CURRICULUM VITAE – Dr. Boris Beranger

PERSONAL DETAILS	*Address:*	School of Mathematics and Statistics UNSW Sydney Sydney NSW 2052, Australia
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RESEARCH INTERESTS

My Google scholar profile can be accessed via http://bit.do/e4pRB. I have a general interest in Extreme Value Theory, both from a theoretical and methodological perspective. In particular, I am interested in modelling the dependence structure of multivariate and spatial extremes with an emphasis on environmental applications. I also conduct research on big data related problems and have recently developed a framework for statistical analysis based data summaries.

CURRENT POSITIONS

Lecturer UNSW Sydney	2020-
Associate Investigator ARC Centre of Excellence for Mathematical and Statistical Frontiers	2017-

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PAST POSITIONS

Research Associate UNSW Sydney *Supervisor:* Prof. Scott Sisson	2016-2019

EDUCATION

Ph.D. in Statistics (under cotutelle)
   Institutions: Université Pierre and Marie Curie (UPMC), Paris 6
               UNSW Sydney
   Supervisors: Prof. Michel Broniatowski (UPMC)
               Prof. Scott Sisson (UNSW Sydney)
               Dr. Simone Padoan (Bocconi University of Milan, Italy)
   Title: "Modelling the dependence structure of multivariate and spatial extremes".
	2012-2016

Masters of Mathematics (Statistics) *Institution:* Université Pierre and Marie Curie (UPMC), Paris 6	2009-2011

REFEREED PUBLICATIONS

[1.] **Beranger, B.**, Padoan, S. A. and Sisson, S. A. "Estimation and uncertainty quantification for extreme quantile regions".
To appear in *Extremes (Q1)*.

[2.] Zhang, X., **Beranger, B.** and Sisson, S. A. (2019). "Constructing likelihood functions for interval-valued random variables".
To appear in *Scandinavian Journal of Statistics* (Q1).

[3.] **Beranger, B.**, Padoan, S. A., Xu, Y. and Sisson, S. A. (2019). "Extremal properties of the multivariate extended skew-normal distribution, Part B". *Statistics and Probability Letters* (Q3), 147, 105–114.

[4.] **Beranger, B.**, Padoan, S. A., Xu, Y. and Sisson, S. A. (2019). "Extremal properties of the univariate extended skew-normal distribution, Part A". *Statistics and Probability Letters* (Q3), 147, 73–82.

[5.] **Beranger, B.**, Duong, T., Perkins-Kirkpatrick, S. and Sisson, S. A. (2019). "Tail density estimation for exploratory data analysis using kernel methods". *Journal of Nonparametric Statistics* (Q2), 31(1), pp. 144–174.

[6.] **Beranger, B.**, Padoan, S. A. and Sisson, S. A. (2017). "Models for extremal dependence derived from skew-symmetric families". *Scandinavian Journal of Statistics* (Q1), 44, pp. 21–45.

[7.] **Beranger, B.** and Padoan, S. A. (2015). "Extreme Dependence Models", in *Extreme Value Modeling and Risk Analysis: Methods and Applications*, pp. 325–352, Chapman Hall/CRC.

SUBMITTED PAPERS

[8.] **Beranger, B.**, Lin, H. and Sisson, S. A. "New models for symbolic data analysis".

[9.] **Beranger, B.**, Stephenson, A. G. and Sisson, S. A. "High dimensional inference using the extremal skew-t processes".

[10.] Whitaker, T., **Beranger, B.** and Sisson, S. A. "Composite likelihood methods for histogram-valued random variables".

[11.] Whitaker, T., **Beranger, B.** and Sisson, S. A. "Logistic regression models for aggregated data".

PAPERS IN PREPARATION	[12.] Brito, P., **Beranger, B.** and Sisson, S. A. "Interval-valued variables and quantile functions".
	[13.] **Beranger, B.**, McGree, J. M. and Sisson, S. A. "Design of interval and histogram random variables".
	[14.] Whitaker, T., **Beranger, B.** and Sisson, S. A. "Estimating equations for data summaries".
	[15.] Rahman, P., **Beranger, B.**, Roughan, M. and Sisson, S. A. "Fitting models to internet traffic networks with summarised data".
	[16 .] **Beranger, B.**, Stewart, M. and Sisson, S. A. "Extremal type theorems for mean aggregated data".

GRANTS AND AWARDS	**Outreach participation award**	2019
	ARC Centre of Excellence for Mathematical and Statistical Frontiers. Award for 'Work experience in Data Science' program ran between 2017 and 2020.	
	Research Support Scheme	2018
	ARC Centre of Excellence for Mathematical and Statistical Frontiers Financial support to establish a collaboration with CSIRO, Data61, Australia ($7,600).	
	J. B. Douglas award	2014
	NSW Branch of the Statistical Society of Australia (SSA) Award for Postgraduate excellence.	

Ph.D. SUPERVISION	**Prosha Rahman**, UNSW Sydney	2019-
	Topic: Symbolic data analysis for renewal processes. *Joint supervisor:* Prof. Scott Sisson.	
	Thomas Whitaker, UNSW Sydney	2016-
	Topic: Statistical modelling using symbolic random variables. *Joint supervisor:* Prof. Scott Sisson.	

MASTER AND HONOURS SUPERVISION	**Max Fisher** (Honours, *joint supervision*), UNSW Sydney	2019
	Topic: Statistical analysis using distribution-valued data.	
	Lewis Wright (Honours, *joint supervision*), UNSW Sydney	2019
	Topic: Extremal type theorems for symbolic data.	
	Bowen Wang (Masters, *joint supervision*), UNSW Sydney	2019
	Thesis: "Symbolic data analysis for generalized extreme value model".	
	Yangfan Xu (Masters, *joint supervision*), UNSW Sydney	2017
	Thesis: "On the extremes of extended skew-normal random variables".	

TEACHING ACTIVITES	**Lecturer**, Introduction to Statistics and Statistical Computing (MATH5856)	Term 1, 2019

Lecturer, Introduction to Statistics and Statistical Computing (MATH5856) — Term 1, 2019
UNSW Sydney, School of Mathematics and Statistics
Postgraduate course, Course convenor.
Evaluation (MyExperience report):
Satisfaction = 100%, Mean score = 6/6, Response rate = 8/12.

Lecturer, Statistical Analysis of Dependent Data (MATH3841) — Semester 2, 2018
UNSW Sydney, School of Mathematics and Statistics
Third year course, Course convenor.
Evaluation (MyExperience report):
Satisfaction = 100%, Mean score = 6/6, Response rate = 4/6.

Tutor, Advanced topics in Statistical Machine Learning (COMP9418) — Semester 2, 2017
UNSW Sydney, School of Computer Science and Engineering
Postgraduate year course.

Tutor, Calculus (MATH1131) — Semester 1, 2017
UNSW Sydney, School of Mathematics and Statistics
First year course
Also taught in Semester 2, 2012 and Semester 1, 2015.

Tutor, Statistics for Life and Social Sciences (MATH1041) — Semester 1, 2017
UNSW Sydney, School of Mathematics and Statistics
First year course
Also taught in Semester 1 & 2, 2015.

Lecturer, Introduction to Statistics — Semester 1, 2014
Ecole Supérieure d'Ingénieur Leonard de Vinci, Courbevoie, France
First year course in engineering school
Also taught in Semester 2, 2013.

Lecturer, Introduction to Statistics & Probability — Semester 1, 2014
Ecole Supérieure des Sciences Commerciales d'Angers, Boulogne, France
First year course in business school.

INVITED TALKS	11th International Conference of the ERCIM WG on Computational and Methodological Statistics, University of Pisa, (Italy). "Inference for extremal-t and skew-t max-stable models in high dimensions".	2018
	Data science: new data, new paradigms: From data to classes and classes as statistical units, University of Paris Dauphine (France). "Extreme value analysis using symbolic data".	2018
	9th International Conference of the ERCIM WG on Computational and Methodological Statistics, University of Seville (Spain). "On some features of the skewed families of max-stable processes".	2016
	8th International Conference of the ERCIM WG on Computational and Methodological Statistics, Senate House, University of London (UK). "Extremes of Skew-Symmetric distributions".	2015

SEMINARS	Australian National University (Australia). "New models for symbolic data analysis".	2019
	Melbourne University (Australia). "First steps in the analysis of Symbolic Data".	2017

CONTRIBUTED TALKS	10th Conference on Extreme Value Analysis, TU Delft (Netherlands). "A composite likelihood based approach for max-stable processes using histogram-valued variables".	2017
	Australian Statistical Conference, Canberra (Australia). "On some features of the skewed families of max-stable processes".	2016
	9th Conference on Extreme Value Analysis, University of Michigan (USA). "Exploratory data analysis of extreme values using non-parametric kernel methods".	2015
	Australian Statistical Conference in conjunction with the Institute of Mathematical Statistics Annual Meeting, Sydney (Australia). "Likelihood based estimation method for Extreme dependence models".	2014

REFEREEING	Extremes (Q1) https://link.springer.com/journal/10687
	Spatial Statistics (Q1) https://www.journals.elsevier.com/spatial-statistics

Statistics and Computing (Q1)
https://www.springer.com/statistics/journal/11222

Stochastic Environmental Research and Risk Assessment (Q1)
http://www.springer.com/environment/journal/477

Weather and Climate Extremes (Q1)
https://www.journals.elsevier.com/weather-and-climate-extremes

Journal of Agricultural, Biological, and Environmental Statistics (Q2)
https://www.springer.com/statistics/journal/13253

Statistics (Q2)
https://www.tandfonline.com/loi/gsta20

Dependence Modeling (Q3)
https://www.degruyter.com/view/j/demo

SOFTWARE	[1.] R package **ExtremalDep** (Extremal Dependence)

Available on CRAN (https://cran.r-project.org/package=ExtremalDep).

Description: Provides a set of procedures for modelling parametrically and non-parametrically the dependence structure of multivariate extreme values.
The statistical inference is performed with non-parametric estimators, likelihood-based estimators and Bayesian techniques.

Collaborators: Dr. Giulia Marcon and Dr Simone Padoan.

[2.] R package **CompRandFld** (Composite-Likelihood Based Analysis of Random Fields)

Available on CRAN (https://cran.r-project.org/package=CompRandFld).

Description: Provides a set of procedures for for the analysis of Random Fields using likelihood and non-standard likelihood methods.

Collaborators: Dr. Moreno Bevilacqua and Dr Simone Padoan.

CURRENT RES- -PONSIBILITIES	**Statistical Society of Australia, NSW Branch**	
	Treasurer	2018-
	Member of the council	2017-
	UNSW Statistics Seminar Series	
	Organiser	2018-

OUTREACH	**Year 10 Work Experience Program**	2017-2019
	ACEMS initiative with local High Schools	
	7 day program involving a dozen of high school students.	

OTHER	**Organising committee member**	2017

Organising committee member   2017
Early Career Researchers Retreat, Gold Coast (Australia)
Part of ARC Centre of Excellence for Mathematical and Statistical Frontiers annual retreat.

Statistics Reading Group   2016-2018
Organizer
School of Mathematics and Statistics, UNSW Sydney

Organising committee member   2014
1st Annual Postgraduate Conference
School of Mathematics and Statistics, UNSW Sydney

REFEREES

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