
Curriculum Vitae

Emilio Porcu

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1 Contact Information

Prof. Dr. Emilio Porcu
 Department of Mathematics Avenida España
 Technical University Federico Santa Maria
 Valparaiso, Chile
 Phone: +56 (9) 567 16439
 Email: georgepolya01@gmail.com
 URL: <http://eporcu.mat.utfsm.cl>, emilio.porcu@usm.cl

2 Work Experience

2.1 Current Position

- From March 2013, I am **Professor** “a tiempo completo” at the **Universidad Federico Santa Maria**, Departamento de Matemáticas.

I am the leader of a research group in space-time statistics, with 7 senior scientists and several PhD and Master students. I have currently started to lead a much bigger group that I termed *Seismomatics*, which is devoted to space-time models for catastrophes (especially, earthquakes and tsunamis) and the evaluation of the impact on the economy of the country as well as companies (for instance, mining companies).

2.2 Previous Positions

- From July 2012 to February 2013, **Full Professor** (tiempo completo) at the **Universidad de Valparaiso**, Departamento de Estadística.

During that period I was the **Director of the PhD School in Statistics**. I left this university since Santa Maria is much more highly ranked and regarded.

- From December 2010 until July 2012, **Associate Professor** at the **Universidad de Castilla la Mancha**, Department of Economics

I left this university since I was in an economics department, which made it difficult to establish scientific interactions.

- From March 2008 to December 2010, **Research Fellow** at the **Universität Göttingen (Germany)**, Department of Mathematics Stochastics

I left this university because my wife was working in Spain.

- **University of Castellón (Spain)**

PostDoc, January 2005 – March 2008

- **University Milano Bicocca (Italy)**

PhD Student, November 2000 – December 2004

- **Ecole des Mines de Paris (France)**, **Centre de Geostatistique et Morphologie Mathématique**

CFSG Studies.

- **University of Castellón (Spain)**

Visiting Scholar, December 2003 – December 2004

- **University of Sassari (Italy)**

Contracted Professor for Statistics in Economics. 1999-2000 and 2001-2002

- **University of Bergamo (Italy)**

Contracted Professor for Statistics in Engineering. 2000-2001 and 2002-2003.

3 Awards and Prizes

- June 2014: Habilitation to **Full Professorship** in the Italian Academy.
- May 2014: **Advance Lecturer** at University of Padova.
- November 2011: International Award by the **University of Kansas: Advance Lectureship for 2012**.

- October 2011: Adjoint Professorship of the **San Diego State University**. Given by unanimity, announced by Professor Christakos, SDSU.
- August 2011: Prize by the Sardinian Region Brains Coming Back with a financial donation of 100.000 euros (130.000 dollars) for research activities.
- January 2011: **Knight of the *Order del Sacer* (Caballero de la Orden del Sacer)**, given for humanitarian activities.
- December 2003: *Summa Cum Laude* for the Phd dissertation. University of Milano Bicocca.
- November 1999: *Summa Cum Laude* for the Degree dissertation. University of Sassari.

4 Education and training

4.1 Degrees and evaluation qualifications

- University Milano Bicocca, December 2004

Ph.D., Methodological Statistics

Thesis: *New Classes of Covariance functions, Variograms and Spectral Densities for Space- Time Processes*

Thesis Supervisors: Alessandro Fasso and Jorge Mateu

Evaluation: Summa cum Laude

- Ecole des Mines de Paris: CFSG in Geostatistics.

4.2 Other education

Computer Skills

- Programming language: C and R.

- Operating system: daily use and administration under Linux, Mac-OS and Windows

4.3 Language skills

- Sardinian: mother language
- Italian: official language
- English: fluent spoken and written
- French: fluent spoken and written
- Spanish: fluent spoken and written
- German: Starter level
- Portugues: Starter level

5 Research

5.1 Short Bio

Some keywords for my research interests:

- **Statistics and Stochastic Processes;** with applications to Mechanic Stochastics, Mining, Atmospheric, Environmental and Earth Sciences, and Economics
- **Space-time processes, geostatistics, point processes.**
- **Mathematics: Positive definite functions; Variograms;** Completely monotone functions, locally compact Abelian Groups, Laplace transforms, Potential Theory.
- **Seismomatics**

I have published more than 70 peer-reviewed articles in Probability and Statistics or Mathematics journals. I have 5 books published, with two in preparation. I have also written several book chapters. Currently, I have around ten papers submitted. A complete list of my publications is contained in the Appendix.

5.2 Service to the Scientific Community

Editorial Positions

Forthcoming: Associate Editor of *Spatial Statistics*

From February 2014: Associate Editor of *Stochastic Environmental Research Risk Assessment*.

From February 2013: Associate Editor of *Scientia*.

From February 2013: Associate Editor of *The Chilean Journal of Statistics*.

From February 2013: Associate Editor of *Journal of Probability*.

Referee

Journal Articles (**I have refereed more than 150 papers**): *Advances in Applied Probability, Bernoulli, Computational Statistics & Data Analysis, Environmetrics, Fluctuation and Noise Letters, Journal of Multivariate Analysis, Stochastic Environmental Research & Risk Assessment, Biometrika, The Annals of Statistics, Environmetrics, Journal of the American Statistical Association, Mathematical Geosciences, Mathematical Geology, Statistics & Probability Letters, Journal of Statistical Planning and Inference, Journal of Computational and Graphical Statistics, Parasitology, Journal of Multivariate Analysis, Technometrics* and many others.

Organization of Scientific Events

- Main Organizer of the conference *Seismomathics*, given in Santiago de Chile, January 2015.
- Organizer of the conference *Sismomática*, Concepcion, Chile, September 2013.
- Co-Organizer, METMA Conference, Space-time modelling for Environmental Processes, Alghero, September 2008.
- Organizer, Spring School of Toledo, Space-Time Modelling, March 2010.
- Co-Organizer, Copula modelling in Finance, course held by Christian Genest, University Laval, Canada.

5.3 Scientific Production

Here is a sketch of my scientific production. In order to keep a neater exposition of my application, the details of my publications are listed in the Appendix.

- **Peer reviewed papers:** I have over 70 peer-reviewed papers in Statistics and Probability and Mathematics. (Attached list)
- **Submitted:** 10 papers are currently submitted to peer reviewed journals.
- **Books:** I currently have 3 research books, and 2 more in preparation.
- **Conference Proceedings:** more than 100.
- **Invited Lectures:** many!

5.4 Research Projects and Grants

- Fondecyt Regular: Covariance functions on the sphere of the Earth cross time. Role: Principal Investigator. Duration of the Project: 4 years. Financial Award: 300.000 USD approx.
- Nuove Classi di Covarianza e Variogrammi per processi spazio temporali nella finanza e tutela ambientale. Funded by *Rientro Cervelli* bando uff. 2008, Regione Sardegna. Role: Main Investigator. Duration of the project: 4 years. Financial Award: 200.000 euros for each two years.
- AUTOMATIZACION DEL PROCESO DE ELABORACION Y CONSERVACION EN OBRA DE PROBETAS DE HORMIGON PARA CONTROL DE CALIDAD EN LA COSTRUCCION. Financiado por AS. LABORATORIOS ACREDITACION CC.VV. Role: Investigador.
- NUEVOS DESARROLLOS EN LA TEORIA DE COVARIACIONES ESPACIO-TEMPORALES Y SUS APLICACIONES: SOLICITUD 62923. Ref MTM2007-620923. Financiado por MINISTERIO DE EDUCACION Y CIENCIA. Periodo 2007-2010.
- COMERCIO, INVERSION EXTRANJERA Y LA LOCALIZACION ESPACIAL DE LA ACTIVIDAD ECONOMICA EN ESPAÑA. I.P. Jorge Mateu. Ref. GV06/319. Financiado por la Comunidad Valenciana. Aoo 2007-2008. Role: Investigador.
- COMERCIO, INVERSION EXTRANJERA Y LA LOCALIZACION ESPACIAL DE LA ACTIVIDAD ECONOMICA EN ESPAÑA. I.P. Jorge Mateu. Ref. GV06/319. Financiado por la Comunidad Valenciana. Aoo 2006-2007. Role: Investigador.

6 Teaching qualifications

6.1 Supervision of Students

Supervision of Undergraduate Research

- Giuseppe Demuro, University of Sassari (Lucia Pozzi supervisor, Emilio Porcu co-supervisor)
- Silvia Tilloca, University of Sassari (Emilio Porcu supervisor)

Supervision of Master Thesis

- Enrico Foscolo, University of Bologna (Emilio Porcu co-supervisor)
- Carlos Ayad, University of Castellon (Emilio Porcu supervisor)
- Cecilia López Vidal, Universidad de Santiago de Chile (Emilio Porcu supervisor)
- Alberto Cordoba Caro, University of Castellon (Emilio Porcu supervisor)

Supervision of PhD Thesis

- Moreno Bevilacqua, University of Padova (Emilio Porcu co-supervisor)
- Carlos Alonso Malaver, University of Bogota (Emilio Porcu supervisor)
- Alessandra Farinas, Venezuela (defense by December 2016). (Emilio Porcu supervisor)
- Enner Mendoza, Venezuela (defense by December 2016). E.P. Co-supervisor with Moreno Bevilacqua.
- Daira Velandia, Colombia (defense by March 2016). Co-supervision with Moreno Bevilacqua.

- Alfredo Alegria, Chile (in preparation). Supervisor.
- Ahmed Arafat Hassan, Egipt (defense by March 2016).. I am cosupervisor with Jorge Mateu.
- Tarik Farouzi, Marocco (defense by December 2016). Supervisor.

Appendix

A Appendix A: Scientific Publications

A.1 Peer reviewed paper in Journals indexed in JCR (Statistics & Probability)

N.B.: I have tagged with the symbol © those 10 publications which might be more representative of my research activity.

1. Fasso, A., Esposito, A., Porcu, E., Reverberi, A. P. and Veglio, F. (2003). Statistical sensitivity analysis of packed column reactors for contaminated wastewater. *Environmetrics* **14**, 8.
2. Porcu, E., Gregori, P. and Mateu, J. (2006). Nonseparable stationary anisotropic space-time covariance functions. *Stochastic Environmental Research and Risk Assessment*, **21**, 113-122.
3. Porcu, E., Mateu, J., Zini, A. and Pini, R. (2006). The Dagum family for spatio-temporal modelling. *Advances in Applied Probability*, **37**, 1-17.
4. Yu, K., Mateu, J. and Porcu, E. (2007). A kernel-based method for nonparametric estimation of variograms. *Statistica Neerlandica*, **61** (2), 173-197.
5. Porcu, E., Mateu, J., Zini, A. and Pini, R. (2007). Modelling spatio-temporal data: a new variogram and covariance structure proposal. *Statistics and Probability Letters*, **77**, 83-89.
6. Porcu, E., Mateu, J. and Bevilacqua, M. (2007). Covariance functions which are stationary or nonstationary in space and stationary in time. *Statistica Neerlandica*, **61** (3), 358-382
7. Porcu, E. and Mateu, J. (2007). Mixture-based modeling for space-time data. *Environmetrics*, **18**, 285-302
8. Mateu, J., Juan, P. and Porcu, E. (2007). Geostatistical analysis through spectral techniques: some words of caution. *Communications in Statistics: Computation and Simulation*, **36** (5), 1035-1051.
9. Porcu, E., Nicolis, O. and Mateu, J. (2007). A note on decoupling of local and global behaviour for the Dagum random field. *Probabilistic Engineering Mechanics*, **22** (4), 320-329.
10. Porcu, E., Gregori, P. and Mateu, J. (2007). La descente et la montée étendues: the spatially d-anisotropic and the spatiotemporal case. *Stochastic Environmental Research and Risk Assessment*, **21** (6), 683-693.
11. Mateu, J., Porcu, E., Christakos, G. and Bevilacqua, M. (2007). Fitting negative spatial covariances to geothermal field temperatures in Nea Kessani (Greece). *Environmetrics*, **18**, 759-773.
12. Mateu, J., Lorenzo, G. and Porcu, E. (2007). Detecting features in spatial point processes with clutter via local indicators of spatial association. *Journal of Computational and Graphical Statistics*, **16** (4), 968-990.
13. Gregori, P., Porcu, E., Mateu, J. and Sasvari, Z. (2008). On potentially negative space time covariances obtained as sum of products of marginal ones. *Annals of the Institute of Statistical Mathematics*, **60**, 865-882.