Statistical Society. June 21-25, 2021, Pisa, Italy.
- Local Organizer of the 7th international Workshop on Compositional Data analysis (CoDaWork'17). June 5-9, 2017, Abbadia San Salvatore, Siena, Italy.
- Local Organizer of the Innovation and Society 2013 Conference (IES 2013), University of Milano-Bicocca. December 9-10, 2013.

Academic and Institutional Service

2026–2028 **Scientific Committee Member**, *Master's Degree (2nd level) in Governance and Innovation of Health Services (GISS)*, Department of Statistics and Quantitative Methods, University of Milano-Bicocca

- 2011–present **Scientific Committees, Member of the Scientific Committee**
 Member of the board for the following research centers:
- Center for Neurosciences – Milan (NeuroMi).
 - Bicocca Applied Statistics Center (B-ASC).
 - Research Center “Health and Environmental Sustainability” (POLARIS).
 - Bicocca Research Centre in Health Services (BReCHS).
- 2020–2024 **Library Commission**
 Member of the Library Commission, University of Milano-Bicocca, to provide input and recommendations regarding the development, implementation, and maintenance of the University of Milano-Bicocca’s library. 2020 - 2024.
- 2013–2016 **Academic Board, PhD in “Statistics and Mathematics for Finance”, University of Milano-Bicocca**

Editorial and Refereeing activity

- Associate Editor - Statistical Methods & Applications (Jan 2024 -)
- Editorial board member of the journal *Induzioni. Demografia, probabilità, statistica a scuola*, regarding the activity of Italian university statisticians to promote statistics in schools.
- Occasional referee activities for the following journals: *Advances in Data Analysis and Classification, AJSE-Mathematics, Bioinformatics, Biometrics, BMC Medical Research Methodology, Chemometrics and Intelligent Laboratory Systems, Computational Statistics, Computational Statistics and Data Analysis, Electronic Journal of Applied Statistical Analysis, Electronics, Environmental Assessment and Management, Integrated Environmental Assessment and Management, International Journal of Aerospace Engineering, International Journal of Biostatistics, International Journal of Environmental Research and Public Health, International Journal of Molecular Sciences, Italian Journal of Applied Statistics, Journal of Applied Statistics, Journal of the American Statistical Association, Journal of the Royal Statistical Society: Series A, Journal of the Royal Statistical Society: Series C, Quality & Quantity, Science of the Total Environment, Science & Justice, Scientific Reports, Statistical Methods and Applications, Statistics and Probability Letters, Stats*.
- Served as Article Editor for SAGE Open.
- Referee for the VQR (Evaluation of Research Quality for the Italian universities) 2015-19.
- External review for the PhD thesis of M. Comas Cufí, Doctoral School, University of Girona, Spain (2018).
- External review for the PhD thesis of V. Simonacci, PhD in International Studies of the University of Naples "L'Orientale", Italy, (2019).
- External review for the PhD thesis of Barbara Saskia Brune, PhD at the Institute of Statistics and Mathematics in Economics, TU Wien, Austria, (2024).
- External review for the PhD thesis of Andrea Panarotto, PhD at Padua University, Padua, Italy, (2025).

Professional Society Memberships

- Member of the Italian Statistical Society (SIS).
- Member of the CLAssification and Data Analysis Group (CLADAG) of the Italian Statistical Society (SIS).
- Member of the International Association for Statistical Computing (IASC-ISI).

2021–2030 CoDa-Association, *Elected Leadership Positions*

Organization for scientists interested in developing methods for compositional data modelling.

- **Vice President** (2026–2030).
- **Council member** (2021–2025).

Funded projects

1. Member of the project funded by the European Union - Next Generation UE: nell'ambito del Piano Nazionale di Ripresa e Resilienza (PNRR) Missione 2 "Rivoluzione Verde e Transizione Ecologica", Componente 2 "Energia Rinnovabile, Idrogeno, Rete e Mobilità Sostenibile", Investimento 3.5 "Ricerca e Sviluppo sull'Idrogeno", (a valere sul Decreto del Ministro della Transizione Ecologica del 23.12.2021, articolo 1, comma 5, Lettera A);
2. Local coordinator of the research project Fondi di Ateneo per la Ricerca (F.A.R) of the Department of Economics, Management and Statistics, University of Milano-Bicocca, on *Inferential methods for high-dimensional compositional data* (2022-2024).
3. Local coordinator of the research project Fondi di Ateneo per la Ricerca (F.A.R) of the Department of Economics, Management and Statistics, University of Milano-Bicocca, on *Inferential methods for sparse compositional data* (2019-2021).
4. Local coordinator of the research project Fondi di Ateneo per la Ricerca (F.A.R) of the Department of Economics, Management and Statistics, University of Milano-Bicocca, on *Statistical methods for complex problems* (2013-2018).
5. Member of the project *INTEGRATE Integrated Solutions for Agile Manufacturing in High-mix Semiconductor Fabs* (2013-2015).
6. Supervisor of the research grant in statistics held by Roman Parzer for the scientific-disciplinary area of Economic and Statistical Sciences (SSD SECS-S/01), within the research project titled 'Statistical Learning for Green Energy and Energy Efficiency,' funded by the Responsibility Center of the Department of Economics, Quantitative Methods, and Business Strategies, as part of the National Recovery and Resilience Plan (PNRR), Mission 2 'Green Revolution and Ecological Transition,' Component 2 'Renewable Energy, Hydrogen, Grid, and Sustainable Mobility,' Investment 3.5 'Research and Development on Hydrogen,' funded by the European Union – Next Generation EU. Starting from November 2024 for 12 months.
7. Scientific responsible for the project "Selfie 2.0. Survey on youth lifestyles", approved by the Bicocca ethics committee in 2019. The project is linked to personal and scientific interests in studying risk factors related to dysfunctional youth behaviors and their prevention. The project is of particular importance also for its multidisciplinary nature; the Bicocca Applied Statistics Center, the Department of Psychology, and the Department of Human Sciences for Education "Riccardo Massa" are also involved.

Languages

Italian Mother tongue

English Fluent

In accordance with Italian law art. 13 of D. Lgs. 196/2003 and art. 13 GDPR 679/16, I hereby authorize the treatment of my personal information.