

## CURRICULUM VITAE – Dr. Boris Beranger

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### PERSONAL DETAILS

*Address:* School of Mathematics and Statistics  
Room 4103, The Red Centre  
UNSW Sydney  
Sydney, NSW, 2052  
Australia

*E-mail:* b.beranger@unsw.edu.au

*Phone:* +61 2 9385 7083

*Citizenship:* French

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### CURRENT POSITION

**Research Associate**  
UNSW Sydney  
Since *February 2016*

**Associate Investigator (AI)**  
ARC Centre of Excellence for Mathematical and Statistical Frontiers  
(ACEMS)  
Since *April 2017*

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### EDUCATION

*February 2012 – January 2016: **PhD Candidate*** (under cotutelle)  
*Institutions:* UNSW Sydney  
Université Pierre and Marie Curie (UPMC), Paris 6

*Supervisors:* Prof. Scott Sisson (UNSW Sydney)  
Prof. Michel Broniatowski (UPMC, France)  
Dr. Simone Padoan (Bocconi University of Milan, Italy)

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

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### RESEARCH INTERESTS

Extreme Value Theory (Multivariate and Spatial), Symbolic Data  
Analysis, Non-parametric statistics, Skew-symmetric distributions.

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### AWARDS

Winner of the **2014 J. B. Douglas award**  
NSW Branch of the Statistical Society of Australia (SSA)

PUBLICATIONS	<p>Zhang, X., <b>Beranger, B.</b> and Sisson, S. A. (2019). Constructing likelihood functions for interval-valued random variables. <b>Scandinavian Journal of Statistics</b> (Q1), To appear.</p> <p><b>Beranger, B.</b>, Padoan, S. A., Xu, Y. and Sisson, S. A. (2019). Extremal properties of the multivariate extended skew-normal distribution, Part B. <b>Statistics and Probability Letters</b> (Q3), 147, pp. 105–114.</p> <p><b>Beranger, B.</b>, Padoan, S. A., Xu, Y. and Sisson, S. A. (2019). Extremal properties of the univariate extended skew-normal distribution, Part A. <b>Statistics and Probability Letters</b> (Q3), 147, pp. 73–82.</p> <p><b>Beranger, B.</b>, Duong, T., Perkins-Kirkpatrick, S. and Sisson, S. A. (2019). Tail density estimation for exploratory data analysis using kernel methods. <b>Journal of Nonparametric Statistics</b> (Q2), 31(1), pp. 144–174.</p> <p><b>Beranger, B.</b>, Padoan, S. A. and Sisson, S. A. (2017). Models for extremal dependence derived from skew-symmetric families. <b>Scandinavian Journal of Statistics</b> (Q1), 44, pp. 21–45.</p> <p><b>Beranger, B.</b> and Padoan, S. A. (2015). <i>Extreme Dependence Models</i>, in “Extreme Value Modeling and Risk Analysis: Methods and Applications”, pp. 325–352, <b>Chapman Hall/CRC</b>.</p>
WORK IN PROGRESS	<hr/> <p><b>Beranger, B.</b>, Lin, H. and Sisson, S. A. (2019). New models for symbolic data analysis. <i>Submitted.</i></p> <p><b>Beranger, B.</b>, Padoan, S. A. and Sisson, S. A. (2019). Estimation and uncertainty quantification for extreme quantile regions. <i>Submitted.</i></p> <p>Whitaker, T., <b>Beranger, B.</b> and Sisson, S. A. (2018). Symbolic Data Analysis methods for extremes. <i>In preparation.</i></p> <p><b>Beranger, B.</b>, Stephenson, A. G. and Sisson, S. A. (2019). High dimensional inference using extremal-<math>t</math> and extremal skew-<math>t</math> processes. <i>In preparation.</i></p> <hr/>

## REFEREEING

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

Spatial Statistics (Q1),  
<https://www.journals.elsevier.com/spatial-statistics>

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

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

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

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## INVITED TALKS/ SEMINARS

28 February 2019, *New models for symbolic data analysis*, Statistics seminar, Australian National University, Australia.

14–16 December 2018, *Inference for extremal- $t$  and skew- $t$  max-stable models in high dimensions*, 11th International Conference of the ERCIM WG on Computational and Methodological Statistics, University of Pisa, Italy.

22–23 January 2018, *Extreme value analysis using symbolic data*, Data science: new data, new paradigms: From data to classes and classes as statistical units, University of Paris Dauphine, France.

4 October 2017, *First steps in the analysis of Symbolic Data*, Statistics seminar, Melbourne University, Australia.

9–11 December 2016, *On some features of the skewed families of max-stable processes*, 9th International Conference of the ERCIM WG on Computational and Methodological Statistics, University of Seville, Spain.

12–14 December 2015, *Extremes of Skew-Symmetric distributions*, 8th International Conference of the ERCIM WG on Computational and Methodological Statistics, Senate House, University of London, UK.

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CONTRIBUTED  
TALKS

26–30 June 2017, *A composite likelihood based approach for max-stable processes using histogram-valued variables*, 10th Conference on Extreme Value Analysis, TU Delft, Netherlands.

5–8 December 2016, *On some features of the skewed families of max-stable processes*, Australian Statistical Conference, Canberra, Australia.

15–19 June 2015, *Exploratory data analysis of extreme values using non-parametric kernel methods*, 9th Conference on Extreme Value Analysis, University of Michigan, Ann Arbor, USA.

7–10 July 2014, *Likelihood based estimation method for Extreme dependence models*, Australian Statistical Conference in conjunction with the Institute of Mathematical Statistics Annual Meeting, Sydney, Australia.

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## TEACHING ACTIVITIES

### LECTURES:

- **Introduction to Statistics and Statistical Computing**  
[UNSW, MATH5856]  
Bridging course for Masters of Statistics
- **Statistical Analysis of Dependent Data**  
[UNSW, MATH3841]  
Third year course.  
*MyExperience report:* Satisfaction: 100%  
Mean score: 6/6  
Response rate: 4/6
- **Probability**  
[ESSCA]  
First year course.
- **Descriptive, Inferential Statistics and Operational Research**  
[ESSCA]  
First year course.
- **Descriptive and Inferential Statistics**  
[ESILV]  
First year course.

### TUTORIALS:

- **Advanced Topics In Statistical Machine Learning**  
[UNSW, COMP9418]  
Masters course.
- **Mathematics 1A**  
[UNSW, MATH1131]  
First year course.
- **Statistics for Life and Social Sciences**  
[UNSW, MATH1041]  
First year course.

### Institution codes:

[UNSW] : University of New South Wales, Sydney  
[ESSCA] : Ecole Supérieure des Sciences Commerciales d'Angers,  
Boulogne, France  
[ESILV] : Ecole Supérieure d'Ingénieur Leonard de Vinci,  
Courbevoie, France

## SUPERVISION

### CURRENT:

Thomas Whitaker, PhD candidate, 2016-  
*Jointly supervised with Prof. Scott Sisson.*

Prosha Rahman, PhD candidate, 2019-  
*Jointly supervised with Prof. Scott Sisson.*

Bowen Wang, Masters student, 2019  
*Jointly supervised with Prof. Scott Sisson.*

Max Fisher, Honours student, 2019  
*Jointly supervised with Prof. Scott Sisson.*

Lewis Wright, Honours student, 2019  
*Jointly supervised with Prof. Scott Sisson.*

### PAST:

Yangfan Xu, Masters student, 2017  
Thesis: "On the extremes of extended skew-normal random variables".  
*Jointly supervised with Prof. Scott Sisson.*

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## SOFTWARE

R package **ExtremalDep** (Extremal Dependence)

Available on R-Forge.

*Description:* Extremal Dependence package provides parametric and non-parametric statistical methods for modelling and estimating the dependence of extreme values.

Collaborators: Dr. Giulia Marcon and Dr Simone Padoan.

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## CURRENT RES- -PONSIBILITIES

**Statistical Society of Australia**

Treasurer since March 2018.

Member of the council since March 2017.

**UNSW Statistics Seminar Series**

Organiser since June 2018.

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## OUTREACH

### **Year 10 Work Experience Program**

*ACEMS initiative with Mosman High School*

19–27 November 2018, UNSW Sydney

20 November – 01 December 2017, UNSW Sydney

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## OTHER

### **Organising committee member**

*Early Career Researchers Retreat (part of ACEMS Annual retreat)*

19 October – 01 November 2017, Gold Coast, Australia

### **Co-founder and co-organiser (since September 2016)**

*Statistics Reading Group*

School of Mathematics and Statistics, UNSW Sydney

### **Organising committee member**

*1st Annual Postgraduate Conference*

3 October 2014, School of Mathematics and Statistics, UNSW Sydney

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