

Marta Nai Ruscone

Associate Professor

Contact Information

University of Genoa.
Department of Economics.
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Education

14/09/11 **Ph.D., Applied Statistics (XXIII)**, *Università degli Studi di Milano-Bicocca*, Milano.

Title *Hierarchical models: methodological aspects and applications*

Supervisors Prof. Giuseppe Boari, Prof. Roberta Paroli

04/11/04 **M.Sc., Economics and Statistical Sciences**, *Università Cattolica del Sacro Cuore*, Milano.

Title *Reliability and maintenance issues in duration systems characterized by a logistic function*

Supervisors Prof. Umberto Magagnoli, Prof. Roberta Paroli

Research interest

Multivariate dependence models with copulas; Mixture Models; Model-based clustering and classification; Robust statistics; Measures of association; Dissimilarity measures; High-dimensional Data; Multivariate longitudinal data; Multivariate count data; Categorical data; Ordinal Data; Rank Data; Statistical applications in economics and social science in general

Academic positions

07/24-Pres **Associate Professor in Statistics (STAT-01/A - Statistics)**, *Department of Economics*, University of Genova, Genova (GE).

12/23-Pres **Italian Habilitation for Associate Professor in Statistics**, (*Abilitazione Scientifica nazionale a Professore di II fascia STAT-01/A - Statistics*), Validity: 01 December 2023 - 01 December 2034.

07/21-06/24 **Assistant Professor in Statistics (B) art. 24, L. 240/2010 (STAT-01/A - Statistics)**, *Department of Economics*, University of Genova, Genova (GE).

- 12/19-06/21 **Assistant Professor in Statistics (A) art. 24, L. 240/2010 (STAT-01/A - Statistics)**, *Department of Mathematics*, University of Genova, Genova (GE).
- 10/16-11/19 **Assistant Professor in Statistics (A) art. 24, L. 240/2010 (STAT-01/A - Statistics)**, *School of Economics and Management*, LIUC - Università Carlo Cattaneo, Castellanza (VA).
- 09/15-09/16 **Assistant Professor in Statistics (A) art. 24, L. 240/2010 (part time) (STAT-01/A - Statistics)**, *School of Economics and Management*, LIUC - Università Carlo Cattaneo, Castellanza (VA).
- 05/13-08/15 **Research Fellow in Statistics art. 22, L. 240/2010 (STAT-01/A - Statistics)**, *Statistical department*, Università Cattolica del Sacro Cuore, Milano (MI).

Research projects

- 2010-2016 **Research projects, Linea D.1**, *Supervisor Prof Giuseppe Boari*, Models for measuring socio-economic latent variables, Università Cattolica del Sacro Cuore. Milan
- 2008-2009 **Research projects FAR (Fondo d'Ateneo per la Ricerca)**, *Sampling from finite population and inferential problems*, Supervisor Prof P. Quatto, Università degli Studi di Milano Bicocca. Milan
- 2009 **Research projects, Linea D.1**, *Supervisor Prof Luigi Santamaria*, Statistical studies in macroeconomics and business economics. Methodological statistical studies in technologies, Università Cattolica del Sacro Cuore. Milan
- 2008 **Research projects, Linea D.1**, *Supervisor Prof Umberto Magagnoli*, Statistical methodologies and application studies in the fields of technological and business economics, Università Cattolica del Sacro Cuore. Milan
- 2007 **Research projects, Linea D.1**, *Supervisor Prof Umberto Magagnoli*, Inferential statistical methodologies for technological, social and economic financial problems, Università Cattolica del Sacro Cuore. Milan

Visiting positions

- 25/11/24 **Visiting Researcher in Statistics**,
 -29/11/24 Hochschule Stralsund, University of Applied Sciences, Stralsund, Germany, (Prof. Gero Szepannek).
- 26/06/23 **Visiting Researcher in Statistics**, *Department of Statistics and Operations Research*,
 -30/06/23 UPC - Polytechnic University of Catalonia-BarcelonaTech, Barcelona, Spain, (Prof. Daniel Fernández Martínez).

- 04/07/22 **Visiting Researcher in Statistics**, *Department of Statistics and Operations Research*,
 -08/07/22 UPC - Polytechnic University of Catalonia-BarcelonaTech, Barcelona, Spain,
 (Prof. Daniel Fernández Martínez).
- 30/09/19 **Visiting Researcher in Statistics**, *Department of Statistics*,
 -07/10/19 AUEB - Athens University of Economics and Business, Athens, Greece,
 (Prof. Dimitris Karlis).
- 26/03/19 **Visiting Researcher in Statistics**, *Department of Statistics*,
 -10/04/19 AUEB - Athens University of Economics and Business, Athens, Greece,
 (Prof. Dimitris Karlis).
- 01/04/19- **Visiting Researcher in Statistics funded by the Erasmus+ program of the EU**,
 05/04/19 *Department of Statistics*, AUEB - Athens University of Economics and Business,
 Athens, Greece,
 (Prof. Dimitris Karlis).
- 02/18-09/18 **Visiting Researcher in Statistics**, *School of Mathematics and Statistics*,
 University College Dublin, Dublin, Ireland,
 (Prof. Thomas Brendan Murphy).
- 05/17-09/17 **Visiting Researcher in Statistics**, *School of Mathematics and Statistics*,
 University College Dublin, Dublin, Ireland,
 (Prof. Thomas Brendan Murphy).

Editorial work

- 01/01/2020- Assistant Editor of Dependence Modeling, De Gruyter, ISSN: 2300-2298
 31/12/2021

Collaboration with scientific journals

Referee activity for: Computational Statistics & Data Analysis, Journal of Statistical Software, The R Journal, Statistical Methods & Applications, Metron, Computational Statistics, Journal of Classification, The Canadian Journal of Statistics, Stat, eJasa, Studies in Theoretical and Applied Statistics, Statistical Modeling, Econometrics and Statistics, Computational Intelligence, Risk Analysis, Quality and Quantity, Social Indicators Research, International Journal of Approximate Reasoning, Annals of Operational Research, Symmetry, Statistical Modelling: An international Journal, Statistica, Behaviormetrika, Spatial Statistics

Honors, awards certifications, research grants and scholarships

- 2019 Research Award, LIUC - Università Carlo Cattaneo: A. Bonanomi, M. Nai Ruscone, S. A. Osmetti, Dissimilarity measure for ranking data via mixture of copulae, Statistical Analysis and Data Mining, ASA data Science Journal 4 vol. 12, p. 412-425, 2019
- 2016 Best Poster Award conferred to Nai Ruscone M. for the Scientific Quality of the Poster 'Mixture of vine copulas for clustering' presented at *MBC²*: Model-Based Clustering and Classification, Catania (IT), September 5-7 2016.
- 2015 Research Award area 13, Università Cattolica del Sacro Cuore: A. Bonanomi, G. Cantaluppi, M. Nai Ruscone, S. A. Osmetti, A new estimator of Zumbo's Ordinal Alpha: a copula approach, Quality and Quantity, 49 (3), 941-953, 2015

Member of conference committee

- 2026 Member of the Local Organizing Committee of IFCS 2026 (19th conference of the International Federation of Classification Societies Conference) - Milan, 14 - 16 July 2026.
- 2026 Member of the Local Organizing Committee of DSSV 2026 (Data Science, Statistics & Visualisation) - Trento, 29 June - 1 July 2026.
- 2025 Member of the Scientific Committee of CLADAG (15th Scientific Meeting Classification and Data Analysis Group) - Naples, 08 - 10 September 2025.
- 2025 Member of the Local Organizing Committee of SIS 2025 (SIS 2025 - Statistics for Innovation) - Genoa, 16 - 18 June 2025.
- 2023 Member of the Programme Committee of CMStatistics 2023 (16th International Conference of the ERCIM WG on Computational and Methodological Statistics) - Berlin, 16 - 18 December 2023.
- 2022 Member Scientific Program Committee of ASA 2022 (Conference of the Association for Applied Statistics) - Genoa, 12 - 14 September 2022. "Data Driven Decision Making".

Organized session

- 2025 Invited session organizer, 15th Scientific Meeting Classification and Data Analysis Group CLADAG - International Scientific Joint Meeting of the Italian and Dutch/Flemish Classification Societies - Naples, Italy, September 8 - 10 2025.
Topic: "Advanced clustering methods for complex data I".
Speakers: Pietro Coretto, Igor Melnykov, Brendan Murphy, John Thompson.
- 2025 Invited session organizer, 15th Scientific Meeting Classification and Data Analysis Group CLADAG - International Scientific Joint Meeting of the Italian and Dutch/Flemish Classification Societies - Naples, Italy, September 8 - 10 2025.
Topic: "Advanced clustering methods for complex data II".
Speakers: Roberto Rocci, Shen Jia, Christian Hennig, Francesca Greselin.
- 2025 Invited session organizer, SIS Statistics for Innovation - Genoa, Italy, June 16 - 18 2025.
Topic: "Innovative developments in clustering and classification for complex data structures".
Speakers: Alessandro Casa, Roberto Rocci, Volodymyr Melnykov, Luca Coraggio.
- 2024 Invited session organizer, 18th International Joint Conference of the Joint Conference CFE-CMStatistics - London, UK, December 14 - 16 2024 (together with Daniel Fernández).
Topic: "Latest trends in clustering and classification of complex data II".
Speakers: Volodymyr Melnykov, Xuwen Zhu, Luis Sousa.
- 2024 Invited session organizer, 18th International Joint Conference of the Joint Conference CFE-CMStatistics - London, UK, December 14 - 16 2024 (together with Daniel Fernández).
Topic: "Latest trends in clustering and classification of complex data I".
Speakers: John Thompson, Yana Melnykov, Christopher Saunders, Michael Semhar.

- 2024 Invited session organizer, SMPS 2024 - 11th International Conference on Soft Methods in Probability and Statistics - Salzburg, Austria, September 03 - 06 2024.
Topic: "Latest Trends in Clustering and Classification Methods".
Speakers: Christophe Biernacki, Mackenzie Rose Neal, Marianthi Markatou, Roberto Rocci, Jeffrey Durieux.
- 2024 Invited session organizer, SIS 2024 - The 52nd Scientific Meeting of the Italian Statistical Society - Bari, 17 - 20 June 2024.
Topic: "Latest trends in clustering and classification methods".
Speakers: Alessandro Casa, Volodymyr Melnykov, Valentina Veronesi.
- 2024 Invited session organizer, SIS 2024 - The 52nd Scientific Meeting of the Italian Statistical Society - Bari, 17 - 20 June 2024.
Topic: "Recent advances in clustering and classification".
Speakers: Jana Cibulkova, Antonio Lucadamo, Aurora Gatto, Yana Melnykov.
- 2023 Invited session organizer, 16th International Conference of the ERCIM WG on Computational and Methodological Statistics & CFE-CMStatistics - Berlin, Germany, December 16-18 2023 (together with Daniel Fernández).
Topic: "Recent advances in clustering and classification with missing data".
Speakers: Rabea Aschenbruck, Vincent Audigier, Wouter van Loon.
- 2023 Invited session organizer, 16th International Conference of the ERCIM WG on Computational and Methodological Statistics & CFE-CMStatistics - Berlin, Germany, December 16-18 2023 (together with Daniel Fernández).
Topic: "Model and copula-based clustering with missing data".
Speakers: Aurora Gatto, Cristina Tortora, Hung Tong, Brian Franczak.
- 2022 Invited session organizer, 15th International Conference of the ERCIM WG on Computational and Methodological Statistics & CFE-CMStatistics - London, UK December 17-19 2022 (together with Daniel Fernández).
Topic: "Recent advances in clustering of mixed-type data".
Speakers: Marianthi Markatou, Robin Fuchs, Michel van de Velden, Gero Szepannek.
- 2022 Invited session organizer, ECDA 2022 (European Conference on Data Analysis - Naples, 14 - 16 September 2022).
Topic: "Latest trends in clustering and classification methods".
Speakers: Christian Hennig, Alessandro Casa, Keefe Murphy, Pietro Coretto.
- 2022 Invited session organizer, ECDA 2022 (European Conference on Data Analysis - Naples, 14 - 16 September 2022).
Topic: "Novelty in clustering".
Speakers: Cristina Tortora, Roberta Pappadà, Di Nuzzo Cinzia.
- 2022 Invited session organizer, ECDA 2022 (European Conference on Data Analysis - Naples, 14 - 16 September 2022 (together with Cristina Tortora).
Topic: "Recent advances in complex data analysis".
Speakers: Katrijn Van Deun, Marta Di Lascio, Marta Nai Ruscone.

- 2022 Invited session organizer, 24th International Conference on Computational Statistics - COMPSTAT 2022 - Bologna, 23 - 26 August 2022 (together with Eva Riccomagno).
Topic: "Algebraic Statistics".
Speakers: Liam Solus, Carlos Amendola, Fabio Rapallo, Guido Montufar, Elisa Perrone.
- 2021 Invited session organizer, 14th International Conference of the ERCIM WG on Computational and Methodological Statistics & CFE-CMStatistics - London, UK December 18-20 2021 (together with Daniel Fernández).
Topic: "Latest trends in clustering and classification methods".
Speakers: Bettina Gruen, Cristina Tortora, Matthieu Marbac, Irene Epifanio.
- 2020 Invited session organizer, 13th International Conference of the ERCIM WG on Computational and Methodological Statistics & CFE-CMStatistics - London, UK December 19-21 2020 (together with Marta Di Lascio).
Topic: "Clustering of multivariate dependent data".
Speakers: Christian Hennig, Pier Giovanni Bissiri, Raffaella Calabrese, Chiara Masci, Claudia Czado.
- 2019 Invited session organizer, CRoNoS & MDA 2019 - Limassol, Cyprus April 14-16 2019 (together with Daniel Fernández).
Topic: "Recent developments in clustering and classification methods".
Speakers: Roberto Rocci, Matthieu Marbac, Christophe Biernacki, Nema Dean.
- 2018 Invited session organizer, SIEDS - Varese May 24-25 2018.
Topic: "Well-being".
Speakers: Valentina Rotondi, Andrea Venegoni, Elena Siletti, Emiliano Sironi.

Discussant of Sessions

- 2024 Title of the Specialized Session: "Latest trends in clustering and classification methods".
SIS 2024 - The 52nd Scientific Meeting of the Italian Statistical Society - Bari, Italy June 17-20 2024.
Speakers: Alessandro Casa, Volodymyr Melnykov, Valentina Veronesi.
- 2024 Title of the Contributed Session: "Advances in data analysis: clustering and regression models".
SIS 2024 - The 52nd Scientific Meeting of the Italian Statistical Society - Bari, Italy June 17-20 2024.
Speakers: Roberto Ascari, Elena Ballante, Maria Felice Arezzo, Paolo Giordani, Amir Khorrami Chokami.
- 2023 Title of the Specialized Session: "Clustering and classification I".
SIS 2023 - Statistical Learning, Sustainability and Impact Evaluation - Ancona, Italy June 21-23 2023.
Speakers: Cinzia Di Nuzzo, Fabio Rapallo, Christophe Biernacki, Xuwen Zhu, Jana Cibulkova, Alfonso Iodice D'Enza.

Peer Reviewed Journals

- 2025 Amati, V., Nai Ruscone, M., A Quantitative Analysis of the Relationships between the Sustainable Development Goals, *Italian Journal of Economic, Demographic and Statistical Studies*, vol. 2, p. 43-54, DOI: 10.71014/sieds.v79i2.382
- 2024 Nai Ruscone, M., Fernández, D., D'Ambrosio A., Copula-Based Non-Metric Unfolding on Augmented Data Matrix, *Journal of Classification*, vol. 41, p. 678-697, DOI: 10.1007/s00357-024-09495-x
- 2023 Preedalikit, K., Fernández, D., Liu, I., McMillan, L., Nai Ruscone, M., Costilla, R., Row mixture-based clustering with covariates for ordinal responses, *Computational Statistics*, p. 1-45, DOI: 10.1007/s00180-023-01387-9
- 2023 De Luca, G., Nai Ruscone, M., Amati, V., The use of conditional copula for studying the influence of economic sectors, *Expert Systems With Applications*, vol. 131, DOI: 10.1016/j.eswa.2023.120582
- 2021 Nai Ruscone, M., Fernández, D., Dynamics of HDI index: temporal dependence based on D-vine copula model for three-way data, *Social Indicators Research*, vol. 158, p. 563-593, DOI: 10.1007/s11205-201-02682-y
- 2021 Fernández, D., Giné-Vázquez, I., Liu, I., Yucel, R., Nai Ruscone, M., Morena, M., García, V. G., Haro, J. M., Pan, W., Tyrovolas, S., Are environmental pollution and biodiversity levels associated to the spread and mortality of COVID-19? A four-month global analysis, *Environmental Pollution*, vol. 271, p. 1- 13, ISSN: 0269-7491, DOI: 10.1016/j.envpol.2020.116326
- 2020 Deldossi, L., Nai Ruscone, M., R Package OBsMD for follow-up designs in an objective Bayesian framework. *Journal of Statistical Software*, vol. 94(2), p. 1-37, DOI: 10.18637/jss.v094.i02
- 2019 Bonanomi, A., Nai Ruscone, M., Osmetti, S. A., Dissimilarity measure for ranking data via mixture of copulae. *Statistical Analysis and Data Mining*, vol. 12, p. 412-425, ISSN: 1932-1864, DOI: 10.1002/sam.11402
- 2017 Bonanomi, A., Nai Ruscone, M., Osmetti, S. A. Defining subjects distance in hierarchical cluster analysis by copula approach. *Quality & Quantity*, vol. 51, p. 859-872, ISSN: 1573-7845, DOI: 10.1007/s11135-016-0444-9
- 2015 Bonanomi, A., Cantaluppi, G., Nai Ruscone, M., Osmetti, S. A. A new estimator of Zumbo's Ordinal Alpha: a copula approach. *Quality & Quantity*, vol. 49, p. 941-953, ISSN: 0033-5177, DOI: 10.1007/s11135-014-0114-8
- 2015 Boari, G., Nai Ruscone, M. A procedure simulating Likert scale item responses. *Electronic Journal of Applied Statistical Analysis*, vol. 8, p. 288-297, ISSN: 2070-5948, DOI: 10.1285/i20705948v8n3p288
- 2012 Bonanomi, A., Nai Ruscone, M., Osmetti, S. A. Reliability measurement for polytomous ordinal items: the empirical polychoric ordinal Alpha. *Quaderni di Statistica*, vol. 14, p. 53-56, ISSN: 1594-3739

Encyclopedia Entries

- 2021 Nai Ruscone, Marta (2021). Copula-based measures of association. In: Maggino F. (eds) Encyclopedia of Quality of Life and Well-Being Research. Springer, Cham. DOI:10.1007/978-3-319-69909-7-104677-1, ISBN: 978-3-319-69909-7

Book Chapters

- 2018 Bonanomi, Andrea, Nai Ruscone, Marta, Osmetti, Silvia Angela (2018). Dissimilarity measure for ranking data via mixture of copulae. In: Capecchi, Stefania; Di Iorio, Francesca; Simone, Rosaria, ASMODO 2018: Proceedings of the Advanced Statistical Modeling for Ordinal Data Conference. ISBN: 978-88-6887-042-3, DOI: 10.6093/978-88-6887-042-3, ISSN Collana: 2499-4774, FedOAPress, 2018, Naples (Italy), 24-26 October 2018
- 2016 Nai Ruscone, M., Osmetti, S. A. Modeling the dependence in multivariate longitudinal data by pair copula decomposition. In: Ferraro, Maria Brigida, Soft methods for data science. Advances in Intelligent System and Computing, vol. 456, p. 373-380, Springer, ISBN: 978-3-319-42972-4, ISSN: 2194-5357, doi: 10.1007/978-3-319-42972-4_46
- 2015 Bonanomi, A., Nai Ruscone, M., Osmetti, S. A. Defining the subjects distance in hierarchical cluster analysis by copula approach. In: Mola, Francesco; Conversano, Claudio, Cladag 2015: 10th. scientific meeting of the classification and data analysis group of the Italian statistical society: book of abstracts. p. 582-587, Cagliari: CUEC, ISBN: 978-88-8467-949-9
- 2014 Boari, G., Cantaluppi, G., Nai Ruscone, M. Scale reliability evaluation for a-priori clustered data. In: Vicari, D.; Okada, A.; Ragozini, G.; Weihs, C., Analysis and modeling of complex data in behavioral and social sciences. Studies in Classification, Data Analysis and Knowledge Organization, p. 37-45, Springer, ISBN: 978-3-319-06691-2, ISSN: 1431-8814, doi: 10.1007/978-3-319-06692-9

Books

- 2012 Zappa, D., Nai Ruscone, M., Bramante, R. Appunti di metodi statistici per la finanza e le assicurazioni. p. 1-229, Milano: EDUCatt, ISBN: 978-88-8311-964-4
- 2012 Nai Ruscone, M. Strumenti statistici e informatici per l'analisi dei dati del questionario GGP (Generation & Gender Programme). p. 1-86, Milano: EDUCatt, ISBN: 978-88-8311-971-2

Conference Publications

- 2025 Nai Ruscone, Marta (2025). Robustness. In: di Bella, Enrico; Gioia, Vincenzo; Lagazio, Corrado; Zaccarin, Susanna. Statistics for Innovation IV. SIS 2025. Italian Statistical Society Series on Advances in Statistics. Springer, Cham. DOI: 10.1007/978-3-031-96033-815

- 2025 Nai Ruscone, Marta, D'Ambrosio, Antonio (2025). Non-metric Unfolding via Copula. In: Pollice, Alessio; Mariani, Paolo. Methodological and Applied Statistics and Demography I, SIS 2024, p. 46-49, DOI:10.1007/978-3-031-64346-08, ISSN: 978-3-031-64345-3, Bari, 17-20 June 2024
- 2023 Nai Ruscone, Marta, Fernández, Daniel, Preedalikit, Kemmawadee, McMillan, Louise, Liu, Ivy, Costilla, Roy (2023). One dimensional mixture-based clustering for ordinal responses. In: Coretto, Pietro; Giordano, Giuseppe; La Rocca, Michele, Parrella, Maria Lucia, Rampichini, Carla. CLADAG 2023 Book of abstracts and short papers, p. 604- 607, ISBN: 9788891935632, Salerno, 11-13 September 2023
- 2023 Nai Ruscone, Marta, Bissiri, Pier Giovanni (2023). Concordance measure for rankings. In: Bucci, Andrea; Cartone, Alfredo; Evangelista, Adelia, Marletta, Andrea. IES 2023 Statistical Methods for Evaluation and Quality: Techniques, Technologies and Trends. Book of short papers, p. 350- 354, DOI: 10.60984/978-88-94593-36-5-IES2023, ISBN: 979-12-803-3369-8, Pescara, 21-23 June 2023
- 2023 Nai Ruscone, Marta, Fernández, Daniel, Preedalikit, Kemmawadee, McMillan, Louise, Liu, Ivy, Costilla, Roy (2023). Mixture-based clustering with covariates for ordinal responses. In: Chelli, Franco Maria; Ciommi, Mariateresa, Ingrassia, Salvatore, Mariani, Francesca, Recchioni, Maria Cristina, SIS 2023. Book of short papers, p. 617-622, ISBN: 9788891935618AAVV, Ancona, 21-23 June 2023
- 2023 Nai Ruscone, Marta, D'Ambrosio, Antonio (2023). Non-metric unfolding via copula. In: Durante, Fabrizio, Saminger-Platz Susanne, Trutschnig, Wolfgang, Vetterlein, Thomas, 40th Linz Seminar on Fuzzy Set Theory. Copulas Theory and Applications, p. 69-72, ISBN: 978-3-903480-02-05, Linz (Austria), 6-9 June 2023
- 2022 Nai Ruscone, Marta, De Luca, Giovanni (2022). Conditional copula: a financial application. In: Lombardo, Rosaria; Camminatiello, Ida; Simonacci Violetta. IES 2022 Innovation & Society 5.0: Statistical and Economic Methodologies for Quality Assessment. Book of short papers, p. 307- 312, ISBN: 978-88-94593-35-8, Capua, 27-28 January 2022
- 2021 Nai Ruscone, Marta, Karlis, Dimitris (2021). Robustness methods for modeling count data with general dependence structures. In: Porzio, Giovanni Camillo; Rampichini, Carla; Bocci, Chiara. CLADAG 2021 Book of abstracts and short papers, p. 396- 399, DOI: 10.36253/978-88-5518-340-6, Florence, 9-11 September 2021
- 2021 Nai Ruscone, Marta, Karlis, Dimitris (2021). Robustness of statistical methods for modeling paired count data using bivariate discrete distributions with general dependence structures. In: Perna, Cira; Salvati, Nicola; Schirripa Spagnolo, Francesco, SIS 2021. Book of short papers SIS2021, p. 1654-1659, ISBN: 9788891927361, Pisa, 21-25 June 2021
- 2020 Nai Ruscone, Marta, D'Ambrosio, Antonio (2020). Non-metric unfolding on augmented data matrix: a copula-based approach. In: Pollice, Alessio; Salvati, Nicola; Schirripa Spagnolo, Francesco , SIS 2020. Book of short papers SIS2020, p. 1189-1193, ISBN: 978-88-91910-77-6 , Pisa, 23-25 June 2020

- 2019 Nai Ruscone, Marta, D'Ambrosio, Antonio (2019). Copula-based non-metric unfolding on augmented data matrix. In: Porzio, Giovanni C; Greselin, Francesca; Balzano, Simona, ClaDAG 2019: book of short papers. University of Cassino, Cassino, 13-15 September 2019
- 2019 Nai Ruscone, Marta, D'Ambrosio, Antonio (2019). Copula-based non-metric unfolding on augmented data matrix. In: 5th meeting on statistics, Statistics5@Aegina: book of abstract. Athens, 6-8 September 2019
- 2019 Nai Ruscone, Marta (2019). Clustering ranking data via copulas. In: 10th international workshop on simulation and statistics: workshop booklet p. 25. Salzburg, 2-6 September 2019
- 2019 Nai Ruscone, Marta (2019). Clustering ranked data using copulas. In: 16th Conference of the International Federation of Classification Societies: workshop booklet p. 127. Thessaloniki, 26-29 August 2019
- 2019 De Luca, Giovanni, Nai Ruscone, Marta, Riviuccio, Giorgia (2019). Partial dependence with copula and financial applications. In: Arbia, Giuseppe; Peluso, Stefano, Pini, Alessia, Rivellini, Giulia, SIS 2019 - Smart Statistics for Smart Applications: proceedings of the Conference of the Italian Statistical Society. Book of short papers SIS2019, p. 799-803, ISBN: 978-88-91915-10-8, Milan, 18-21 June 2019
- 2017 Nai Ruscone, Marta (2017). Comparing clusterings by copula information based distance. In: Greselin, Francesca; Mola, Francesco; Zenga, Mariangela, ClaDAG 2017: book of short papers. <http://www.fedoabooks.unina.it>, ISBN: 978-88-99459-71-0, University of Milano-Bicocca, Milan (Italy), 13-15 September 2017
- 2017 Bonanomi, Andrea, Nai Ruscone, Marta, Osmetti, Silvia Angela (2017). Mixture of copulae based approach for defining the subjects distance in cluster analysis. In: Greselin, Francesca; Mola, Francesco; Zenga, Mariangela, ClaDAG 2017: book of short papers. ISBN: 978-88-99459-71-0, University of Milano-Bicocca, Milan (Italy), 13-15 September 2017
- 2017 Nai Ruscone, Marta (2017). Exploratory factor analysis of ordinal variables: a copula approach. In: Petrucci, Alessandra; Verde, Rosanna, SIS 2017. Statistics and Data Science: new challenges, new generations: 28-30 June 2017 Florence (Italy): proceedings of the Conference of the Italian Statistical Society. Proceedings and report, vol. 114, p. 737-742, ISBN: 978-88-6453-521-0, Firenze, 28-30 June 2017
- 2013 Bramante, Riccardo, Nai Ruscone, Marta, Spani, Pasquale (2013). Credit risk measurement and ethical issue: some evidences from the Italian banks. In: Minerva, Tommaso; Morlini, Isabella; Palumbo, Francesco, Cladag 2013: 9th meeting of the classification and data analysis group. p. 1-4, ISBN: 978-88-6787-117-9, Modena, 18-20 September 2013
- 2013 Deldossi, Laura, Nai Ruscone, Marta (2013). OBsMD: an R package for objective Bayesian model discrimination in follow-up design. In: Sco 2013: proceedings of the 8th complex data modeling and computationally intensive statistical methods for estimation and prediction, Milano, Italy. p. 1-4, ISBN: 978-88-6493-019-0, Milano, 9-11 September 2013

- 2013 Bonanomi, Andrea, Nai Ruscone, Marta, Osmetti, Silvia Angela (2013). The Polychoric Ordinal Alpha, measuring the reliability of a set of polytomous ordinal items. In: Brentari, Eugenio; Carpita, Maurizio, Advances in latent variables. p. 1-6, Brescia, 19-21 June 2013
- 2013 Boari, Giuseppe, Nai Ruscone, Marta (2013). Use of relevant principal components to define a simplified multivariate test procedure of optimal clustering. In: Minerva, Tommaso; Morlini, Isabella; Palumbo, Francesco, Cladag 2013: 9th meeting of the classification and data analysis group. p. 1-4, ISBN: 978-88-6787-117-9, Modena, 18-20 September 2013
- 2012 Boari, Giuseppe, Cantaluppi, Gabriele, Nai Ruscone, Marta (2012). Scale Reliability Evaluation for a-priori Clustered Data. In: Okada A; Vicari D; Ragozini G, Analysis and Modeling of Complex Data in Behavioural and Social Sciences. Book of Short Paper. p. 1-4, Padova: CLEUP, ISBN: 978-88-6129-916-0, Anacapri, 3-4 September 2012
- 2012 Boari, Giuseppe, Nai Ruscone, Marta (2012). Use of ICC for defining the optimal clustering solution under normality assumption. In: Akinori, Okada, Analysis and modeling of complex data in behavioural and social sciences: book of short paper. p. 1-4, ISBN: 978-88-6129-916-0, Anacapri, Italy, 3-4 September 2012
- 2010 Boari, Giuseppe, Nai Ruscone, Marta, Osmetti, Silvia Angela (2010). Effetti sul PIL dell'andamento degli investimenti in costruzioni: relazione tra occupazione totale e nel settore costruzioni. In: Convegno di presentazione della ricerca Ripresa del settore immobiliare-costruttivo: crescita dell'occupazione e integrazione sociale: il caso italiano. p. 1-18, Milan, 9 June 2010
- 2009 Boari, Giuseppe, Nai Ruscone, Marta, Osmetti, Silvia Angela (2009). Causal relationship between PIL and construction flows: evidence from Italy. In: Convegno di presentazione della ricerca Dinamica del settore immobiliare-costruttivo e ripresa del PIL: il caso italiano. p. 1-8, Milan, 10 June 2009
- 2009 Boari, Giuseppe, Nai Ruscone, Marta, Osmetti, Silvia Angela (2009). The effects of money supply on construction flows: evidence from Italy. In: Convegno di presentazione della ricerca Dinamica del settore immobiliare-costruttivo e ripresa del PIL: il caso italiano. p. 1-8, Milan, 10 June 2009

Software

- 2015 **OBsMD** R package - Objective Bayesian Model Discrimination in Follow-Up Designs. Creator and Maintainer since 2015.
Available on CRAN: <https://CRAN.R-project.org/package=OBsMD>.

Talks (invited sessions)

- 2025 15th Scientific Meeting Classification and Data Analysis Group CLADAG - International Scientific Joint Meeting of the Italian and Dutch/ Flemish Classification Societies - Naples, Italy, September 8 - 10 2025. - Mixture-based clustering for ordinal responses. (Nai Ruscone, M.) [Organizer/Chair: Volodymyr Melnikov]

- 2025 Research Seminars - Sapienza University of Rome - Rome (Italy), 4 April 2025 - Mixture-based clustering for ordinal responses. ([Nai Ruscone, M.](#)) [Organizer/Chair: Roberto Rocci]
- 2025 7th Joint Statistical Meeting of the Deutsche Arbeitsgemeinschaft Statistik (DAGStat 2025) - Berlin (Germany), 24-28 March 2025 - Mixture-based clustering for ordinal responses. ([Nai Ruscone, M.](#), [Fernández, D.](#), [McMillan, L.](#)) [Organizer: Gero Szepannek; Chair: Gero Szepannek]
- 2025 Research Seminars - Trinity College Dublin - Dublin (Ireland), 7 February 2025 - Row mixture-based clustering with covariates for ordinal responses. ([Nai Ruscone, M.](#)) [Organizer/Chair: James Ng]
- 2025 Research Seminars - Maynooth University, Department of Mathematics and Statistics - Dublin (Ireland), 5 February 2025 - Mixture-based clustering with covariates for ordinal responses. ([Nai Ruscone, M.](#)) [Organizer/Chair: Keefe Murphy]
- 2024 18th International Joint Conference of CFE-CMStatistics. Computational and Methodological Statistics (CMStatistics 2024) - London (UK), 14-16 December 2024 - Mixture-based clustering with covariates for ordinal responses. ([Nai Ruscone, M.](#), [Fernández, D.](#), [Preedalikit, K.](#), [McMillan, L.](#), [Liu, I.](#), [Costilla, R.](#)) [Organizer: Monia Ranalli; Chair: Maria Brigida Ferraro]
- 2024 Working group of the German classification society GfKI (AG DANK 2024) - Ostbayerische Technische Hochschule, OTH Regensburg Fakultät Informatik und Mathematik - Regensburg (Germany), November 8-9 2024 - Robustness methods for modelling paired count data. ([Nai Ruscone, M.](#)) [Organizer/Chair: Gero Szepannek]
- 2024 SIS 2024, The 52nd Scientific Meeting of the Italian Statistical Society - Bari (Italy), 17 - 20 June 2024 - Non-metric unfolding via copula. ([Nai Ruscone, M.](#), [A. D'Ambrosio](#)) [Organizer/Chair: Alessandro Albano]
- 2024 Workshop on data analysis and Statistical Modeling - University of Sannio - Benevento (Italy), 5 - 7 February 2024 - One-dimensional mixture-based clustering for ordinal responses. ([Nai Ruscone, M.](#)) [Organizer/Chair: Marco Riani]
- 2023 16th International Conference of the ERCIM (European Research Consortium for Informatics and Mathematics) on Computational and Methodological Statistics (CM-Statistics 2023) - Berlin (Germany), 16-18 December 2023 - Clustering categorical and mixed-type data. ([Nai Ruscone, M.](#), [Fernández, D.](#), [Preedalikit, K.](#), [McMillan, L.](#), [Liu, I.](#), [Costilla, R.](#)) [Organizer: Cristina Tortora; Chair: Cristina Tortora]
- 2023 Research Seminars - Hochschule Stralsund, University of Applied Sciences - Stralsund (Germany), 24 November 2023 - Model-based clustering with the packages mclust - teigen - mixsmsn. ([Nai Ruscone, M.](#)) [Organizer/Chair: Gero Szepannek]
- 2023 Working group of the German classification society GfKI (AG DANK 2023)- FOM Hochschule, Studienzentrum Frankfurt - Frankfurt (Germany), November 3-4 2023 - One-dimensional mixture-based clustering for ordinal responses. ([Nai Ruscone, M.](#), [Fernández, D.](#), [Preedalikit, K.](#), [McMillan, L.](#), [Liu, I.](#), [Costilla, R.](#)) [Organizer/Chair: Gero Szepannek]

- 2023 The ASA (Association for Applied Statistics), Statistics, Technology and Data Science for Economic and Social Development - Bologna (Italy), September 6-8 2023 - A different perspective of the judges of Paris through rank aggregation. (Nai Ruscone, M., D'Ambrosio, A.) [Organizer: A. Piscitelli; Chair: A. Piscitelli]
- 2023 IES 2023, Statistical Methods. for evaluation and Quality: Techniques, Technologies and Trends - Pescara (Italy), August 30 -September 1 2023 - Concordance measure for rankings. (Nai Ruscone, M., Bissiri, P.) [Organizer: D. Vistocco, P. Coretto; Chair: M. Niglio; Discussant: C. Davino]
- 2022 COMPSTAT 2022 (24th International Conference on Computational Statistics) - Bologna (Italy), 23 - 22 August 2021 - Copula-based non-metric unfolding. (Nai Ruscone, M., D'Ambrosio, A., Fernández Martinez, D.) [Organizer: Francesca Marta Lilia Di Lascio; Chair: Francesca Marta Lilia Di Lascio]
- 2022 IES 2022, Conference Program Innovation & Society 5.0: Statistical and Economic methodologies for Quality assessment - Capua (Italy), 27-28 January 2022 - Conditional copula: a financial application. (Nai Ruscone, M., De Luca, G.) [Organizer: A. D'Ambrosio; Chair: A. D'Ambrosio]
- 2020 13th International Conference of the ERCIM (European Research Consortium for Informatics and Mathematics) on Computational and Methodological Statistics (CMStatistics 2020) - London (UK), 19-21 December 2020 - Non-metric unfolding on augmented data matrix: a copula approach. (Nai Ruscone, M., D'Ambrosio, A.) [Organizer: Monia Ranalli; Chair: Monia Ranalli]
- 2020 13th International Conference of the ERCIM (European Research Consortium for Informatics and Mathematics) on Computational and Methodological Statistics (CMStatistics 2020) - London (UK), 19-21 December 2020 - Clustering via copula-based dissimilarity measures. (Bissiri, P. G., Nai Ruscone, M.) [Organizer: Francesca Marta Lilia Di Lascio, Marta Nai Ruscone; Chair: Marta Nai Ruscone]
- 2019 12th International Conference of the ERCIM (European Research Consortium for Informatics and Mathematics) on Computational and Methodological Statistics (CMStatistics 2019) - London (UK), 14-16 December 2019 - Studying the influence of economic sectors on stocks through a partial dependence analysis. (De Luca, G., Nai Ruscone, M., Riveccio, G.) [Organizer: Carmela Capelli, Marcella Miglio; Chair: Carmela Capelli]
- 2019 12th International Conference of the ERCIM (European Research Consortium for Informatics and Mathematics) on Computational and Methodological Statistics (CMStatistics 2019) - London (UK), 14-16 December 2019 - Dissimilarity measure for ranking data via copula. (Osmetti, S. A., Bonanomi, A., Nai Ruscone, M.) [Organizer/Chair: Rosaria Simone]
- 2020 ISM Mathematical Statistics - University of Genova, Mathematical Statistics and Data Management - Sestri Levante (Italy), 27 - 28 January 2020 - Model-based clustering through copulas. (Nai Ruscone, M.) [Organizer/Chair: Eva Riccomagno]
- 2019 Research Seminars - University of Cagliari, Department of Economic and Business Sciences - Cagliari (Italy), 29 November 2019 - Model-based clustering through copulas. (Nai Ruscone, M.) [Organizer/Chair: Massimo Cannas]

- 2019 Statistics5@Aegina - Athens (Greece), 6-8 September 2019 - Copula-based non-metric unfolding on augmented data matrix. (Nai Ruscone, M., D'Ambrosio, A.) [Organizer/Chair: Dimitris Karlis]
- 2019 SimStat2019 (10th International Workshop on Simulation and Statistics) - Salzburg (Austria), 1-7 September 2019 - Clustering ranking data via copulas. (Nai Ruscone, M.) [Organizer/Chair: Wolfgang Trutschnig]
- 2019 IFCS (16th Conference of the International Federation of Classification Societies) - Thessaloniki (Greece), 26-29 August 2019 - Clustering ranked data using copulas. (Nai Ruscone, M.) [Organizer/Chair: Cristina Tortora]
- 2019 CRoNoS & MDA 2019 - Limassol (Cyprus), 14-16 April 2019 - Clustering ranking data via copulas. (Nai Ruscone, M.) [Organizer: Marta Nai Ruscone, Daniel Fernandez Martinez; Chair: Marta Nai Ruscone]
- 2019 Research Seminars - AUEB Athens University of Economics and Business, Department of Statistics - Athens (Greece), 28 March 2019 - Clustering ranking data via copulas. (Nai Ruscone, M.) [Organizer/Chair: Ioannis Ntzoufras]
- 2019 DAGStat 2019 (the fifth conference of the Deutsche Arbeitsgemeinschaft Statistik) - Munich (Germany), 18-22 March 2019 - Model-based clustering with R-vine copulas. (Nai Ruscone, M.) [Organizer: Adalbert Wilhelm; Chair: Christian Hennig]
- 2018 11th International Conference of the ERCIM (European Research Consortium for Informatics and Mathematics) on Computational and Methodological Statistics (CMStatistics 2018) - Pisa (Italy), 14-16 December 2018 - Model-based clustering of high dimensional data using copulas. (Nai Ruscone, M.) [Organizer/Chair: Francesca Marta Lilia Di Lascio]
- 2018 CMA2018 Clustering methods and their applications - Free University of Bozen, Faculty of Economics and Management - Bozen (Italy), 26 October 2018 - Model-based clustering with R-vine copulas. (Nai Ruscone, M.) [Organizer/Chair: Francesca Marta Lilia Di Lascio]
- 2018 ASMOD 2018 Advanced in Statistical Modelling of Ordinal Data - University of Naples Federico II, Department of Political Sciences - Naples (Italy), 24-26 October 2018 - Dissimilarity measure for ranking data via mixture of copulae. (Bonanomi A., Nai Ruscone M., Osmetti S.A.) [Organizer/Chair: Domenico Piccolo]
- 2018 Research Seminars - Sapienza University of Rome, Department of Methods and Models for Economics Territory and Finance MEMOTEF - Rome (Italy), 7 May 2018 - Model-based clustering with R-vine. (Nai Ruscone, M.) [Organizer/Chair: Brunero Liseo]
- 2018 Working Group of Statistical Learning - University College of Dublin, Department of Economics and Business - Dublin (Ireland), 5 April 2018 - Model-based clustering with R-vine. (Nai Ruscone, M.) [Organizer/Chair: Thomas Brendan Murphy]
- 2018 Research Seminars - University of Catania, Department of Economics and Business - Catania (Italy), 5 April 2018 - Model-based clustering with R-vine. (Nai Ruscone, M.) [Organizer/Chair: Salvatore Ingrassia]

- 2017 10th International Conference of the ERCIM (European Research Consortium for Informatics and Mathematics) Working Group on Computational and Methodological Statistics (CMStatistics 2017) - London (UK), 16-18 December 2017 - Model based clustering via pair copula and applications. (Nai Ruscone, M.) [Organizer: Salvatore Ingrassia; Chair: Francesca Greselin]
- 2013 SIS 2013 Scientific Meeting of the Italian Statistical Society - Brescia (Italy), 20-21 June 2013 - The Polychoric Ordinal Alpha, measuring the reliability of a set of polytomous ordinal items. (Bonanomi A., Nai Ruscone M., Osmetti S.A.)

Academic training

- Tutorial on Mixture modeling - Catania (IT), September 9-11, 2009 Organizers Prof. Salvatore Ingrassia, Prof. Roberto Rocci. Lecturers:
 - o Christian Hennig, Department of Statistical Science, University College of London, London
 - o Wilfried Seidel, School of Economic and Organizational Sciences, University of the Federal Armed Forces, Hamburg.
- ABS09 - Applied Bayesian Statistics School - Bayesian Methodology for Clustering, Classification and Categorical Data Analysis - Bressanone/Brixen (IT), June 15-18, 2009 Directors of the School Prof. Guido Consonni, Fabrizio Ruggeri. Lecturers:
 - o Dipak K. Dey, Department of Statistics, University of Connecticut, Storrs, CT, USA
 - o Luca La Rocca, Department of Computer Mathematical and Physical Sciences, Università di Modena e Reggio Emilia, Italy.
- SIS School - Theory and practice of sample surveys: probabilistic approach and non-sampling errors, Università Milano Bicocca (IT), July 04-06, 2007. Directors of the School Prof. Giovanna Nicolini, Prof. Monica Pratesi.

Current organizational responsibilities

- May/23-Pres **Member of the Graduate School Committee of the Phd Program in Economics and Quantitative Methods - DOT1311577, Università di Genova, Genova (GE).**
- Apr/22-
Jun/22 **Reviewer of 8 Doctoral Thesis, Phd program in Economics, Statistics and Sustainability XXXIV CICLO, Department of Economics and Legal Studies, University of Naples Parthenope, Naples (NA).**
- Sep/23-Pres **Member of the Committee of the Erasmus+. In charge of the agreement with UVa (Universidad de Valladolid) Valladolid, Spain, University of Genoa, Genova (GE).**
- Sep/23-Pres **Member of the Committee of the Erasmus+. In charge of the agreement with Universite de Lille Lille, France, University of Genoa, Genova (GE).**
- Sep/21-Pres **Member of the Committee of the Erasmus+. In charge of the agreement with AUEB (Athens University of Economics and Business) Athens, Greece, University of Genoa, Genova (GE).**
- a.y.
22/23-Pres **Member of Departmental Orientation Committee, Università di Genova, Genova (GE).**
- Jan/18-
Nov/19 **Member of the Teaching and Research Quality Committee (Presidio della Qualità di Ateneo), LIUC - University Carlo Cattaneo, Castellanza (VA).**

Memberships

- SIS Italian Statistical Society, since 2007
CLADAG CLAssification and Data Analysis Group, since 2009
ASA American Statistical Association, since 2018

Teaching abroad

- a.y. 24/25 **Lecturer of Phd course**, *Model-based clustering (in English)*, Phd in Mathematics, Universidad de Valladolid, Statistics & O.R., Valladolid (Spain).
(mini-course of 8 hours, under the auspicious of the Erasmus+ program)
- a.y. 24/25 **Lecturer of Master course**, *Statistics (in English)*, Master in Data Science, Hochschule Stralsund, University of Applied Sciences, Stralsund (Germany).
(mini-course of 8 hours, under the auspicious of the Erasmus+ program)
- a.y. 22/23 **Lecturer of Summer School**, *Model-based clustering with R (in English)*, PhD in Statistics and Operations Research - XVI Summer School 2022, Facultat de Matemàtiques i Estadística - Universitat Politècnica de Catalunya Barcelonatech, Barcelona (Spain).
(mini-course of 15 hours)
- a.y. 21/22 **Lecturer of Summer School**, *Introduction to Cluster Analysis with R (in English)*, PhD in Statistics and Operations Research - XV Summer School 2022, Facultat de Matemàtiques i Estadística - Universitat Politècnica de Catalunya Barcelonatech, Barcelona (Spain).
(mini-course of 15 hours)
- a.y. 18/19 **Lecturer of phd course**, *Model-based Clustering (in English)*, Phd in Statistics, AUEB - Athens University of Economics and Business, Athens (Greece).
(mini-course of 18 hours, under the auspicious of the Erasmus+ program)

Computer skills

- Basic JAVA
Intermediate SQL, HTML, Office, Linux
Advanced R, MATLAB, C, Eviews, SPSS, SAS, Stata, MlwiN, L^AT_EX

Languages

- Italian **Mothertongue**
English **Proficiency**
German **Intermediate**

References

References are available upon request.

The information contained in this CV has been provided under art. 46 -47 and 76 D.P.R. 445/2000