

Fedele Greco

Curriculum Vitae

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Positions

- 2017–Present *Associate Professor of Statistics*, Department of Statistical Sciences, University of Bologna.
- 2008–2017 *Assistant Professor of Statistics*, Department of Statistical Sciences, University of Bologna.
- 2006–2007 *Research fellow*, Department of Statistical Sciences, University of Bologna. Research project "Spatio-temporal hierarchical Bayesian models for environmental phenomena"

Education

- March 2004 *Ph.D. in Statistical Methodology for Scientific Research*, Department of Statistical Sciences, University of Bologna. Thesis: "Ecological Regression with Spatially Misaligned Data". Supervisor: Prof. Daniela Cocchi. External Supervisor: Prof. Andrew B. Lawson.
- Dec 2000 *Master Degree in Demographic and Social Statistics*, Department of Statistical Sciences, University of Bologna. Thesis: "Aspetti statistici dell'eutrofizzazione nell'Adriatico settentrionale". Advisor: Prof. Daniela Cocchi.

Visiting

- 2003 Visiting student at the University of South Carolina, SC, USA, under the supervision Prof. Andrew B. Lawson. The activity has been funded by a Marco Polo grant.

Institutional activities

- 2017-2020 Director of the Second Cycle Degree in Statistical, Financial and Actuarial Sciences. University of Bologna, Campus of Rimini.
- 2015-2016 Member of the "Giunta" of the Department of Statistical Sciences, University of Bologna.
- 2012-2015 Member of the Teaching Committee. Department of Statistical Sciences. University of Bologna.
- 2021-Present Member of the Quality Assurance Committee of Second Cycle Degree in Statistical, Financial and Actuarial Sciences, and of the First Cycle Degree in Statistical Sciences, Department of Statistical Sciences, University of Bologna.

Supervision of Research Fellows

- 2014-2015 Supervision of the project "Spatial and Spatio-temporal Bayesian models with changepoint analysis, Research Fellow Linda Altieri.

Services in Scientific Societies

- 2013-2015 *Member of the Scientific Board* of the Research Group for Statistical Applications to Environmental Phenomena (GRASPA-SIS).
- 2022 *Member of the Local Committee* International Meeting of the Psychometric 2022 (IMPS 2022).
- 2018 *Member of the Scientific Committee* 49th Scientific Meeting of the Italian Statistical Society, Palermo, Italy.
- 2014 *Member of the Scientific Committee* Joint Meeting METMA VII – GRASPA 14, Torino, Italy.
- 2011 *Member of the Local Committee* Scientific Meeting of the Italian Statistical Society, Bologna, Italy.
- 2009 *Member of the Local Committee* 20th Annual Conference of the International Environmetrics Society, Bologna, Italy.

Services in Scientific Journals

- 2022 Associate Editor of Environmetrics, Wiley.
- Referee for the following journals: Environmental and Ecological Statistics, Environmetrics, Journal of the Royal Statistical Society, Series C, Statistica, Journal of Statistical Computation and Simulation, Stochastic Environmental Research and Risk Assessment, Environmental Pollution, Ecological Indicators, Test.

Research Grants and Awards

Member of following Furb research group (Futuro in Ricerca, financed by the Italian Ministry of Research):

- 2012-2016 StEPhI: Statistics for Environmental Phenomena and their Interactions (36 months). PI: Francesca Bruno, University of Bologna.

Member of following PRIN research groups (Progetti di Ricerca di Interesse Nazionale, financed by the Italian Ministry of Research):

- 2017-2021 Environmental processes and human activities: capturing their interactions via statistical methods (EphaStat). PI: Daniela Cocchi.
- 2008-2010 New developments in sampling theory and practice. PI: Prof. Daniela Cocchi, University of Bologna.
- 2006-2007 Methods for collecting and analysing environmental data. Local Coordinator of the Bologna Unit: Prof. Daniela Cocchi. PI: Prof. Lucio Barabesi, University of Siena.
- 2004-2005 Statistical methods for handling complexity and uncertainty in environmental studies. PI: Prof. Daniela Cocchi, University of Bologna.

2002-2003 Statistics as an aid for environmental decisions: identification, monitoring and evaluation. PI: Prof. Daniela Cocchi, University of Bologna.

Awards:

2004 Winner of the award for the best Ph.D. Thesis in Applied Statistics awarded by the Società Italiana di Statistica.

Selected Teaching

- 2016-Present Advanced Statistics. Department of Statistical Sciences, University of Bologna, Campus of Rimini. Second Cycle Degree in Statistical, Financial and Actuarial Science
- 2020-Present Inference. Department of Statistical Sciences, University of Bologna, Campus of Rimini. First Cycle Degree in Statistics, Finance and Insurance
- 2018-Present Survey Sampling. Department of Statistical Sciences, University of Bologna, Campus of Rimini. First Cycle Degree in Statistics, Finance and Insurance
- 2013-Present Environmental Statistics. University of Bologna. First Cycle Degree in Statistics
- 2017-2019 Statistics. Department of Statistical Sciences, University of Bologna, Campus of Rimini. First Cycle Degree in Business Economics
- 2016 Survey sampling. Department of Statistical Sciences, University of Bologna. First Cycle Degree in Statistics
- 2015 Time series analysis. Department of Statistical Sciences, University of Bologna. First Cycle Degree in Statistics
- 2015 Analysis of data. Department of Statistical Sciences, University of Bologna. First Cycle Degree in Statistics
- 2008-2015 Time series analysis. Department of Statistical Sciences, University of Bologna, Campus of Rimini. First Cycle Degree in Statistics, Finance and Insurance
- 2011 Statistical Methods for Spatial Data Analysis and Applications, Buenos Aires, Argentina
- 2009 Survey Sampling, Buenos Aires, Argentina

Publications

Papers in scientific journals

- 2022 A. Gardini, F. Greco, C. Trivisano (2022) The Mellin transform to manage quadratic forms in normal random variables. *Journal of Computational and Graphical Statistics*, DOI: 10.1080/10618600.2022.2034639.
- 2018 F. Greco, M. Ventrucchi, E. Castelli (2018) P-spline smoothing for spatial data collected worldwide. *Spatial Statistics*, 27, 1-17.
- 2018 F. Greco, C. Trivisano (2018) Comments on: Some recent work on multivariate Gaussian Markov random fields. *Test*, 27, 549-553.
- 2018 E. Castelli, E. Papandrea, M. Valeri, F. Greco, M. Ventrucchi, S. Casadio, B.M. Dinelli (2018) ITCZ trend analysis via Geodesic P-spline smoothing of the AIRWAVE TCWV and cloud frequency datasets. *Atmospheric Research*, 214, 228-238.

- 2018 G. Giannaccare, A. Finzi, S. Sebastiani, F. Greco, P. Versura, E.C. Campos (2018) The Comparative Efficacy and Tolerability of Diclofenac 0.1% and Bromfenac 0.09% Ophthalmic Solutions after Cataract Surgery. *Current Eye Research*, 43, 1445-1553.
- 2017 S. Albonetti, P. Minardi, F. Trombetti, F. Savigni, A.L. Mordenti, G.M. Baranzoni, C. Trivisano, F. Greco, A. Badiani (2017) In vivo and in vitro effects of selected antioxidants on rabbit meat microbiota. *Meat Science*, vol. 123, 88-96.
- 2016 F. Greco (2016) Estimation of multi-way tables subject to coherence constraints. *Statistica*, 76(1), p. 115-125.
- 2016 E. Fabrizi, F. Greco, C. Trivisano (2016) On the specification of prior distributions for variance components in disease mapping models. *Statistica*, 76(1), 93-111.
- 2016 F. Bruno, M. Cameletti, M. Franco-Villoria, F. Greco, R. Ignaccolo, L. Ippoliti, P. Valentini, M. Ventrucci (2016) A survey on ecological regression for health hazard associated with air pollution. *Spatial Statistics*, 18, 276-299.
- 2016 L. Altieri, D. Cocchi, F. Greco, J.B. Illian, M. Scott (2016) Bayesian P-splines and advanced computing in R for a changepoint analysis on spatio-temporal point processes. *Journal of Statistical Computation and Simulation*, 86(13), 2531-2545.
- 2016 F. Bruno, F. Greco, M. Ventrucci (2016) Non-parametric regression on compositional covariates using Bayesian P-splines. *Statistical Methods & Applications*, 25(1), 75-88.
- 2015 D. Cocchi, F. Greco, F. Scalone (2015) Assessing the evolution of territorial disparities in health. *Revstat Statistical Journal*, 13(1), 1-20.
- 2015 F. Bruno, F. Greco, M. Ventrucci (2015) Spatio-temporal regression on compositional covariates: modeling vegetation in a gypsum outcrop. *Environmental and Ecological Statistics*, 22, 445-463.
- 2014 F. Bruno, D. Cocchi, F. Greco, E. Scardovi (2014). Spatial reconstruction of rainfall fields from rain gauge and radar data. *Stochastic Environmental Research and Risk Assessment*, 28, 1235-1245.
- 2013 A. Zanzotto, M. Gardiman, S. Serra, D. Bellotto, F. Bruno, F. Greco, C. Trivisano (2013). The spatiotemporal spread of esca disease in a Cabernet Sauvignon vineyard: a statistical analysis of field data. *Plant Pathology*, 62, 1205-1213.
- 2011 A. Mazzocchetti, F. Greco (2011). A spatio-temporal analysis of migration rates in the Emilia-Romagna region. *Statistica*, 71, 113-124.
- 2011 F. Bruno, D. Cocchi, F. Greco (2011). Clustering compositional data trajectories: the case of particulate matter in the lower troposphere. *Environmetrics*, 22, 975-984.
- 2010 L. Ferrero, M. G. Perrone, S. Petraccone, G. Sangiorgi, B. S. Ferrini, C. Lo Porto, Z. Lazzati, D. Cocchi, F. Bruno, F. Greco, A. Riccio, E. Bolzacchini (2010). Vertically-resolved particle size distribution within and above the mixing layer over the Milan metropolitan area. *Atmospheric Chemistry and Physics*, 10, 3915-3932.
- 2009 F. Greco, C. Trivisano (2009). A multivariate CAR model for improving the estimation of relative risks. *Statistics in Medicine*, 28, 1707-1724.

- 2009 L. Ferrero, E. Bolzacchini, M. G. Perrone, S. Petraccone, G. Sangiorgi, B. S. Ferrini, C. Lo Porto, Z. Lazzati, D. Cocchi, F. Bruno, F. Greco (2009). The role of mixing layer on changes of particle properties in lower troposphere. *Atmospheric Chemistry and Physics Discussion*, 9, 16483-16525.
- 2008 F. Greco, C. Trivisano (2008). A bivariate CAR model for improving the estimation of relative risks. *Statistica*, 3-4, 327-347.
- 2007 D. Cocchi, F. Greco, C. Trivisano (2007). Hierarchical space-time modelling of PM10 pollution. *Atmospheric Environment*, 41, 532-541.
- 2006 D. Cocchi, F. Greco, C. Trivisano (2006). Displaced calibration of PM10 measurements using spatio-temporal models. *Statistica*, 66, 127-138.
- 2005 F. Greco, A. B. Lawson, D. Cocchi, T. Temples (2005). Some interpolation estimators in environmental risk assessment for spatially misaligned health data. *Environmental and Ecological Statistics*, 12, 379-395.

Proceedings

- 2020 F. Fortunato, F. Greco (2020). Small-area statistical estimation of claim risk, in: Book of Short Papers SIS 2020, Pearson, 2022, pp. 702 - 707
- 2020 A. Gardini, F. Greco, C. Trivisano (2020). Priors on precision parameters of IGRMF models. Book of Short Papers SIS 2020, Pearson, 2020, pp. 459 - 464
- 2014 F. Bruno, F. Greco, M. Ventrucci (2014). Regression on compositional covariates: assessing substrate suitability for vegetation. Joint METMAVII and GRASPA14 Workshop. Torino, Italy, September 10-12, 2014. ISSN: 2037-7738.
- 2011 F. Bruno, F. Greco, C. Trivisano (2011). Bayesian model assisted strategies for the 2011 Italian Census. In: Survey research Methods and Applications, Proceedings of the Second ITACOSM Conference, Second ITALIAN Conference on Survey Methodology. p. 139-142, PISA:s.n, ISBN: 9788884927729, Pisa, 27 - 29 giugno 2011.
- 2011 C. Mazziotti, M. Benzi, F. Bruno, F. Greco, D. Cocchi, C. Silvestri (2011). Evaluation Tools of Phytoplankton Biodiversity. In: Proceedings of the 58th World Statistics Congress 2011. p. 1, ISBN: 9789073592339, Dublin, 21st-26th August 2011.
- 2011 F. Bruno, D. Cocchi, F. Greco, B. Liseo (2011). From National Indicators to environmental sustainability indices: new challenges. In: Proceedings of the 18th Conference of the European Association of Environmental and Resource Economists (EAERE). p. 1-5, Roma:s.n, Roma, 29 Giugno - 2 Luglio 2011.
- 2011 A. Angeli, F. Greco, A. Mazzocchetti, C. Trivisano (2011). L'insediamento della popolazione in Emilia Romagna: un'analisi spaziale dei trend demografici recenti. In: (a cura di): AISP, Giornate Di Studio Sulla Popolazione Book of abstracts. p. 68-69, Ancona:Giancarlo Ripesi Editore, ISBN: 9788882490942, Ancona, 2-4 febbraio 2011.
- 2011 E. Fabrizi, F. Greco, C. Trivisano (2011). The Generalised Inverse Gaussian Distribution as a Prior for Disease Mapping Models. In: Proceedings of the 7TH Conference on Statistical Computation and Complex Systems. p. 1-6, PADOVA:s. n., ISBN: 9788861297531, Padova, Italy, SEPTEMBER 19-21, 2011.

- 2010 D. Cocchi, F. Bruno, F. Greco, C. Trivisano (2010). Spatio-temporal modelling of air pollution. In: Proceedings of the 6th Summer School in Computational Biology, Deterministic and Stochastic Modeling in Biology and Medicine . vol. 1, p. 76-85, BRNO:Akademické Nakladatelství Cerm, ISBN: 978-80-7204-698-0, Lednice, Czech Republic, 23 - 25 September 2010.
- 2009 F. Greco, D. Cocchi, C. Trivisano (2009). A multivariate CAR model and its applications. In: TIES 2009 – GRASPA 2009, Book of Abstracts. p. 46, BOLOGNA:s.n, Bologna, July 5-9, 2009.
- 2009 F. Bruno, D. Cocchi, F. Greco (2009). Functional cluster analysis for compositional data. In: Proceedings of Classification and Data Analysis 2009, Book of Short Papers. p. 441-444, PADOVA:CLEUP, ISBN: 978-88-6129-406-6, Catania, September 9-11, 2009.
- 2009 L. Ferrero, E. Bolzacchini, M. G. Perrone, B.s. Ferrini, Z. Lazzati, F. Bruno, D. Cocchi, F. Greco, G. Mocnick, D. Cappelletti, L. Barcherini, S. Ortu, B. Moroni (2009). Number size distribution and chemical composition changes along vertical profiles in the Po Valley, implications for aerosol optical properties. In: EAC 2009. p. 1, KARLSRUHE:s.n, Karlsruhe, Germany, 6 – 11 September 2009.
- 2009 D. Cocchi, F. Greco, C. Trivisano (2009). Statistical Approaches to Environmental Spatial Surveillance. In: EURISBIS'09, European Regional Meeting of the International Society for Business and Industrial Statistics, Book of Abstracts. p. 38, CAGLIARI:Tilapia Communications, ISBN: 978-88-89744-13-0, Cagliari, Italy, May 30-June 3, 2009.
- 2008 F. Greco, C. Trivisano (2008). A Bivariate CAR Model for Improving the Estimation of Relative Risks. In: Atti della XLIV Riunione Scientifica della Società Italiana di Statistica. PADOVA:CLEUP, ISBN: 978-88-6129-228-4, Università della Calabria, 25-27 giugno 2008.
- 2008 F. Bruno, F. greco (2008). Clustering compositional data trajectories. In: Daunis-I-Estadella, J. and Martín-Fernández, J.A.. Proceedings of CODAWORK'08, The 3rd Compositional Data Analysis Workshop. p. 1-14, GIRONA:s.n, ISBN: 978-84-8458-272-4, Girona, Spain, May 27-30 2008.
- 2008 F. Bruno, D. Cocchi, F. Greco (2008). Clustering particulate matter vertical profiles. In: PM2008 3° Convegno Nazionale sul Particolato Atmosferico, la conoscenza per l'informazione e le strategie di intervento, Bari, 6-8 ottobre 2008, Book of Abstracts. p. 252, BARI:sn, Bari, 6-8 ottobre 2008.
- 2008 F. Bruno, D. Cocchi, F. Greco (2008). Modelling particulate matter vertical profiles. In: Program and abstracts, TIES 2008, The 19th annual conference of the International Environmetrics Society. vol. 1, p. 32, KELOWNA:s. n., Kelowna, British Columbia, Canada, 8-13 giugno 2008.
- 2008 F. Bruno, D. Cocchi, F. Greco (2008). Statistical Modelling of particulate matter vertical profiles. In: PM2008 3° Convegno Nazionale sul Particolato Atmosferico, la conoscenza per l'informazione e le strategie di intervento, Bari, 6-8 ottobre 2008, Book of Abstracts. p. 36, BARI:sn, Bari, 6-8 ottobre 2008.

- 2008 Bruno F., Greco F. (2008). Clustering compositional data trajectories. In: Atti della XLIV Riunione Scientifica della Società Italiana di Statistica. p. 1-2, PADOVA:CLEUP, ISBN: 9788861292284, Università della Calabria, Campus di Arcavacata di Rende, 25-27 giugno 2008.
- 2007 L. Ferrero, E. Bolzacchini, M. G. Perrone, S. Petraccone, G. Sangiorgi, C. Lo Porto, B.s. Ferrini, Z. Lazzati, A., Riccio, E. Previtali, M. Clemenza, F. Bruno, D. Cocchi, F. Greco (2007). Influence of the Mixing Layer on the concentration and size distribution of Particulate Matter over Milan. In: European Aerosol Conference 2007. p. 1, SALZBURG:s.n, Salzburg, September 9-14 2007.
- 2005 F. Greco, C. Trivisano (2005). Hierarchical space-time modelling of PM10 pollution in the Emilia-Romagna Region. In: Società Italiana Di Statistica. Statistics and Environment, Università di Messina, Settembre 21-23, 2005. p. 43-46, Padova:CLEUP, ISBN: 88-7178-531-2.
- 2005 D. Cocchi, F. Greco, C. Trivisano (2005). Space -time modelling of PM10 as an example of risk assessment. In: International Conference on the Future of Statistical Theory, Practice and Education, December 29, 2004 - January 1, 2005. p. 56-57, Hyderabad, Andra Pradesh:s.n, Hyderabad, Indian School of Busines, December 29, 2004 - January 1, 2005.
- 2004 F. Greco (2004). A hierarchical Bayesian model for relative risk estimation in presence of spatially misaligned data. In: Atti della XLII Riunione Scientifica della SIS. p. 291-294, Padova:CLEUP, ISBN: 8871780345, Bari, 9-11 giugno 2004.

Invited talks and seminars

- 2021 A. Gardini, F. Greco. *Metodi statistici per la valutazione della convergenza spaziale di indicatori SDGs*. 14^a Conferenza Nazionale di Statistica - Invited session. November 30th - December 1st, 2021.
- 2019 A. Gardini, F. Greco, C. Trivisano. An R-based widget for Bayesian disease mapping. GRASPA 2019 - Invited session. Pescara, 15-16 Luglio 2019.
- 2016 "On prior specification in latent Gaussian models" (with C. Trivisano), Workshop on Statistical modeling of environmental phenomena: pollution meteorology, health and their interactions, September 7-9 2016, Pescara, Italy.
- 2015 "Non-parametric regression on compositional covariates" (con F. Bruno, M.ventrucci), convegno GRASPA 2015, Bari, 15-16 giugno 2015.
- 2015 "Looking for changepoints in spatio-temporal earthquake data" (with L. Altieri, D. Cocchi, M. Scott, J. Illian), convegno GRASPA 2015, Bari, 15-16 giugno 2015.
- 2013 "Prior Specification for Spatial Ecological Regression Models" (with E. Fabrizi, C. Trivisano), 29-th European Meeting of Statisticians, 20-25 July 2013, Budapest, Hungary.
- 2013 "Model-based institutional profiling" (with M. Marino, C. Trivisano), ITACOSM13, Milano, 26-28 giugno 2013.
- 2013 "Bayesian models for rainfall spatial prediction exploiting gauge and radar data" (in collaborazione con F. Bruno, D. Cocchi, E. Scardovi), Convegno TIES 2013, Anchorage, June 2013.

- 2013 "Hierarchical modelling of ecological processes: a case study" (with F. Bruno, D. Cocchi, M. Ventrucci) , Convegno TIES 2013, Anchorage, June 2013.
- 2011 "Bayesian model assisted strategies for the 2011 Italian Census" (with F. Bruno, C. Trivisano), ITACOSM, Pisa 27-29 June 2011
- 2011 "The Generalised Inverse Gaussian distribution as a prior for disease mapping models". (con E. Fabrizi, C. Trivisano) Statistische Woche 2011, 19-22. September Leipzig, Germany.
- 2010 "Functional Cluster Analysis for particulate matter vertical profiles" (with F. Bruno, D. Cocchi), Convegno TIES 2010 - the 21th Annual Conference of The International Environmetrics Society, Margarita Island, Venezuela, June 20-25, 2010.
- 2010 "A sensitivity analysis of prior specification in disease mapping." (with E. Fabrizi, C. Trivisano) TIES 2010 - the 21th Annual Conference of The International Environmetrics Society, Margarita Island, Venezuela, June 20-25, 2010.
- 2010 Seminar: "Univariate and multivariate Conditional AutoRegressive models for areal data", University of Glasgow, School of Mathematics and Statistics, Statistics Seminars, 26 Novembre 2010.
- 2009 Seminar: "Analysis of multivariate areal data" Università di Bologna, sede di Buenos Aires, Buenos Aires, 23 Ottobre 2009.
- 2009 "Sampling strategies for population censuses" (with D.Cocchi, C.Trivisano), First ITALian CONference on Survey Methodology, Siena, 10-12 June 2009.

Bologna, 10/03/2022

Fedele P. Greco