## Dr. Edmondo Di Giuseppe


CONTACT INFORMATION

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RESEARCH INTERESTS

My work bridges statistical methodology and software tools to analyze climate phenomena and their impacts. In particular, I use statistical tools such as functional clustering, Bayesian inference, and Extreme Value Distributions to analyze drought and heat waves by means of a combination of R and CDO operators to perform such analyses. I am also interested in the study of the effects of climate variability on cereals production and prices.

CURRENT POSITION

**Researcher** **Nov 2018 to present**
National Research Council, Institute for Biometeorology CNR-IBIMET

MED-GOLD
- Turning climate-related information into added value for traditional MEDiterranean Grape, OLive and Durum wheat food systems - PI: Dr Massimiliano Pasqui

PREVIOUS POSITIONS

**Postdoctoral Research Assistant** **Jan 2015 to Aug 2018**
National Research Council, Institute for Biometeorology CNR-IBIMET

VOPA
- Volatility of agricultural commodity prices - PI: Dr. Franco Miglietta.
- Study of the effects of *El Niño* on wheat worldwide production; Modeling of seasonal forecasts; Analysis of heat waves and their connection to large scale drivers.

**Research Assistant** **Nov 2003 to Dec 2014**
Agricultural Research Council, Research unit for Climatology and Meteorology applied to Agriculture CREA-CMA

AGROSCENARI
- Adaptation scenarios of Italian agriculture to climate change - PI: Dr. Stanislao Esposito.
- Functional clustering of temperature and precipitation; Hierarchical Bayesian approach for predicting rainfall fields from lightning records.

CLIMANIMAL
- Heat warning model for dairy cattle - PI: Dr. Stanislao Esposito.
- Statistical analysis of heat waves (temperature and air humidity); Logistic regression models for determining the relation between heat waves and dairy cattle mortality.

TEMPIO
- Seasonal forecast model for temperature and rainfall anomaly determination - PI: Dr. Stanislao Esposito.
- Canonical Correlation Analysis for evaluating the relation between heat wave/dry spells and weather types.

CLIMAGRI
- Climate Change and Agriculture - PI: Dr. Domenico Vento.
- Statistical analysis of rainfall, hydrometric levels, flow and dry/wet spells; Time series analysis; Models for return probability of rainfall extreme events (Generalized Extreme Value and Generalized Pareto distributions).

**Research Assistant** **Mar to Oct 2003**
Polytechnic University of Marche, Faculty of Economics Giorgio Fua´

COFIN 2001

- Complex dynamics and financial fragility in an agent-based model - PI: Professor Mauro Gallegati

## EDUCATION

**Ph.D., Methodological Statistics** **December, 13 2013**
Sapienza University of Rome, Roma, Italy

- Thesis: *Statistical methods for the analysis of climatic phenomena*
- Advisor: Professor Giovanna Jona Lasinio
- Area of Study: Statistical climatology

**M.S., Economic Statistics** **April, 8 2002**
Sapienza University of Rome, Roma, Italy

- Thesis Topic: *Evaluation of agent actions at local scale*
- Adviser: Professor Sergio Bruno
- Area of Study: Microeconomy

## REFEREED JOURNAL PUBLICATIONS

[1] Tarchiani V., Pasqui M., Parrish P., Rapisardi E., **Di Giuseppe E.** and Baldi M., 2019: Learning and teaching about seasonal climate forecasts: a Mediterranean educational experience toward operational climate services. *Advances in Science and Research*,15, 257–262. doi:10.5194/asr-15-257-2019

[2] Pasqui M. and **Di Giuseppe E.**, 2019: Climate change, future warming, and adaptation in Europe. *Animal Frontiers*, 9(1), 6–11. doi:10.1093/af/vfy036

[3] Magno R., De Filippis T., **Di Giuseppe E.**, Pasqui M., Rocchi L., and Gozzini B., 2018: Semi-Automatic Operational Service for Drought Monitoring and Forecasting in the Tuscany Region. *Geosciences*, 8(2), 49. doi:10.3390/geosciences8020049

[4] **Di Giuseppe E.**, Jona Lasinio G., Esposito S., Pasqui M., 2013: Functional clustering for Italian climate zones identification. *Theoretical and Applied Climatology*, 114(1-2): 39–54. doi:10.1007/s00704-012-0801-0

[5] Mucciardi M., Bertuccelli P., **Di Giuseppe E.** 2012: Local Spatial Modeling of Meteorological Variables. *Advances in Mathematical and Computational Methods*, 2(3): 1–14, ISSN 2160-0635, 10.5729/amcm.vol2.issue3.1

## BOOK CHAPTERS

[6] **Di Giuseppe E.**, Jona Lasinio G., Pasqui M. and Esposito S., 2014: Predicting Rainfall Fields from Lightning Records: A Hierarchical Bayesian Approach. In: Lanzarone E., Ieva F.: *The Contribution of Young Researchers to Bayesian Statistics*, Springer Proceedings in Mathematics & Statistics, Springer International Publishing, Vol. 63, pp. 95–99. doi:http://dx.doi.org/10.1007/978-3-319-02084-6_19

## CONFERENCE PUBLICATIONS

[1] E. Rapisardi, M. Pasqui, V. Tarchiani , E. Di Giuseppe, and M. Baldi, 2018: Training on Seasonal Climate Forecast: enabling a more informed climate related risk management and services, *EGU General Assembly 2018*, EGU2018-12398

[2] R. Magno, M. Pasqui and **E. Di Giuseppe**, 2016: Analysis of changes in drought occurrence over the Mediterranean Basin using multiple time scales SPI index, *EMS Annual Meeting Abstracts*, Vol. 13, EMS2016-425, 16th EMS/11th ECAC.

[3] M. Pasqui and **E. Di Giuseppe**, 2016: Large scale atmospheric drivers for heat waves in the Mediterranean Basin, *Geophysical Research Abstracts*, Vol. 18, EGU2016-14124-1, EGU General Assembly 2016.

[4] Magno R., Angeli L., Chiesi M., De Filippis T., **Di Giuseppe E.**, Pasqui M., Rocchi L., Zabini F., 2015: Implementation of a national drought monitoring and forecasting system, Conference: *Earth Observation for Water Cycle Science 2015*, ESA-ESRIN Frascati, Rome.

[5] B. Parisse, **E. Di Giuseppe**, M. Scaglione, S. Esposito, 2014: Spatio-temporal distribution of calibrated Hargreaves-Samani coefficients in Italy, *Proceedings of XVII AIAM Conference: Role of agro-meteorology in the new agricultural policies*, Roma, 10–12 Giugno.

[6] Pasqui M., Melani S., Pasi F., Gozzini B., Gaetani M., **Di Giuseppe E.**, Levizzani V., 2013: Retrospective analysis of synoptic favourable conditions for deep convective events in the Mediterranean Sea, *European Conference on Severe Storms*, Helsinki; 06/2013

[7] M. Baldi, S. Esposito, M. Pasqui, **E. Di Giuseppe**, F. Guarnieri, 2010: An operational seasonal forecast service for agriculture in italy: the Tempio project, *Abstracts of the Technical Conference on Changing Climate and Demands for Climate Services for Sustainable Development*, WMO/TD-No. 1521, Antalya, Turkey, 16–18 February.

[8] S. Giavante, **E. Di Giuseppe**, S. Esposito, 2009: Flat steps models for the analysis of temperature and precipitation italian time series from 1961 to 2007, *Statistical Methods for the analysis of large data-sets - Book of short papers*, 427–430.

[9] M. Pasqui, **E. Di Giuseppe**, S. Quaresima, F. Guarnieri, S. Giavante, S. Esposito, 2008: An atmospheric regime characterization of monthly seasonal forecast in Italy based on weather type classification, *Advances in Weather and Circulation Type Classifications & Applications (COST 733 Mid-term Conference)*, 22–25 October 2008, Krakow, Poland, pag. 69.

[10] Baldi M., Esposito S., **Di Giuseppe E.**, Pasqui M., Maracchi G., Vento D., 2008: Seasonal forecasting climatic anomalies for agriculture in Italy: the TEMPIO Project, *EMS Annual Meeting Abstracts–European Conference on Applied Climatology (ECAC)*, Amsterdam, Netherlands 29 September–3 October, EMS2008-A-00519 European Meteorological Society.

[11] F. Guarnieri, **E. Di Giuseppe**, B. Gozzini, F. Meneguzzo, R. Magno, G. Maracchi, M Pasqui, 2007: Analysis of historical series of hourly pluviometric data in Central Italy, *7th EMS Annual Meeting/8th ECAM Abstracts*, Vol. 4, EMS2007-A-00320.

[12] **Di Giuseppe E.**, Esposito S., Vento D., 2007: A comparison of models in return levels calculating, *IUGG–XXIV International Union of Geodesy and Geophysic*, Perugia, Italy 2-13 July, IAHS/HW2003 4570, pag. 626, ISBN: 978-88-95852-25-4.

[13] F. Guarnieri, **E. Di Giuseppe**, B. Gozzini, F. Meneguzzo, R. Magno, G. Maracchi, M. Pasqui, 2007: Analysis of historical series of hourly pluviometric data in Central Italy, *7th EMS Annual Meeting / 8th ECAM Abstracts*, Vol. 4, EMS2007-A-00320.

[14] Mangianti De Angelis F., Epifani C., Epifani R., **Di Giuseppe E.**, 2005: A climatic analysis of some Italian tourist sites. A future scenario for tourism, *WMO Technical Conference on Climate as a Resource*, Beijing, China, 1–2 November.

[15] Ferrari R., Pasqui M., Bottai L., Esposito S., **Di Giuseppe E.**, 2005: Assessment of soil erosion estimate based on a high temporal resolution rainfall dataset, *EMS 5th Annual Meeting Abstracts*, EMS05-A-00285 European Meteorological Society.

[16] C. Epifani, **E. Di Giuseppe**, S. Esposito, D. Vento, 2005: Extreme events of precipitation over Italy and their probability of occurrence, *EMS 5th Annual Meeting Abstracts*, EMS05-A-00311 European Meteorological Society.

[17] **E. Di Giuseppe**, D. Vento, C. Epifani, S. Esposito, 2005: Analysis of dry and wet spells from 1870 to 2000 in four Italian sites, *EGU European Geosciences Union, Geophysical Research Abstracts*, Vol. VII , 07712

[18] Vento D., Esposito S., Epifani C., **Di Giuseppe E.**, 2004: Analysis of Italian precipitation regimes with reference to extreme events, *EMS 4th Annual Meeting Abstracts–ECAC-5th Conference on Applied Climatology*, Vol. 1, 00249, EMS European Meteorological Society.

[19] **Di Giuseppe E.**, Vento D., Esposito S., Epifani C., 2004: Analysis of heavy rainfall in very high temporal resolution in Italy during last 10 years, *ICCP-14th International Conference on Clouds and Precipitation Proceedings*, Vol. I, pagg. 285–288.

## Conference Talks

[20] **E. Di Giuseppe**, G. Giulioni and M. Pasqui, 2017: Climate Effects on Wheat Markets: an Agent-based Approach, 1st Hamburg Workshop on Agent-based Modeling of Environmental Challenges and Climate Policy.

[21] **Di Giuseppe E.**, Jona Lasinio G., Pasqui M. and Esposito S., 2013: Predicting Rainfall Fields from Lightning Records: A Hierarchical Bayesian Approach, *First Bayesian Young Statisticians Meeting-BAYSM 2013*, Milan, Italy, June 5-6, 2013.

[22] **Di Giuseppe E.**, Jona Lasinio G., Pasqui M., Esposito S., 2012: Point Processes for modeling lightning data, *IX Conference on Geostatistics for Envioronmental Applications geoENV2012*, Valencia, Spain, September 19–21, 2012, Editor: J. Jaime Gómez-Hernández, ISBN: 978-84-8363-924-5.

[23] **Di Giuseppe E.**, Jona Lasinio G., Pasqui M., Esposito S., 2010: Functional clustering of Temperature and Precipitation data for Italian climate zones determination, *Gfkl-Cladag Joint Meeting 2010*, Book of Abstract 8-10 September 2010, Firenze, Italy, pp. 151–152.

[24] **Di Giuseppe E.**, Jona Lasinio G., Esposito S. and Pasqui M., 2010: A functional data approach for climate zones identification, *11th International Meeting on Statistical Climatology Program&Abstracts*, pp. 140–141, 12–16 July 2010, Edinburgh, Scotland.

## Conference Posters

[25] V. Tarchiani, E. Rapisardi, M. Pasqui, P. Parrish, **E. Di Giuseppe**, and M. Baldi, 2017: Learning and teaching about seasonal climate forecasts: a Mediterranean educational experience toward operational climate services. In: *EMS Annual Meeting: European Conference for Applied Meteorology and Climatology 2017*, EMS2017-93.

## Teaching Experience

**WMO Regional Training Center (RTC) - Italy**

- Instructor for Training Course 2015, 2016, 2017, and 2018.
  - Responsible for R practical training.
  - Authored material at http://edidigiu.github.io/code.html.

## Professional Service

**Referee Service**

- *DCAI 2015: 12th International Symposium on Distributed Computing and Artificial Intelligence*

## Software Skills

Computer Programming:

- UNIX shell scripting

Numerical Analysis:

- R, CDO Operators

Version Control:

- Git, Svn

Desktop Editing and Productivity Software:

- Vim
- TEX (LATEX, BIBTEX), Markdown
- Microsoft Office, OpenOffice, LibreOffice, Google Docs
- ArcGis, GRASS

Operating Systems:

- Apple OS X, Linux, Microsoft Windows

REFERENCES AVAILABLE TO CONTACT

**Dr. Massimiliano Pasqui** (e-mail: m.pasqui@ibimet.cnr.it; phone: +39-0649937615)

- Permanent Researcher, National Research Council, Institute for Biometeorology,
  - ◇ National Research Council, Institute for Biometeorology,
    Via dei Taurini, 19 Rome, 00185 Italy
  - ⋆ *Dr. Pasqui was my postdoctoral supervisor.*

**Prof. Giovanna Jona Lasinio** (e-mail: giovanna.jonalasinio@uniroma1.it; phone: +39 06 49910473)

- Associate Professor, Sapienza University of Rome
  - ◇ Sapienza University of Rome
    P.le Aldo Moro n. 5 - Edificio ex Fac. Scienze Statistiche Rome, 00185 Italy
  - ⋆ *Prof. Jona Lasinio was my PhD Thesis Advisor.*

**Dr. Stanislao Esposito** (e-mail: stanislao.esposito@crea.gov.it; phone: 06 7005413–102)

- Permanent Resercher, Research Council for Agriculture-CREA
  - ◇ via della Navicella,2 00184 Rome, Italy
  - ⋆ *Dr. Esposito was my tutor during the experience in AGROSCENARI, TEMPIO, CLIMANIMAL and CLIMAGRI projects.*

**Prof. Gianfranco Giulioni** (e-mail: gianfranco.giulioni@unich.it; phone: +39 0854537584)

- Associate Professor, G. d'Annunzio University of Chieti-Pescara
  - ◇ G. d'Annunzio University of Chieti-Pescara
    Viale Pindaro 42 - 65127 - Pescara - Italy
  - ⋆ *Prof. Giulioni was my tutor during the experience in COFIN project.*

MORE INFORMATION

Publications in Italian language and auxiliary documents can be found at ResearchGate, Mendeley and Google Scholar.

DATE

December 27, 2018