CV *of Rosanna Verde*

Born in Naples (Italy) the 10th of April 1966
Italian Citizien
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Actual position: Full Professor of Statistics at the Department of Political Sciences of the Second University of Naples (SUN) (since 2005).

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

Position in academic organizations:

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)

Since 2014 Member of the board of the Italian Statistical Society

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"

- **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 new techniques for numerical conceptual classification of complex data (PRIN1999/2000; PRIN2000/2001; PRIN2001/2002; PRIN2004/2005; Agenzia2000 CNR Prject 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)

Main research fields of interest:
- Multivariate Data Analysis,
- Symbolic Data Analysis,
- Clustering and Classification,
- Distributional Data Analysis
- 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 Pernabuco) at Recife (Pernabuco, Brazil) (2000; 2002); BAAU - Beihang Univ. (Beijing, Chine) (2003, 2011); Université de *Notre Dame de la Paix*, Namur, Belgium (2006), LIPN – Université Paris 13, France (2015)

Scientific Program Committees member:

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

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

Chair and Organizer of the First EUROPEAN WORKSHOP ON DATASTREAM ANALYSIS, Belvedere di S. Leucio, Caserta, March, 14-16, 2007

Chair of the Organizing Committee of SFC-CLADAG 2008, Caserta, June 2008

Organizer of an advanced course on Knowledge Extraction by Interval Data Analysis, Belvedere di San Leucio, Caserta, November, 27-29, 2006

Reviewer and editorial activities:
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. Fichet 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** proccedings (SIS, CLADAG, IFCS, EGC, IEEE Transaction & Cybernatics) and **Journals** (Statistica Applicata, CSDA-Computational Statistics and Data Analysis, Journal of Classification, Pattern Recognition, ADAC-Advances in Data Analysis and Classification)

Author of more than 100 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 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
2. Verde R, Irpino A., Balzanella A. (2015). Dimension Reduction Techniques for Distributional Symbolic Data. *IEEE TRANSACTIONS ON CYBERNETICS*, vol. PP, ISSN: 2168-2267, doi: 10.1109/TCYB.2015.2389653
3. 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, doi: 10.1007/s11634-015-0197-7
4. Verde R, Irpino A., Balzanella A. (2014). Clustering quantified ordinal data distributions. *QUADERNI DI STATISTICA*, vol. 15, ISSN: 1594-3739
5. 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
6. 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
7. 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: 1764-1667
8. 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
9. Verde R., Irpino A. (2009). New statistics for new data: a proposal for comparing multivalued numerical data. Statistica Applicata, p. 185-206, ISSN: 1125-1964

In Proceeding, Chapters of books, contributed in volumes

1. Irpino, A., Guarracino, M.R., Verde, R. (2010) Multiclass generalized eigenvalue proximal support vector machines. In: Complex, Intelligent and Software Intensive Systems (CISIS 2010), pp. 25–32. IEEE Comput. Soc., Los Alamitos
2. Irpino A, Verde R. (2010). Clustering linear models using Wasserstein distance. In: *Data Analysis and Classification*: Proceedings of the 6th Conference of the Classification and Data Analysis Group of the Società Italiana di Statistica. Series: Studies in Classification, Data Analysis, and Knowledge Organization. Palumbo, F., Lauro, N.C, Greenacre, M. (Eds.). ISBN: 978-3-642-03738-2
3. Balzanella A., Romano E., Verde R., (2010) Outliers detection for a robust curve clustering algorithm. In *Data Analysis and Classification*: Proceedings of the 6th Conference of the Classification and Data Analysis Group of the Società Italiana di Statistica. Series: Studies in Classification, Data Analysis, and Knowledge Organization. Palumbo, F., Lauro, N.C., Greenacre, M. (Eds.). ISBN: 978-3-642-03738-2
4. Romano E., Balzanella A., Verde R. (2010). Clustering Spatio-functional data: a model based approach. In: *Classification as a Tool for Research*. vol. 1, p. 167-176, Locarek-Junge, Hermann, Weihs, Claus Eds. ISBN/ISSN: 978-3-642-10744-3
5. Balzanella A., Irpino A., Verde R. (2010). Dimensionality reduction techniques for streaming time series: a new symbolic approach. In: Classification *as a Tool for Research*; vol. 1, p. 381-390, Locarek-Junge, Hermann, Weihs, Claus Eds. ISBN/ISSN: 978-3-642-10744-3
6. Balzanella A., Romano E., Verde R. (2011). Summarizing and mining data stream via a functional data approach. In: Fichet, B., Piccolo, D., Verde, R., Vichi, M.. Classification and Multivariate Analysis for Complex Data Structures. p. 409-416, Springer, ISBN/ISSN: 978-3-642-13311-4.
7. Balzanella A., Lechevallier Y, Verde R. (2011). Clustering multiple data streams. In: New Perspectives in Statistical Modeling and Data Analysis. Ingrassia, Salvatore; Rocci, Roberto; Vichi, Maurizio (Eds.). ISBN: 978-3-642-11362-8. Springer, Berlin-Heidelberg-New York
8. Romano E., Verde R., Cozza V. (2011) Clustering Spatial Functional Data A Method Based on a non parametric variogram estimation. In: New Perspectives in Statistical Modeling and Data Analysis.

Ingrassia, S.; Rocci, R.; Vichi, M. (Eds.). ISBN: 978-3-642-11362-8. Springer, Berlin-Heidelberg, New York.

9. 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

10. 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

11. 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.

12. 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

13. 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

14. 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

15. 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

16. 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

17. 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

18. 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.

19. 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): 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. 283-291, Springer, ISBN: 978-3-319-06692-9, ISSN: 1431-8814, doi: 10.1007/978-3-319-06692-9_30

20. 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

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