

# FRANCESCA MARTELLA

## Curriculum Vitae

### Part I – General Information

Full Name	Francesca Martella
Date of Birth	22/10/1979
Place of Birth	Rome
Citizenship	Italiana
Permanent Address	Via P. Togliatti 18, Fiano Romano 00065 (Rome), Italy
E-mail	<a href="mailto:francesca.martella@uniroma1.it">francesca.martella@uniroma1.it</a>
Spoken Languages	English, Spanish, basic French

### Part II – Education

Type	Year	Institution	Notes
PhD Degree in Statistica Metodologica	2003-2007	Dipartimento di Statistica, Probabilità e Statistiche Applicate, Sapienza Università di Roma	Supervisor: Prof. M. Vichi. Thesis title: Model-based double clustering for high dimensional data
University graduation in STATISTICA	1998-2003	Dipartimento di Statistica, Probabilità e Statistiche Applicate, Sapienza Università di Roma	Supervisor: Prof. R. Coppi. Thesis title: Model-based approach to clustering Microarray Data. GPA: 110/110 summa cum laude
High School Degree	1998	Liceo Scientifico G. Piazzi, Morlupo, (Rome)	

### Part III – Appointments

#### IIIA – Academic Appointments

Start	End	Institution	Position
2019	now	Dipartimento di Scienze Statistiche, Facoltà di Ingegneria dell'Informazione, Informatica e Statistica. Sapienza Università di Roma	Associate Professor (Ricercatore Universitario confermato, settore scientifico disciplinare SECS-S/01)
2015	2019	Dipartimento di Scienze Statistiche, Facoltà di Ingegneria dell'Informazione, Informatica e Statistica. Sapienza Università di Roma	Senior Assistant Professor (Ricercatore Universitario confermato, settore scientifico disciplinare SECS-S/01)
2012	2014	Dipartimento di Scienze Statistiche, Facoltà di Ingegneria dell'Informazione,	Assistant Professor (Ricercatore Universitario, settore scientifico disciplinare SECS-S/01)

		Informatica e Statistica. Sapienza Università di Roma	
2010	2012	Dipartimento di Scienze Statistiche, Facoltà di Ingegneria dell'Informazione, Informatica e Statistica. Sapienza Università di Roma	Assegnista di Ricerca. Supervisor: Prof. M. Vichi. Project title: Metodologia Statistica relativa alle tecniche di analisi esplorative e inferenziali
2008	2010	Department of Medical Statistics and Bioinformatics, Leiden University Medical Center, Leiden (The Netherlands)	Post-Doctoral position. Supervisor: Prof. J. Houwing-Duistermaat
2007	2008	Department Electrical Engineering (ESAT), Katholieke Universiteit Leuven, Leuven (Belgium)	Post-Doctoral position. Supervisor: Prof. Y. Moreau and Prof. J. Vermeesch

### IIIB – Other Appointments

- Referee for several international journals and conferences: *Statistical Modelling, Statistics and Computing, Bioinformatics, BCM Bioinformatics, Advances in Data Analysis and Classification (ADAC), The International Journal of Biostatistics, Computational Statistics & Data Analysis Journal, SIS, Computational Statistics, Cladag e IFCS among the most important.* 2006 – today
- Member of the Scientific Committee for:
  - Collegio Docenti, Sapienza Università di Roma. Ciclo (3 years) PhD in SCUOLA DI SCIENZE STATISTICHE. 01/06/2017 – now
  - Collegio Docenti a.a. 2012/2013- 2014/2015, Università degli Studi Europea di Roma. 28 Ciclo (3 years) PhD in Statistica Applicata. Coordinator: Prof. Bini Matilde. 01/01/2012 – 01/01/2015
  - Esame di Stato – Professione in Discipline Statistiche – I and II sessione 2012. 20/11/2012- 22/11/2012
  - Commissione orientamento del Dipartimento di Scienze Statistiche: November 2016 – now
  - Presidente della Commissione per il test d'ingresso TOLC-E, 05/09/2018
- Thesis advisor and co-advisor for several thesis of “Laurea Triennale” and “Laurea Magistrale”. Dipartimento Scienze Statistiche. Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma.
- External examiner for Master Thesis for the Department of Mathematics, Faculty of Mathematics and Natural Sciences, University of Bergen.

### Part IV – Teaching experience

#### IVA – Instructor

Year	Institution	Lecture/Course
2021/2022	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled Modelli statistici corso avanzato (9CFU, 72h) Corso di Laurea magistrale in Scienze Statistiche.
2021/2022	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled Metodi statistici per la genetica (6CFU, 48h) Corso di Laurea magistrale in Scienze Statistiche.
2020/2021	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled Finite mixture models II (6h) for PhD students of SCUOLA DI SCIENZE STATISTICHE, Sapienza Università di Roma.

2020/2021	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled Modelli statistici corso avanzato (9CFU, 72h) Corso di Laurea magistrale in Scienze Statistiche.
2020/2021	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled Metodi statistici per la genetica (6CFU, 48h) Corso di Laurea magistrale in Scienze Statistiche.
2019/2020	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled Modelli statistici corso avanzato (9CFU, 72h) Corso di Laurea magistrale in Scienze Statistiche.
2019/2020	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled Metodi statistici per la genetica (6CFU, 48h) Corso di Laurea magistrale in Scienze Statistiche.
2018/2019	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled Metodi statistici per la genetica (6CFU, 48h) Corso di Laurea magistrale in Scienze Statistiche.
2018/2019	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled Metodologia statistica avanzata (9CFU, 72h) Corso di Laurea magistrale in Statistical methods and applications.
2017/2018	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled <i>Analysis of complex data structures</i> (6CFU, 48h) Corso di Laurea in Statistica Gestionale.
2016/2017	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled <i>Analysis of complex data structures</i> (6CFU, 48h) Corso di Laurea in Statistica Gestionale.
2014/2015	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled <i>Analysis of complex data structures</i> (6CFU, 48h) Corso di Laurea in Statistica Gestionale.
2012/2013	Facoltà di Ingegneria dell'Informazione, Informatica e Statistica, Sapienza Università di Roma	Prof. of the Course entitled <i>Analisi delle strutture complesse</i> (9CFU, 72h) Corso di Laurea in Statistica Gestionale.

#### IVB – Teaching Assistant

Year	Institution	Lecture/Course
2011/2012	Facoltà di Scienze Politiche, Università degli Studi Roma Tre	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica</i> given by Prof. F. Lagona.
2011/2012	Dipartimento di Scienze Statistiche, Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Inferenza Statistica</i> given by Prof. Vichi.
2011/2012	Facoltà di Medicina e Chirurgia Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica Medica 1</i> given by Prof. Vichi.
2011/2012	Facoltà di Medicina e Chirurgia Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica Medica 2</i> given by Prof. Vichi.
2010/2011	Facoltà di Scienze Politiche, Università degli Studi Roma Tre	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica</i> given by Prof. F. Lagona.
2010/2011	Dipartimento di Scienze Statistiche, Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Metodi statistici per la genetica</i> given Prof. L.

		Tardella. Topics: “I metodi di classificazione non supervisionata”.
2010/2011	Dipartimento di Scienze Statistiche, Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Inferenza Statistica</i> given by Prof. Vichi.
2010/2011	Facoltà di Medicina e Chirurgia Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica Medica 1</i> given by Prof. Vichi.
2010/2011	Facoltà di Medicina e Chirurgia Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica Medica 2</i> given by Prof. Vichi.
2009/2010	Dipartimento di Scienze Statistiche, Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Inferenza Statistica</i> given by Prof. Vichi.
2009/2010	Facoltà di Medicina e Chirurgia Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica Medica 1</i> given by Prof. Vichi.
2009/2010	Facoltà di Medicina e Chirurgia Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica Medica 2</i> given by Prof. Vichi.
2009/2010	Facoltà di Scienze Politiche, Università degli Studi Roma Tre	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica</i> given by Prof. F. Lagona.
2006/2007	Dipartimento di Scienze Statistiche, Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Inferenza Statistica</i> given by Prof. Vichi.
2006/2007	Facoltà di Medicina e Chirurgia Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica Medica 1</i> given by Prof. Vichi.
2006/2007	Facoltà di Medicina e Chirurgia Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica Medica 2</i> given by Prof. Vichi.
2005/2006	Dipartimento di Scienze Statistiche, Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Inferenza Statistica</i> given by Prof. Vichi.
2005/2006	Facoltà di Medicina e Chirurgia Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica Medica 1</i> given by Prof. Vichi.
2005/2006	Facoltà di Medicina e Chirurgia Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica Medica 2</i> given by Prof. Vichi.
2004/2005	Dipartimento di Scienze Statistiche, Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Inferenza Statistica</i> given by Prof. Vichi.
2004/2005	Facoltà di Medicina e Chirurgia Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica Medica 1</i> given by Prof. Vichi.
2004/2005	Facoltà di Medicina e Chirurgia Sapienza Università di Roma	Didactic Activity (exercises, exam committee member) of the course entitled <i>Statistica Medica 2</i> given by Prof. Vichi.

**IVC – Teaching in foreign Universities**

Year	Institution	Lecture/Course
2008/2009	Leiden University (The Netherlands)	Didactic Activity for master students in Biostatistics for Biomedical Science
2008/2009	Leiden University (The Netherlands)	Didactic Activity for PhD students about Analysis of Repeated Measurements

**Part V - Society memberships, Awards and Honors**

Year	Title
2017	Abilitazione Scientifica Nazionale for Associate Professor “settore concorsuale 13/D1, STATISTICA”, from 31 March 2017 to 31 March 2023.
Since 2012	Socio ordinario della Società Italiana di Statistica, SIS.
01/2010-12/2010	Member of The Netherlands Organisation for Scientific Research (NWO), The Netherlands.
Since 2008	Member of ERCIM (European Research Consortium for Informatics and Mathematics) for the Working group on Mixture Models.
Since 2005	Member of CLADAG (Classification and Data Analysis Group).
11/2006	Sapienza Università di Roma Scholarship winner (13/11/2006) “concorso per titoli ed esami di una borsa di n. 12 mensilità per lo studio e per la frequenza di corsi o attività di perfezionamento all'esterno”.
2003	Università di Roma la Sapienza PhD Scholarship winner (3 years, Dipartimento di Statistica, Probabilità e Statistiche Applicate)

**Part VI - Funding Information (grants as PI-principal investigators or I-investigator)**

Year	Name	Description/Grant Value
2021	Progetto di ricerca di Ateneo 2021 (PI)	Title: <i>Clustering rows and columns in a categorical and mixed-type data matrix</i> /12000 euro
2020	Progetto di ricerca di Ateneo 2020 (I)	Title: <i>New statistical learning methods for the mode-based unsupervised classification of complex data</i> /45000 euro
2020	Progetto competitivo per i ricercatori del DISIA - Dipartimenti Eccellenti 2020 (I)	Title: <i>Model based bi-clustering methods for high-dimensional longitudinal data</i> / 15000 euro
2018	Progetto di ricerca di Ateneo 2018 (I)	Title: <i>Clustering methods for complex, high-dimensional, data.</i> / 15000 euro
2017	Progetto di ricerca di Ateneo 2017 (PI)	Title: <i>Model-based dimensionality reduction techniques for high-dimensional data.</i> / 3000 euro
2015	Progetto di ricerca di Ateneo 2015 (I)	Title: <i>Multimode methods for Classification, Clustering and Dimensionality Reduction.</i> Coordinator: Prof. M. Vichi.

2012	Progetto di ricerca di Ateneo 2012 (PI)	Title: <i>Nuove metodologie multivariate per l'analisi di struttura latente per dati a tre vie e longitudinali.</i> / 9000 euro
2011	Progetto di ricerca di Ateneo 2011 (I)	Title: <i>Modelli di classificazione congiunta di consumatori e prodotti.</i> Coordinator: Prof. M. Vichi.
2011	Progetto di ricerca PRIN 2011 (I)	Title: <i>Multivariate Statistical Models for Risk Assessment.</i> National Coordinator: Prof. P. Giudici. Local Coordinator: Prof. M. Vichi. / ~ 20000 euro
2010	Innovation Oriented Research Program (IOP) on Genomics. SenterNovem (IGE01014), The Netherlands. (I)	
2008	GEHA Project (Genetics of Healthy Aging), European study 2008/2010 (I)	The aim of this project is to identify genes involved in healthy aging and longevity. This project is supported through Priority 1 (Life Sciences, Genomics and Biotechnology for Health) of European Union's FP6, and it is the largest project ever financed in Europe to study the genetic determinants of human longevity. The GEHA consortium clusters 25 partners coming from 11 European countries, and China.
2007	Genome variation studies Project 2007/2008 (I)	The research project of "SymBioSys" which is a consortium of computational scientists and molecular biologists. It brings together top expertise in bioinformatics, statistics, and life sciences from 7 K.U.Leuven partners. It is the biggest European project of the topic "genome variation studies".
2007	Project in the "Biostatistic Area" 2007/2008 (PI)	Project with the collaboration of Prof. J.K. Vermunt (Department of Methodology and Statistics, Tilburg University - The Netherlands), Prof. Y. Moreau and Prof. J. Vermeesch (Department of Electrical Engineering ESAT, Katholieke Universiteit, Leuven - Belgium). Thanks to the win of Sapienza Università di Roma Scholarship " <i>concorso per titoli ed esami di una borsa di n. 12 mensilità per lo studio e per la frequenza di corsi o attività di perfezionamento all'esterno</i> ". / 15000 euro
2006	Progetto di ricerca PRIN 2006 (I)	Title: <i>Metodi statistici multivariati per la valutazione integrata della qualità dei servizi di pubblica utilità: efficacia-efficienza, rischio del fornitore, soddisfazione degli utenti.</i> National Coordinator P.S. Giudici. Local Coordinator: Prof. M. Vichi.

2004	Progetto di ricerca PRIN 2004 (I)	Title: <i>Nuovi metodi statistici multivariati di classificazione e riduzione dimensionale per la customer satisfaction nei servizi</i> . National and Local Coordinator: Prof. M. Vichi.
2003	Progetto di ricerca di Ateneo 2003 (I)	Title: <i>Metodologie multivariate per l'analisi statistica di profili di espressione genica</i> . Coordinator: Prof. M. Vichi.

## Part VII – Research Activities

### VIIA – Research Interests

I am mainly interested in the development of new methodologies to analyse high dimensional data. In particular, I have recently worked on:

- Extension of finite mixture models
- Structural Equation Modeling (SEM) and mixture of SEM
- Simultaneous clustering and dimensionality reduction
- Regression models in high dimensional data
- Biclustering, that is simultaneous clustering of units and variables
- Repeated measurements and mixed models
- CGH array Analysis: normalization and smoothing methods
- Linkage analysis
- Clustering on family data (dependent data)
- Applications: customer satisfaction, microarray, RNA-seq, forest, well-being, endophenotypes detection in Longevity study

### VIIIB – Visiting in foreign Universities

Type	Year	Institution	Notes
Visiting Researcher	2007-2008	Department of Methodology and Statistics, Tilburg University, Tilburg (The Netherlands)	Collaboration with Prof. J.K. Vermunt. (12 months)
Visiting Researcher	2004-2005	Departement of mathematics Equipe Probabilities, Statistique et Modelisation", Université de Paris-Sud, Orsay CEDEX (France)	Collaboration with Prof. G. Celeux (6 months)
Visiting Researcher	2004-2005	INAPG (Institut national agronomique Paris-Grignon-France), Paris (France)	Collaboration with Prof. J.-J. Daudin. (6 months)

## Part IX– Publications

### Book

P. Giordani, M.B. Ferraro, F. **Martella** *An Introduction to Clustering with R*. ISBN 978-981-13-0552-8 Springer, Singapore, 2020.

### International Journals

1. P. Giordani, M.B. Ferraro, F. **Martella** datasetsICR: Datasets from the Book “An Introduction to Clustering with R”. R package version 1.0 (2020) <https://CRAN.R-project.org/package=datasetsICR>

2. C. Ferrara, F. **Martella**, M. Vichi *Probabilistic Disjoint Principal Component Analysis*. **Multivariate Behavioral Research**, doi: 10.1080/00273171.2018.1485006, 2018. Impact factor 2017: 3.691.
3. A. Maruotti, J. Bulla, F. Lagona, M. Picone, F. **Martella** *Dynamic mixtures of factor analyzers to characterize multivariate air pollutant exposures*, **The Annals of Applied Statistics**, 11(3):1617-1648, DOI: 10.1214/17-AOAS1049, 2017. Impact factor 2016: 1.578
4. F. **Martella**, M. Alfò *A finite mixture approach to joint clustering of individuals and multivariate discrete outcomes*, **Journal of Statistical Computation and Simulation**, 2017. ISSN: 0094-9655 (Print) 1563-5163 (Online), doi: 10.1080/00949655.2017.1322593. Impact factor 2016: 0.749
5. V. Raponi, F. **Martella**, A. Maruotti *A Biclustering approach to university performances: an Italian case study*, **Journal of applied statistics**, 43, 31-45, 2016. ISSN: 0266-4763, doi:10.1080/02664763.2015.1009005. Impact factor 2014: 0.417, Citations 4 (Google Scholar)
6. A. Musarò, M. Pelosi, M. Alfò, E. Pappalardo, F. **Martella** *Finite mixture clustering of human tissues with different levels of IGF-1 splice variants mRNA transcripts*, **BMC Bioinformatics**, 16:289, 2015. ISSN: 1471-2105, doi: 10.1186/s12859-015-0689-7. Impact factor 2016: 2.435 Citations 3 (Google Scholar), 2 (Scopus)
7. F. **Martella**, D. Vicari D., M. Vichi *Partitioning predictors in multivariate regression models*. **Statistics and Computing**, 25(2), 261-272, 2015. ISSN: 0960-3174, doi: 10.1007/s11222-013-9430-4. Impact factor 2016: 1.786, Citations 3 (Google Scholar)
8. F. Attorre, F. Francesconi, M. De Sanctis, M. Alfò, F. **Martella**, R. Valenti, M. Vitale *Classifying and mapping potential distribution of forest types using a finite mixture model*. **Folia Geobotanica**, 49(3), 313-335, 2014. ISSN: 1211-9520, DOI 10.1007/s12224-012-9139-8. Impact factor 2015: 1.433, Citations 10 (Google Scholar), 6 (Scopus)
9. M. Beekman, H. Blanché, M. Perola, A. Hervonen, V. Bezrukov, E. Sikora, F. Flachsbar, L. Christiansen, A. J.M. De Craen, T. B.L. Kirkwood, I. M. Rea, M. Poulain, J.-M. Robine, M.A. Stazi, G. Passarino, L. Deiana, E.S. Gonos, S. Valensin, L. Paternoster, T. I.A. Sørensen, Q. Tan, Q. Helmer, E. B. Van den Akker, J. Deelen, F. **Martella**, H. J. Cordell, K. L. Ayers, J. W. Vaupel, O. Törnwall, S. Schreiber, M. Lathrop, A. Skytthe, R. G.J. Westendorp, K. Christensen, J. Gampe, A. Nebel, J. J. Houwing-Duistermaat, P.E. Slagboom, C. Franceschi *Genome-wide linkage analysis for human longevity: Genetics of Healthy Ageing Study*. **Ageing Cell**, 12(2):184-93, 2013. ISSN: 1474-9718, DOI:10.1111/accel.12039, Supplementary info: <http://onlinelibrary.wiley.com/doi/10.1111/accel.12039/supinfo>). Impact factor 2016: 5.76, Citations 115 (Google Scholar), 83 (Scopus)
10. F. **Martella**, J.K. Vermunt *Model-based approaches to synthesize microarray data: a unifying review using mixture of SEMs*. **Statistical Methods in Medical Research**, 22(6), 567 – 582, 2013. ISSN: 0962-2802, DOI: 10.1177/0962280211419482. Impact factor 2016: 4.634 Citations 1 (Google Scholar)
11. F. **Martella**, M. Vichi *Clustering microarray data using model-based double K-means*. **Journal of Applied Statistics**, 39 (9): 1853-1869, 2012. ISSN: 0266-4763, DOI: 10.1080/02664763.2012.683172. Impact factor 2014: 0.417, Citations 6 (Google Scholar), 3 (Scopus)
12. F. **Martella**, J.K. Vermunt, M. Beekman, R.G.J. Westendorp, P.E. Slagboom, J.J. Houwing-Duistermaat *A mixture model with random-effects components for classifying sibling pairs*. **Statistics in Medicine**, 30 (27): 3252–3264, 2011. ISSN: 0277-6715, doi: 10.1002/sim.4365. Impact factor 2016: 1.533, Citations 3 (Google Scholar), 3 (Scopus)
13. F. **Martella**, M. Alfò, M. Vichi *Hierarchical mixture models for biclustering in microarray data*. **Statistical Modelling**, 11(6): 489-505, 2011. ISSN: 1471-082X, DOI: 10.1177/1471082X1001100602. Impact factor 2016: 0.932, Citations 6 (Google Scholar), 1 (Scopus)
14. F. **Martella**, M. Alfò, M. Vichi *Biclustering of Gene Expression Data by an Extension of Mixtures of Factor Analyzers*, **The International Journal of Biostatistics**, 4(1) 3, 1-19, 2008. ISSN:1557-4679, DOI: 10.2202/1557-4679.1078. Impact factor 2016: 0.667, Citations 15 (Google Scholar), 11 (Scopus)
15. F. **Martella** *Classification of microarray data with Factor Mixture Models*. **Bioinformatics**, 22(2):202-208, 2006. ISSN: 1367-4803. DOI: 10.1093/bioinformatics/bti779. Impact factor 2016: 5.766, Citations 25 (Google Scholar), 22 (Scopus)



## Book Chapters

1. C. Ferrara, F. **Martella**, M. Vichi *Dimensions of well-being and their statistical measurements*. Topics in Theoretical and Applied Statistics, 85-99, 2016. ISBN: 978-3-319-27272-6, doi: 10.1007/978-3-319-27274-0\_8.
2. F. **Martella**, M. Alfò *Identifying partitions of genes and tissue samples in microarray data*. New Perspectives in Statistical Modeling and Data Analysis, Series: Studies in Classification, Data Analysis, and Knowledge Organization. Ingrassia S.; Rocci R.; Vichi M. (Eds.), Part X, p. 455-462, 2011. ISBN: 978-3-642-11362-8.
3. A. Crepel, B. Thienpont, F. **Martella**, Z. Tumer, A. Vogels, J. Fryns, J. R. Vermeesch, K. Devriendt *Microcephaly associated with a familial balanced translocation t(5; 18)(q35:2; q22:3): gene expression studies in lymphoblastoid cell-lines*. Technical Report 21, 2011, Dipartimento Scienze Statistiche, Sapienza Università di Roma. ISSN: 2279-798X.

## Proceedings

1. D. Failli, M.F. Marino, F. **Martella**. Extending finite mixtures of latent trait analyzers for bipartite networks. Book of short Papers 2022, (**SIS 2022**, 22/06/2022 – 24/06/2022, Caserta) p.p. ISBN:
2. M. Alfò, F. **Martella**. *Handling endogeneity in linear quantile regression models for longitudinal data*. Book of abstracts of the 15th International Conference of the ERCIM WG on Computational and Methodological Statistics (**ERCIM 2021**, 18/12/2021 – 20/12/2021, London, UK). ISBN: 978-9925-7812-5-6
3. G. Fanelli, F. **Martella**, M. Alfò, F. Attorre, L. Malatesta, V. Cambria, Michele De Sanctis. *A survey of the Mediterranean broadleaved evergreen forests at the European scale*. Book of abstracts of the 29th Conference of European Vegetation Survey. Revegetating Europe – Contributions of the EVS to the UN Decade on Ecosystem Restoration (06/09/2021- 07/09/2021, online Conference) DOI: <https://doi.org/10.5281/zenodo.5171736>.
4. F. **Martella**, M. Alfò, M.F. Marino. *Biclustering longitudinal trajectories through a model-based approach*. Book of short Papers 2021, (**SIS 2021**, 20/06/2018 – 22/06/2018, Palermo) p.p. 1239-1244. ISBN: 9788891927361
5. F. **Martella**, F. Attorre, M. De Sanctis, G. Fanelli. *High dimensional model-based clustering of European georeferenced vegetation plots*. Book of short papers, 13<sup>th</sup> Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society 2021, p. 380-383. (**CLADAG 2021**, 09/09/2021 – 11/09/2021, Firenze). ISSN 2704-601X (PRINT) - ISSN 2704-5846 (ONLINE)
6. M. **Ranalli**, F. **Martella**. *Biclustering ordinal data through a model based approach*. Book of abstracts in the 13th International Conference of the ERCIM WG on Computational and Methodological Statistics (**CMStatistics 2020**, 19/12/2020 – 21/12/2020, Virtual Conference).
7. F. **Martella**, A. Maruotti, F. Tursini. *The Generalized Dynamic Mixtures of Factor Analyzers for clustering multivariate longitudinal data*. Book of short Papers 2020 (**SIS 2020**, pp. 1399-1404) ISBN 9788891910776
8. M. **Ranalli**, F. **Martella**. *Model-based approach to biclustering ordinal data*. Book of short Papers 2020 (**SIS 2020**, pp. 1177-1181) ISBN 9788891910776
9. M. Alfò, M.F. Marino, F. **Martella**. *Biclustering for Multivariate Longitudinal Data*. Book of Abstracts of the 32nd edition of the European Meeting of Statisticians. (**EMS 2019**, 22/07/19 - 26/07/2019, Palermo).
10. M. Alfò, M.F. Marino, F. **Martella**. *Model-based biclustering of multivariate longitudinal trajectories*. Final CRoNos meeting, Spring Course and Workshop on Multivariate Data. (**CRoNoS 2019**, 14/04/19 -16/04/2019, Limassol, Cyprus).
11. F. **Martella**, D. Vicari *Regression modeling via latent predictors*. Book of short Papers 2018, (**SIS 2018**, 20/06/2018 – 22/06/2018, Palermo) p.p. 832-837. ISBN:9788891910233.
12. F. **Martella**, M. Alfò, P. Giordani *From mixtures of SEMs to mixtures of Double-structure SEMs*. Book of abstracts, International Federation of Classification Societies 2015 Conference, (**IFCS 2015**, 06/07/2015 – 08/07/2015, Bologna).
13. M. Alfò, M.F. Marino, and F. **Martella** *A simple approach to bi-clustering discrete data*. Book of abstracts, International Federation of Classification Societies 2015 Conference, (**IFCS 2015**, 06/07/2015 – 08/07/2015, Bologna).

14. C. Ferrara, F. **Martella**, M. Vichi *Probabilistic Disjoint Principal Component Analysis*. Book of abstracts, 8th International Conference on Partial Least Squares and Related Methods (**PLS'14**, 26/05/2014 – 28/05/2014, Paris, France), p. 85-86.
15. F. **Martella**, D. Vicari, M. Vichi *Multivariate regression modeling with clustered correlated predictors*. Book of abstracts, 8th International Conference on Partial Least Squares and Related Methods (**PLS'14**, 26/05/2014 – 28/05/2014, Paris, France), p. 133-134.
16. F. **Martella**, A. Maruotti *Hidden markov of factor analyzers for biclustering of microarray time course data in multiple conditions*. Book of abstracts, invited speaker in the 6th International Conference of the ERCIM WG on Computational and Methodological Statistics (**ERCIM 2013**, 14/12/2013 – 16/12/2013, London, UK).
17. F. Martella, M. Alfò *A biclustering approach for discrete outcomes*. Book of short papers, 9<sup>th</sup> Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society 2013, (**CLADAG 2013**, 18/09/2013 – 20/09/2013, Modena), p. 304-308. ISBN: 9788867871179.
18. A. Maruotti, F. **Martella** *Clustering Multivariate Longitudinal Data: Hidden Markov of Factor Analyzers*. Book of short papers, 46<sup>th</sup> Scientific Meeting on the Italian Statistical Society (**SIS 2012**, 20/06/2012 – 22/06/2012, Roma), p. 1-8. ISBN: 978-88-6129-882-8. Citations 1 (Google Scholar)
19. C. Ferrara, F. **Martella**, M. Vichi *Dimensions of well-being and their statistical measurements*. Book of short papers, 46<sup>th</sup> Scientific Meeting on the Italian Statistical Society, (**SIS 2012**, 20/06/2012 – 22/06/2012, Roma), p. 1-4. ISBN: 978-88-6129-882-8.
20. C. Ferrara, F. **Martella**, M. Vichi *Dimensions of well-being and their statistical measurements*. Book of short papers, Making decisions: the role of statistics for knowledge and governance, Roma, 240-244. 19/04/2012 – 20/04/2012
21. M. Beekman, P.E. Slagboom, H. Blanche, M. Perola, A. Hervonen, V. Bezrukov, E. Sikora, L. Christiansen, S. Schreiber, A.J.M. De Craen, T.B.L. Kirkwood, I.M. Rea, M. Poulain, J.M. Robine, S. Valensin, M.A. Stazi, G. Passarino, L. Deiana, S. Gonos, O. Törnwall, Q. Helmer, F. **Martella**, R.G.J. Westendorp, M. Lathrop, J.W. Vaupel, K. Christensen, J. Gampe, A. Nebel, J.J. Houwing-Duistermaat, C. Franceschi *Genome-wide linkage analysis for longevity in European nonagenarian siblings: Genetics of Healthy Ageing Study (GEHA)*. Book of abstracts, 12<sup>th</sup> International Congress of Human Genetics/61<sup>st</sup> Annual Meeting of The American Society of Human Genetics, (11/10/2011 – 15/10/2011, Montreal, Canada). Abstract is Available on <http://www.ichg2011.org/pdf/ICHG%20Poster%20Abstracts.pdf>.
22. F. **Martella**, D. Vicari D., M. Vichi *Multivariate regression model based on a partition of predictors*. Proceedings, 7<sup>th</sup> Conference on Statistical Computation and Complex Systems, (**SCO 2011**, 19/09/2011 – 21/09/2011, Padova), p.1-6. ISBN: 978-88-6129-753-1.
23. F. **Martella**, D. Vicari D., M. Vichi *Multivariate regression model based on an optimal partition of predictors*. Book of short papers, 8<sup>th</sup> Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society 2011, p. 1-4. (**CLADAG 2011**, 07/09/2011 – 09/09/2011, Pavia). ISBN: 978-88-90663901.
24. J.J. Houwing-Duistermaat, M. Beekman, R. Westendorp, E. Slagboom, F. **Martella** *A Mixture Model with Random Effects Components for Classifying Families with Application to Healthy Aging*. Abstract from the 19th Annual Meeting of the International-Genetic Epidemiology-Society. (24/10/2010 – 26/10/2010, Boston, USA), vol. 34 (8), p. 968, 2010. ISSN: 0741-0395, GENETIC EPIDEMIOLOGY, DOI: 10.1002/gepi.20553.
25. F. **Martella**, M. Alfò F. Martella, M. Alfò *Identifying partitions of genes and tissue samples in microarray data*. Book of short papers, 7<sup>th</sup> Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society 2009, (**CLADAG 2009**, 07/09/2009 – 09/09/2009, Catania), p. 185-188. ISBN: 9788861294066.
26. F. **Martella**, M. Alfò, M. Vichi *Biclustering of microarray data*. Book of short papers, 6<sup>th</sup> Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society 2007, (**CLADAG 2007**, 12/09/2007 – 14/09/2007, Macerata), p. 93-96. ISBN: 978-88-6056-020-9.
27. F. **Martella**, J.J. Houwing-Duistermaat *Model-based clustering for dependent data*. Book of abstracts, **Second IBS Channel Network Conference**, Section on Model selection and clustering, (06/04/2009, Ghent, Belgium).
28. F. **Martella**, J.K. Vermunt *Model-based approaches to synthesize microarray data: a unifying review using mixture SEM*. Book of abstracts, **IFCS 2009**: 11th Conference of the International

- Federation of Classification Societies, Section on Mixture Analysis - Mixture models in genetics, (**IFCS 2009**, 13/03/2009 – 18/03/2009, Dresden, Germany).
29. F. **Martella**, M. Alfò, M. Vichi *Double Hierarchical Mixture model for microarray data*. Book of abstracts, **IFCS 2006** Conference: Data Science and Classification, Invited Session on Clustering and Classification of Microarray Gene Expression Data, p. 1-3 (25/07/2006 – 29/07/2006, Ljubljana, Slovenia).
  30. F. **Martella**, M. Vichi *Model-based double clustering*. Book of short papers, XX riunione scientifica del Dipartimento di Statistica Probabilità e Statistiche Applicate, La Sapienza Università di Roma. 19/01/2006 – 20/01/2006
  31. F. **Martella** *Clustering of microarray data using finite mixture models*. Book of Short Papers, Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society 2005, (**CLADAG 2005**, 06/06/2005 – 08/06/2005, Parma), p. 1. ISBN: 887847066X.

### Poster

1. F. **Martella**, I. Balikova, Y. Moreau, B. Thienpont, J. Vermeesch *Comparison of algorithms for high-resolution array CGH*. **Poster**, Second SymBioSys Workshop, Onderzoek en Navorsing (**O&N2**), Auditorium BMW6, (01/05/2007, Leuven, Belgium).
2. F. **Martella** *Model-based biclustering for expression data*. **Poster**, Benelux Bioinformatics Conference (**BBC'07**, 12/11/2007- 13/11/2007, Leuven, Belgium).

### PhD Thesis

F. **Martella** *Model-based double clustering for high dimensional data*. PhD Thesis in Statistical Methodology, 2007. Dipartimento di Statistica, Probabilità e Statistiche Applicate (Sapienza Università di Roma), Digital identifier: <http://hdl.handle.net/10805/988>.

### Seminars

- F. **Martella** Biclustering longitudinal trajectories through a model-based approach, Presented at Leeds University 07/05/2021
- F. **Martella**, D. Vicari, M. Vichi *A regression modeling approach with latent predictors*. Presented at the second internal meeting of the FIRB (Futuro in ricerca, 2012) project “Mixture and latent variable models for causal-inference and analysis of socio-economic data”, Roma, 23/01/2015 – 24/01/2015.
- F. **Martella** Model-based dimensionality reduction for microarray data. Presented at K.U. Leuven, Leuven Belgium, 01/01/2006.

### Part X – Attended National and International conferences and scientific meetings

1. *Biclustering for Multivariate Longitudinal Data*. In the 32nd edition of the European Meeting of Statisticians. (**EMS 2019**, Palermo). 22/07/19 -26/07/2019.
2. *Model-based biclustering of multivariate longitudinal trajectories*. In Final CRoNos meeting, Spring Course and Workshop on Multivariate Data. (**CRoNoS 2019**, Limassol, Cyprus). 14/04/19 - 16/04/2019.
3. *Regression modelling via latent predictors*. In 49th Scientific Meeting on the Italian Statistical Society, (**SIS 2018**, Palermo). 20/06/2018 – 22/06/2018.
4. *From mixtures of SEMs to mixtures of Double-structure SEMs*. In International Federation of Classification Societies 2015 Conference (**IFCS 2015**, Bologna). 06/07/2015 – 08/07/2015
5. *A simple approach to biclustering discrete data*. In International Federation of Classification Societies 2015 Conference, (**IFCS 2015**, Bologna). 06/07/2015 – 08/07/2015
6. *A regression modeling approach with latent predictors*. In second internal meeting of the FIRB (**Futuro in ricerca, 2012**) project “Mixture and latent variable models for causal-inference and analysis of socio-economic data”, Roma. 23/01/2015 – 24/01/2015
7. *Probabilistic Disjoint Principal Component Analysis*. In 8th International Conference on Partial Least Squares and Related Methods, (**PLS'14**, Paris, France). 26/05/2014 – 28/05/2014

8. *Multivariate regression modeling with clustered correlated predictors*. In 8th International Conference on Partial Least Squares and Related Methods, (**PLS'14**, Paris, France). 26/05/2014 – 28/05/2014
9. *Hidden markov of factor analyzers for biclustering of microarray time course data in multiple conditions*. In the 6th International Conference of the ERCIM WG on Computational and Methodological Statistics, (**ERCIM 2013**, London, UK). 14/12/2013 – 16/12/2013
10. *A biclustering approach for discrete outcomes*. In 9th Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society 2013, (**CLADAG 2013**, Modena). 18/09/2013 – 20/09/2013
11. SIS 2013 Statistical Conference "Advances in Latent Variables. Methods, Models and Applications", Brescia. 19/06/2013 – 21/06/2013
12. *Dimensions of well-being and their statistical measurements*. In 46th Scientific Meeting on the Italian Statistical Society, (**SIS 2012**, Roma). 20/06/2012 – 22/06/2012
13. *Clustering Multivariate Longitudinal Data: Hidden Markov of Factor Analyzers*. In 46th Scientific Meeting on the Italian Statistical Society, (**SIS 2012**, Roma). 20/06/2012 – 22/06/2012
14. *Dimensions of well-being and their statistical measurements*. In Making decisions: the role of statistics for knowledge and governance, (Roma). 19/04/2012 – 20/04/2012
15. *Genome-wide linkage analysis for longevity in European nonagenarian siblings: Genetics of Healthy Ageing Study (GEHA)*. In 12th International Congress of Human Genetics/61st Annual Meeting of The American Society of Human Genetics, (Montreal, Canada). 11/10/2011 – 15/10/2011
16. Giornata Italiana della Statistica, Roma. 20/10/2011
17. *Multivariate regression model based on a partition of predictors*. Specialized Session in 7th Conference on Statistical Computation and Complex Systems, (**SCO**, Padova). 19/09/2011 – 21/09/2011
18. *Multivariate regression model based on an optimal partition of predictors*. Contributed Session in 8th Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society 2011, (**CLADAG 2011**, Pavia). 07/09/2011 – 09/09/2011
19. *A mixture model with random-effects components for classifying sibling pairs with application to the Leiden Longevity Study*. In "Symposium on analysis of genetic and family data" in LUMC (Leiden, NL). 24/06/2011 – 24/06/2011
20. *A Mixture Model with Random Effects Components for Classifying Families with Application to Healthy Aging*. In the 19th Annual Meeting of the International Genetic Epidemiology Society, (Boston, USA). 24/10/2010 – 26/10/2010
21. Geha symposium, Roma. 09/2010
22. 45th Scientific Meeting on the Italian Statistical Society, (**SIS 2010**, Padova). 29/06/2010 – 01/07/2010
23. *Identifying partitions of genes and tissue samples in microarray data*. Specialized Session in 7th Conference of the Classification and Data Analysis group of the Italian Statistical Society 2009, (**CLADAG 2009**, Catania). 09/09/2009 – 11/09/2009
24. *Model-based clustering for dependent data*. In Second IBS Channel Network Conference, Section on Model selection and clustering, (Ghent, Belgium). 06/04/2009 – 06/04/2009
25. *Model-based approaches to synthesize microarray data: a unifying review using mixture SEM*. In IFCS 2009: 11th Conference of the International Federation of Classification Societies, Section on Mixture Analysis - Mixture models in genetics, (**IFCS 2009**, Dresden, Germany). 13/03/2009 – 18/03/2009
26. VOC meeting 2009 (Dutch/Flemish Classification Society), (Mixture Model'), Tilburg (NL). 10/04/2009
27. Second MSOURCE symposium: Advanced Topics in Survival Analysis, Kraainem (Belgium). 07/11/2008
28. Symposium on mixture modeling with special interest to applications in educational measurement and bioinformatics, Leuven, (Belgium). 20/11/2007 – 20/11/2007
29. *Model-based biclustering for expression data*. Benelux Bioinformatics Conference BBC07, Leuven (Belgium). 12/11/2007 – 13/11/2007
30. *Biclustering of microarray data*. Specialised Session in 6th Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society 2007, (**CLADAG 2007**, Macerata). 12/09/2007 – 14/09/2007

31. *Comparison of algorithms for high-resolution array CGH*. In Second SymbioSys Workshop, Onderzoek en Navorsing (O&N2), Auditorium BMW6, (Leuven, Belgium). 01/05/2007 – 01/05/2007
32. MC Gard (Marie Curie - Genome Architecture in Relation to Disease), Conference 1 MOLECULAR PROFILING OF THE GENOME, Amsterdam (NL). 05/2007
33. The 7th Belgian Society Human Genetics meeting: Muscle, brain and sex, Charleroi (Belgium). 04/2007
34. *Model-based double clustering*. Contributed Session, in XX Riunione Scientifica – DSPSA (Roma). 26/01/2007 – 26/01/2007
35. International Conference on Statistical Latent Variables Models in the Health Sciences, Perugia. 09/2006
36. COMPSTAT2006, The 17th Conference of the International Association for Statistical computing. 08/2006
37. *Double Hierarchical Mixture model for microarray data*. In IFCS 2006 Conference: Data Science and Classification, Invited Session on Clustering and Classification of Microarray Gene Expression Data, (IFCS 2006, Ljubljana - Slovenia). 25/07/2006 – 29/07/2006
38. *Model-based double clustering*. In XX riunione scientifica del Dipartimento di Statistica Probabilità e Statistiche Applicate, Università di Roma La Sapienza, Roma. 19/01/2006– 20/01/2006
39. *Clustering of Microarray Data using Finite Mixture Models*. Contributed Session, in 5th Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society, (CLADAG 2005, Parma). 06/06/2005 – 08/06/2005
40. XIX riunione scientifica del Dipartimento di Statistica Probabilità e Statistiche Applicate, Università di Roma La Sapienza, Roma. 01/2005
41. XVIII riunione scientifica del Dipartimento di Statistica Probabilità e Statistiche Applicate, Università di Roma La Sapienza, Roma. 02/2004


## Part XI – Attended Courses and Schools

Since 2001, I attended numerous courses and schools including the most important: SAS (Caspur, given by M. Scarnò e E. Ferraro); Calcolo differenziale frazionario (Dipartimento di Statistica, Probabilità e Statistiche Applicate, Sapienza Università di Roma given by Prof. E. Orsingher); Applied Bayesian Statistics school (Trento, given by Prof. M. West, Duke University); Processi frazionari e moti su frattali (Dipartimento di Statistica, Probabilità e Statistiche Applicate, Sapienza Università di Roma given by Prof. E. Orsingher); teoria asintotica (Dipartimento di Statistica, Probabilità e Statistiche Applicate, Sapienza Università di Roma given by Prof. P. Conti); Multivariate Analysis with Fewer Observation than the Dimension (Università Bicocca); Genetic Association Analysis (Postdoctoral course: “Platform Integrated Data Analysis in Epidemiology and Bioinformatics”, University Medical Centre, Leiden, The Netherlands).

## Part XII – Organizational Activities

- Member of organizing committee of:
  1. *Conference of European Statistics Stakeholders* (Roma, 24/11/2014- 25/11/2014)
  2. *46<sup>th</sup> Scientific Meeting on the Italian Statistical Society* (Roma, 20/06/2012 - 22/06/2012)
  3. *COMPSTAT2006*, The 17th Conference of the International Association for Statistical computing (Roma, 28/08/2006 – 1/09/2006)

- Chairman of the Solicited Section named “Advances in longitudinal data analysis” at “SIS International Meeting 2013 on Advances in Latent Variables. Methods, Models and Applications.” University of Brescia. 19/06/2013 – 21/06/2013

A handwritten signature in black ink, appearing to read 'John M. M. M.', located in the upper right quadrant of the page.