Decreto Rettore Università di Roma “La Sapienza” n. 3123 del 1.12.2017

CLAUDIO DURASTANTI
Curriculum Vitae

Bochum (Germania)
5.2.2018

Part I – General Information

Full Name	Claudio Durastanti
Spoken Languages	Italian (native); English (fluent); German (basic)

Part II – Education

Type	Year	Institution	Notes
Laurea Triennale (Physics)	2004	Dipartimento di Fisica Università La Sapienza, Roma	108/110
Laurea Specialistica (Physics)	2007	Dipartimento di Fisica Università La Sapienza, Roma	110/110 summa cum laude
II Level Master (Methods of Management of Complex System)	2008	Istituto Universitario di Studi Superiori, Pavia	Project Report: Nonparametric survival models for rating estimation
Phd (Mathematics and Statistics)	2011	Dipartimento di Matematica Università di Pavia	Thesis: Semiparametric and nonparametric estimation on the sphere by needles methods

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
1.3.2012	30.9.2015	Dipartimento di Matematica Università di Tor Vergata (Roma)	Postdoc Fellow
1.10.2012	currently	Fakultät für Mathematik, Ruhr-Universität Bochum	Postdoc Fellow

Part IV – Teaching experience

Year	Institution	Lecture/Course
2010-2011 (winter and summer term)	Università dell’Insubria (Como)	Statistics II (tutor)

2015-2016 (winter term)	Ruhr-Universität Bochum	Statistics on the sphere (PhD course)
2016 (summer term)	Ruhr-Universität Bochum	Asymptotic statistics (PhD course)
2016-2017	Ruhr-Universität Bochum	Nonparametric statistics (PhD course)
(winter term)		
2017 (summer term)	Ruhr-Universität Bochum	Analysis II (tutor)
2017-2018	Ruhr-Universität Bochum	Mathematics III for Engineering (tutor)

Part V - Supervision of students

Year	Title	
2017	Nicola Turchi	Thesis for the Scuola Galileiana di Studi Superiori (Padova) Nonparametric regression estimation over the sphere by soft local thresholding methods

Part VI - Funding Information (as investigator)

Year	Title	Program
2012-2015	European Research Council 27774 PASCAL	Probabilistic and statistical techniques for cosmological applications
2015-currently	Research Training Group 2131	High-dimensional phenomena in probability - fluctuations and discontinuity

Part VII – Research Activities

Keywords	Brief Description
Random Fields	Space-time random fields over the sphere; aliasing effects; estimation of the non-Gaussianity parameter of perturbed spherical random fields.
Directional Statistics on the sphere	LASSO techniques and wavelets; Bayesian thresholding estimators on the sphere; locally adaptive confidence bands on the sphere.
Wavelet properties	Concentration properties of spherical wavelets; graph wavelets and statistics.

Part VIII – Summary of Scientific Achievements

Product type	Number
Papers in peer-reviewed journals	13
Chapters in books	3
Conference proceedings	2

Bibliometrics

Total Impact factor *	17.418 (SJR=17,592)	1.34 (SJR=1.35) (per publication)
Total Citations	84 (80 since 2013)**	30***

Average Citations per Product	4.94**	2***
Hirsch (H) index	6 (6 since 2013)**	3***
Normalized H index	3 (2 since 2013)**	
Publications on A-ranked journals	1****	6* (rank Q1)

* Source http://www.scimagojr.com
** Source Google Scholar
*** Source Scopus
**** Source www.anvur.org http://www.anvur.org/index.php?option=com_content&view=article&id=77&Itemid=375&lang=it

Part IX– Publications

In peer-reviewed journals

1 McEwen, J., Durastanti, C., Wiaux, Y. (2018). *Localisation of directional scale-discretised wavelets on the sphere.* Appl. Comput. Harmon. Anal., 44, 1, 55-88 (IF=2.54; Rank Q1; SJR=1.594* **).

2 Bourguin, S., Durastanti, C. (2018). *On Normal approximations for the two-sample problem on multidimensional tori.* J. Statist. Plann. Inference, in press (IF=0.85; Rank Q2; SJR=1.257* **).

3 Bourguin, S., Durastanti, C. (2018). *High-frequency limits for U-statistics over Besov spaces on compact manifolds.* To appear on Illinois J. Math (IF=0.23; Rank Q2; SJR=0.457* **).

4 Durastanti, C. (2017). *Tail behaviour of Mexican needlets.* J. Math. Anal. Appl., 447, 2, 716-735 (IF=1.10; Rank Q2; SJR=1.023* **).

5 Durastanti, C. (2016). *Quantitative central limit theorems for Mexican needlets coefficients on circular Poisson fields.* Stat. Methods Appl., 25, 4, 651-673 (IF=0.48; Rank Q3; SJR=0.451*).

6 Durastanti, C. (2016). *Adaptive global thresholding on the sphere.* J. Multivariate Anal., 151, 110-132 (IF=0.93; Rank Q1; SJR=1.666*).

7 Bourguin, S., Durastanti, C., Marinucci, D., Peccati, G. (2016). *Gaussian approximations of nonlinear statistics on the sphere.* J. Math. Anal. Appl., 436, 2, 1121-1148 (IF=1.10; Rank Q2; SJR=1.023*).

8 Durastanti C. (2015), *Block thresholding on the sphere.* Sankhya A, 77, 1, 153-185 (IF=0.24; Rank Q4; SJR=0.388*).

9 Durastanti C., Fantaye Y. T., Hansen, F. K., Marinucci, D., Pesenson I. Z. (2014). *A simple proposal for radial 3D-needlets.* Phys. Rev. D 90, 103532 (IF=4.74; Rank Q1; SJR=2.373*).

10 Durastanti, C., Marinucci, D., Peccati, G. (2014). *Normal approximations for wavelet coefficients on spherical Poisson fields.* J. Math. Anal. Appl., 409, 1, 212-227 (IF=1.30; Rank Q1; SJR=1.315*).

11 Durastanti C., Lan, X., Marinucci, D. (2014). *Gaussian semiparametric estimates on the sphere.* Bernoulli, 20, 1, 28-77 (IF=1.52; Rank Q1; SJR=2.254*).

12 Durastanti C., Lan, X., Marinucci, D. (2013). Needles-Whittle estimates on the unit sphere. Electron. J. Stat. 7, 597-646 (IF=1.31; Rank Q1; SJR=1.82*).

13 Durastanti C., Geller, D., Marinucci, D. (2013). *Adaptive nonparametric regression on spin fiber bundles.* J, Multivariate Anal., 104, 16-38 (IF=1.08; Rank Q1; SJR=1.971*).

Book Chapters

14 Durastanti, C. (2017). *Adaptive density estimation on the circle by nearly tight frames*. In "Novel Methods in harmonic analysis with applications to numerical analysis and data processing", vol. 2, 831-860, Birkhäuser- Springer.

15 Bourguin, S., Durastanti, C., Marinucci, D., Peccati, G. (2017). *U-statistics on the spherical Poisson spaces.* In "Stochastic analysis for Poisson point processes: Malliavin calculus, Wiener-Itô chaos expansion and stochastic geometry", 295-310, Bocconi-Springer.

16 Durastanti, C., Lan, X. (2013). *High-frequency tail index estimation by nearly-tight frames*. In "Commutative and noncommutative harmonic analysis and applications", A.M.S. Contemporary Mathematics Series 603.

Conference Proceeding

17 Durastanti, C., Fantaye, Y. T., Hansen, F. K., Marinucci, D., Pesenson, I. Z. *Radial 3D-needlets on the unit ball*. In "Proceedings of the International Astronomical Union 10 (2306), 75-77.

18 Durastanti C. (2007). *Tra teoria ed esperimento: la nascita della fisica computazionale e le sue*

prime applicazioni alla fisica dei liquidi. In “Quaderni del CE.R.CO., 5 - Relatività, quanti, chaos e altre rivoluzioni della fisica: atti del XXVII Congresso Nazionale di storia della fisica e dell’astronomia, Bergamo 2007”, Guaraldi.

*Source http://www.scimagojr.com (data relative to the year of publication of the paper)
** data relative to the last available year (2016)

Part X– Collaborations

- Solesne Bourguin, Assistant Professor in Probability theory, functional analysis and combinatorics at Boston University (study of asymptotic behaviour of U-statistics estimators of wavelet coefficients of Poisson spherical random fields);
- Valentina Cammarota, Rtd B Università ``La Sapienza", Roma (probabilistic techniques concerning spherical random fields);
- Daryl Geller, Professor at Stone Brook University (adaptive nonparametric estimation of spin fiber bundles);
- Xiaohong Lan, University of Science and Technology of China, Hefei, Anhui, China (Whittle maximum likelihood estimation of spectral parameters of Gaussian spherical random fields);
- Domenico Marinucci, Professor in Probability and Statistics, Tor Vergata, Rome (asymptotic theory of Poisson random fields);
- Jason D. McEwen, University Lecturer (Assistant Professor) at University College London (asymptotic properties of wavelets);
- Tim Patschkowski, Ruhr-Universität Bochum (locally adaptive confidence bands on the sphere, aliasing effects);
- Giovanni Peccati, Professor in Stochastic Analysis and Mathematical Finance at Luxembourg University (development of quantitative central limit theorems);
- Isaac Z. Pesenson, Professor at Temple University, Philadelphia (construction of wavelets on the unit ball and several statistical applications);
- Alessandro Renzi, Università di Padova (simulations and applications on CMB radiation issues and other Cosmological problems).

Part XI– Scientific visits

Year	Institution	Notes
2016/2017	Tor Vergata, Roma	Several visits to Prof. Domenico Marinucci
2016	Boston University	visit to Prof. Solesne Bourguin
2013	Temple University (Philadelphia)	visit to Prof. Isaac Z. Pesenson
2013	Carnegie Mellon University (Pittsburgh)	visit to Prof. Solesne Bourguin and Larry Wasserman

Part XII– Selected Talks

2017

- Thresholding techniques in nonparametric statistics over the sphere. Ghiffa-Oggebio Summer School. September 2.
- Radial 3D-Needlets on the Unit Ball. Conference on ``Statistics and Data Science: new challenges, new generations", Florence, June 30.
- Stein-Malliavin method meets wavelets: an overview on some recent results. First Italian Meeting on Probability and Mathematical Statistics, Turin, June 22.

2016

- On high-frequency limits of U-statistics in Besov spaces over compact manifolds. Ghiffa-Oggebio Summer School, September 22.

- Adaptive nonparametric estimation on the sphere. 9th World Congress in Probability and Statistics, Toronto, July 13.
- Nonparametric regression estimates on the sphere. 12th German Probability and Statistics Days, Bochum, March 2.

2015

- Normal approximations of linear and nonlinear statistics over the sphere. Bochum., November 9.
- Gaussian approximations for nonlinear statistics on spherical Poisson spaces. European Meeting of Statisticians, Amsterdam, July 6.
- Normal approximations of linear and nonlinear statistics over the sphere. Rome, April 14.
- Spherical wavelets: an overview and some applications. Rome, March 4.

2014

- Gaussian approximations for nonlinear statistics on spherical Poisson spaces. ERCIM conference, Pisa, December 7.
- Normal approximations for wavelet coefficients on spherical Poisson fields. 11th German Probability and Statistics Days 2014, Ulm, March 4.

2013

- Stein-Malliavin approximations for wavelet coefficients on spherical Poisson fields. Pittsburgh, September 13.

2012

- Whittle estimates on the unit sphere. 8th World Congress in Probability and Statistics, Istanbul, July 9.

Part XIII – Organization Activity

Year	Role	Event
2017	Organizer	Workshop "Stein's method and Malliavin calculus: recent developments and future perspectives", Bochum, 6-7 December
2013	Co-organizer	Workshop "Probabilistic and statistical techniques for cosmological applications, Roma, 5-7 June

Part XIV – Miscellaneous

Reviewer for

- Journal of Multivariate Analysis;
- Computational Statistics and Data Analysis;
- Electronic Journal of Statistics;
- Statistics and Probability Letters;
- Journal of Approximation Theory;
- Journal of Fourier Analysis and Applications.

Bochum, 5.2.2018 **Claudio Durastanti**