

CV of Rosanna Verde

Born in Naples (Italy) the 10th of April 1966
Italian Citizen

Professional Address: Department of Mathematics and Physics
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Actual position: Full Professor of Statistics (since 2005), actually, at the Department of Mathematics and Physics, University of Campania "Luigi Vanvitelli" (ex Second University of Naples SUN).

Associate member of the *equipe "Apprentissage Artificiel et Applications"* du LIPN Laboratory of Informatics of the Université Paris 13 – Institut Galilée, France (since 2018).

Previous positions:

1998-2005 Associate Professor of Statistics at the Faculty of Economics – Second University of Naples.

1995-1998 Researcher of Statistics at the Faculty of Economics - University of Naples *Federico II*

Training: 1989 - Diploma in Economics; 1993 - Ph.D in Computational Statistics at University of Naples *Federico II*. 1996 - Research fellow at INRIA-Rocquencourt (France)

Since 1999 - Member of the Doctorate School of Statistics - University of Naples *Federico II*.

2009-2012 Director of the Department of European and Mediterranean Studies of the Second University of Naples.

Member of the following Scientific Societies: International Statistical Institute (ISI), the International Association Statistical Computing (IASC), "Società Italiana di Statistica" (SIS) and "Société Francophone de Classification" (SFC).

Position in academic organizations:

2018-2020 Vice-coordinator of the Group of the Italian Statistical Society *Statistical and Data Science*

2014-2018 Member of the board of the Italian Statistical Society

2002-2004 Member of the Financial Committee board of the IFCS

2004-2010 Vice-President of the *Société Francophone de Classification*

Since 2003 Deputy President of the Research Center of *Complex Data Analysis* of the University of Beihang (Beijing, China)

2018- Member of the Scientific Committee of the IDNEUF of the AUF (Agence Universitaire de la Francophonie)

Research projects:

Scientific Responsible for the Second University of Naples and member of the Managing Committee of the project on the University Regional System (Osservatorio Regionale del Sistema Universitario Campano) – "POR Campania FESR 2007-2013"

Scientific Responsible for the Second University of Naples and member of the Managing Committee of the project on RiCart "Innovation Network for the artistic manufactory in the Campania Region" – "POR Campania FESR 2007-2013" (2015-2016)

Responsible for the Second University of Naples and **member of the Scientific Committee** of the project REPOS – Network of Excellence – "Networks, Public policies and development" Regional Administration grant "POR Campania FSE 2007 -2013".

Coordinator of National Projects of Research (granted by Italian Ministry of the Research and National Research Council) on Complex space-time modeling and functional analysis for probabilistic forecast of seismic events PRIN2015;

On new techniques for numerical conceptual classification of complex data (PRIN1999/2000; PRIN2000/2001; PRIN2001/2002; PRIN2004/2005; Agenzia 2000 CNR Project 2000).

Participation to European Projects:

- COST - action IC0702 "Combining Soft Computing Techniques and Statistical Methods to Improve Data Analysis Solutions" (2008-2011)
- ASSO - Analysis System of Symbolic Official data (IST R&D – IV FP 2000-2003)
- SODAS - Symbolic Official Data Analysis System (IST R&D – V FP - 1996-1999)
- *ALFA - Laboratorio Analisis Multidimensional de DATos* – European and Latin American scientific cooperation programme (1998-2000)
- Joint project with Beihang University, *The Statistical Modeling Methods of Massive High Dimensional Mixed Data and its Application* Grant: National Natural Science Foundation of China (2015-2019).

Main research fields of interest:

- Multivariate Data Analysis,
- Symbolic Data Analysis,
- Knowledge extractions from complex data,
- Clustering and Classification,
- Data Mining,
- Data Stream Analysis,
- Functional Data Analysis.

Visiting professor at:

EUROLAB – Zentral-Archiv of the Univ. of Cologne, (Germany) in the framework of the TMR European Programme (2000);
INRIA-Rocquencort (France) in the frame of a continuing collaboration of research (since 1996);
CIN of the UFPE (Federal Univ. of Pernambuco) at Recife (Pernabuco, Brazil) (2000; 2002);
BAAU - Beihang Univ. (Beijing, Chine) (2003, 2011);
Université de *Notre Dame de la Paix*, Namur, Belgium (2006) ;
Université Paris 13 Nord, Francia (2015; 2016; 2017)

Member of PhD and evaluation committees (at foreign Universities)

- Final Dissertation Examining Committee : PhD in « Informatique » – U.F.R. Mathématique de la Decision – Université Paris IX Dauphine, France (2000 ; 2016)
- Final Dissertation Examining Committee: PhD in Machine Learning – Université Lyon 2, France (2014)
- Final Dissertation Examining Committee: PhD in Informatique – Université de Montpellier, France (2017)
- Qualification Committee Research Director (HDR), Université d’Orleans, France (2015)
- Qualification Committee Research Director (HDR), Université CADI AYYAD, Marrakesh (2017)

Scientific Program Committees member:

Chair of the Scientific Committee of the meeting of the Italian Statistical Society, Florence, 28-30 June, 2017.

Co-chair of the IASC ISI 2015 Word Conference (Rio de Janeiro) Scientific Program Committee, 2015.

Chair and Organizer of

- Workshop on High Dimensional Data Mining, Naples, 7 June 2016.

- First EUROPEAN WORKSHOP ON DATASTREAM ANALYSIS, Belvedere di S. Leucio, Caserta, March, 14-16, 2007

Organizer of

- Joint Meeting of the SFC-CLADAG 2008, Caserta, June 2008
- advanced course on Knowledge Extraction by Interval Data Analysis, Belvedere di San Leucio, Caserta, November, 27-29, 2006

Member of Scientific Program Committee of many international conferences (EGC2009--2014, SIS2010, CLADAG2008, CSCS20-2015, SDLS2015,)

Reviewer and editorial activities:

Associate Editor of the International Journal “Statistical Methods and Application”, Springer.

Member, co-founder, **Managing editor** of the Journal of Symbolic Data Analysis (www.jsda.unina2.it) (2001-2006)

Co-editor of the Revue MODULAD (Electronic Journal) <http://www.modulad.fr/>

Member of the scientific board of the Rivista di Statistica Applicata (1992-2001) and actually, member of the Association for the Applied Statistics Journal.

Co-editor of the Volume (2011) “Classification and Multivariate Analysis for Complex Data Structures. Studies in Classification, Data Analysis, and Knowledge Organization. Fichtel B., Piccolo, D., Verde, R. Vichi, M. (Eds). Springer Berlin Heidelberg. ISBN/ISSN: 978-3-642-13311-4

Gest Editor of the Special Issue about Functional Data Analysis of the Springer International Journal “Advances in Data Analysis and Classification” – Volume n.1 - 2015

Reviewer for several International **Conferences** proceedings (SIS, CLADAG, IFCS, EGC, IEEE Transaction & Cybernetics) and **Journals** (Statistica Applicata, CSDA-Computational Statistics and Data Analysis, Journal of Classification, Pattern Recognition, KAIS-Knowledge and Information Systems, ADAC-Advances in Data Analysis and Classification)

Invited speaker to International Conference

- IFCS2004 – July 2004 - Chicago, USA
- AAFD & SFC 2016 – May 2016 – Marrakesh
- JOCLAD2017 – April 2017 – Porto (Portugal)

Organiser of Invited Paper Session at ISI2015, Rio de Janeiro (Br) and ISI2017, Marrakesh

Author of more than 120 scientific publications, among articles on Journals, chapters of books, contributions in proceedings of international conferences.

Main publications in the last 5 years

In Journal

1. IRPINO Antonio, VERDE Rosanna, DE CARVALHO Francisco de A.T. (2017). Fuzzy clustering of distributional data with automatic weighting of variable components. *INFORMATION SCIENCES*, vol. 406-407, p. 248-268, ISSN: 0020-0255, doi: 10.1016/j.ins.2017.04.040
2. Romano E., Balzanella A., Verde R., (2016) Spatial variability clustering for spatially dependent functional data, *STATISTICS AND COMPUTING*, 27 (3), 645-658
3. Verde R, Irpino A., Balzanella A. (2016). Dimension Reduction Techniques for Distributional Symbolic Data. *IEEE TRANSACTIONS ON CYBERNETICS*, vol. 46, p. 344-355, ISSN: 2168-2267, doi: 10.1109/TCYB.2015.2389653
4. Balzanella Antonio, Romano Elvira, Verde Rosanna (2017). Modified half-region depth for spatially dependent functional data. *STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT*, Vol. 31, Issue 1, pp 87–103, ISSN: 1436-3240, doi: 10.1007/s00477-016-1291-x
5. Irpino A, Verde R (2015). Basic statistics for distributional symbolic variables: a new metric-based approach. *ADVANCES IN DATA ANALYSIS AND CLASSIFICATION*, vol. 9, p. 143-175, ISSN: 1862-5347, doi: 10.1007/s11634-014-0176-4
6. Irpino A., Verde R (2015). Linear regression for numeric symbolic variables: a least squares approach based on Wasserstein Distance. *ADVANCES IN DATA ANALYSIS AND CLASSIFICATION*, vol. 9, p. 81-106, ISSN: 1862-5347
7. Verde R, Irpino A., Balzanella A. (2014). Clustering quantified ordinal data distributions. *QdS - Journal of Methodological and Applied Statistics*, vol. 15, ISSN: 1594-3739
8. Irpino A., Verde R., De Carvalho F.T. de A. (2014). Dynamic clustering of histogram data based on adaptive squared Wasserstein distances. *Expert Systems with Applications*. vol. 41, 7, June 2014, pp. 3351–3366. Elsevier. <http://dx.doi.org/10.1016/j.eswa.2013.12.001>
9. Guarracino M.R., Irpino A, Jasinevicius R., Verde R. (2013). Fuzzy regularized generalized eigenvalue classifier with a novel membership function. *Information Sciences*, vol. 245, p. 53-62, ISSN: 0020-0255
10. Verde R, Irpino A (2013). Multiple Linear Regression for Histogram Data using Least Squares of Quantile Functions: a Two-components model. *REVUE DES NOUVELLES TECHNOLOGIES DE L'INFORMATION*, vol. RNTI-E-25, p. 78-93, ISSN: 1764-166
11. Guarracino M.R., Irpino A., Radziukyniene N., Verde R. (2012). Supervised Classification of Distributed Data Streams for Smart Grids. *ENERGY SYSTEMS*, vol. 3, p. 95-108, ISSN: 1868-3967, doi: 10.1007/s12667-012-0049-x

In Proceeding, Chapters of books, contributed in volumes

1. Romano E, Verde R (2012). Clustering geostatistical functional data. In: *Advanced Statistical Methods for the analysis of large data-sets*. *STUDIES IN THEORETICAL AND APPLIED STATISTICS*, p. 23-32, BERLIN:Springer, ISBN: 978-3-642-21036-5
2. De Carvalho F., Irpino A., Verde R. (2012) Batch self organizing maps for interval and histogram data. In: *Proceedings of COMPSTAT 2012*. Colubi A., Fokianos K., Gonzalez-Rodriguez G., Kontoghiorghes E. (Eds), Cyprus, ISBN 978-90-73592-32-2
3. Balzanella A, Verde R (2013). Clustering and change detection of multiple streaming time series. In: (a cura di) Kolodziej, J.; Di Martino, B.; Talia, D.; Xiong, K., *Algorithms and Architectures for Parallel Processing*. *Lecture Notes in Computer Science*, Vol. 8285, pp. 1-14 Springer ISBN 978-3-319-03858-2.

4. Romano E, Balzanella A, Verde R (2013). A regionalization method for spatial functional data based on variogram models: an application on environmental data. In: (a cura di): Torelli, Nicola; Pesarin, Fortunato; Bar-Hen, Avner, *Advances in Theoretical and Applied Statistics. Studies in Theoretical and Applied Statistics*. p. 99-108, Springer-Verlag. ISBN: 978-3-642-35587-5, doi: 10.1007/978-3-642-35588-2_10
5. Balzanella A, Lechevallier Y, Verde R (2013). Clustering data streams by on-line proximity updating. In: (a cura di): Giusti, Antonio; Ritter, Gunter; Vichi, Maurizio, *Classification and Data Mining*. Heidelberg Dordrecht London New York: Springer-Verlag, ISBN: 978-3-642-28893-7
6. Balzanella A, Rivoli L, Verde R (2013). Data stream summarization by histograms clustering. In: Giudici, P., Ingrassia S., Vichi M., *Statistical Models for Data Analysis*. p. 27-35, Springer International Publishing Switzerland, ISBN: 978-3-319-00031-2, doi: 10.1007/978-3-319-00032-9_4
7. Balzanella A, Verde R (2013). Summarizing and detecting structural drift from multiple data streams. In: Giusti, Antonio; Ritter, Gunter; Vichi, Maurizio, *Classification and Data Mining*. Heidelberg Dordrecht London New York:Springer-Verlag Berlin Heidelberg, ISBN: 978-3-642-28893-7
8. Irpino A, Verde R. (2013). A Metric Based Approach for the Least Square Regression of Multivariate Modal Symbolic Data. In: (a cura di): Paolo Giudici, Salvatore Ingrassia, Maurizio Vichi, *Statistical Models for Data Analysis. Studies in Classification, data analysis, and knowledge organization*, p. 161-169, Berlin: Springer, ISSN: 1431-8814, doi: 10.1007/978-3-319-00032-9_19
9. Irpino A, Guarracino MR, Verde R (2013). Classification of Data Chunks Using Proximal Vector Machines and Singular Value Decomposition. In: (a cura di): Antonio Giusti, Gunter Ritter, Maurizio Vichi, *Classification and Data Mining. Studies in Classification, Data Analysis, and Knowledge organization*, p. 55-62, Berlin:Springer, ISBN: 978-3-642-28893-7, ISSN: 1431-881
10. M.B. Ferraro, A. Irpino, R. Verde, and M.R. Guarracino (2013). A Novel Feature Selection Method for Classification Using a Fuzzy Criterion G. Nicosia and P. Pardalos (Eds.): LION 7, *Lecture Notes in Computer Science 7997*, pp. 455--467, 2013.
11. Verde R, IRPINO A, Rivoli L (2014). A Box-Plot and Outliers Detection Proposal for Histogram Data: New Tools for Data Stream Analysis. In: (a cura di): Donatella Vicari, Akinori Okada, Giancarlo Ragozini, Claus Weihs , *Analysis and Modeling of Complex Data in Behavioral and Social Sciences. STUDIES IN CLASSIFICATION, DATA ANALYSIS, AND KNOWLEDGE ORGANIZATION*, p. 283-291, BERLIN:Springer International, ISBN: 978-3-319-06691-2, ISSN: 1431-8814, doi: 10.1007/978-3-319-06692-9_30
12. Verde R, Diday E (2014). Symbolic Data Analysis: A Factorial Approach Based on Fuzzy Coded Data. In: (a cura di): Blasius J., Greenacre M., *Visualization and Verbalization of Data*. p. 254-268, LONDON:Chapmann & Hall, ISBN: 978-1-46-658980-3
13. Cabanes G., Bennani Y., Verde R., Irpino A. (2015), «A Topological Clustering Method for Histogram Data», *Proceeding of the 5th Workshop on Symbolic Data Analysis, (SDA'15)*, Orléans, France, 17-19 November 2015.
14. Cabanes G., Bennani Y., Irpino A., Verde R. (2016), «A two-level clustering for histogram data», in *H2DM'16: International Workshop on High Dimensional Data Mining 2016*, 7 Jun 2016 Naples, Italy.
15. Cabanes G., Bennani Y., Irpino A., Verde R. (2017), «Clustering of histogram data; a topological learning approach», in *Proceedings of the Conference of the Italian Statistical Society “Statistics and Data Science: new challenges, new generations”*, Eds: R. Verde, A. Petrucci, Firenze University Press, pp. 219-226. ISBN: 978-88-6453-521-0 (on line).
16. Balzanella A., Gattore A.S., Di Battista T., Romano E., Verde R. (2017), «Monitoring the spatial correlation among functional data stream through Moran’s Index », in *Proceedings of the Conference of the Italian Statistical Society “Statistics and Data Science: new challenges, new generations”*, Eds: R. Verde, A. Petrucci, Firenze University Press, pp. 103-108. ISBN: 978-88-6453-521-0 (on line).
17. Antonio I., Francisco de A. T. de Carvalho, Verde R. (2017), «Automatic variable and components weighting system for Fuzzy cmeans of distributional data», in *Proceedings of the Conference of the Italian Statistical Society “Statistics and Data Science: new challenges, new generations”*, Eds: R. Verde, A. Petrucci, Firenze University Press, pp. 549-552. ISBN: 978-88-6453-521-0 (on line).

Naples, 7/09/2017

Signature:

