



Europass
Curriculum Vitae

Personal information

First name(s) / Surname(s)
Address(es)

Elvira Romano

Department of Mathematics and Physics, Università della Campania "Luigi Vanvitelli",
Viale Lincoln, 5, 81100 Caserta, Italy.

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0823275223

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elvira.romano@unicampania.it

Nationality

Italian

Date of birth

February 9, 1979

Current Position

Dec. 2020-present

Associate Professor

Dept. of Mathematics and Physics, Università della Campania "Luigi Vanvitelli", (Italy).

Nov. 2008-Dec.2020

Assistant Professor (Ricercatore universitario, SECS-S/01)

Dept. of Mathematics and Physics, Università della Campania "Luigi Vanvitelli", (Italy).

May 2019-May2020

Affiliate scientist at the Euro-Mediterranean Centre on Climate Change (CMCC)

National Professional Qualifications

Dic.2023

National Academic Qualification as Full Professor of Statistics

Mar. 2017

National Academic Qualification as Associate Professor of Statistics

(Abilitazione scientifica nazionale alla funzione di professore universitario di II fascia per il settore concorsuale 13/D1 Statistica D.D. 1532/2016)

Education

Nov. 2003 - Jan. 2007

PhD in Statistics, Dipartimento di Matematica e Statistica, Università degli Studi di Napoli "Federico II", Napoli, Italy.

Thesis Title "Dynamic Curve Clustering with free knots spline estimation".

Supervisor: Prof. Rosanna Verde.

Sept. 1998 – Nov. 2002

Laurea in Mathematics, Università degli Studi di Roma "La Sapienza".

Thesis Title: "Analisi dei dati a tre vie: un confronto tra metodi".

Supervisor: Prof. Sergio Camiz.

Research Interests

Functional Data Analysis

High-dimensional Data Analysis

Geostatistics

Supervised and Unsupervised Classification

Data Stream Analysis

**Visiting and
Periods Abroad**

13 Mar. 2014 -25 Mar.2014

Visiting researcher and Professor University Jaume I, Castellon, Spain.

10 Oct.2013-30 Oct. 2013

Visiting researcher and Professor University Jaume I, Castellon, Spain.

26 Sept.-31 Oct.2011

Visiting researcher grant (MTM2010-1496) of Department of Mathematics, Campus Riu Sec, Universitat Jaume I, Castellon de la Plana, Spain.

Apr./Nov. 2010

Short term visiting researcher of Department of di Matematics , Campus Riu Sec, Universitat Jaume I, Castellon de la Plana, Spain.

Nov.2005-Jan.2006

Visiting researcher of Project-team AXIS : Usage-centered design, analysis and improvement of information systems, "Institut National de Recherche en Informatique", INRIA Rocquencourt Francia.

Journal Articles

1. DIANA, A., ROMANO, E., IRPINO, A. (2023) Distribution free prediction for geographically weighted functional regression models, SPATIAL STATISTICS, VOL. 57, DOI:10.1016/j.spasta.2023.100765.
2. ROMANO E., GIRALDO R., MATEU J., DIANA A. (2022). High leverage detection in general functional regression models with spatially correlated errors. APPLIED STOCHASTIC MODELS IN BUSINESS AND INDUSTRY, VOL. 38, P. 169- 181, ISSN: 1524-1904, DOI: 10.1002/ASMB.2654
3. GONZÁLEZ JONATAN A., RODRÍGUEZ-CORTÉS FRANCISCO J., ROMANO ELVIRA, MATEU JORGE (2021). Classification of Events Using Local Pair Correlation Functions for Spatial Point Patterns. JOURNAL OF AGRICULTURAL BIOLOGICAL AND ENVIRONMENTAL STATISTICS, VOL. 26, P. 538-559, ISSN: 1085-7117, DOI: 10.1007/S13253-021-00455-1.
4. VILLANI V., ROMANO E., BARBATO G., MERCOGLIANO P. (2021). Selecting and correcting RCM models ensemble: a case study for the evaluation of thermal discomfort for the city of Prato. NATURAL HAZARDS, VOL. 107, P. 1541-1557, ISSN: 0921-030X, DOI: 10.1007/S11069-021-04645-5
5. ROMANO, ELVIRA, DIANA, ANDREA, MILLER, CLAIRE, O'DONNELL, RUTH (2020). Optimally weighted L2 distances for spatially dependent functional data. SPATIAL STATISTICS, ISSN: 2211-6753, DOI: 10.1016/J.SPASTA.2020.100468
6. ELVIRA ROMANO, JORGE MATEU, OLIVIER BUTZBACH (2020). Heteroskedastic geographically weighted regression model for functional data. SPATIAL STATISTICS, ISSN: 2211-6753, doi: 10.1016/j.spasta.2020.100444
7. BALZANELLA, ANTONIO, ROMANO, ELVIRA, VERDE, ROSANNA (2017). Modified half-region depth for spatially dependent functional data. STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT, vol. 31, p. 87-103, ISSN: 1436-3240, doi: 10.1007/s00477-016-1291-x
8. ROMANO, ELVIRA, BALZANELLA, ANTONIO, VERDE, ROSANNA (2017). Spatial variability clustering for spatially dependent functional data. STATISTICS AND COMPUTING, vol. 27, p. 645-658, ISSN: 0960-3174, doi: 10.1007/s11222-016-9645-2
9. JORGE MATEU, ELVIRA ROMANO (2016). Advances in spatial functional statistics. STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT, ISSN: 1436-3240, doi: 10.1007/s00477-016-1346-z
10. MARIA DOLORES RUÍZ-MEDINA, ROMANO E, ROSAURA FERNÁNDEZ-PASCUAL (2016). Plug-in prediction intervals for a special class of standard ARH(1) processes.

JOURNAL OF MULTIVARIATE ANALYSIS, p. 138-150, ISSN: 0047-259X, doi: 10.1016/j.jmva.2015.09.001

11. IULIAN IVLAD, JORGE MATEU, ELVIRA ROMANO (2015). On some descriptive and predictive methods for the dynamics of cancer growth. *STATISTICA*, vol. 75, p. 247-263, ISSN: 1973-2201
12. ELVIRA ROMANO, JORGE MATEU, RAMON GIRALDO (2015). On the performance of two clustering methods for spatial functional data. *ASTA ADVANCES IN STATISTICAL ANALYSIS*, vol. 99, p. 467-492, ISSN: 1863-8171, doi: 10.1007/s10182-015-0253-9
13. RUIZ MEDINA M.D., ESPEJO R.M., ROMANO E. (2014). Spatial functional normal mixed effect approach for curve classification. *ADVANCES IN DATA ANALYSIS AND CLASSIFICATION*, vol. 8, p. 257-285, ISSN: 1862-5347, doi: 10.1007/s11634-014-0174-6
14. ROMANO E, BALZANELLA A, VERDE R (2007). Knowledge Extraction by Dynamical Clustering of sea waves streaming data.. *LA REVUE MODULAD*, vol. 36, p. 85-90, ISSN: 1769-7387
15. IRPINO A, ROMANO E (2007). Optimal histogram representation of large data sets: Fisher vs piecewise linear approximations. *REVUE DES NOUVELLES TECHNOLOGIES DE L'INFORMATION*, vol. 1, p. 99-110, ISSN: 1764-1667
16. ROMANO E, GIORDANO G, LAURO C.N (2006). An inter model distance for clustering utility function. *STATISTICA APPLICATA*, vol. 18, p. 521-533, ISSN: 1125-196

Book Chapters

1. ELVIRA ROMANO, IRPINO ANTONIO, MATEU JORGE (2021). Spatial functional data analysis for probability density functions: compositional functional data vs distributional data approach. In: Mateu Jorge Ramón Giraldo. *Geostatistical Functional Data Analysis: Theory and Methods*. p. 128-153, Chichester, UK:John Wiley & Sons, ISBN: 978-1-119-38784-8, doi: 10.1002/9781119387916
2. BALZANELLA, E. ROMANO, R. VERDE, F. FORTUNA, F. MATURO, S. A. GATTONE, T. DI BATTISTA (2019). Monitoring the spatial correlation among functional data streams through Moran's Index. In: Alessandra Petrucci Filomena Racioppi Rosanna Verde. *New Statistical Developments in Data Science*. Springer International Publishing, ISBN: 978-3-030-21158-5
3. VERONICA VILLANI, GIULIANA BARBATO, ELVIRA ROMANO, PAOLA MERCOGLIANO (2019). A models selection criterion for evaluation of heat wave hazard: a case study of the city of Prato. In: (a cura di): Giuseppe Arbia Stefano Peluso Alessia Pini Giulia Rivellini, *Smart Statistics for Smart Applications (SIS 2019)*. Pearson, ISBN: 9788891915108, Università Cattolica del sacro cuore Milano, Giugno 2019
4. ROMANO E, IRPINO A, MATEU J (2019). Spatial functional data analysis for probability density functions: compositional functional data vs distributional data approach. In *Geostatistical Functional Data Analysis: Theory and Methods*. Wiley EDS - ISBN:978-1-119-38784-
5. BALZANELLA A, ROMANO E (2015). A depth function for geostatistical functional data. In: Morlini Isabella Minerva Tommaso Vichi Maurizio. *Advances in Statistical models for Data Analysis*. p. 9-16, BERLIN:Springer, ISBN: 978-3-319-17376-4, doi: 10.1007/978-3-319-17377-1_2
6. ROMANO E, BALZANELLA A (2015). On-Line Clustering of functional boxplots for monitoring multiple streaming time series. In: Lausen Berthold Krolak-Schwerdt Sabine Böhmer Matthias. *Data Science, Learning by Latent Structures, and Knowledge Discovery*. p. 113-225, Berlin Heidelberg:Springer-Verlag, ISBN: 978-3-662-44982-0, doi: 10.1007/978-3-662-44983-7_11
7. ROMANO E, BALZANELLA A (2013). A Two-Phase Clustering Based Strategy for Outliers Detection in Georeferenced Curves. In: autori vari. (a cura di): Paolo Giudici Salvatore Ingrassia Maurizio Vichi, *Statistical Models for Data Analysis*. p. 297-304, Springer

International Publishing Switzerland, ISBN: 978-3-319-00031-2, doi: 10.1007/978-3-319-00032-9_34

8. ROMANO E, BALZANELLA A, VERDE R (2013). A regionalization method for spatial functional data based on variogram models: an application on environmental data. In: Autori vari. (a cura di): Torelli Nicola;Pesarin Fortunato;Bar-Hen Avner, Advances in Theoretical and Applied Statistics. p. 99-108, Heidelberg Dordrecht London New York:Springer-Verlag Berlin Heidelberg, ISBN: 978-3-642-35587-5, doi: 10.1007/978-3-642-35588-2_10
9. ROMANO E, MATEU J (2013). Outlier detection for geostatistical functional data: an application to sensor data. In: Autori Vari. (a cura di): Antonio Giusti Gunter Ritter Maurizio Vichi, Classification and Data Mining. p. 131-138, Berlin:Springer Verlag, ISBN: 978-3-642-28893-7, doi: 10.1007/978-3-642-28894-4-16
10. ROMANO E, VERDE R (2012). Clustering geostatistical functional data. In: vari. (a cura di): Agostino Di Ciaccio Mauro Coli Jose Miguel Angulo Ibanez, Advanced Statistical Methods for the Analysis of Large Dataset. vol. XIII, p. 23-31, SPRINGER-VERLAG Berlin Heidelberg, ISBN: 978-3-642-21036-5, doi: 10.1007/978-3-642-21037-2_3
11. ROMANO E., VERDE R, COZZA V (2011). Clustering Spatial Functional Data: A Method Based on a non parametric variogram estimation. In: vari. (a cura di): Ingrassia S.;Rocci R.;Vichi M., New Perspectives in Statistical Modeling and Data Analysis. p. 339-346, ISBN: 978-3-642-11362-8, doi: 10.1007/978-3-642-11363-5_38
12. ROMANO E, MATEU J, GIRALDO R (2011). Clustering spatially correlated functional data. In: Ferraty Frédéric. Recent Advances in Functional Data Analysis and Related Topics Contributions to Statistics. Berlin:Physica-Verlag, ISBN: 978-3-7908-2735-4, doi: 10.1007/978-3-7908-2736-1_43
13. BALZANELLA A., ROMANO E., VERDE R (2011). Summarizing and mining data stream via a functional data approach. In: vari. (a cura di): Fichet B. Piccolo D. Verde R. Vichi M., Classification and Multivariate Analysis for Complex Data Structures. p. 409-416, Berlin:© Springer-Verlag Berlin Heidelberg, ISBN: 978-3-642-13311-4, doi: 10.1007/978-3-642-13312-1_43
14. ROMANO E, BALZANELLA A, VERDE R (2010). Clustering Spatio-functional data: a model based approach. In: vari. (a cura di): Hermann Locarek-Junge · Claus Weihs, Classification as a Tool for Research.. p. 167-175, Springer, ISBN: 978-3-642-10744-3, doi: 10.1007/978-3-642-10745-0_17
15. BALZANELLA A, ROMANO E, VERDE R (2010). Outliers detection for a robust curve clustering algorithm. In: Vari. (a cura di): PALUMBO F. LAURO N.C. GREENACRE M., Data Analysis and Classification. p. 391-398, Berlin:Springer, ISBN: 978-3-642-03738-2, doi: 10.1007/978-3-642-03739-9_44
16. BALZANELLA A, ROMANO E, VERDE R (2010). Outliers detection strategy for a Curve Clustering Algorithm. In: (a cura di): NATALE CARLO LAURO FRANCESCO PALUMBO MICHAEL GREENACRE, Data Analysis and Classification. p. 391-398, Berlin:© Springer-Verlag Berlin Heidelberg, ISBN: 978-3-642-03738-2, doi: 10.1007/978-3-642-03739-9

Research Projects

Since 2002 she has participated to the following research projects:

PRIN Projects

Bando PRIN PNRR 2022 A multidisciplinary approach to evaluate ecosystems resilience under climate change

Local Coordinator: Gerardo Toraldo

National Coordinator: Francesco Giannino

PRIN 2015-2019 Complex space-time modeling and functional analysis for probabilistic forecast of seismic events.

	<p>Local Coordinator: R. Verde National Coordinator: G. Adelfio</p> <p>PRIN 2006-2008 "Statistical Methods for the analysis of impact and regulatory assessment" funded by MIUR Ministry of University and Research. Local Coordinator: Prof. C.N. Lauro. National Coordinator: Prof. C.N. Lauro.</p> <p>PRIN 2004-2006 "Models for measurement and design of customer satisfaction" National project: "New methods of multivariate statistical classification and dimension reduction for the evaluation and customer satisfaction in services" funded by MIUR Ministry of University and Research. Local Coordinator: Prof. C.N. Lauro. National Coordinator: Prof. M. Vichi.</p> <p>PRIN 2004-2005 "Regulatory Impact Analysis" funded by the Italian Ministry for the University and the Scientific Research MURST Project of National Relevant Interest as. Local Coordinator: Prof. R. Verde (Second University of Naples). National Coordinator: Prof. M. Scudiero (University "Federico II" of Naples).</p> <p>Regional Law no. 05 of 28/03/2002: Magda: a mobile agents platform for Grid Computing. Coordinator: Prof. B. Di Martino.</p> <p>Project Manager since April 2022 at present Project Manager collaborating with TIM's (Telecom Italia Mobile) Innovation Group on the 'Advanced Spatio-Temporal Data Analytics' project.</p>
<p>National and International Collaboration</p>	<p>Department of Mathematics, Politecnico di Milano, Italy. Department of Quantitative Methods and Economic Theory, University G. D'Annunzio of Chieti-Pescara, Italy. Departamento de Matemáticas Investigación Area de Estadística and Operations, Campus Riu Sec, Universitat Jaume I, Castellon de la Plana, Spain. School of Mathematics and Statistics, University of Glasgow, Glasgow, UK. Department of Mathematic, National University of Colombia, Colombia. Project team-AXIS: Usage-centered design, analysis and improvement of information systems. "Institut National de Recherche en Informatique", INRIA Rocquencourt - France.</p>
<p>Teaching</p>	<p>-Teaching for undergraduate and graduate courses A.Y. 2019-2020, 2020-21, 2021-22, 2022-23, 2023-24 Analisi dei dati Multidimensionali, Università della Campania "Luigi Vanvitelli". A.Y. 2022-23, 2023-24 Time Series and High Dimensional Data Analysis, Master degree Data Science, Università della Campania "Luigi Vanvitelli". A.Y. 2019-2020, 2020-21, 2021-22, 2022-23, 2023-24 Statistics and Probability, Università della Campania "Luigi Vanvitelli" (undergraduate course). A.Y. 2019-2020, 2020-21, 2021-22, 2022-23, 2023-24 Inferential Statistics course, Università della Campania "Luigi Vanvitelli" (undergraduate course). A.Y. 2018/19 Inferential Statistics course, Università della Campania "Luigi Vanvitelli" (undergraduate course). A.Y. 2018/19 Statistics and Probability course, Università della Campania "Luigi Vanvitelli" (undergraduate course). A.Y. 2019/20 Lecturer of Analisi dei dati per l'economia course, Università della Campania "Luigi Vanvitelli" (undergraduate course). A.Y. 2018/19 Lecturer of Analisi dei dati per l'economia course, Università della Campania "Luigi Vanvitelli" (undergraduate course). A.Y. 2018/19 Statistics and Probability course, Università della Campania "Luigi Vanvitelli" (undergraduate course). A.Y. 2017/18 Lecturer of Analisi dei dati per l'economia course, Università della Campania "Luigi Vanvitelli" (undergraduate course). A.Y. 2016/17 Lecturer of Metodi Statistici ed Economici dei Mercati Internazionali course, Seconda Università degli Studi di Napoli (undergraduate course). A.Y. 2016/17 Lecturer of Analisi dei Dati course, Seconda Università degli Studi di Napoli (undergraduate course). A.Y. 2016/17 Lecturer of Statistica per il territorio course, Seconda Università degli Studi di Napoli</p>

(undergraduate course)
 A.Y.2016/17 Lecturer of Metodi matematici per il design course, Seconda Università degli Studi di Napoli (undergraduate course)
 A.Y.2015/16 Lecturer of Metodi Statistici ed Economici dei Mercati Internazionali course, Seconda Università degli Studi di Napoli (undergraduate course).
 A.Y.2015/16 Lecturer of Analisi dei Dati course, Seconda Università degli Studi di Napoli (undergraduate course)
 A.Y.2015/16 Lecturer of Statistica per il territorio course, Seconda Università degli Studi di Napoli (undergraduate course)
 A.Y.2014/15 Lecturer of Metodi Statistici ed Economici dei Mercati Internazionali course, Seconda Università degli Studi di Napoli (undergraduate course).
 A.Y.2014/15 Lecturer of Analisi dei Dati course, Seconda Università degli Studi di Napoli (undergraduate course)
 A.Y.2014/15 Lecturer of Statistica per il territorio course, Seconda Università degli Studi di Napoli (undergraduate course)
 A.Y.2013/14 Lecturer of Metodi Statistici ed Economici dei Mercati Internazionali course, Seconda Università degli Studi di Napoli (undergraduate course).
 A.Y.2013/14 Lecturer of Analisi dei Dati course, Seconda Università degli Studi di Napoli (undergraduate course)
 A.Y.2013/14 Lecturer of Statistica per il territorio course, Seconda Università degli Studi di Napoli (undergraduate course)
 A.Y.2011/12 Lecturer of Statistica Economica course, Seconda Università degli Studi di Napoli (undergraduate course).
 A.Y.2011/12 Lecturer of Analisi dei Dati course, Seconda Università degli Studi di Napoli (undergraduate course).
 A.Y.2011/12 Lecturer of Metodi Statistici ed Economici dei Mercati Internazionali course, Seconda Università degli Studi di Napoli (undergraduate course).
 A.Y.2010/11 Lecturer of Metodi Statistici ed Economici dei Mercati Internazionali course, Seconda Università degli Studi di Napoli (undergraduate course).
 A.Y.2009/10 Lecturer of Statistica per i Mercati Internazionali course, Seconda Università degli Studi di Napoli (undergraduate course).
 A.Y.2009/10 Lecturer of Statistica per la valutazione per il Corso Modelli Economico Statistici per la valutazione, Seconda Università degli Studi di Napoli, (undergraduate course).
 A.Y.2008/09 Lecturer of Statistica per i mercati monetari e finanziari, Seconda Università degli Studi di Napoli (undergraduate course)
 A.Y.2007/08 Lecturer of Statistics, "Percorsi di formazione a distanza "E.Learning"", Università di Salerno . (undergraduate course)
 A.Y.2007/08 Lecturer of Statistica dei mutamenti demografici e sociali, Seconda Università degli Studi di Napoli (undergraduate course).

Membership affiliation

Since 2008 she is an ordinary member of the SIS - the Italian Statistical Society
 Since 2008 she is member of CLADAG-Classification and Data Analysis Group
 Since 2006 she is a member of the Societe Francophone de Classification
 Since 2008 she is a member of the TIES Society.
 Since 2014 she is a Member of the working teams SFD: Statistics for Functional Data (ERCIM group)

Scientific and academic activities

Member of the Scientific Committee of the SIS2018: 49th Scientific Meeting of the Italian Statistical Society, Palermo, Italy.
 Member of the organizing committee of the 26-27 September 2012 Workshop "New Perspectives on Member of the organizing committee of the Functional Data Analysis", Caserta, Italy.
 Member of the organizing committee of the 11-13 June 2008 CLADAG SFC-2008: First Joint Meeting of the French Society of Classification and Classification and data analysis group of the Italian Statistical Society, Caserta, Italy.

MEMBER of the THIRD MISSION COMMISSION, serving as the head of the statistical area (SSD: SECSS/01) at the Department of Mathematics and Physics of the University of Campania "Luigi Vanvitelli." From October 1, 2021, to present.
 "MEMBER of the JOINT COMMITTEE as the coordinator of the Bachelor's Degree Program in Data Analytics at the Department of Mathematics and Physics of the University of Campania "Luigi Vanvitelli." From December 1, 2023, to present."

Referring activities

Referee for

Spatial Statistics, ISSN 2211-6753 -
 Environmetrics (ISSN: 1099-095X)
 Journal of Agricultural and Biological Sciences (1085-7117)

Editor Activities

Jan. 1, 2022 - present **ASSOCIATE EDITOR** per la rivista STATISTICAL METHODS & APPLICATIONS - Sezione Methods (Journal of the Italian Statistical Society), Springer, (Electronic ISSN 1613-981X, Print ISSN 1618- 2510), <https://www.springer.com/journal/10260>
 2016 **Guest Editor** of the Special issue on Spatial Functional Statistics for the Stochastic Environmental Research and Risk Assessment journal
 2022 **Guest Editor** of the Special Issue "Statistical Models in the Era of Big Data" of Mathematics (ISSN 2227-7390). This special issue belongs to the section "Probability and Statistics" Co-Editor: Giada Adelfio

Non Academic work experience

January 2010- June 2013 She has worked for a research project on "TARIFFA E GESTIONE DEISERVIZIO IDRICI IN ITALIA". Committee: Studio Cioffi (Napoli) in collaboration with Seconda Università degli Studi di Napoli.

January 2010 - June 2014 She has worked for a project on "Modelli statistico matematici per il monitoraggio di flotte di autobus su reti stradali" in the framework of FIT – Fondo speciale rotativo per l'Innovazione Tecnologica, Programma META in collaboration with Media Mobile Italia srl (Napoli).

June 2008 She has worked directly on projecting a survey and its evaluation in the framework of the Project Job@work for the Second University of Naples (SUN).

Personal skills and competences

Self-assessment
 European level (*)

English

French

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user
B2 Independent user	B2 Independent user	B2 Independent user	B2 Independent user	A2 Basic user

(*) Common European Framework of Reference for Languages

Computer skills and competences

Statistical Analysis, Modeling and Programming: R, Minitab, WinBUGS, Matlab, C/C++, Python.

Misc: MS Windows systems. MS Office Suite. Latex.

December 16, 2023

Elvira Romano