

CURRICULUM VITAE ET STUDIORUM



FRANCESCA IEVA

CURRENT POSITION – Associate Professor in Statistics

MOX – Modelling and Scientific Computing
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Education

INSTITUTION AND LOCATION	DEGREE/POSITION	MM/YY	FIELD OF STUDY
Politecnico di Milano, p.zza Leonardo da Vinci 32, Milano (Italy)	PhD	03/12	Statistical learning in biomedical context and Mathematical Modelling for Evaluation of Healthcare Processes <i>Thesis: Statistical Methods for Classification in Cardiovascular Healthcare</i>
Politecnico di Milano, p.zza Leonardo da Vinci 32, Milano (Italy)	Master Degree	10/08	Mathematical Engineering (statistics for biosciences) <i>Thesis: Modelli Statistici per lo studio dei Tempi di Intervento nell'Infarto Miocardico Acuto</i>
Politecnico di Milano, p.zza Leonardo da Vinci 32, Milano (Italy)	Bachelor Degree	07/06	Mathematical Engineering (statistics for biosciences) <i>Thesis: Modelli Stocastici e Deterministici per la Crescita Tumorale: teoria e simulazioni</i>
Liceo Classico Statale Giosuè Carducci, via Beroldo 9, 20131, Milano (Italy)	Maturità Classica	06/03	

Research Field and Scientific Interests

My research is focused on statistical learning in biomedical context, both from a methodological and applied point of view. In fact, the most part of my activity is concerned with clinical biostatistics and healthcare assessment, in particular modelling data coming from integration of clinical surveys and administrative databanks. These data drove my scientific interest towards the study of Multi State Models and Stochastic processes for disease progression, as well as Mathematical Modelling (Multilevel models and Bayesian nonparametric hierarchical models) for Evaluation of Healthcare Processes. Moreover, I deepened the study of depth measures in the Functional Data Analysis context for addressing research issues concerning the analysis of complex data like vital signals measured on healthy and diseased patients.

Other interests concern Educational setting, where a considerable part of the previous methods may be applied for investigating providers (schools) performances. In this context, a very promising tool for exploring connections among actors is the statistical Network Analysis, whose development is going to be one of my main stream of research in the next years.

h-index (scopus): 8

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Positions and Honors

2019- **Associate Professor**, Department of Mathematics, Politecnico di Milano

2016-2019 **Assistant Professor (RTDb)**, Department of Mathematics, Politecnico di Milano
Maternity leave: March 01 – September 30, 2018

2013-2016 **Assistant Professor (RTDa)**, Department of Mathematics, University of Milan
Maternity leave: March 04 – August 02, 2016

2012-2013 **Post-doctoral research fellow**, Department of Mathematics, Politecnico di Milano

2009-2011 **PhD (cum laude)** in Mathematical Models and Methods for Engineering, Department of Mathematics, Politecnico di Milano (Thesis: Statistical methods for classification in cardiovascular healthcare - <http://hdl.handle.net/10589/56803>)

2008-2009 **Stage** at CEFRIEL – forging innovation (<http://www.cefriel.it>), management of home telemonitoring data.

2006-2008 **MD** in Mathematical Engineering, Department of Mathematics, Politecnico di Milano.
2003-2006 **BD** in Mathematical Engineering, Department of Mathematics, Politecnico di Milano.

2014-2020 **Abilitazione Scientifica Nazionale** (National Scientific Qualification): professore di II fascia (associate professor), settore concorsuale 13/D1 - Statistica

2019 - **Member** of the Scientific Board (Consiglio Direttivo) of the [Center for Healthcare Research and Pharmacoepidemiology \(CHRP\)](#)
2018 - **Member** of the Faculty Board of the [Data Analytics and Decision Sciences \(DADS\)](#) PhD program

2015 - **Member** of the ISI Young Statisticians Committee (y-ISI)
2013 - **Member and co-founder** of [BAYSM](#) organization
2012 - 2014 **Chair** of the young section of the Italian Statistical Society (y-SIS)
2012 - 2013 **Program Chair** of the junior Section of the International Society for Bayesian Analysis (j-ISBA).

2018 **Highly Commended Paper award** of the 6th International Workshop on Efficiency in Education, Health and other Public Services to the paper "*Non-parametric mixed-effects models for unsupervised classification of Italian schools*"
2014 **Best PhD Thesis award** (category: Applied Statistics and Demography) given by the Italian Statistical Society
2012 **ITWIIN award for Capacity Building**
2011 **Best paper award** of the 17th European Young Statistician Meeting awarded to the paper "*Outlier detection for training sets in an unsupervised functional classification framework: an application to ECG signals*"
2010 **Second prize of the poster competition** of the Royal Statistical Society 2010 Annual Conference awarded to the poster "*Statistical Analysis for health-care decisions: a case study concerning STEMI patients*"

Research Supports

2019-2021 (ongoing) – 60k€
WirtMed project: Drugs Regulation: Examination and Management of Cost-Effectiveness and Quality
Role: sub unit Co-investigator

2019-2021 (ongoing) –
MOTIVE - Modelling effectiveness, cost-effectiveness and promoting health care value in the real world
PRIN 2018
Role: Co-investigator

2018-2020 (ongoing) – 90k€
RADprecise: Personalized radiotherapy: incorporating cellular response to irradiation in personalized treatment planning to minimize radiation toxicity
ERA Permed projects – Joint transnational call for proposals (2018) for research projects on personalized medicine – Smart combination of pre clinical and clinical research with data and ICT solutions.
Role: Co-investigator

2014 -2017 (Completed)
FARB (Finanziamento di Ateneo per la Ricerca di Base) project *Public Management Research: Health and Education Systems Assessment*
Within [HEAD](#) - research on Health and Education systems Assessment using administrative Data
Role: Co-PI

2012-2015 (Completed)
Utilization of Regional Health Source Databases for Evaluating Epidemiology, short- and medium-term outcome and process indicators in patients hospitalized for heart failure
Progetto di Ricerca Finalizzata di Regione Lombardia - HFData-RF-2009-1483329 [<http://hfddata.cefrieli.it/>]
Role: Co-investigator.

2009-2011 (Completed)
Exploitation, integration and study of current and future health databases in Lombardia for Acute Myocardial Infarction
<http://ima.metid.polimi.it>
Role: Co-investigator.

2008 -2011 (Completed)
PROMETEO (PROgetto Milano Ecg Teletrasmissi ExtraOspedaliero)
commissioned by 118 (National free toll number for emergencies) of Milan
Role: Co-responsible for statistical analyses

2008 -2010 (Completed)
Nuovi Reti Sanitarie
commissioned by Regione Lombardia
<http://web.cefrieli.it/nrs>
Role: Co-responsible for statistical analyses

2007 -2009 (Completed)
MOMI2 (one Month Monitoring Myocardial Infarction in Milan), commissioned by 118 (National free toll number for emergencies) of Milan
Role: Co-responsible for statistical analyses

Publications

Peer reviewed journal articles

(* denotes journals belonging to "class A" according to the last ANVUR classification in GEV 13)

1. Rea, F., Miceli, G., Musicco, M., Cavallini, A., Santucci, C., Merlino, L., Ieva, F., Ferrarese, C., Corrao, G. (2019) Adherence to recommendations and clinical outcomes of patients hospitalized for stroke: the role of the admission ward—a real-life investigation from Italy. [Neurological Sciences](#), doi: 10.1007/s10072-019-03867-7
2. (*) Gasperoni, F., Ieva, F., Paganoni, A.M., Jackson C., Sharples L.D. (2019, online first 2018) Nonparametric frailty Cox models for hierarchical time-to-event data. [Biostatistics](#), doi: 10.1093/biostatistics/kxy071
3. (*) Masci, C., Paganoni, A.M., Ieva, F. (2019) Semi-parametric mixed-effects models for unsupervised classification of Italian schools. *Journal of the Royal Statistical Society - series A*. In press

4. Martino, A., Ghiglietti, A., Ieva, F., Paganoni, A.M. (2019) A k-means procedure based on a Mahalanobis type distance for clustering multivariate functional data. [Statistical Methods and Application](#). doi: 10.1007/s10260-018-00446-6
5. (*) Ieva, F., Gasperoni, F. (2018) Discussion of the paper "Statistical challenges of administrative and transaction data" by David J. Hand. *Journal of the Royal Statistical Society - Series A* doi: 10.1111/rssa.1231
6. (*) Paulon, G., De Iorio, M., Guglielmi, A., Ieva, F. (2018) Joint modelling of recurrent events and survival: a Bayesian nonparametric approach. [Biostatistics](#). doi: 10.1093/biostatistics/kxy026
7. Ieva, F., Bitonti, D. (2018) Network analysis of comorbidity patterns in Heart Failure patients using administrative data. *Epidemiology, Biostatistics and Public Health*. doi: 10.2427/12779
8. (*) Ekin, T., Ieva, F., Ruggeri, F., Soyer, R. (2018) Statistical Medical Fraud Assessment: Exposition to an Emerging Field. [International Statistical Review](#). doi: 10.1111/insr.12269
9. Ghiglietti, A., Scarale, M.G., Miceli, R., Ieva, F., Mariani, L., Gavazzi, C., Paganoni, A.M., Edefonti, V. (2018) Urn models for response-adaptive randomized designs: a simulation study based on a non-adaptive randomized trial. [Journal of Biopharmaceutical Statistics](#). doi: 10.1080/10543406.2018.1452024
10. Guglielmi, A., Ieva, F., Paganoni, A.M., Quintana, F.A. (2018, online first 2016) A semiparametric Bayesian joint model for multiple mixed-type outcomes: an Application to Acute Myocardial Infarction. [Advances in Data Analysis and Classification](#), 12(2): 399-423 doi: 10.1007/s11634-016-0273-7
11. Grossetti, F., Ieva, F., Paganoni, A.M. (2018, online first 2017) A Multi-state Approach to Patients Affected by Chronic Heart Failure The Value Added by Administrative Data. [Health Care Management of Science](#), 21(2): 281-291. doi:10.1007/s10729-017-9400-z
12. Bittle, A., Ventura, C.M., Dharmarajan, K., Aylin, P., Ieva, F., Paganoni, A.M. (2018, online first 2017) Regional variation in hospitalisation and mortality in heart failure: comparison of England and Lombardy using multistate modelling. [Health Care Management of Science](#), 21(3): 292-304. doi:10.1007/s10729-017-9410-x
13. Tarabelloni, N., Schenone, E., Collin, A., Ieva, F., Paganoni, A.M., Gerbeau, J.F. (2018) Statistical Assessment and Calibration of Numerical ECG Models. *JP Journal of Biostatistics*, 15(2): 151-173 (July-Dec 2018)
14. (*) Gasperoni, F., Ieva, F., Barbati, G., Scagnetto, A., Iorio, A., Sinagra, G., Di Lenarda, A. (2017) Multi state modelling of Heart Failure care path: a population-based investigation from Italy. [PlosOne](#) 12(6): e0179176
15. (*) Ieva, F., Jackson, C.H., Sharples, L.D. (2017, online first 2015) Multi-State modelling of repeated hospitalisation and death in patients with Heart Failure: the use of large administrative databases in clinical epidemiology. [Statistical Methods in Medical Research](#), 26 (3): 1350-1372
16. Frigerio, M., Mazzali, C., Paganoni, A.M., Ieva, F., Barbieri, P., Maistrello, M., Agostoni, O., Masella, C., Scalvini, S. (2017) Trends in heart failure hospitalizations, patient characteristics, in-hospital and 1-year mortality: a population study from 2000 to 2012 in Lombardy. [International Journal of Cardiology](#), 236: 310-314.
17. (*) Ekin, T., Ieva, F., Ruggeri, F., Soyer, R. (2017) On the Use of the Concentration Function in Medical Fraud Assessment. [The American Statistician](#), 71(3): 236-241.
18. Ieva, F., Paganoni, A.M. (2017) A taxonomy of outlier detection methods for robust classification in multivariate functional data. [Statistical Papers](#). doi: 10.1007/s00362-017-0953-1
19. (*) Ghiglietti, A., Ieva, F., Paganoni, A.M. (2017) Statistical inference for stochastic processes: two sample hypothesis tests. *Journal of Statistical Planning and Inference*. 180: 49-68
20. Taroni, P., Paganoni, A.M., Ieva, F., Pifferi, A., Quarto, G., Abbate, F., Cassano, E., Cubeddu, R. (2017) Non-invasive optical estimate of tissue composition to differentiate malignant from benign breast lesions: A pilot study. Accepted for publication on [Scientific Reports](#). doi: 10.1038/srep40683
21. Rienzner, M., Ieva, F. (2017, online 2016) Critical values improvement for the Standard Normal Homogeneity Test, a technique for unknown and cardinality dependent distributions. [Journal of Applied Statistics](#), 44: 602-619.
22. (*) Ghiglietti, A., Ieva, F., Paganoni, A.M. (2017) Statistical inference for stochastic processes: two sample hypothesis tests, [Journal of Statistical Planning and Inference](#), 180: 49-68 doi: [10.1016/j.jspi.2016.08.004](#)
23. (*) Ghiglietti, A., Ieva, F., Aletti, G., Paganoni, A.M. (2017, online 2015) On linear regression models in infinite dimensional spaces with scalar response. [Statistical Papers](#), 58(2): 527-548 doi: [10.1007/s00362-015-0710-2](#).
24. (*) Ieva, F., Paganoni, A.M., Pietrabissa, T. (2017, online first 2016) Dynamic clustering of hazard functions: an application to disease progression in chronic heart failure. [Health Care Management of Science](#), 20: 353-364.
25. Tarabelloni, N., Ieva, F., Paganoni, A.M. (2016) Covariance Based Unsupervised Classification in Functional Data Analysis. [Journal of Machine Learning Research](#), 17(143): 1-21
26. (*) Mazzali, C., Paganoni, A.M., Ieva, F., Masella, C., Maistrello, M., Agostoni, O., Scalvini, S., Frigerio, M. (2016) Methodological issues on the use of administrative data in healthcare research: the case of heart failure hospitalizations in Lombardy Region, 2000 to 2012. [BMC Health Services Research](#), 16 (1): 234
27. (*) Masci C., Ieva, F., Agasisti, T., Paganoni, A. (2016) Does class matter more than school? Evidence from a multilevel statistical analysis on Italian junior secondary school students. [Socio-Economic Planning Sciences](#), 54: 47-57.
28. Masci C., Ieva, F., Agasisti, T., Paganoni, A. (2016) Bivariate multilevel models for the analysis of mathematics and reading pupils' achievements. [Journal of Applied Statistics](#). doi: 10.1080/02664763.2016.1201799
29. Agasisti, T., Ieva, F., Paganoni, A.M. (2016) Heterogeneity, school-effects and achievement gaps across Italian regions: further evidence from statistical modeling. *Statistical Methods And Applications*. doi: [10.1007/s10260-016-0363-x](#)
30. (*) Ieva, F., Paganoni, A.M. (2016, online 2013). Risk Prediction for Myocardial Infarction via Generalized Functional Regression Models. [Statistical Methods in Medical Research](#), 25 (4): 1648-1660
31. (*) Tarabelloni, N., Ieva, F., Paganoni, A.M., Biasi, R. (2015) Use of depth measure for multivariate functional data in disease prediction: an application to electrocardiograph signals. [International Journal of Biostatistics](#), 11 (2): 180-201
32. Ieva, F., Paganoni, A.M. (2015) Discussion of "multivariate functional outlier detection" by M. Hubert, P. Rousseeuw and P. Segaert. *Statistical Methods and Applications*, 24 (2): 217-221
33. Bonomini V., Re R., Zucchelli L., Ieva F., Spinelli L., Contini D., Paganoni A.M., Torricelli A. (2015) Linear regression models and k-means clustering for statistical analysis of fNIRS data. *Biomedical Optics Express*, 6 (2): 616-630 doi:10.1364/BOE.6.000615
34. Braga, F., Ferraro, S., Ieva, F., Paganoni, A.M., Panteghini, M. (2015) A new robust statistical model for interpretation of differences in serial test results from an individual. *Clinical Chemistry and Laboratory Medicine* 53(5), 815-822
35. Ieva F., Secchi P., Vantini S. (2015) [ENG] BIG DATA: the next challenge for statistics, [Lettera Matematica](#), 3(3), 111-120 [ITA] BIG DATA: la prossima sfida della Statistica, [Lettera Matematica PRISTEM](#) 93 (giugno), pp. 27-34.
36. Ieva, F., Paganoni, A.M. (2015) Detecting and Visualizing Outliers in Provider Profiling via Funnel Plots and Mixed Effect Models. [Health Care Management Science](#), 18:166-172. doi: 10.1007/s10729-013-9264-9
37. Ieva, F., Gale, C.P., Sharples, L.D. (2014) Contemporary roles of registries in clinical cardiology: when do we need randomized trials? *Expert Review of Cardiovascular Therapy*, 12 (12): 1383-1386

38. (*) Guglielmi, A., Ieva, F., Paganoni, A.M., Ruggeri, F., Soriano, J. (2014). Semiparametric Bayesian models for clustering and classification in the presence of unbalanced in-hospital survival. *Journal of the Royal Statistical Society - Series C*, 63 (1): 25-46
39. Ieva, F., Marra, G., Paganoni, A.M., Radice, R. (2014) A semiparametric bivariate probit model for joint modeling of outcomes in STEMI patients. [Computational and Mathematical Methods in Medicine](#). Vol. 2014, Article ID 240435, 7 pages
40. Agasisti, T., Ieva, F., Paganoni, A.M. (2014) Un'analisi degli apprendimenti degli student attraverso modelli multilevel. *Statistica e Società*, Anno III, No. 1, 2014
41. Taroni, P., Quarto, G., Pifferi, A., Ieva, F., Paganoni, A.M., Abbate, F., Balestreri, N., Menna, S., Cassano, E., Cubeddu, R. (2013) Optical Identification of Subjects at High Risk for Developing Breast Cancer. *Journal of Biomedical Optics Letters*, 18(6), June 2013.
42. Ekin, T., Ieva, F., Ruggeri, F., Soyer, R. (2013). Application of Bayesian Methods in Detection of Healthcare Fraud. *Chemical Engineering Transaction*, 33.
43. Ieva, F., Paganoni, A.M., Zanini, P. (2013). Detection of structural changes in tachogram series for the diagnosis of Atrial Fibrillation events. [Computational and Mathematical Methods in Medicine](#), Vol. 2013, Article ID 373401, 11 pages.
44. (*) Ieva, F., Paganoni, A.M., Pigoli, D., Vitelli, V. (2013). Multivariate functional clustering for the analysis of ECG curves morphology. *Journal of the Royal Statistical Society – Series C*, 62(3): 401-418
45. Azzimonti, L., Ieva, F., Paganoni, A.M. (2013) Nonlinear nonparametric mixed-effects models for unsupervised classification. *Computational Statistics*, 28:1549–1570
46. (*) Baraldo, S., Ieva, F., Paganoni, A.M., Vitelli, V. (2013) Outcome Prediction for Heart Failure Telemonitoring Via Generalized Linear Models with Functional Covariates. *Scandinavian Journal of Statistics*. 40(3): 403-416
47. Ieva, F., Paganoni, A.M.. (2013). Depth Measures for Multivariate Functional Data. *Communication in Statistics – Theory and Methods*, 42(7): 1265-1276.
48. Ieva, F., Paganoni, A.M., Ziller, S. (2013) Operational risk management: a statistical perspective. *Far East Journal of Mathematical Sciences*, Special Volume 2013, Part II, 123-138.
49. Di Lullo, G., Ieva, F., Longhi, R., Paganoni, A.M., Protti, M.P. (2012) Estimating point and interval frequency of antigen-specific CD4+ T cells based on short in vitro expansion and improved Poisson distribution analysis. *PLoS One*, 7(8). e42340. Epub 2012 Aug 7. [\[Online\]](#)
50. Grieco, N., Corrada, E., Sesana, G., Ieva, F., Paganoni, A.M., Marzegalli, M. (2012). Mortality and ST resolution in patients admitted with STEMI: the MOMI survey of emergency service experience in a complex urban area. *European Heart Journal: Acute Cardiovascular Care*, 1(3), 192–199. [\[Online\]](#)
51. (*) Grieco, N., Ieva, F., Paganoni, A.M. (2012). Performance assessment using mixed effects models: a case study on coronary patient care. *IMA Journal of Management Mathematics*, 23(2), 117-131 [\[Online\]](#)
52. Guglielmi, A., Ieva, F., Paganoni, A.M., Ruggeri, F. (2012). A Bayesian random-effects model for survival probabilities after Acute Myocardial Infarction. *Chilean Journal of Statistics*, 3(1): 1-15. [\[Online\]](#)
53. Ieva, F., Paganoni, A.M. (2011) Process indicators for assessing quality of hospitals care: a case study on STEMI patients, *JP Journal of Biostatistics*, 6(1): 53-75 [\[Online\]](#)
54. Ieva, F., Paganoni, A.M. (2010). Multilevel models for clinical registers concerning STEMI patients in a complex urban reality: a statistical analysis of MOMI2 survey. *Communications in Applied and Industrial Mathematics*, 1(1), 128-147 [\[Online\]](#)
55. Ieva, F., Paganoni, A.M. (2009). Integrazione tra registri clinici database amministrativi: il progetto IMASTE della Regione Lombardia. *S/S Magazine* [\[Online\]](#)
56. Grieco, N., Corrada, E., Sesana, G., Fontana, G., Lombardi, F., Ieva, F., Paganoni, A.M., Marzegalli, M. (2008). Le reti dell'emergenza in cardiologia: l'esperienza lombarda. *Giornale Italiano di Cardiologia* Supplemento "Crema Cardiologia 2008. Nuove Prospettive in Cardiologia".
57. Grieco, N., Corrada, Ieva, F., Lombardi, F., Marzegalli, M., Sesana, G., Paganoni, A.M. (2008). On site ECG transmission reduces door-to-balloon time in patients referred for primary PCI. *European Heart Journal*, 29 (Abstract Supplement): 655-656
58. Grieco, N., Sesana, G., Corrada, E., Ieva, F., Paganoni, A.M., Marzegalli, M. (2007) The Milano Network for Acute Coronary Syndromes and Emergency Services. *MESPE journal*, First Special Issue [\[Online\]](#)

Books

59. Ieva, F., Masci, C., Paganoni, A.M. (2016) *Laboratorio di Statistica con R* (second edition) Pearson
60. Lanzarone, E., Ieva, F. (Eds.) (2014) *The Contribution of Young Researchers to Bayesian Statistics - Proceedings of BAYSM 2013*. Springer, *Proceedings in Mathematics and Statistics*, Vol. 63, 2014. ISBN 978-3-319-02083-9 [\[Online\]](#)
61. Ieva, F., Paganoni, A.M., Vitelli, V. (2011) *Laboratorio di Statistica con R*. Pearson. ISBN 978-88-7192-762-6

Book chapters

62. Agasisti, T., Ieva, F., Masci, C., Paganoni, A.M., Soncin, M. (2017) Using statistical analytics to study school performance through administrative datasets. In: Vanthienen, J. and De Witte, K. (2017). *Data Analytics Applications in Education*. Taylor and Francis. ISBN 978-14-9876-927-3.
63. Azzimonti, L., Cremona, M.A., Ghiglietti, A., Ieva, F., Menafoglio, A., Pini, A., Zanini, P. (2015) BarCamp: Technology Foresight and Statistics for the Future. *Advances in Complex Data Modeling and Computational Methods in Statistics* (eds: A.M. Paganoni, P. Secchi), Contributions to Statistics, Springer International Publishing Switzerland 2015, chap 4, pp: 53-67. doi: 10.1007/978-3-319-11149-0_4
64. Mazzali, C., Maistriello, M., Ieva, F., Barbieri, P. (2105) Methodological Issues in the Use of Administrative Databases to Study Heart Failure. *Advances in Complex Data Modeling and Computational Methods in Statistics* (eds: A.M. Paganoni, P. Secchi), Contributions to Statistics, Springer International Publishing Switzerland 2015, chap 10, pp: 149-160. doi: 10.1007/978-3-319-11149-0_10
65. E. Prandoni, A. Guglielmi, F. Ieva, A. Paganoni (2014). A Semiparametric Bayesian Multivariate Model for Survival Probabilities After Acute Myocardial Infarction. In: (a cura di): F. Ieva; E. Lanzarone, *The Contribution of Young Researchers to Bayesian Statistics*. vol. 63, p. 161-163, Springer International Publishing Switzerland 2014, ISBN: 978-3-319-02083-9, doi: 10.1007/978-3-319-02084-6_31
66. A. Parodi, F. Ieva, A. Guglielmi, R. Argiento (2014). Analysis of Hospitalizations of Patients Affected by Chronic Heart Disease. In: (a cura di): F. Ieva; E. Lanzarone, *The Contribution of Young Researchers to Bayesian Statistics*. vol. 63, p. 155-159, Springer International Publishing Switzerland, ISBN: 978-3-319-02083-9, doi: 10.1007/978-3-319-02084-6_30
67. Ieva, F. (2013). Designing and mining a multicenter observational clinical registry concerning patients with Acute Coronary Syndromes. In: (a cura di): N. Grieco; A.M. Paganoni; M. Marzegalli, *New diagnostic, therapeutic and organizational strategies for patients with Acute Coronary Syndromes*. p. 47-60, Springer, ISBN: 978-88-470-5378-6, doi: 10.1007/978-88-470-5379-3_3
68. Cassarini, G., Ieva, F. (2013). Statistical methods to study the representativeness of STEMI Archive. In: (a cura di): N. Grieco; A.M. Paganoni; M. Marzegalli, *New diagnostic, therapeutic and organizational strategies for patients with Acute Coronary Syndromes*. p. 61-68, Springer, ISBN: 978-88-470-5378-6, doi: 10.1007/978-88-470-5379-3_4
69. Baraldo, S., Ieva, F., Mainardi, L., Paganoni, A.M. (2013). S. Baraldo, F. Ieva, L. Mainardi, A.M. Paganoni (2013). Estimation approaches for the Apparent Diffusion Coefficient in Rice-distributed MR signals. In: (a cura di): M. Grigoletto; F. Lisi; S. Petrone, *Complex Models and Computational Methods in Statistics*. CONTRIBUTIONS TO STATISTICS, p. 13-26, Springer, ISBN: 978-88-470-2871-5, ISSN: 1431-1968, doi: 10.1007/978-88-470-2871-5_2
70. Azzimonti, L., Ieva, F., Paganoni, A.M. (2013) A New Unsupervised Classification Technique Through Nonlinear Non Parametric Mixed-Effects

- Models. In: (a cura di): M. Grigoletto; F. Lisi; S. Petrone, *Complex Models and Computational Methods in Statistics. CONTRIBUTIONS TO STATISTICS*, p. 1-11, Springer, ISBN: 978-88-470-2870-3, ISSN: 1431-1968, doi: 10.1007/978-88-470-2871-5_1
71. Guglielmi, A., Ieva, F., Paganoni, A.M., Ruggeri, F. (2013) Hospital clustering in the treatment of acute myocardial infarction patients via a Bayesian semiparametric approach. *Statistical Models for Data Analysis*. In: *Studies in Classification, Data Analysis, and Knowledge Organization* (eds: P. Giudici, S. Ingrassia, M. Vichi) Springer, pp. 141-149 ISBN: 978-3-319-00031-2 (Print) 978-3-319-00032-9 (Online)
 72. Ieva, F., Paganoni, A.M., Secchi P. (2013). Mining Administrative Health Databases for epidemiological purposes: a case study on Acute Myocardial Infarctions diagnoses. In: (a cura di): F. Pesarin; N. Torelli; A. Bar-Hen, *Advances in Theoretical and Applied Statistics*. p. 417-426, Springer, ISBN: 978-3-642-35588-2, doi: 10.1007/978-3-642-35588-2_38
 73. Guglielmi, A., Ieva, F., Paganoni, A.M., Ruggeri, F. (2012). Process indicators and outcome measures in the treatment of Acute Myocardial Infarction patients. *Statistical Methods in Healthcare* (eds: F. Faltin, R. Kenett, F. Ruggeri), chap. 10, pp. 219-229. Wiley. ISBN: 978-0-470-67015-6
 74. Barbieri, P., Grieco, N., Ieva, F., Paganoni, A.M., Secchi, P. (2010). Exploitation, integration and statistical analysis of Public Health Database and STEMI archive in Lombardia Region. *Complex data modeling and computationally intensive statistical methods – Series "Contribution to Statistics"* (eds: P. Mantovan, P. Secchi), Springer, pp: 41-56 ISBN 978-88-470-1386-5

Preprints

1. Spreafico, M., Gasperoni, F., Barbati, G., Ieva, F., Scagnetto, A., Zanier, L., Iorio, A., Sinagra, G., Di Lenarda, A. (2019) Adherence to disease-modifying therapy in Heart Failure patients at 1-year from HF hospitalization: findings from a community-based study *Submitted*
2. Gasperoni, F.; Ieva, F.; Paganoni, A.M.; Jackson, C.; Sharples, L. (2019) Evaluating the effect of healthcare providers on the clinical path of Heart Failure patients through a novel semi-Markov multi-state model. *Submitted* [[MOX report](#)]
3. Tantardini, M., Ieva, F., Tajoli, L., Piccardi, C. (2019) Comparing methods for comparing networks. *Submitted* [[MOX report](#)]
4. Masci, C., Ieva, F., Agasisti, T., Paganoni A.M. (2019) Evaluating class and school effects on the joint achievements in different subjects: a bivariate semi-parametric mixed-effects model. *Submitted* [[MOX report](#)]
5. Massi, M., Ieva, F., Lettieri, E. (2018) Data Mining Application to Healthcare Fraud Detection: A Two-Step Unsupervised Clustering Model for Outlier Detection with Administrative Databases. *Submitted* [[MOX report](#)]
6. Ieva, F., Palma, F., Romo, J. (2018) Bootstrap-based Inference for Dependence in Multivariate Functional Data. *Submitted* [[MOX report](#)]
7. Fontana, L., Masci, C., Ieva, F., Paganoni, A.M. (2018) Exploiting learning analytics via Mixed Regression Trees. *Submitted* [[MOX report](#)]
8. Ieva, F., Paganoni, A.M., Romo, J., Tarabelloni, N. (2018) roahd Package: Robust Analysis of High Dimensional Data. *Submitted* [[MOX report](#)]
9. Tarabelloni, N., Ieva, F. (2016) On data Robustification in Functional Data Analysis. *Submitted* [[MOX report](#)]

Scientific Activities

- 2017 – 05 **Visiting** at MRC Biostatistics Unit, Institute of Public Health, Cambridge (UK)
- 2015 – 11 **Invited visiting** at Statistical Department, Universidad Carlos III, Madrid (ES)
- 2014 – 11 **Invited visiting** at Institute for Integrating Statistics in Decision Sciences (I²SDS), School of Business, George Washington University, Washington DC (US)
- 2013 – 10-12 **Visiting** at MRC Biostatistics Unit, Institute of Public Health, University Forvie Site, Robinson Way, Cambridge (UK)
- 2013 – 01-03 **Visiting** at MRC Biostatistics Unit, Institute of Public Health, University Forvie Site, Robinson Way, Cambridge (UK)
- 2012 – 09 **Invited visiting** at Institute for Integrating Statistics in Decision Sciences (I²SDS), School of Business, George Washington University, Washington DC (US)
- 2012 – 02 **Invited visiting** at Institute for Integrating Statistics in Decision Sciences (I²SDS), School of Business, George Washington University, Washington DC (US)
- 2015 – 04 **Organizer** of *StaTalk on Biostatistics*, Department of Mathematics, Università degli Studi di Milano (Italy), April 24, 2015
- 2014 – 07 **Organizer** of the j-ISBA invited session at the ISBA 2014 Conference, Cancun, July 14-18, 2014
- 2014 – 06 **Organizer** of [IYSM 2014](#) – International Young Statistician Meeting, Cagliari (Italy), June 14, 2014
- 2013 – 09 **Organizer** of ["BarCamp @ Polimi"](#), Agorà di Architettura, Politecnico di Milano, Milano, September 12, 2013
- 2013 – 09 **Organizer and Chair** of the invited session of ySIS "Likelihood and Bayesian methods for data modelling and classification", CLADAG - 9th Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society, Modena, September 18-20, 2013
- 2013 – 06 **Organizer and Member of the Scientific and Organizing Committee** of "BAYSM – Bayesian Young Statistician Meeting", Consiglio Nazionale delle Ricerche IMATI Milano, Italy, June 5-6, 2013
- 2012 – 07 **Organizer** of the invited session "Statistics in medical care and clinical decisions", yBIS – jSPE Conference, Lisboa, July 21-23, 2012
- 2012 – 06 **Organizer** of the round table "Publish or Perish: the long way towards publication of results in statistical research", SIS2012 Conference, Rome, Italy, June 20-22, 2012
- 2018 – **Member of the Directory Board** of the "Center for Health Care Research and Pharmacoepidemiology" - <http://www.chrp.it/>
- 2013 – **Member of the Scientific Board** of "BAYSM – Bayesian Young Statistician Meeting"
- 2013 – 08 **Member of the International Organizing Committee** of "18EYSM – 18th European Young Statistician Meeting", Osijek, Croatia, August 26-30, 2013
- 2009 – **Co-responsible** for "Statistical Analysis of data coming from PROMETEO (PROgetto Milano Ecg Teletrasmissi ExtraOspedaliero) project, commissioned by 118 (National free toll number for emergencies) of Milan
- 2009 – 2010 **Co-responsible** for the organization of the graduate course on Medical Statistics, MOX and Metid, Politecnico di Milano
- 2008 – 2010 **Co-responsible** for statistical analyses of data coming from "Nuovi Reti Sanitarie" project, commissioned by Lombardia Region
- 2007 – 2009 **Co-responsible** for the MOX project, "Statistical Analysis of MOMI2 (one Month Monitoring Miocardial Infarction in Milan) survey", commissioned by 118 (National free toll number for emergencies) of Milan
- 2007 - **Member** of the Gruppo di Lavoro Emergenza Cardiologia Preospedaliera (Working group for pre-hospital cardiological emergency) – Milan Network, A.C.E.U. (Area di Coordinamento per l'Emergenza Urgenza).
- 2008 **Co-responsible** for the **Italian translation of the book** "An Introduction to Medical Statistics", Martin Bland, Oxford University Press, third edition. Curators: Piercesare Secchi and Anna Maria Paganoni. Editor: Apogeo, Milano. ISBN: 8850327382
- 2018 **Reviewer** for the Medical Research Council (MRC) proposals
- 2013 - **Reviewer** for **BIOMETRIKA**, **TEST**, **JCGS** – Journal of Computational and Graphical Statistics, **JAS** - Journal of Applied Statistics, **IEEE** - Journal of Biomedical and Health Informatics, **JCMS** - Health Care Management Science, **BMC** Health Services Research, **Statistics in Medicine**, **COST** – Computational Statistics, **BMJopen**

Invited Talks and Lectures

- 2017/09 Department of Mathematics, University of Genova (IT)
Title: "Nonparametric Inference for vital signs"
- 2016/11 ZI – Zentralinstitut für die kassenärztliche Versorgung in Deutschland, Berlin (DE). Invited lesson (theoretical and practical session) within a Workshop on Medical Profiling
- 2015/11 CERGAS Bocconi, Milano (Italy).
Title: "Exploiting the use of large Administrative Databases for Modelling Repeated Hospitalizations and Death in Patients with Heart Failure"
- 2015/11 Free University of Bozen (Italy). Invited Lecture in the PhD school on "Data Analysis and programming with R"
Title: "Introduction to R"
- 2015/09 Cardiovascular Centre of Trieste (Italy). Title: "Multi-State Modelling of Repeated Hospitalization and Death in Patients with Heart Failure: how to exploit the use of Administrative Databases in Clinical Care during and after Discharge"
- 2014/11 Institute for Integrating Statistics in Decision Sciences (I²SDS), School of Business, George Washington University, Washington DC (US).
Title: "Statistical Models for Improving Prognosis of Heart Failure: Hazard Reconstruction, Clustering and Prediction of Disease Progression"
- 2014/02 SISSA – International School for Advanced Studies, Trieste (Italy). Title: "Data mining of administrative healthcare databases: how statistics gets insights on chronic heart failures".
- 2014/02 INRIA, Lille (France) Title: "Statistical modeling and classification of Multivariate Functional Data: an application to ECG signals".
- 2014/01 Università degli Studi di Firenze, Florence (Italy) Title: "Providers profiling via Bayesian nonparametrics: model based approach for assessing performances in public health".
- 2013/05 Bicocca University, Milan (Italy) Title: "Prove tecniche di network per giovani statistici: l'esperienza di ySIS, BAYSM e BarCamp".
- 2013/02 MRC Biostatistics Unit, Institute of Public Health, University Forvie Site, Robinson Way, Cambridge. UK. Title: "Statistical Methods for handling with Complex Data in Healthcare Research, Planning and Decisions".
- 2013/01 SISSA – International School for Advanced Studies, Trieste (Italy). Title: "Statistical methods for healthcare assessment".
- 2012/11 Università di Torino, Torino (Italy). Title: "Statistical models for evaluating performances of healthcare providers".
- 2012/11 SchARR – School of Health and Related Research, Design, Trial and Statistics Section, Medical Statistics Group, University of Sheffield, Sheffield (UK). Title: "Statistical models for assessing performances of healthcare providers using clinical and administrative data".
- 2012/10 Università degli studi di Trieste, Trieste (Italy). Title: "Evaluation of performance assessment of clinical providers: a statistical approach".
- 2012/09 Institute for Integrating Statistics in Decision Sciences (I²SDS), School of Business, George Washington University, Washington DC (US).
Title: "Hospitals Clustering via Semiparametric Bayesian Models: focus on model based methods for assessing performances in healthcare context"
- 2012/02 Institute for Integrating Statistics in Decision Sciences (I²SDS), School of Business, George Washington University, Washington DC (US).
Title: "Providers' Profiling for Supporting Decision Makers in Cardiovascular Healthcare"
- 2011/10 Giornata Italiana della Statistica. Dipartimento Scienze Statistiche, Sapienza Università di Roma, P.le Aldo Moro 5, Roma (Italy). Title: "Statistical Modelling for Cardiovascular Healthcare"
- 2011/03 Université Pierre et Marie Curie, 4 place Jussieu 75005 Paris, France. Title: "Meeting on ECG: Polimi – Paris6"
- 2011/01 Consiglio Nazionale delle Ricerche IMATI, via Bassini 15, Milan (Italy) Title: "Hierarchical parametric and semiparametric models for hospital profiling: a Bayesian approach to survival probability estimation in patients affected by Acute Myocardial Infarction."

Conferences & Workshop

- 2019
- **SISMEC 2019**, Roma (IT), September 18-21, 2019
Talk: Relationship among hospital volume and mortality in patients affected by lung cancer: evidence from an Italian real-world investigation
 - **ISCB 2019 - 40th annual conference of the International Society of Clinical Biostatistics**, Leuven (Be), July 14-18, 2019
Poster: Hospital effect on 3-years-survival in patients undergone to lung tumor surgery: a real-world study
 - **SIS 2019 - Smart Statistics for smart applications**, Milano (IT), June 18-21, 2019
Talk: Are Real World Data the smart way of doing Health Analytics?
 - **Cancer Real World**, Milano (IT), January 24-25, 2019
Talk (invited): Volumi di attività ed esiti a lungo termine
- 2018
- **ERCIM 2018**, Pisa (IT), December 14-16, 2018
Talk (invited): On Robust Nonparametric techniques for dealing with the Analysis of High Dimensional Data
 - **Aggiornamenti in cardiologia, ecocardiografia clinica ed EcocolorDoppler vascolare**, Trieste (IT), January 12-13, 2018
Talk (invited): Nuovi approcci modellistici ai dati PDTA e farmacologici: clustering mediante frailty non parametriche e inclusione di covariate tempo-dipendenti
- 2017
- **ERCIM 2017**, London (UK), December 15-18, 2017
Talk (invited): A Bootstrap approach to the Inference on Dependence in Multivariate Functional Setting
 - **XXII National Conference of the Italian Health Economics Association**, Pavia (IT), October 5-6, 2017
Talk (invited): Administrative data: goldmine or goose chase? a statistical perspective.
 - **CEN ISBS 2017 – Conference on Biometrics & Biopharmaceutical Statistics**, Wien (Austria), August 8-13
Talk (invited): Multi state modelling of survival and repeated events in Heart Failure based on administrative data
 - **ISCB 2017 – 38th annual conference of the International Society of Clinical Biostatistics**, Vigo (Spain), July 8-13, 2017
Talk: Multi state modelling for Heart Failure care path: a population-based study using administrative data
 - **SIS 2017 - Statistics and Data Science: new challenges, new generations**, Florence, June 28-30, 2017
 - Talk: Network Analysis of Comorbidity Patterns in Heart Failure Patients using Administrative Data
 - **Aggiornamenti in cardiologia, ecocardiografia clinica ed EcocolorDoppler vascolare**, Trieste (IT), February 10-11, 2017
Talk (invited): Multi state modelling of Heart Failure care path: a population-based investigation from Italy
- 2016
- **ERCIM 2016**, Sevilla (ES), December 9-12, 2016
Talk (invited): Analyzing Dependence for Multivariate Functional Data

- **Congresso Intermedio SISMEC 2016 - L'evoluzione della ricerca epidemiologica basata sugli archivi sanitari: uno sguardo al futuro**, Pavia (IT), November 24-25, 2016
Poster: On the use of Administrative Data in Healthcare Planning and Research: a case study on Heart Failure Patients in Lombardia
- **Aggiornamenti in cardiologia, ecocardiografia clinica ed EcocolorDoppler vascolare**, Trieste (IT), February 5-6, 2016
Talk (invited): Multi-state models: ospedalizzazioni ripetute e PTDA scompenso cardiaco

2015

- **ERCIM 2015**, London (UK), December 12-14, 2015
Talk (invited): Robust Outlier Detection Methods for Functional Data
- **CLADAG 2015 – 10th Meeting of the Classification and Data Analysis Group**, Santa Margherita di Pula (Italy), October 8-10, 2015
Talk: Robustified Classification of Multivariate Functional Data
- **Statistics and Demography: the Legacy of Corrado Gini**, Trieste, September 9-11, 2015
Talk: Analysis of pupil's achievements by means of bivariate mixed effect models
- **EMS 2015 - European Meeting of Statistics**, Amsterdam, July 6-10, 2015
Talk: On the use of depth measures for Multivariate Functional Data
- **ISNPS, Meeting of the International Society for Non-Parametric Statistics, Graz (AU), July 12-15, 2015**
Talk (invited): Nonparametric statistics in multivariate functional data analysis: an application to disease prediction in cardiovascular context.
- **Trend temporali di ricovero, prassi di cura ed esiti nell'insufficienza cardiaca**, Milano (Italy), March 12th, 2015

2014

- **ERCIM 2014**, Pisa (Italy), December 6-8, 2014
Talk (invited): Exploiting the use of large administrative databases in epidemiology: multi state models for times to hospitalizations and death in Heart Failure
- **Conference of European Statistics Stakeholders**, Rome (Italy), November 24-25, 2014
- **BAYSM 2014 – 2nd BAYesian Young Statistician Meeting**, Wien (Austria), September 18-19, 2014
- **ISCB 2014**, Wien (Austria), August 24-28, 2014
Talk: Statistical models for improving prognosis of chronic cardiovascular diseases: hazard reconstruction and clustering of patients affected by heart failure
- **IBC 2014**, Florence (Italy), July 6-11, 2014
Talk: Study of Disease Progression via Dynamic Clustering of Hazard Functions in non-homogeneous Counting Processes: an application to Heart Failure
- **Doing Research in Healthcare with Administrative Databases**, Milan (IT), June 30th, 2014
Talk: Healthcare assessment from administrative data: multi state models for hospitalizations and time to death in chronic heart failure
- **SIS 2014**, Cagliari (Italy), June 11-13, 2014
Talk: Multilevel modeling of heterogeneity in math achievements: different class- and school-effects across Italian regions
- **MRC Conference on Biostatistics**, Cambridge (UK), March 24-26, 2014
Talk: Multi State modelling of hospitalization process and time to death in patients affected by Heart Failure: how to assess the burden of an extensive pathology from administrative data

2013

- **ERCIM 2013**, London (UK), December 14-16, 2013
Talk (invited): Supervised Learning from Multivariate Functional Data
- **CLADAG 2013**, Modena (Italy), September 18-20, 2013
Chair and Organizer of the y-SIS Invited Session
- **BarCamp @ Polimi**, Milan (Italy), September 12, 2013
- **SCo 2013**, Milan (Italy), September 9-11, 2013
Talk: Multi-state modeling of the hospitalization process of patients affected by Chronic Heart Failure
Poster: Optical Identification of Subjects at High Risk for developing Breast Cancer
- **PHM 2013 - Prognostics and System Health Management Conference**, Milan (Italy), September 8-11, 2013
Talk: Application of Bayesian Methods in Detection of Healthcare Fraud
- **ISCB – 34th annual conference of the International Society of Clinical Biostatistics**, Munich (Germany), August 25-29, 2013
Talk: Multi-state models for the joint prediction of time to hospitalizations and death in heart failure patients
- **BAYSM 2013 – 1st BAYesian Young Statistician Meeting**, Milan (Italy), June 5-6, 2013
- **7th IMA Conference on Quantitative Modelling in the Management of Health and Social Care**, Woburn House Conference Centre, 20 Tavistock Square, London (UK), March, 25-27, 2013
Talk: Risk Prediction for Acute Myocardial Infarction via Generalized Functional Regression Models

2012

- **MMSDA - 2012 Medicare and Medicaid Statistics and Data Analysis Conference**, Hilton Alexandria Old Town, Washington D.C. September, 19-21, 2012
- **The impact of statistical thinking in Economics and Life Sciences**, Bocconi University, Milano (Italy). September, 13-15, 2012
- **Cladag2012** Capri (Italy). September, 4-6, 2012
Talk: Mixed effect models for provider profiling in cardiovascular healthcare context
- **ISCB2012 - 33rd Annual Conference of the International Society for Clinical Biostatistics**, Bergen (Norway). August, 19-23, 2012
Poster: Mixed effect models for provider profiling in cardiovascular healthcare context
- **yBIS – jSPE – Joint meeting of the International Young Business and Industrial Statisticians**, Lisboa (Portugal), July, 23-26, 2012
Chair and organizer of the invited session "Statistics in Medical Care and Clinical Decisions"
- **ISBA2012** Kyoto (Japan). June, 25-29, 2012
Poster: Semiparametric Bayesian modelling for hospital profiling and classification of patients with observed high survival probability
- **SIS2012** Rome (Italy). June, 20-22, 2012
Talk: Depth measures for the study of real and simulated ECG signals
Chair and Organizer of the Round Table "Publish or Perish: the long way towards publication of results in statistical research"
- **Making decisions: the role of statistics for knowledge and governance**. Università Europea di Roma, Roma (Italy). April, 19-20, 2012
Talk: Modelli statistici per il supporto alle decisioni in ambito sanitario e cardiovascolare

- **Il Programma Strategico Nazionale Sull'Infarto Miocardico Acuto: Esiti e Prospettive Operative.** Sala Pirelli - Palazzo Pirelli, Milano (Italy). February 15, 2012
Talk: Analisi dati Archivio STEMI e confronti con la BDA

2011

- **SNAPLE** - Statistical and Numerical methods for the Analysis of Problems in Life sciences and Engineering - kickoff meeting, MOX - Mathematical Department, Politecnico di Milano, Milano (Italy). October 13, 2011
- **S.Co.2011** – 7th Conference on Statistical Computation and Complex Systems. Palazzo Centrale del Bò, Università degli Studi di Padova, Padova (Italy). September 19-21, 2011
Talk: A new Unsupervised Classification Algorithm for Nonlinear Nonparametric Mixed Effects Models
- **CLADAG2011** - 8th Scientific Meeting on CLAssification and Data Analysis Group of the Italian Statistical Society. University of Pavia, Pavia (Italy). September 7-9, 2011
Talk (invited): Multivariate functional clustering for the analysis of ECG curves morphology.
Talk: Hospital clustering in the treatment of acute myocardial infarction patients via a Bayesian nonparametric approach
- **17EYSM** – 17th European Young Statistician Meeting. Lisboa (Portugal). September 5-9, 2011
Talk: Outlier detection for training sets in an unsupervised functional classification framework: an application to ECG signals
- **Archivio Regionale STEMI e Progetto Strategico "Sindrome coronarica acuta"**. Palazzo Pirelli, Milano (Italy). May 23, 2011
- **GDRR 2011** - Second workshop on Games and Decisions in Risk and Reliability. Belgirate (Italy) May 19-21, 2011
Talk: Provider Profiling for Supporting Decision Makers in Coronary Patient Care
- **IV CONVENTION DELLE UTIC LOMBARDE.** Villa Cagnola, Gazzada (Varese), Italy. April 9, 2011
Talk: L'Archivio Regionale delle Sindromi Coronariche Acute: una risorsa epidemiologica e clinica
- **YoungOR 17.** New Business School, Jubilee Campus, University of Nottingham (UK). April 5-7, 2011
Talk: Provider Profiling using Mixed Effect Models
- **La Qualità nel Fascicolo Sanitario Elettronico Personale.** Politecnico di Milano, Milano (Italy). February 17-18, 2011
Poster: Integration and Analysis of Clinical Registries and Public Health Database Exploitation of RL for Acute Coronary Syndromes
Poster: Analysis of Hospitalization Processes for Heart Failure Patients
Poster: Statistics on ECGs: wavelet smoothing, registration and classification

2010

- **ERCIM'10** - 3rd International Conference on Computing and Statistics. Senate House, University of London, London (UK). Dec 9-12, 2010
Talk: Mixture models for Bayesian estimation of survival probabilities in acute myocardial infarction.
Poster: Statistics on ECGs: wavelet smoothing, registration and classification,
- **BioMed @ Polimi:** 20 years and beyond. Politecnico di Milano – Aula Osvaldo De Donato, Milan (Italy). November 30, 2010
- **AL TERMINE DI TELEMACO...** riflessioni a margine dell'esperienza svolta. Politecnico di Milano – Aula Rogers, Milan (Italy). Nov 12, 2010
- **RSS Conference 2010.** Brighton (UK), September, 13-17, 2010
Poster: Statistical analysis for health-care decisions: a case study on a clinical survey concerning STEMI patients
- **XLV Scientific Meeting of the Italian Statistical Society 2010,** Padua (Italy), June 16-18, 2010
Talk: A hierarchical random-effects model for survival in patients with Acute Myocardial Infarction
- **Satellite Workshop - XLV Scientific Meeting of the Italian Statistical Society 2010,** "Statistica in Azienda, Statistici in Azienda". Padua (Italy), June 15, 2010. Poster Session
- **ABS-2010,** Applied Bayesian Statistics School on Bayesian Machine Learning with Biomedical Applications. Bolzano, Italy, June 10-15, 2010.
Talk: A Bayesian random-effects model for survival probabilities after Acute Myocardial Infarction.
- **Go-wireless – la Cardiologia senza fili.** Sala Mascagni, Pad.16, Exposanità, Bologna, Italy, May 27, 2010
- **6th Conference on Quantitative Modelling in the Management of Health Care. Institute of Mathematics and its Application (IMA),** Mary Ward House, London (UK). March 29-31, 2010
Talk: STEMI Archive and Lombardia Region Public Health Database: a pilot example of statistical analysis on complex data arising from integrated database

2009

- **SIMAI 2009** - Prospettive di Sviluppo della Matematica Applicata e Industriale in Italia 2009. In memoria di Angelo Marcello Anile. Rome (Italy), October 9, 2009
Talk: Statistical Analysis of an integrated Database concerning patients with Acute Coronary Syndromes
- **S.Co.2009** - Complex Data Modeling and Computationally Intensive Statistical Methods for Estimation and Prediction. Politecnico di Milano, Milan (Italy), September 14-16, 2009
Talk (invited): Statistical Analysis of an integrated Database concerning patients with Acute Coronary Syndromes
- **ABS-2009,** Applied Bayesian Statistics School on Bayesian Methodology for Clustering, Classification and Categorical Data Analysis. Bressanone (Brixen), Italy, June 15-18, 2009
- **BISP06,** Sixth Workshop on Bayesian Inference in Stochastic Processes. Bressanone (Brixen), Italy, June 18-20, 2009.

2008

- **XLIV Scientific Meeting of the Italian Statistical Society 2008.** Arcavacata di Rende, Cosenza. June 25-27, 2008
Talk: Door to Balloon Time in Patients with ST-Segment Elevation Myocardial Infarction.
- **ABS-2008,** Applied Bayesian Statistics School on Bayesian Decision Problems in Biostatistics and Clinical Trials. Trento (Italy), June 9-13, 2008.
Talk: Open problems on Bayesian and frequentist statistical techniques for MOMI2 dataset.

Conference Proceedings

- Ieva, F (2019) Are Real World Data the smart way of doing Health Analytics? Book of Short Papers of SIS2019. Pearson ISBN: 9788891915108
- Massi, M.C., Ieva, F., Lettieri, E. (2019) Data Mining application to Healthcare Fraud Detection: a two-step unsupervised clustering method for outlier detection with administrative databases. Book of Short Papers of SIS2019. Pearson ISBN: 9788891915108
- Spreafico, M, Ieva, F. (2019) Joint Models: a smart way to include functional data in healthcare analytics. Book of Short Papers of SIS2019. Pearson ISBN: 9788891915108
- Masci, C., Ieva, F., Agasisti, T., Paganoni, A.M. (2019) Classification of Italian classes via bivariate semi parametric multilevel models. Book of Short Papers of SIS2019. Pearson ISBN: 9788891915108

- Spreafico, M., Gasperoni, F., Ieva, F., (2018) Investigating the effect of drugs consumption on survival outcome of Heart Failure patients using joint models: a case study based on regional administrative data. Proceedings of the XLIX Scientific Meeting of the Italian Statistical Society. ISBN: 9788891910233
- Masci, C., Ieva, F., Paganoni, A.M. (2018) Unsupervised clustering of Italian schools via non-parametric multilevel models. Proceedings of the XLIX Scientific Meeting of the Italian Statistical Society ISBN: 9788891910233
- Paganoni, A.M., Ghiglietti, A., Scarale, M.G., Miceli, R., Ieva, F., Mariani, L., Gavazzi, C., Edefonti, V. (2018) A simulation study on the use of response-adaptive randomized designs. Proceedings of the XLIX Scientific Meeting of the Italian Statistical Society ISBN: 9788891910233
- Gasperoni, F., Ieva, F., Paganoni, A.M., Jackson, C., Sharples, L. (2018) Multi-State model with nonparametric discrete frailty. Proceedings of the XLIX Scientific Meeting of the Italian Statistical Society ISBN: 9788891910233
- Taroni, P., Pifferi, A., Cubeddu, R., Ieva, F., Paganoni, A.M., Abbate, F., Cassano, E. (2018) Optical Quantification of Collagen and Breast Cancer: Lesion Classification and Risk Estimate, in Biophotonics Congress: Biomedical Optics Congress 2018 (Microscopy/Translational/Brain/OTS), OSA Technical Digest (Optical Society of America, 2018), paper OT4D.1 doi: <https://doi.org/10.1364/OTS.2018.OT4D.1>
- Gasperoni F., Ieva F., Barbati G., Scagnetto A., Iorio A., Sinagra G., Di Lenarda A. (2017) Evaluation of Heart Failure Patterns of Care via Multi Site Models: a population based approach based on administrative data. La statistica a supporto della salute: dalla prevenzione alla continuità delle cure - Atti IX Congresso Nazionale SISMEC "ISBN: 978-88-943456-0-5.
- Frigerio, M., Scalvini, S., Agostoni, O., Mazzali, C., Barbieri, P., Ieva, F., Maistrello, M., Masella, C., Paganoni, A.M., Merlino L. (2016) Trends in heart failure hospitalizations, patient characteristics, in-hospital and 1-year mortality: a population study, from 2000 to 2012. European Journal of Heart Failure. Vol. 18, pp: 405-406. 111 River st, Hoboken 07030-5774, NJ USA: Wiley-Blackwell, 2016.
- Di Lenarda, A.A., Barbati, G., Russo, M., Radini, D., Humar, F., Ieva, F., Gasperoni, F., Gioia, S., Scagnetto, A., Sinagra, G. (2016). Short-and long-term mortality and heart failure hospital re-admissions among patients hospitalised for heart failure: a regional population-based investigation from Italy. European Journal of Heart Failure. Vol. 18, pp: 111-112. 111 River st, Hoboken 07030-5774, NJ USA: Wiley-Blackwell, 2016.
- Gasperoni, F., Ieva, F., Barbati, G. (2016) Multi-state models for hospitalizations of heart failure patients in Trieste. Proceedings of the XLVIII Scientific Meeting of the Italian Statistical Society ISBN: 9788861970618
- Barbati, G. Ieva, F., Scagnetto, A., Sinagra, A., DiLenarda, A. (2016) Competing risks between mortality and heart failure hospital re-admissions: a community-based investigation from the Trieste area. Proceedings of the XLVIII Scientific Meeting of the Italian Statistical Society ISBN: 9788861970618
- Masci, C., Paganoni, A.M., Ieva, F., Agasisti, T. (2016) Analysis of pupils' INVALSI achievements by means of bivariate multilevel models. Proceedings of the XLVIII Scientific Meeting of the Italian Statistical Society ISBN: 9788861970618
- Grossetti, F. Ieva, F., Scalvini, S., Paganoni, A.M. (2016) Multi-state Approach to Administrative Data on Patients affected by Chronic Heart Failure. Proceedings of the XLVIII Scientific Meeting of the Italian Statistical Society ISBN: :9788861970618
- Ieva, F., Paganoni, A.M. (2016) Robust classification of multivariate functional data. Proceedings of the XLVIII Scientific Meeting of the Italian Statistical Society ISBN: 9788861970618
- Taroni, P., Paganoni, A.M., Ieva, F., Abbate, F., Cassano, E., Cubeddu, R. Pifferi, A. (2016) Is Collagen an Independent Risk Factor for Breast Cancer? Clinical and Translational Biophotonics Th4B. 3. Optical Society of America
- Ieva, F., Paganoni, A.M. (2016) Robustified classification of multivariate functional data. Proceedings of CLADAG 2015 - 10th Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society, CUCEC. ISBN: 978-88-84-67-949-9
- Taroni, P., Pifferi, A., Quarto, G., Farina, A., Ieva, F., Paganoni, A.M., Abbate, F., Cassano, E., Cubeddu, R. (2015) Time domain diffuse optical spectroscopy: In vivo quantification of collagen in breast tissue. Proc. SPIE 9529, Optical Methods for Inspection, Characterization, and Imaging of Biomaterials II, 952910 (June 22, 2015); doi:10.1117/12.2187775
- Biasi, R., Ieva, F., Paganoni, A.M., Tarabelloni, N. (2014) Multivariate functional data depth measure based on variance-covariance operators. Proceeding of IWFOs: Contributions in infinite dimensional statistics and related topics. ISBN: 978-88-7488-763-7
- Agasisti, T., Ieva, F., Paganoni, A.M. (2014) Multilevel modeling of heterogeneity in math achievements: different class- and school-effects across Italian regions. Proceedings of the XLVII Scientific Meeting of the Italian Statistical Society ISBN: 978-88-8467-874-4
- Biasi, R., Ieva, F., Paganoni, A.M., Tarabelloni, N. (2014) Depth measures for multivariate functional data with data-driven weights. Proceedings of the XLVII Scientific Meeting of the Italian Statistical Society ISBN: 978-88-8467-874-4
- Ieva, F., Jackson, C., Sharples, L.D. (2013) Multi-state models for the joint prediction of time to hospitalizations and death in heart failure patients. Proceedings of ISCB 2013, 34th Conference
- Ieva, F., Paganoni, A.M. (2013) Statistical Tools for Detecting and Visualizing Outliers in Provider Profiling: an effective decisional support to healthcare regulation. Proceedings of SCo2013, 8th Conference ISBN: 97888-6493-019-0
- Guglielmi, A., Ieva, F., Paganoni, A.M., Prandoni, E. (2013) Joint modeling of Multiple Mixed-type Outcomes using Bayesian Semiparametrics: an application to Acute Myocardial Infarction Patients. Proceedings of SCo2013, 8th Conference ISBN: 97888-6493-019-0
- Mazzali, C., Ieva, F., Maistriello, M., Barbieri, P. (2013) Using Administrative Databases to Study Patients hospitalized for Heart Failure. Proceedings of SCo2013, 8th Conference ISBN: 97888-6493-019-0
- Ieva, F., Jackson, C., Sharples, L.D. (2013) Multi-state Modeling of the Hospitalizations Process of Patients affected by Chronic Heart Failure. Proceedings of SCo2013, 8th Conference ISBN: 97888-6493-019-0
- Taroni, P., Quarto, G., Pifferi, A., Ieva, F., Paganoni, A.M., Abbate, F., Balestrieri, N., Menna, S., Cassano, E., Cubeddu, R. (2013) Optical Identification of subjects at high risk for developing breast cancer. Proceedings of SCo2013, 8th Conference ISBN: 97888-6493-019-0
- Taroni, P., Quarto, G., Pifferi, A., Spinelli, L., Torricelli, A., Ieva, F., Paganoni, A.M., Abbate, F., Balestrieri, N., Menna, S., Cassano, E., Cubeddu, R. (2013) Optical Identification of Subjects at High Risk for Developing Breast Cancer. European Conference on Biomedical Optics (ECBO), Munich (Germany), May, 12-16, 2013
- Ieva, F., Paganoni, A.M. (2012) Mixed effect models for provider profiling in cardiovascular healthcare context. Book of short papers *Analysis and Modeling of complex data in behavioural and social sciences*. JCS – CLADAG 12, Anacapri (Italy), September 3-4, 2012. <http://www.ics-cladag12.tk/>
- Ieva, F., Paganoni, A.M. (2012) Depth measures for the study of real and simulated ECG signals. Acts XLVI Scientific Meeting of the Italian Statistical Society 2012, Rome (Italy), June 20-22, 2012
- Baraldo, S., Ieva, F., Mainardi, L., Paganoni, A.M. (2012) Experimental design for the estimation of Rician-distributed intensity fields in MRI. Acts XLVI Scientific Meeting of the Italian Statistical Society 2012, Rome (Italy), June 20-22, 2012
- Guglielmi, A., Ieva, F., Paganoni, A.M., Ruggeri, F., Soriano, J. (2011). Semiparametric Bayesian approaches to mixed-effects models for outcome measures in the treatment of acute myocardial infarction. Proceedings SCo2011, 7th Conference
- Azzimonti, L., Ieva, F., Paganoni, A.M. (2011). A new unsupervised classification algorithm for nonlinear non parametric mixed effects models. Proceedings of SCo2011, 7th Conference
- Ieva, F., Paganoni, A.M., Pigoli, D., Vitelli, V. (2011) ECG signal reconstruction, Landmark registration and functional classification. Proceedings of SCo2011, 7th Conference
- Baraldo, S., Ieva, F., Mainardi, L., Paganoni, A.M. (2011) Adaptive design of experiment for the estimation of apparent diffusion coefficients in MRI. Proceedings of SCo2011, 7th Conference

- Marzegalli, M., Grieco, N., Russo, C.F., Paganoni, A.M., Barbieri, P., Ieva, F. (2011) Cambia l'epidemiologia: la rete per lo stemi diventa la rete per tutta l'emergenza cardiovascolare ischemica?. Acts of "Cardiologia 2011" of XLV International conference of Cardiovascular Department A. De Gasperis, Milan (Italy), September 12, 2011, pp: 3-11
- Ieva, F., Paganoni, A.M., Pigoli, D., Vitelli, V. (2011) Multivariate functional clustering for the analysis of ECG curves morphology, Proceedings of Cladag 2011 (8th International Meeting of the Classification and Data Analysis Group), Pavia (2011). ISBN: 978-88-906639
- Guglielmi, A., Ieva, F., Paganoni, A.M., Ruggeri, F., Soriano, J. (2011). Hospital clustering in the treatment of acute myocardial infarction patients via a Bayesian nonparametric approach Proceedings of Cladag 2011 (8th International Meeting of the Classification and Data Analysis Group)- Proceedings, Pavia (2011). ISBN: 978-88-906639
- Ieva, F. (2011). Outlier detection for training sets in an unsupervised functional classification framework: an application to ECG signals. Proceedings of the 17th European Young Statisticians Meeting, Lisboa (Portugal), September 5-9, 2011
- Ieva, F., Paganoni, A.M., Secchi, P. (2010). Data mining the Lombardia Public Health Database: a pilot case study on hospital discharge data for Acute Myocardial Infarctions. Acts XLV Scientific Meeting of the Italian Statistical Society 2010, Padua (Italy), June 16-18, 2010
- Guglielmi, A., Ieva, F., Paganoni, A.M., Ruggeri, F. (2010). A hierarchical random-effects model for survival in patients with Acute Myocardial Infarction. Acts XLV Scientific Meeting of the Italian Statistical Society 2010, Padua (Italy), June 16-18, 2010
- Baraldo, S., Ieva, F., Paganoni, A.M., Vitelli, V. (2010). Statistical models for hazard functions: a case study of hospitalizations in health failure telemonitoring. Acts XLV Scientific Meeting of the Italian Statistical Society 2010, Padua (Italy), June 16-18, 2010
- Guglielmi, A., Ieva, F., Paganoni, A.M., Ruggeri, F. (2010). A Random-Effects Model for Survival analysis After Acute Myocardial Infarction. Acts Ninth Valencia International Meeting on Bayesian Statistics - 2010 ISBA World Meeting, Benidorm (Alicante, Spain), June 3-8, 2010
- Marzegalli, M., Tridico, C., Fontana, G., Borghi, G., Grieco, N., Ieva, F., Paganoni, A.M. (2009). Integrazione tra registri clinici e database amministrativi: il progetto IMASTE Lombardia. Acts "Cardiologia 2009" of XVIII International conference of Cardiovascular Department A. De Gasperis, Milan (Italy), June 16-18, 2010, pp:27-31
- Ieva, F., Paganoni, A.M. (2009). Statistical Analysis of an Integrated Database Concerning Patients With Acute Coronary Syndromes. Proceedings of SCo2009, Sixth Conference, Maggioli editore, Milano
- Grieco, N., Sesana, G., Paganoni, A.M., Ieva, F., Marzegalli, M. (2008). Door to Balloon time in patients with ST-segment elevation myocardial infarction. A study in a complex urban reality. Proceedings IX Congresso SIMAI, Roma (Italy), September 15-19, 2008
- Grieco, N., Sesana, G., Ieva, F., Marzegalli, M., Paganoni, A.M. (2008). Door to Balloon Time in Patients with ST-Segment Elevation Myocardial Infarction. Acts XLIV Scientific Meeting of the Italian Statistical Society 2008, Arcavacata di Rende, Cosenza (Italy), June 25-27, 2008

Teaching

(* denotes teaching held in English)

2018 – 2019

- (*) PhD Course *Statistical methods in Healthcare Research. Tailored techniques for the analysis of complex and massive data in healthcare*. Politecnico di Milano (PhD in Mathematical Models and Methods for Engineering)
- (*) Course of *Fundamentals of Statistics*. Politecnico di Milano (Master in Business Analytics and Big Data - BABD)
- (*) Course of *Applied Statistics*. CEFRIEL (Master in Artificial Intelligence and Machine Learning)
- Course of *Probability and Mathematical Statistics*. Politecnico di Milano (Bachelor Degree in Management, Economics and Industrial Engineering)

2016 – 2017

- (*) Course of *Fundamentals of Statistics*. Politecnico di Milano (Master in Business Analytics and Big Data - BABD)
- Course of *Probability and Mathematical Statistics*. Politecnico di Milano (Bachelor Degree in Management, Economics and Industrial Engineering)

2015 – 2016

- (*) PhD Course *Statistical Analysis Network Data*. Politecnico di Milano (PhD in Mathematical Models and Methods for Engineering)
- (*) Lecture in the PhD school on "Data Analysis and programming with R". Title: "Introduction to R". Free University of Bozen (Italy).
- Teaching assistant for the course of *Probability and Mathematical Statistics II*, Università degli Studi di Milano (Bachelor Degree in Mathematics)
- Course tutoring for the course of *Bayesian Statistics*. Politecnico di Milano (Master Degree of Mathematical Eng - V year)

2014 – 2015

- Course of *Laboratorio di Modellistica Matematica*. Università degli Studi di Milano (Master Degree in Mathematics)
- Teaching assistant for the course of *Mathematical Statistics*, Università degli Studi di Milano (Master Degree in Mathematics)
- Teaching assistant for the course of *Probability and Mathematical Statistics I*, Università degli Studi di Milano (Bachelor Degree in Mathematics)
- Course tutoring for the course of *Bayesian Statistics*. Politecnico di Milano (Master Degree of Mathematical Eng - V year)

2013 – 2014

- PhD Course *Statistical Analysis of Time to Event Data*. Politecnico di Milano (PhD in Mathematical Models and Methods for Engineering)
- Course of *Laboratorio di Modellistica Matematica*. Università degli Studi di Milano (Master Degree in Mathematics)
- Course of *Statistics* (Bachelor Degree of Energetic Eng – III year)
- Teaching assistant for the course of *Models and Methods for Statistical Inference*. Politecnico di Milano (Bachelor Degree of Mathematical Eng - III year)
- Course tutoring for the course of *Bayesian Statistics*. Politecnico di Milano (Master Degree of Mathematical Eng - V year)
- Reading Course *Statistical Analysis of time to event data*, Politecnico di Milano (PhD program in Mathematical Models and Methods for Engineering)

2012 – 2013

- Teaching assistant for the course of *Models and Methods for Statistical Inference*. Politecnico di Milano (Bachelor Degree of Mathematical Eng - III year)
- Teaching assistant for the course of *Statistics*. Politecnico di Milano (Bachelor Degree of Mathematical Eng - I year)
- Course tutoring for the course of *Bayesian Statistics*. Politecnico di Milano (Master Degree of Mathematical Eng - V year)
- Tutorial on MCMC method within the course of *Bayesian Statistics*. Politecnico di Milano (Master Degree of Mathematical Eng - V year)

2011 – 2012

- Teaching assistant for the course of *Models and Methods for Statistical Inference*. Politecnico di Milano (Bachelor Degree of Mathematical Eng - III year)
- Teaching assistant for the course of *Statistics*. Politecnico di Milano (Bachelor Degree of Mathematical Eng - I year)
- Tutorial on MCMC method within the course of *Bayesian Statistics*. Politecnico di Milano (Master Degree of Mathematical Eng - V year)

2010 – 2011

- (*) Teaching assistant (Computer session with R) for the course of *Probability and Statistical Inference (Mafin risk)*. Bocconi University
- Teaching assistant for the course of *Models and Methods for Statistical Inference*. Politecnico di Milano (Bachelor Degree of Mathematical Eng - III year)
- Module on Mixed Effects Models for the course of *Applied Statistics*. Politecnico di Milano (Master Degree of Mathematical Eng - IV year)
- Course tutoring (Labs and exams) for the course of *Statistics*. Politecnico di Milano (Bachelor Degree of Mathematical Eng - I year)
- Tutorial on MCMC method within the course of *Bayesian Statistics*. Politecnico di Milano (Master Degree of Mathematical Eng - V year)

2009 – 2010

Teaching assistant for the course of *Models and Methods for Statistical Inference*. Politecnico di Milano (Bachelor Degree of Mathematical Eng - III year)

2008 – 2009

- Module on Simple Linear Regression for the course of *Statistics*. Bicocca University (Bachelor Degree of Geology - I year)
- Teaching assistant (practical sessions and computer session with Excel) for the course of *Statistics and Probability*. Politecnico di Milano or Degree of Biomedical Eng - II year)

Phd Theses

AA 2018/2019

- Dr. Francesca Gasperoni, PhD in Mathematical Models and Methods for Engineering (co-advisor)
Parametric and nonparametric frailty survival models for exploring unobserved heterogeneity and profiling Heart Failure patients through administrative databases
- Dr. Chiara Masci, PhD in Mathematical Models and Methods for Engineering (co-advisor)
Semi-parametric mixed-effects models for assessing public education systems

AA 2016/2017

- Dr. Nicholas Tarabelloni, PhD in Mathematical Models and Methods for Engineering (co-advisor)
Robust Statistical Methods in Functional Data Analysis
- Dr. Francesco Grossetti, PhD in Mathematical Models and Methods for Engineering (co-advisor)
Mining Large Administrative Databases: Efficient and Scalable Algorithms for Statistical Modeling

Master Degree Theses

AA 2018/2019

- Dott. Davide Burba, Master Degree in Mathematical Engineering (advisor)
Performing Survival Analysis via Functional Cox-type Regression and a Machine Learning approach: an application to Heart Failure patients

AA 2017/2018

- Dott.ssa Marta Spreafico, Master Degree in Mathematical Engineering (advisor)
Statistical modelling of adherence to drug prescription and its effects on survival in Heart Failure patients
- Dott.ssa Ilaria Speranza, Master Degree in Mathematical Engineering (advisor)
A method for the joint inference of multiple Gaussian graphical models in high-dimensional setting
- Dott.ssa Michela Agosti, Master Degree in Mathematical Engineering (advisor)
Applications of nonparametric frailty models for the analysis of long term survival in Heart Failure patients
- Dott.ssa Monica Giordano Master Degree in Mathematical Engineering (advisor)
Analisi di comunità in una rete bipartite pazienti/diagnosi di ricoveri ospedalieri in Regione Lombardia

AA 2016/2017

- Dott. Francesco Palma, Master Degree in Mathematical Engineering (advisor)
A bootstrap based inferential framework for Multivariate Functional Data: an application to ECG signals
- Dott. Alberto Donizetti, Master Degree in Mathematical Engineering (advisor)
A latent space model approach for clustering complex network data
- Dott.ssa Valeria Crespi, Master Degree in Ingegneria Civile, per l'Ambiente e il Territorio (co-advisor)
Caratterizzazione delle spese energetiche delle famiglie italiane con focus sulla povertà energetica
- Dott.ssa Michela Massi, Master Degree in Ingegneria Gestionale (co-advisor)
Data Mining Application to Healthcare Fraud Detection
- Dott.ssa Monica Giordano Master Degree in Mathematical Engineering (co-advisor)
Analisi di comunità in una rete bipartite pazienti/diagnosi di ricoveri ospedalieri in Regione Lombardia

AA 2015/2016

- Dott. Daniele Bitonti, Master Degree in Mathematical Engineering (advisor)
Network Analysis of Comorbidity Patterns in Heart Failure Patients using Administrative Data
- Dott. Nicolò Russo, Master Degree in Mathematics (co-advisor)
Modelli a equazioni strutturali e alberi decisionali. Applicazioni alla previsione della rinuncia agli studi nella laurea triennale in matematica

AA 2014/2015

- Dott.ssa Francesca Ventura, Master Degree in Mathematics (advisor)
Modelli Stocastici per la Dinamica di Crescita Tumorale
- Dott.ssa Francesca Carnevale, Master Degree in Mathematics (advisor)
Modelli Statistici per Variabili di Conteggio: un'applicazione ai Processi di Ospedalizzazione di Pazienti affetti da Scopenso Cardiaco
- Dott. Gionata Rogiani, Master Degree in Mathematics (advisor)
Statistical methods For dealing with missing data; an application to INVALSI data on students' achievements in maths
- Dott.ssa Mara Gusmini, Master Degree in Mathematics (advisor)
Analisi Comparativa di Misure di Profondità per Dati Funzionali Multivariati
- Dott. Matteo Ruiu, Master Degree in Mathematics (advisor)
Tecniche di classificazione multivariata per la diagnosi semiautomatica di patologie cardiache

- Dott.ssa Nina DesGranges – Master Degree in Mathematical Engineering (co-advisor)
Generalization of the PC algorithm for Non-Linear and Non-Gaussian Data and its application to Biological Data
- Dott.ssa Chiara Maria Ventura – Master Degree in Mathematical Engineering (co-advisor)
Models for predicting readmission in heart failure patients: a comparison between Lombardia and England
- Dott. Federico Indino – Master Degree in Mathematical Engineering (co-advisor)
Analisi Statistica di dati ad alta dimensionalità: un'applicazione ai segnali elettrocardiografici
- Dott.ssa Valentina Grossi, Master Degree in Mathematics (co-advisor)
Regressione Logistica e Analisi di Sopravvivenza applicate all'identificazione dei Fattori di Rischio nella Diffusione delle Epidemie Influenzali
- Dott.ssa Alessandra Grossi, Master Degree in Mathematical Engineering (co-advisor)
Monitoring and Modeling hospital networks using administrative data
- Dott.ssa Chiara Masci, Master Degree in Mathematical Engineering (co-advisor)
Bivariate Multilevel Models for the Analysis of Reading and Maths Pupils' Achievements
- Dott.ssa Francesca Gasperoni, Master Degree in Mathematical Engineering (co-advisor)
Frailty Multi State Models for analysis of Heart Failed patients
- Dott.ssa Viola Bonomini, Master Degree in Mathematical Engineering (co-advisor)
Statistical analysis of fnirs data applied to cerebral hemodynamics
- Dott. Riccardo Tortul, Master Degree in Mathematical Engineering (co-advisor)
Data Mining per Dati Categorici ad Alta Dimensionalità

AA 2013/2014

- Dott.ssa Teresa Pietrabissa, Master Degree in Mathematical Engineering (co-advisor)
Hazard reconstruction and clustering for better prognosis of disease progression in heart failure
- Dott.ssa Rachele Biasi, Master Degree in Mathematical Engineering (co-advisor)
Uso delle misure di profondità per dati funzionali multivariati nella previsione di patologie: un'applicazione ai segnali elettrocardiografici
- Dott. Nicholas Tarabelloni, Master Degree in Mathematical Engineering (co-advisor)
Metodi Numerici e Statistici per la Simulazione e la Validazione di ECG

AA 2012/2013

- Dott.ssa Elena Prandoni, Master Degree in Mathematical Engineering (tutoring)
Modelli Bayesiani Semiparametrici Multivariati per le Probabilità di Sopravvivenza in seguito ad Infarto Miocardico Acuto

AA 2010/2011

- Dott. Giovanni Cassarini, Master Degree in Mathematical Engineering (co-advisor)
Metodi Statistici per l'ottimizzazione dei tempi di Percorrenza delle Ambulanze nella provincia di Milano
- Dott. Stefano Ziller, Master Degree in Mathematical Engineering (co-advisor)
Modelli statistici per la gestione dei rischi operativi

AA 2009/2010

- Dott. Paolo Zanini, Master Degree in Mathematical Engineering (co-advisor)
Modelli statistici per lo studio della Fibrillazione Atriale

AA 2008/2009

- Dott. Stefano Ziller, Dott. Andrea Cremaschi, Bachelor Degree in Mathematical Engineering (tutor)
Il problema del record linkage tra dataset: un approccio probabilistico

Stage

CEFRIEL – forging innovation (<http://www.cefriel.it/>)

November 2008 – May 2009

Management of data flow concerning projects of home telemonitoring (PTS – Progetto di Telesorveglianza sanitaria Domiciliare) and home hospitalization (POD – Progetto di Ospedalizzazione Domiciliare) of patients affected by chronic cardiovascular diseases. Projects are funded and realized by Lombardia Region health care division in collaboration with hospitals (<http://ftp.cefriel.it/nrs/>).

Software

• R packages:

- **roahd** (RObust Analysis of High dimensional Data) – in collaboration with N. Tarabelloni (responsible and maintainer), A. Paganoni, A. Arribas-Gil, J. Romo
- **discfrail** (Cox Models for Time-to-Event Data with Nonparametric Discrete Group-Specific Frailties) – supervisor of F. Gasperoni (responsible and maintainer)
- **BLSM** (Bayesian Latent Space Models) – in collaboration with A. Donizetti (responsible and maintainer)
- **msmtools** (Building Augmented Data to Run Multi-State Models with 'msm') – supervisor of F. Grossetti (responsible and maintainer)
- **gmfd** (Inference and Clustering of Functional Data) – in collaboration with A. Martino (responsible and mantainer), A. Ghiglietti, A.M. Paganoni

Informatic Skills

- Operating systems Windows.
- Statistical Softwares R, Matlab, SAS, WinBUGS, jags, Stata, MS Excel
- Programming Languages Matlab, R, SQL
- Others Latex, MS Access, MS Word, MS Power Point