

ELISA PERRONE

PERSONAL DATA

PRIMARY ADDRESS: Massachusetts Institute of Technology - MIT
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EDUCATION

Ph.D. Mathematics	Johannes Kepler University, Linz, Austria	10/2012 - 04/2016
THESIS TITLE:	Optimal design for copula models.	
GRADUATION:	April 21, 2016 (with distinction)	
SUPERVISORS:	Prof. Werner G. Müller, Prof. Erich P. Klement	
M.Sc. Mathematics	University of Salento, Lecce, Italy	12/2008 - 07/2012
THESIS TITLE:	Semi-parametric approximation of the Kendall's distribution and multivariate Return Periods.	
GRADUATION:	July 25, 2012 (Summa cum laude)	
SUPERVISORS:	Gianfausto Salvadori, Fabrizio Durante	
B.Sc. Mathematics	University of Salento, Lecce, Italy	09/2005 - 12/2008
THESIS TITLE:	Uniqueness issues for ordinary differential equations.	
GRADUATION:	December 18, 2008 (Summa cum laude)	
SUPERVISOR:	Prof. Eduardo Pascali	

WORK EXPERIENCE

Postdoctoral Fellow	MIT, IDSS/EECS Department (Cambridge, MA, USA)	03/2017 - present
Research intern	ZAMG, Department of weather forecasting models (Vienna, Austria)	08/2016 - 01/2017
Postdoc	IST Austria, Uhler Group (Klosterneuburg, Austria)	05/2016 - 01/2017
Student intern	IST Austria, Uhler Group (Klosterneuburg, Austria)	09/2015 - 04/2016
Research and Teaching Assistant	JKU University of Linz, Department of Applied Statistics (Linz, Austria)	08/2012 - 08/2015

TEACHING EXPERIENCE

Statistik für Sozial- und Wirtschaftswissenschaften	Johannes Kepler University, Linz, Austria	Winter Sem. 2014/2015
Methods for Statistical Projects	Johannes Kepler University, Linz, Austria	Summer Sem. 2014/2015

AWARDS

Erwin Schrödinger fellowship Project: *Geometry of discrete copulas for weather forecasting*
Austrian Science Fund (FWF) (Nr. J 3968 Schrödinger-Program, EUR 160.960,- for 3 years).

RESEARCH INTERESTS

Copula modeling; Optimal experimental designs; Discrete copulas; Risk assessment in environmental applications; Discrete copulas for weather forecasting.

PUBLICATIONS

1. **E.Perrone**, A. Rappold, W. G. Müller. D_s -optimality in copula models. *Statistical Methods & Applications*, accepted for publication.
2. **E.Perrone**, W. G. Müller. Optimal designs for copula models. *Statistics: a journal of theoretical and applied statistics*, vol 50, No.4, pp. 917–929, (2016).
3. F. Durante, **E.Perrone**. Asymmetric copulas and their application in design of experiments. In: *On Logical, Algebraic and Probabilistic Aspects of Fuzzy Set Theory*. Springer book series "Studies in Fuzziness and Soft Computing", vol 336, pp. 157–172, (2016).
4. R. Pappadá, **E.Perrone**, F. Durante, G. Salvadori. A semiparametric approach in the estimation of the structural risk in environmental applications. In A. Fassò and A. Pollice, editors, *Proceedings of the GRASPA 2015 Conference (Bari (Italy), 1516 June, 2015)*, Special Issue of GRASPA Working Papers, 2015. ISSN: 2037-7738.
5. R. Pappadá, **E.Perrone**, F. Durante, G. Salvadori. Spin-off Extreme Value and Archimedean copulas for estimating the bivariate structural risk. *Stochastic Environmental Research and Risk Assessment*, vol 30, No.1, pp. 327–342, (2015).
6. **E.Perrone**. A study of robustness in the optimal design of experiments for copula models. *Stochastic Models, Statistics and Their Applications, Springer Proceedings in Mathematics & Statistics*, vol 122, pp. 335-342, (2015).
7. G. Salvadori, F. Durante, **E.Perrone**. Semi-parametric approximation of the Kendalls distribution function and multivariate Return Periods. *Journal de la Société Française de Statistique Special issue on Copulas*, vol 154, No.1, pp. 151–173, (2013).

INVITED TALKS

- Dec. 12, 2015. **ERCIM 2015**, December 12-14, 2015, London, UK.
TITLE: *Optimal discrimination designs for copula models.*
- Oct. 22, 2015. **Statistiktage 2015**
TITLE: *Design of experiment for copula models: a general overview*

- Feb. 18, 2015. **12th Workshop on Stochastic Models, Statistics and Their Applications**, February 16-20, 2015, Wroclaw, Poland.
TITLE: *A study on robustness in the optimal design of experiments for copula models.*
- Dec. 8, 2014. **ERCIM 2014**, December 06-08, 2014, Pisa, Italy.
TITLE: *An approach on design of experiments by using copulas.*
- Oct. 18, 2014. **19th Young Statisticians Meeting**, October 17-19, 2014, Basovizza, Italy.
TITLE: *Stochastic dependence evidences in experimental design for copula models.*
- May 27, 2014. **Workshop on Dependence Models and Risk**, May 27, 2014.
Free University of Bozen - Bolzano, Italy.
TITLE: *Design of experiments for copula models.*

POSTER PRESENTATIONS AND CONTRIBUTED TALKS

- Oct. 10, 2016. **Conference on Conditional Independence Structures and Extremes**
October 12–14, 2016, Munich, Germany.
TITLE: *Geometry of discrete copulas for weather forecasting*
AUTHORS: E. Perrone, C. Uhler
(Poster presentation)
- Sep. 22, 2016. **Salzburg Workshop on Dependence Models & Copulas** September 19–22, 2016, Salzburg, Austria.
TITLE: *Geometry of discrete copulas for weather forecasting*
AUTHORS: E. Perrone, C. Uhler
(Poster presentation)
- Feb. 3, 2016. **36th Linz Seminar on Fuzzy Set Theory**, February 2–6, 2016
Linz, Austria.
TITLE: *The polytope of ultramodular discrete copulas*
AUTHORS: E. Perrone, C. Uhler
- July 9, 2015. **30th International Workshop on Statistical Modeling**, July 6-10, 2015,
Linz, Austria.
TITLE: *D_s -optimality for discrimination between copula models: a first example*
AUTHORS: E. Perrone, W. Müller.
(Poster presentation)
- June 10, 2015. **Algebraic Statistics 2015**, June 8-11, 2015, Genoa, Italy.
TITLE: *Generalized Frechet bounds: from contingency tables to discrete copulas.*
(Poster presentation)
- Sep. 24, 2014. **ENBIS 2014**, September 21-25, 2014, Linz, Austria.
TITLE: *A study of the copula parameter impact on optimal design of experiments for copula models.*
- Sep. 11, 2014. **Statistische Tage 2014**, September 10-12, 2014, Innsbruck, Austria.
TITLE: *Robustness Issues in the optimal design of experiments for copula models.*
- Aug. 19, 2014. **COMPSTAT 2014**, August 19-22, 2014, Geneva, Switzerland.
TITLE: *Optimal designs for copula models.*
AUTHORS: E. Perrone, Werner G. Müller.

- June 13, 2013. **Model-Oriented Data Analysis and Optimum Design: MODA 10**
June 10-14, 2013, Lagow Lubuski, Poland.
TITLE: *Design of experiments for copula models*
AUTHORS: E. Perrone, Werner G. Müller.
(Poster presentation)
- Sep. 20, 2012. **Statistische Woche 2012**, September 18-21, 2012, Vienna, Austria.
TITLE: *Asymptotic approximation of the Kendalls distribution and multivariate
Return Periods.*
AUTHORS: E. Perrone, G. Salvadori , F. Durante.
(Poster presentation)

SUMMER SCHOOLS

- 08/19–08/23 , 2013. **Summer school on Copulas for hydrological applications.**
Hannover, Germany.
- 06/27–07/02 , 2016. **Summer School on Algebra, Statistics and Combinatorics.**
Aalto, Finland.

OTHER ACTIVITIES

- 08/2014 – 08/2015 Responsible for the research seminar at the Department of Applied
Statistics, JKU, Linz.
- 2014 – Referee for *Austrian Journal of Statistics, International Journal of
Information Technology and Web engineering, Statistical Papers.*

COMPUTER SKILLS

Good knowledge of Mathematica, R, and Latex. Knowledge of Matlab, C, LINGO.

LANGUAGES

Italian (native language), **English** (fluent), **German** (intermediate), **French** (basic).

March 5, 2017