

CURRICULUM VITAE

FRANCESCA GRESELIN

DEPARTMENT OF STATISTICS AND QUANTITATIVE METHODS
UNIVERSITY OF MILANO BICOCCA
20126 MILAN, ITALY

TEL: +39 2 6448 3118 [OFFICE]
FAX: +39 2 6448 3105 [DEPARTMENT]
Email: francesca.greselin@unimib.it
ORCID ID: 0000-0003-2929-1748
SCOPUS AUTHOR ID: 25936155400
RESEARCHERID: A-8770-2015

Francesca Greselin is Associate Professor of Statistics at the University of Milano-Bicocca (with National Full Professor Qualification, in 2019). She authored about 40 peer-reviewed scientific works, published in international journals, such as *Statistics and Computing*, *Computational Statistics and Data Analysis*, *Journal of Approximate Reasoning*, *Sociological Methods and Research*, and *Advances in Data Analysis and Classification*.

Member of the board of the PhD program in Economics, Statistics and Data Science of the University of Milano-Bicocca since 2009, she has been Vice Coordinator of its XXXIII cycle. She has been Visiting Fellow at the University of Western Ontario (Canada) and the University of Queensland (Australia). She is associated Editor of *Statistics and Computing* and guest Editor of *Statistical Analysis and Data Mining: The ASA Data Science Journal*. She is involved in several Editorial Boards. Among them, the journals *Socio-Economic Modelling and Forecasting*, *Statistika: Statistics and Economy*, *Silesian Statistical Review* and *Quantitative Methods in Economics*.

She maintains a robust and enduring scientific collaboration with esteemed colleagues in Poland, resulting in several co-authored publications. Additionally, she has had the privilege of serving on various Scientific Committees for prominent Polish conferences, including the annual *Professor Aleksander Zelias International Conference on Modelling and Forecasting of Socio-Economic Phenomena* held annually in Zakopane and the *Multivariate Statistical Analysis conference*, held in Lodz.

RESEARCH INTERESTS

- Mixture Models within the classification framework, by Gaussian, t -mixtures, skew distributions and mixtures of factor analyzers; with emphasis on theoretical properties of the robust estimation, using trimming and constraints. Semisupervised robust classification methods.
- Economic inequality, focusing on inequality measures, their properties, statistical inference, limit theorems and applications.
- Gender Inequality: descriptive and inferential methods for its assessment, evaluation of the impact of policies to decrease Gender Gap.
- Computational Statistics: algorithms, for the maximum likelihood estimation in presence of incomplete data (as the EM), under constraints (patterned covariance matrices), for robust estimation and for sampling from huge sample spaces, by complete enumeration (Fréchet class for association measures) or by Markov chains (Partial order sets and their linear extensions).

MEMBER OF SCIENTIFIC BOARDS AND ADVISORY PANELS

- Member of the Scientific Committee of ECDA, September 9-11, 2024 in Sopot, Poland, Faculty of Management, University of Gdańsk.
- Member of the Scientific Program Committee of the 41st Multivariate Statistical Analysis conference, November 6-8, 2023, Lodz, Poland.
- President of the Scientific Board of the Classification and Data Analysis Group (ClaDAG) of the Italian Statistical Society (SIS) (from September 2023).
- Member of the Scientific Program Committee of the 16th International Conference on Modelling and Forecasting of Socio-Economic Phenomena, May 8-11, 2023, Zakopane (Poland). <https://www.konferencjajakopianska.pl/komitet-organizacyjny>

- Vice President of the Scientific Board of the Classification and Data Analysis Group (ClADAG) of the Italian Statistical Society (SIS) (from September 2021 to August 2023).
- Member of the Scientific Program Committee for the 10th International Conference on Soft Methods in Probability and Statistics (SMPS 2022), Valladolid (Spain), September 16-18, 2022. <http://smps2022.uva.es/committees/>
- Appointed from the Australian Academy of Science as a referee for the Christopher Heyde Medal (May 2021), to evaluate candidates' suitability for the award.
- Appointed from the Dean of the Faculty of Science at Carleton University (Canada) to complete an online External Assessor's Report, by reviewing the accomplishments of a faculty member considered for promotion to Associate Professor (August 2021).
- Member of the Scientific Program Committee of the 15th International Conference on Modelling and Forecasting of Socio-Economic Phenomena, May 9-12, 2022, Zakopane (Poland). <http://pliki.konferencjajakopianska.pl/konferencja-zakopianska-2022en.pdf>
- Member of the Inter-University Scientific Committee (University of Milano-Bicocca, University of Milano, University of Pavia) for the establishment of two Master's degree courses in Artificial Intelligence (appointed in February 2021).
- Member of the Scientific Program Committee of the 14th "Professor Aleksander Zelas International Conference on Modelling and Forecasting of Socio-Economic Phenomena", May 10-13, 2021, Zakopane (Poland). <http://www.konferencjajakopianska.pl/komitet-organizacyjny>
- Member of the Scientific Committee of DIME2020, International conference on Distributions and Inequality Measures in Economics, February 20-21, 2020 - University of Milano - Bicocca (Italy) <https://dime2020.dismeq.unimib.it/committees>
- Chair of the Scientific Program Committee of the 12th International Meeting of the Classification and Data Analysis Group (of the Italian Statistical Society), Cassino (Italy), 11-13 2019, <http://cladag2019.unicas.it/>
- Member of the Scientific Program Committee of the 13th "Professor Aleksander Zelas International Conference on Modelling and Forecasting of Socio-Economic Phenomena", May 13-16, 2019, Zakopane (Poland).
- Member of the Scientific Council of CLADAG (Classification and Data Analysis group of the Italian Statistical Society), since 2017 <http://cladag.it/about/>
- Member of the Scientific Program Committee of the 10th International Meeting of the Classification and Data Analysis Group (of the Italian Statistical Society), Cagliari (Italy), 8-10 October 2015, <http://convegna.unica.it/cladag2015/contacts/>
- Member of the Scientific Program Committee for the International Conference on Statistics "Flint: one city, one hundred years under variability", Flint, Michigan (US), June 24-28, 2014, sponsored by the American Statistical Society, https://digitalcommons.kettering.edu/flint_statistics/
- Reviewer of Discovery Grants for the Natural Sciences and Engineering Research Council of Canada (NSERC) since 2011.
- Reviewer for research applications submitted to the Research Foundation - Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO), an independent funding agency that supports fundamental research in all disciplines in Flanders (Belgium) (since 2012).
- Member of the REPRISE team, Register of Expert Peer Reviewers for Italian Scientific Evaluation, appointed by Italian Ministry of Education, University and Research (MIUR), for activities related to funding of proposals, or ex-ante, in itinere, and ex-post evaluation of research projects.

ORGANIZATION OF SCIENTIFIC CONFERENCES

- Organizer of the Invited Session *Robust methods for the analysis of Complex data*, at the 10th International conference on Soft Methods in Probability and Statistics, Valladolid (Spain), 14-16 September 2022.
- Organizer of the Specialized Session *SPE6 - Advances in Classification and Data Analysis*, at the 51st Scientific Meeting of the Italian Statistical Society SIS2022, Caserta (Italy), 22-24 June 2022.
- Member of the Organizing Committee of DIME2020, International conference on Distributions and Inequality Measures in Economics, 20-21 February 2020 - University of Milano-Bicocca (Italy).
- Member of the Organizing Committee of SIS2019, the Conference of the Italian Statistical Society Milan (Italy), 19-21 June 2019, “Smart Statistical Methods for Smart Applications”.
- Organizer, with Ričardas Zitikis, of the Session *EO108: Tinkering with Gini: Adaptations of the old idea to present-day realities*, at CMStatistics2018, Pisa (Italy), 14-16 December, 2018. Speakers: Nadezhda Gribkova, Joseph Gastwirth, Youri Davydov, and Ričardas Zitikis. <http://cmstatistics.org/CMStatistics2018/organized.php>
- Organizer of the Session on *New results in Model Based classification and clustering*, at the 23rd International Conference on Computational Statistics COMPSTAT 2018, Iasi (Romania), 28-31 August 2018. Speakers: Christophe Biernacki, Ranjan Maitra, Andrea Cappozzo. <http://www.compstat2018.org/invited.php>
- Chair of the Organizing Committee for the 11th International Meeting of the Classification and Data Analysis Group (of the Italian Statistical Society), Milan (Italy), 13-15 September 2017.
- Organizer (with Salvatore Ingrassia) of the Invited Session *CI083: Mixture models and classification*, at the 22th International Conference on Computational Statistics COMPSTAT 2016, Oviedo (Spain), 23-26 August 2016, <http://www.compstat6.org/invited.php>
- Organizer of the Session *CO095: Recent contributions to robust mixture modelling*, at the 22th International Conference on Computational Statistics COMPSTAT 2016, Oviedo (Spain), 23-26 August 2016.
- Organizer of the Session *SOL1 Advances in Density-based clustering*, at the 10th International Meeting of the Classification and Data Analysis Group (of the Italian Statistical Society), Cagliari (Italy), 8-10 October 2015, <http://convegna.unica.it/cladag2015/program08102015/>
- Organizer of the Session on *Recent developments in Inference based on the Lorenz and Gini index of inequality*, at the 7th International Conference of the ERCIM WG on Computational and Methodological Statistics - ERCIM 2014, Pisa (Italy), 6-8 December 2014, <http://cmstatistics.org/ERCIM2014/organized.php>
- Organizer of the Session on *Measuring inequality at the time of the Great Divergence*, at the ASA sponsored International Conference on Statistics, Flint, Michigan (US), 24-28 June 2014, https://digitalcommons.kettering.edu/flint_statistics/
- Organizer (with Ričardas Zitikis) of the Session on *New Trends in Measuring Inequality* at the Canadian Economics Association (CEA) 45th Annual Conference. University of Ottawa, Ontario (Canada), 2-5 June 2011, <https://economics.ca/2011/en/program.php>
- Organizer, Chair and Discussant of the Specialized Session on *Advances in Student-t based statistical modeling* for the Classification and Data Analysis Group of the Italian Statistical Society, ClaDAG 8th Scientific Meeting, University of Pavia (Italy), September 2011, <http://archivio.paviauniversitypress.it/pdf-0a/cerchiello-cladag-2011.pdf>

INVITED TALKS IN SCIENTIFIC CONFERENCES

- **Plenary speaker** at the 41st Scientific Conference on Multivariate Statistical Analysis, Lodz (Poland), 6-8 November 2023. Title of the talk: *Measuring income inequality via percentile relativities*
- **Plenary speaker** at the 14th Scientific Meeting of the Classification and Data Analysis Group, Salerno (Italy), September 11-13, 2023. Title of the talk: *To get the best, tame the “beast”: robust ML estimation for mixture models.*
- Invited speaker at the 40th Scientific Conference on Multivariate Statistical Analysis, Lodz (Poland), 7-9 November 2022. Title of the talk: *A two-stage Bayesian procedure for novelty detection.*
- Invited speaker at the Session *Advances in methods for clustering*, at the 10th International conference on Soft Methods in Probability and Statistics, Valladolid (Spain), 14-16 September 2022. Title of the talk: *Monitoring tools in Robust CWM for the analysis of crime data.*
- **Plenary speaker** at the 39th Scientific Conference on Multivariate Statistical Analysis, Lodz (Poland), 8-10 November 2021. Title of the talk: *Parameter Choice, Stability and Validity for Robust Cluster Weighted Modeling.*
- Invited speaker at the Session “Advances in robust cluster analysis” at the 13th Scientific Meeting of the Classification and Data Analysis Group Firenze (Italy), September 9-11, 2021. Title of the talk: *Robust classification of spectroscopic data in agri-food: a first analysis on the stability of results.*

- **Plenary speaker** at the 14th International Conference on Modelling and Forecasting of Socio-Economic Phenomena, Zakopane (Poland), May 2021, organised by the Department of Statistics at Cracow University of Economics and the Committee of Statistics and Econometrics of the Polish Academy of Sciences. Title of the talk: *Robust dimension reduction for classification of spectroscopic data in agri-food*.
- **Plenary speaker** at the 38th Scientific Conference on Multivariate Statistical Analysis, Lodz (Poland), 4-6 November 2019. Title of the talk: *Advances in learning from contaminated datasets*.
- Invited speaker at the Session “Modelling and Clustering Complex Data” organized by Geoffrey McLachlan at the 12th International Conference of the ERCIM WG on Computational and Methodological Statistics (CM-Statistics 2019), Senate House, University of London (UK), 14-16 December 2019. Title of the talk: *Robust and efficient estimates of partition and model parameters: a step beyond the usual normality assumption*.
- Invited speaker at the Conference “Stochastic Geometry”, Saint-Petersburg (Russia) September 16-20, 2019, sponsored by Euler Mathematical Institute & Chebyshev Laboratory of St. Petersburg State University <https://www.geometry2019.com/participants>. Title of the talk: *Inferential results for a new inequality curve*.
- Invited speaker at the Invited Session “Classification methods in economics and business” at the 16th Conference of the International Federation of Classification Societies, Thessaloniki (Greece) August 26-29, 2019. Title of the talk: *Fuzzy clustering with skew components, with applications in Economics and Business*.
- Invited speaker at the 13th International Conference on Modelling and Forecasting of Socio-Economic Phenomena, Zakopane (Poland), May 2019, organised by the Department of Statistics at Cracow University of Economics and the Committee of Statistics and Econometrics of the Polish Academy of Sciences. Title of the talk: *Robust fuzzy clustering for skew socio-economic data*.
- Invited speaker at the 11th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2018), Pisa (Italy), 14-16 December 2018, within the session “Supervised and Unsupervised Learning”. Title of the talk: *Extending robust fuzzy clustering to skew data*.
- Invited speaker at CompSTAT 2018, Iasi (Romania), August 28-31, 2018, within the session “CO068: Soft clustering”. Title of the talk: *Fuzzy clustering for heterogenous skew data*.
- Invited speaker at the 49th Scientific Meeting of the Italian Statistical Society (SIS 2018), June 20-22, 2018, Palermo (Italy), within the Solicited Session on “New perspectives in supervised and unsupervised classification”. Title of the talk: *Robust Updating Classification Rule, with applications in Food Authenticity Studies*.
- **Plenary speaker** at the 19th International Scientific Conference on Quantitative Methods in Economics (QME), Warsaw (Poland), June 18-19, 2018, Title of the talk: *Analyzing and comparing gender gap in Poland and Italy*.
- Invited speaker at the XXXVII Congreso Nacional de Estadística e Investigación Operativa y de las XI Jornadas de Estadística Pública, Oviedo (Spain), May 29-June 1st, 2018. Title of the talk: *Advances in robust estimation of skew normal mixtures: addressing the issue of truncated moments*.
- Invited **plenary speaker** at the “12th International Scientific Conference on Modelling and Forecasting of Socio-Economic Phenomena”, dedicated to the memory of Professor Aleksander Zelia, Zakopane (Poland), 8-10 May 2018. Title of the talk: *Robust clustering methods for multivariate socio-economic data*.
- Invited speaker at the 10th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2017), 16-18 December 2017, Senate House, University of London (UK), “Session EO232: Clustering/classification and mixtures I”. Title of the talk: *Advances in robust estimation of skew normal mixtures*.
- **Plenary speaker** at the III International Workshop on Proximity Data, Multivariate Analysis and Classification, Valladolid (Spain), October 26-27, 2017. Title of the talk: *To get the best, tame the beast: constrained ML estimation for mixture models*.
- Invited speaker at the Summer Session of the Working Group on Model-Based Clustering, Perugia (Italy), 17-21 July 2017, (details on past workshops: [http://www.stat.washington.edu/raftery/0nrgroup/onrgroup\\$_past.html](http://www.stat.washington.edu/raftery/0nrgroup/onrgroup$_past.html)). Title of the talk: *New developments on robust estimation for mixtures*. <http://w3.mi.parisdescartes.fr/~cbouveyr/WGMB17.html>
- Invited speaker at the ISI 2017 World Congress, Marrakech (Marocco), 16-21 July 2017. Session “State of the art and advances in modern empirical process theory in welfare analysis” (declined due to overlapping with previous item).
- Invited speaker in the Session “EO115: Mixture models for complex data sets”, 9th International Conference of the ERCIM WG on Computing & Statistics (CMStatistics 2016), Sevilla (Spain), December 9-11, 2016. Title of the talk: *A fuzzy version of robust mixtures of Gaussian factor analyzers*.
- Invited speaker at the 35th Conference on Multivariate Statistical Analysis MSA 2016, Lodz (Poland), November 6-9, 2016. Title of the talk: *Parsimonious and robust clustering*.
- Invited speaker in the Session “Robust statistics”, Soft Methods in Probability and Statistics SMPS2016, Rome (Italy), September 12-14, 2016. Title of the talk: *Fuzzy clustering through robust factor analyzers*.

- Invited speaker in the Session “Robust estimation in model-based clustering”, MBC2 Workshop on Model-Based Clustering and Classification, Catania (Italy), September 5-7, 2016. Title of the talk: *Robust estimation in model-based clustering*.
- Invited speaker at the 22nd International Conference on Computational Statistics COMPSTAT 2016, Oviedo (Spain), 23-27 August 2016, in the Session “CI083: Recent developments in mixture models”. Title of the talk: *Robust clustering of multivariate skew data*.
- Invited speaker at 8th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2017), 12-14 December 2015, Senate House, University of London (UK), in Specialized Session EO190: “Advances in Mixture modelling”. Title of the talk: *Robust estimation for mixtures of Skew data*.
- Invited speaker at the Conference of the International Federation of Classification Societies (IFCS), Bologna, (Italy), 6-8 July 2015, in Session “SP4: Mixture Models: Recent Developments and Applications for Unsupervised and Supervised Classification”. Title of the talk: *The joint role of trimming and constraints in robust estimation for mixtures of skew normal*.
- Invited speaker at the 7th International Conference of the ERCIM WG on Computing & Statistics (CM-Statistics 2014), Pisa (Italy), 6-8 December 2014, in Session “ES89: Robust statistics in R”. Title of the talk: *Robust model estimation, through trimming and constraints, for mixtures of factor analyzers*.
- Invited speaker at the International Conference on Statistics “Flint: one city, one hundred years under variability”, Flint, (Michigan, USA) 23-28 June, 2014. Title of the talk: *Measuring Inequality at the Time of the Great Divergence*.
- Invited speaker at the 47th Scientific Meeting of the Italian Statistical Society, in Solicited Session “SL13 - Computations with Intractable Likelihood”. Title of the talk: *An adaptive method to robustify ML estimation in Cluster Weighted Modeling*, Cagliari (Italy), 11-13 June 2014.
- Invited speaker at 6th International Conference of the ERCIM WG on Computing & Statistics (CMStatistics 2013), London (UK), 14-16 December 2013, in Session “ES28: Advances in robust data analysis”. Title of the talk: *A robust approach to Cluster Weighted Modeling*.
- Invited speaker at SIS 2013 Statistical conference: Advances in Latent Variables - Methods, Models and Applications, Brescia (Italy), 19-21 June 2013, in the Specialized Session “M1.2: Latent variable models for marketing research”. Title of the talk: *Market segmentation via mixtures of constrained factor analyzers*.
- Invited speaker at AISC 2012, International Conference on Advances in Interdisciplinary Statistics and Combinatorics, 5-7 October 2012, Greensboro, NC (USA), within Session “CEUC 55: Statistical Modeling and Inference in Economics And Insurance”. Title of the talk: *Unequal perspectives on inequality: a comparison among the evergreen Gini and the new Zenga indices*.
- Invited speaker at the 45th Annual Conference of the Canadian Economics Association, Ottawa (Canada), in Session “New Trends in Measuring Inequality / Mésure des inégalité - Nouvelles tendances”. Title of the talk: *Geographical differences in income inequality: a comparison between Canada and Italy*.

PUBLICATIONS IN SCIENTIFIC JOURNALS

1. Greselin F., Brazauskas V., Zitikis R., *Measuring income inequality via percentile relativities*, accepted for publication in Quality and Quantity, available at Research Square, [<https://doi.org/10.21203/rs.3.rs-2082385/v3>]
2. Di Vincenzo D., Greselin F., Piacenza F., Zitikis R., 2023, A text analysis of operational risk loss descriptions, *The Journal of Operational Risk*, 18(3), 63–90. DOI: 10.21314/JOP.2023.003
3. Greselin F., Jędrzejczak A., Trzcińska K., 2023, A new parametric approach to Gender Gap, with application to EUSILC data in Poland and Italy, *Statistical Analysis and Data Mining: The ASA Data Science Journal*, 16(4), 319-335. DOI: 10.1002/sam.11623
4. Comotti A., Fattori A., Greselin F., Bordini L., Brambilla P., Bonzini M., 2023, Psychometric Evaluation of GHQ-12 as a Screening Tool for Psychological Impairment of Healthcare Workers Facing COVID-19 Pandemic, *La Medicina del Lavoro | Work, Environment and Health*, 114, 1. <https://doi.org/10.23749/mdl.v114i1.13918>
5. Cappozzo A., García-Escudero, L.A., Greselin, F., Mayo-Iscar, A., 2022, Graphical and computational tools to guide parameter choice for the cluster weighted robust model, *Journal of Computational and Graphical Statistics* 32:3, 1195-1214, <https://doi.org/10.1080/10618600.2022.2154218>
6. Denti F., Cappozzo A., and Greselin F., 2021, A Two-Stage Bayesian Nonparametric Model for Novelty Detection with Robust Prior Information, *Statistics and Computing* 31, 42, <https://doi.org/10.1007/s11222-021-10017-7>
7. Cappozzo, A., Duponchel, L., Greselin, F., Murphy, T.B., 2021, Robust variable selection in the framework of classification with label noise and outliers: applications to spectroscopic data in agri-food, *Analytica Chimica Acta*, 1153, 338245.

8. Cappozzo, A., García-Escudero, L.A., Greselin, F., Mayo-Iscar, A., 2021, Parameter Choice, Stability and Validity for Robust Cluster Weighted Modeling, *Stats*, 4, 602–615, <https://doi.org/10.3390/stats4030036>
9. Cappozzo, A., Greselin, F., Murphy, T.B., 2021, Robust variable selection for model-based learning in presence of adulteration, *Computational Statistics and Data Analysis*, 158, 107186, <https://doi.org/10.1016/j.csda.2021.107186> <https://doi.org/10.1016/j.csda.2021.107186>
10. Greselin, F., Murphy, T.B., Porzio, G.C., Vistocco, D., 2021, CLADAG 2019 Special Issue: Selected Papers on Classification and Data Analysis, *Statistical Analysis and Data Mining: The ASA Data Science Journal*, 14 4, 295–296.
11. Davydov Y., Greselin F., 2021, Inferential results for a new inequality curve, *Mathematical Methods of Statistics*, 30 (1-2), 1-15.
12. Greselin F., Jędrzejczak A., 2020, Analyzing the Gender Gap in Poland and Italy, and by Regions, *International Advances in Economic Research*, 26, 433–447.
13. Greselin F., Pellegrino S., Vernizzi A., 2021, The Zenga Equality curve: a new approach to measuring tax redistribution and progressivity, *Review of Income and Wealth*, 67(4): 950-976, <https://onlinelibrary.wiley.com/doi/abs/10.1111/roiw.12493>.
14. Cappozzo A., Greselin F., Murphy B., 2020, Anomaly and Novelty detection for robust semi-supervised learning, *Statistics and Computing*, 30, 1545–1571.
15. Cappozzo A., Greselin F., Murphy B., 2020, A robust approach to model-based classification based on trimming and constraints, *Advances in Data Analysis and Classification*, 14, 327–354.
16. Davydov Y., Greselin F., 2020, Comparisons between poorest and richest to measure inequality, *Sociological Methods and Research*, 49, 2, 526–561.
17. Greselin F., Piacenza F., Zitikis R., 2019, Practice Oriented and Monte Carlo Based Estimation of the Value-at-Risk for Operational Risk Measurement, *Risks*, 7(2), 50.
18. Davydov Y., Greselin F., 2019, Inferential results for a new measure of inequality, *Econometrics Journal*, 22 (2), 153–172.
19. García-Escudero L.A., Greselin F., Mayo-Iscar A., 2018, Robust fuzzy and parsimonious clustering based on mixtures of factor analyzers, *International Journal of Approximate Reasoning*, 94, 60–75.
20. Greselin F., Zitikis R., 2018, From the classical Gini index of income inequality to a new Zenga-type relative measure of risk: a modeller’s perspective, *Econometrics*, 6(1), 4.
21. García-Escudero L.A., Gordaliza A., Greselin F., Ingrassia S., Mayo-Iscar A., 2018, Eigenvalues and constraints in mixture modeling: geometric and computational issues, *Advances in Data Analysis and Classification*, 12, 2, 203–233.
22. Giudici, P., Greselin, F., Murphy, T. B. and Rampichini, C., 2017, CLADAG 2015 special issue: Selected papers on classification and data analysis, *Statistical Analysis and Data Mining: The ASA Data Science Journal*, 10, 5.
23. García-Escudero L.A., Gordaliza A., Greselin F., Ingrassia S., Mayo-Iscar A., 2017, Robust estimation of mixtures of regressions with random covariates, via trimming and constraints, *Statistics and Computing*, 27, 2, 377–402.
24. García-Escudero L.A., Gordaliza A., Greselin F., Ingrassia S., Mayo-Iscar A., 2016, The joint role of trimming and constraints in robust estimation of Gaussian factor analyzers, *Computational Statistics and Data Analysis*, 99, 131–147.
25. Greselin F., Ingrassia S., 2015, Maximum likelihood estimation in constrained parameter spaces for mixtures of factor analyzers, *Statistics and Computing*, 25, 2, 215–226.
26. Greselin F., Pasquazzi L., 2015, Parametric vs non-parametric inference on Zenga index of inequality: issues and evidence from survey data, *Communications in Statistics - Simulation and Computation*, 44, 1702–1719.
27. Greselin F., 2014, More equal and poorer, or richer but more unequal?, *Economic Quality Control*, 29, 2, 99–117.
28. Greselin F., Pasquazzi L., Zitikis R., 2014, Heavy tailed capital incomes: Zenga index, statistical inference, and ECHP data analysis, *Extremes*, 17, 1, 127–155.
29. Bagnato L., Greselin F., Punzo A., 2014, On the Spectral Decomposition in Normal Discriminant Analysis, *Communications in Statistics - Simulation and Computation*, 43, 6, 1471–1489.
30. Greselin F., Punzo A., 2013, Closed Likelihood-Ratio Testing Procedures to Assess Similarity of Covariance Matrices, *The American Statistician*, 67, 3, 117–128.
31. Greselin F., Pasquazzi L., Zitikis R., 2012, Contrasting the Gini and Zenga indices of economic inequality, *Journal of Applied Statistics*, 40, 2, 282–297.
32. Fattore M., Maggino F., Greselin F., 2011, Socio-economic evaluation with ordinal variables: integrating counting and poset approaches, *Statistica & Applicazioni*, Special Issue: Partial Orders in Applied Sciences, 31–42.

33. Greselin F., Ingrassia S., Punzo A., 2011, Assessing the pattern of covariance matrices via an augmentation multiple testing procedure, *Statistical Methods and Applications*, 20, 2, 141–170.
34. Greselin F., Pasquazzi L., Zitikis R., 2010, Zenga's new index of economic inequality, its estimation, and an analysis of incomes in Italy, *Journal of Probability and Statistics*, 26 pp.
35. Greselin F., Ingrassia S., 2010, Constrained monotone EM algorithms for mixtures of multivariate t -distributions, *Statistics and Computing*, 20, 1, 9–22.
36. Greselin F., Puri M.L., Zitikis R., 2009, L-functions, processes, and statistics in measuring economic inequality and actuarial risks, *Statistics and Its Interface*, 2, 227–245.
37. Greselin F., Pasquazzi L., 2009, Asymptotic Confidence Intervals for a New Inequality Measure, *Communications in Statistics - Simulation and Computation*, 38, 8, 1742–1756.
38. Greselin F., Pasquazzi L., 2008, Minimum sample sizes in asymptotic confidence intervals for Gini's inequality measure, *Statistica & Applicazioni*, 6, 2, 99–116.
39. Greselin F., Maffenini W., 2007, Minimum sample sizes for confidence intervals for Gini's mean difference: a new approach for their determination, *Statistica & Applicazioni*, 5, 1, 103–122. Permalink: <http://digital.casalini.it/10.1400/209579>
40. Greselin F., Zenga M., 2006, Convergence of the Sample Mean Difference to the normal distribution: simulation results, *Statistica & Applicazioni*, 4, 1, 97–120.
41. Greselin F., 2006, Dependence measures based on partial and total orderings, *Statistica & Applicazioni*, 4, 2, 3–25.
42. Greselin F., Zenga M., Poliscchio M., 2004, The variance of Gini's mean difference and its estimators, *Statistica*, 3, 455–475.
43. Greselin F., Zenga M., 2004, A partial ordering of dependence for contingency tables, *Statistica & Applicazioni*, 2, 53–71.
44. Greselin F., Zenga M., 2004, Partial and total orderings of dependence on tables with given margins, *Quaderni di Statistica*, 6, 129–155 (available at <https://www.labstat.it/home/wp-content/uploads/2015/03/Greselin.pdf>).
45. Greselin F., 2003, Counting and enumerating frequency tables with given margins, *Statistica & Applicazioni*, 1, 2, 87–104.
46. Greselin F., 1997, Valutazione approssimata della distorsione dello stimatore \hat{R} nella distribuzione di Pareto, *Quaderni di Statistica e Matematica Applicata alle Scienze Economico-Sociali*, 19, 3, 269–279.
47. Bellasai, G., Cernuzzi, L., Greselin, F., 1993, Teaching software engineering for the development of Paraguay, In: *Software Engineering Education*. Elsevier, 129–134.

BOOKS, EDITORSHIP AND CURATORSHIPS

48. Cazzaro M., Greselin F., *Modelli statistici per l'analisi di problemi economici e finanziari. with Mylab platform, eText and online updates*, 138 pages, Pearson Italy - Milano, ISBN 9788891903419
49. Greselin F., Mola F., Zenga Ma. Editors, *Cladag 2017 Book of Short Papers*, eBook, Universitas Studiorum, ISBN: 978-88-99459-71-0, http://www.universitas-studiorum.it/1/cladag\2017_book_of_short_papers_2852494.html
50. Greselin F., Deldossi L., Bagnato L. and Vichi M. Editors, *Statistical Learning of Complex Data*, Springer Series “Studies in Classification, Data Analysis, and Knowledge Organization” ISBN 978-3-030-21140-0, <https://www.springer.com/gp/book/9783030211394>
51. Porzio G.C., Greselin F. and Balzano S. Editors, *Book of short papers Cladag2019*, Centro Editoriale di Ateneo Università di Cassino e del Lazio Meridionale, Cassino (Italy), ISBN: 978-88-8317-108-6

PUBLICATIONS IN VOLUMES WITH ISBN

52. Greselin F. and Zaccaria G., Handling missing data in complex phenomena: an ultrametric model-based approach for clustering, pp.961–966, in *Book of the Short Papers - SIS 2023*, Pearson Eds., 2023, ISBN: 9788891935618.
53. Cappozzo A., García-Escudero L.A., Greselin F., Mayo-Iscar A., Monitoring Tools in Robust CWM for the Analysis of Crime Data, in Building Bridges between Soft and Statistical Methodologies for Data Science, pp 65–72, vol 1433 of the Springer series *Advances in Intelligent Systems and Computing*, Springer, doi:10.1007/978-3-031-15509-3, ISBN: 978-3-031-15508-6
54. Denti F., Cappozzo A., Greselin F., Outlier and Novelty Detection for Functional Data: a Semiparametric Bayesian Approach, pp. 42 *Classification and Data Science in the Digital Age - Book of Abstracts IFCS 2022* Printed by Instituto Nacional de Estadística ISBN: 978-989-98955-9-1

55. Cappozzo A., García-Escudero L.A, Greselin F., Mayo-Iscar A., Monitoring Hyperparameter Choice for Robust Cluster Weighted Model, pp. 105 *Classification and Data Science in the Digital Age - Book of Abstracts IFCS 2022* Printed by Instituto Nacional de Estadística ISBN: 978-989-98955-9-1
56. Comotti A. and Greselin F., Robustifying the Rasch model with the forward search, *SIS2022 Book of the Short Papers*, Balzanella A., Bini M., Cavicchia C. and Verde R. Editors, pp.1693-1698, Pearson Ed., ISBN 9788891932310
57. Cappozzo A., García-Escudero L.A, Greselin F., Mayo-Iscar A., Exploring solutions via monitoring for cluster weighted robust models, *ClADAG 2021 Book of Abstracts and Short papers*, Firenze University Press, 2021, G.C.Porzio, C. Rampichini, and C. Bocci Editors, pp. 284–287, doi:10.36253/978-88-5518-340-6, e-ISBN: 978-88-5518-340-6
58. Greselin F. and Jędrzejczak A. Quantifying the impact of covariates on the gender gap measurement: an analysis based on EU-SILC data from Poland and Italy, *ClADAG 2021 Book of Abstracts and Short papers*, Firenze University Press, 2021, G.C.Porzio, C. Rampichini, and C. Bocci Editors, pp. 108–111, doi:10.36253/978-88-5518-340-6, e-ISBN: 978-88-5518-340-6
59. Cappozzo A., Duponchel L., Greselin F., Murphy T., Robust classification of spectroscopic data in agri-food: first analysis on the stability of results, *ClADAG 2021 Book of Abstracts and Short papers*, Firenze University Press, 2021, G.C.Porzio, C. Rampichini, and C. Bocci Editors, pp. 49–52, doi:10.36253/978-88-5518-340-6, e-ISBN: 978-88-5518-340-6
60. Denti F., Cappozzo A., and Greselin F., 2021, Outlier and novelty detection for Functional data: a semi-parametric Bayesian approach, in *Short Papers in Models and Learning in Clustering and Classification*, S. Ingrassia, A. Punzo, R. Rocci Editors, pp. 33–38, LEDIPublishing, ISBN: 9788855265393.
61. Cappozzo A., and Greselin F., Monitoring tools for Cluster Weighted Robust Models, in *Short papers SIS 2021*, Pearson Eds., 2021, pp. 1245–1250, C. Perna, N. Salvati and F. Schirripa Spagnolo Editors, ISBN 9788891927361
62. Cappozzo A., Greselin F., and Murphy B., Robust Model-Based Learning to Discover New Wheat Varieties and Discriminate Adulterated Kernels in X-Ray Images in *Statistical Learning and Modeling in Data Analysis* Springer Berlin Heidelberg, 2021, pp. 29–36. Springer Series “Studies in Classification, Data Analysis, and Knowledge Organization”, S. Balzano, G.C. Porzio, R. Salvatore, D. Vistocco, M. Vichi Editors, ISBN: 978-303069943-7 <https://link.springer.com/book/10.1007/978-3-030-69944-4>
63. Denti F., Cappozzo A., and Greselin F., Bayesian nonparametric adaptive classification with robust prior information, in *Book of short Papers SIS 2020*, Milan: Pearson, 2020, pp. 655–660, A. Pollice, N. Salvati and F. Schirripa Spagnolo Editors, ISBN: 9788891910776
64. Cappozzo A., Greselin F., and Murphy B., Variable selection for robust model-based learning from contaminated data, in *Book of short Papers SIS 2020*, Milan: Pearson, 2020, pp. 1117-1120, A. Pollice, N. Salvati and F. Schirripa Spagnolo Editors, ISBN: 9788891910776
65. Cappozzo A., Greselin F., and Murphy B., Supervised learning in presence of outliers, label noise and unobserved classes, in: *Book of short papers Cladag2019*, 2019, Centro Editoriale di Ateneo Università di Cassino e del Lazio Meridionale, pp. 104–107, G. Porzio, F. Greselin and S. Balzano Eds., ISBN: 978-88-8317-108-6
66. Cappozzo A., Greselin F., Manzi G. Predicting and improving smart mobility: a robust model-based approach to the BikeMi BSS, in: *Smart Statistics for Smart Applications 2019 - Book of Short papers*. Milan: Pearson, 2019, pp. 737–742, ISBN: 9788891915108 <https://it.pearson.com/docenti/universita/partnership/sis.html>.
67. Cappozzo A., and Greselin F., Detecting wine adulterations employing robust mixture of factor analyzers, in: *Statistical Learning of Complex Data*. Springer Berlin Heidelberg, 2019, pp. 13–21. Springer Series “Studies in Classification, Data Analysis, and Knowledge Organization”, ISBN: 978-3-030-21140-0, <https://www.springer.com/gp/book/9783030211394>
68. García-Escudero L.A, Greselin F., Mayo-Iscar A., Extending robust fuzzy clustering to skew data, *CFE-CMStatistics 2018 Book of Abstracts*, p. 26, London. Technical Editors: A. Colubi, E.J. Kontoghiorghes and H.K. Van Dijk, 2018, ISBN: 978-9963-2227-5-9.
69. Cappozzo, A., Greselin F., Murphy T., The role of trimming and variable selection in robust model-based classification for food authenticity studies, in *COMPSTAT 2018 Book of Abstracts*, p. 35, COMPSTAT 2018 and CRoNoS FDA 2018, Ana Colubi and Cristian Gatu Editors, ISBN: 978-9963-2227-3-5
70. García-Escudero L.A, Greselin F., Mayo-Iscar A., Fuzzy clustering of multivariate skew data, in *COMPSTAT 2018 Book of Abstracts*, p. 33, COMPSTAT 2018 and CRoNoS FDA 2018, Ana Colubi and Cristian Gatu Editors, ISBN: 978-9963-2227-3-5
71. Cappozzo A., Greselin F., Murphy T., Robust Updating Classification Rule with applications in Food Authenticity Studies, in A. Abbruzzo, E. Brentari, M. Chiodi, & D. Piacentino (a cura di), *Book of short Papers SIS 2018*, pp. 493–499, Pearson, 2018, ISBN: 9788891910233
72. García-Escudero L.A, Greselin F., Mayo-Iscar A., McLachlan G., Advances in robust estimation of skew normal mixtures, *CFE-CMStatistics 2017 Book of Abstracts*, p. 120, London. Technical Editors: G. Gonzalez-Rodriguez and M. Hofmann, 2017, ISBN: 978-9963-2227-4-2

73. García-Escudero L.A., Gordaliza A., Greselin F., Ingrassia S. and Mayo-Iscar, A. To get the best, tame the beast: constrained ML estimation for mixture models, *Book of abstracts for the "III International Workshop on Proximity Data, Multivariate Analysis and Classification"*, 2017, ISBN: 978-84-697-7418-2
74. García-Escudero L.A., Gordaliza A., Greselin F., Mayo-Iscar A., Robust approaches for fuzzy clusterwise regression based on trimming and constraints, *The Mathematics of the Uncertain*, Eduardo Gil, Eva Gil, Juan Gil and María Angeles Gil Editors, Springer Series: Studies in Systems, Decision and Control, vol 142, Springer International Publishing, 2017, ISBN: 978-3-319-73847-5
75. García-Escudero L.A., Greselin F., Mayo-Iscar A., New proposal for clustering based on trimming and restrictions, *Cladag 2017 Book of Short Papers*, Editors F. Greselin, F. Mola and M.A. Zenga, Universitas Studiorum S.r.l., 2017, ISBN: 978-88-99459-71-0
76. Cappozzo A., Greselin F., Wine authenticity assessed via trimming, *Cladag 2017 Book of Short Papers*, Editors F. Greselin, F. Mola and M.A. Zenga, Universitas Studiorum S.r.l., 2017, ISBN: 978-88-99459-71-0
77. García-Escudero L.A., Greselin F., Mayo-Iscar A., Fuzzy clustering through robust factor analyzers, *Soft Methods for Data Science*, Advances in Intelligent Systems and Computing, vol 456, Springer, Eds. M.B. Ferraro, P. Giordani, B. Vantaggi, M. Gagolewski, M. Á. Gil, P. Grzegorzewski, and O. Hryniewicz, pp.229–235, 2016, ISBN: 978-3-319-42972-4
78. García-Escudero L.A., Greselin F., Mayo-Iscar A., McLachlan G., Robust estimation of mixtures of Skew Normal Distributions, *Proceedings of the 48th Scientific Meeting of the Italian Statistical Society*, Eds. M. Pratesi and C. Perna, Dipartimento di Scienze Economiche e Statistiche (publisher), Fisciano (SA, Italy), 2016, ISBN: 9788861970618
79. García-Escudero L.A., Greselin F., Mayo-Iscar A., McLachlan G., Robust estimation of mixture models with skew components via trimming and constraints, *CFE-CMStatistics 2016 Book of Abstracts*, p. 6, Sevilla. Technical Editors: A. Blanco-Fernandez and G. Gonzalez-Rodriguez, 2016, ISBN: 978-9963-22271-1
80. García-Escudero L.A., Greselin F., Mayo-Iscar A., A fuzzy version of robust mixtures of Gaussian factor analyzers, *CFE-CMStatistics 2016 Book of Abstracts*, p. 5, Sevilla. Technical Editors: A. Blanco-Fernandez and G. Gonzalez-Rodriguez, 2016, ISBN: 978-9963-22271-1
81. García-Escudero L.A., Greselin F., Mayo-Iscar A., McLachlan G., Robust estimation for mixtures of skew data, *Proceedings of the 8th International Conference of the ERCIM WG on Computing & Statistics (CM-Statistics 2015)*, 2015, ISBN: 978-9963-2227-0-4
82. García-Escudero L.A., Gordaliza A., Greselin F., Ingrassia S., Mayo-Iscar A., Robust estimation for mixtures of Gaussian factor analyzers, *Proceedings of the 8th International Conference of the ERCIM WG on Computing & Statistics (CMStatistics 2015)*, 2015, ISBN: 978-9963-2227-0-4
83. García-Escudero L.A., Greselin F., Mayo-Iscar A., *Robust clustering for heterogenous skew data*, *Book of Abstracts*, 10th International Meeting of the Classification and Data Analysis Group of the Italian Statistical Society, CUEC Editrice by Sardinia Novamedia, Cagliari, 2015, ISBN: 978-88-8467-949-9
84. García-Escudero L.A., Gordaliza A., Greselin F., Ingrassia S., Mayo-Iscar A., Robust model estimation, through trimming and constraints, for mixtures of factor analyzers, *Proceedings of the 7th International Conference of the ERCIM WG on Computing & Statistics (ERCIM'14)*, 2014, ISBN: 978-84-937822-4-5
85. García-Escudero L.A., Gordaliza A., Greselin F., Ingrassia S., Mayo-Iscar A., An adaptive method to robustify ML estimation in Cluster Weighted Modeling, *Proceedings of the 47th Scientific Meeting of the Italian Statistical Society*, CUEC Eds., Cagliari (Italy), 2014, ISBN: 978 88 8467 874 4
86. Greselin F., Ingrassia S., Data-driven EM constraints for Gaussian mixtures of factor analyzers, *Book of Abstracts*, 9th International Meeting of the Classification and Data Analysis Group of the Italian Statistical Society, Cleup Eds., Modena (Italy), p. 245–248, 2013, ISBN: 978 88 6787 117 9
87. Greselin F., Ingrassia S., Market segmentation via mixtures of constrained factor analyzers, *Advances in Latent Variables*, Eds. Brentari E., Carpita M., Vita e Pensiero, Milan (Italy), 8 pages, 2013, ISBN: 978 88 343 2556 8
88. Greselin F., Ingrassia S., Constrained EM algorithms for Gaussian mixtures of factor analyzers, *Proceedings of the 5th International Conference of the ERCIM WG on Computing & Statistics (ERCIM'12)*, Oviedo (Spain), 2012, ISBN: 978 84 937822 2 1
89. Greselin F., Punzo A., Closed Likelihood-Ratio Testing Procedures to Assess Similarity of Covariance Matrices, *Proceedings of the 46th Scientific Meeting of the Italian Statistical Society*, Cleup Eds., Rome (Italy), 2012, ISBN: 978 88 6129 882 8
90. Greselin F., Pasquazzi L., Zitakis R., Capital income inequality: evidences from ECHP data, *Proceedings of the 46th Scientific Meeting of the Italian Statistical Society*, Cleup Eds., Rome (Italy), 2012, ISBN: 978 88 6129 882 8
91. Corbett B., Greselin F., Pasquazzi L., Zitakis R., Williams R. Not all measures of income inequality are equal: A comparison between the Gini and the Zenga, *Proceedings of the International Interdisciplinary Conference*, IISES Eds., Palermo (Italy), 2012, ISBN: 978-80-905241-0-1

92. Bagnato L., Greselin F., Model-based clustering and classification via patterned covariance analysis, *Book of Short Papers of the 8th International Meeting of the Classification and Data Analysis Group of the Italian Statistical Society, ClaDAG 2011*, Pavia University Press, Pavia (Italy), 2011, 4 pages, ISBN: 978-88-96764-22-0
93. Greselin F., Pasquazzi L., Dagum Confidence intervals for inequality measures, *Proceedings of the 45th Scientific Meeting of the Italian Statistical Society*, Cleup Eds., Padua (Italy), 2010, ISBN: 978-88-6129-566-7
94. Greselin F., Pasquazzi L., Zitikis R., Asymptotic theory for Zenga's new index of economic inequality, *Proceedings of the 45th Scientific Meeting of the Italian Statistical Society*, Cleup Eds., Padua (Italy), 2010, ISBN: 978-88-6129-566-7
95. Greselin F., Ingrassia S., Weakly homoscedastic constraints for mixtures of t -distributions, *Advances in Data Analysis, Data Handling and Business Intelligence*, A.Fink, B.Lausen, W.Seidel and A.Ultsch editors, Springer Berlin Heidelberg, 2010, p. 219–228, DOI 10.1007/978-3-642-01044-6-20, ISBN: 978-3-642-01044-6
96. Greselin F., Ingrassia S., Punzo A., Multivariate tests for patterned covariance matrices, *Book of Short Papers of Cladag 2009*, Cleup Eds., Padova (Italy), 2009, p. 529–532, ISBN: 978-88-6129-406-6
97. Greselin F., Pasquazzi L., Asymptotic Confidence Intervals for a New Inequality Measure, *Proceedings of the 44th Scientific Meeting of the Italian Statistical Society*, Cleup Eds., Padua (Italy), 2008, ISBN: 978-88-6129-228-4
98. Greselin F., Pasquazzi L., Minimum Sample Sizes in Asymptotic Confidence Intervals for Gini's Concentration Index, *ISI 2007 Book of abstract*, M.I. Gomes, D. Pestana, P. Silva. Eds, CEAUL INE and ISI, Lisbon (Portugal), 2007, ISBN: 978-972-8859-71-8
99. Greselin F., New results on a partial ordering of dependence, *Classification and Data Analysis*, S. Zani and A. Cerioli editors, MUP ed., Parma (Italy), 2005, p. 377–380, ISBN: 978-88-7847-066-8
100. Greselin F., Zenga M., Measures of association in the Fréchet class, *Proceedings of the 41th Scientific Meeting of the Italian Statistical Society*, Cleup Eds., Milan (Italy), 2002, p. 33–36, ISBN: 88-7178-589-4
101. Greselin F., Bellassai G., Cernuzzi L., Teaching Software Engineering for the development of Paraguay, *Proceedings of the IFIP WG3.4/SEARCC (SRIG on Education and Training)*, Hong Kong, North Holland, 1993, p. 129–134, ISBN: 0-444-81597-X