

Curriculum Vitae

Emma F. Eastoe

Contact details

Address : Department of Mathematics and Statistics
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Academic

October 2008 - Current : Lecturer in Statistics
Department of Mathematics and Statistics, Lancaster University

November 2007 - September 2008 : Department of Mathematics and Statistics, Lancaster University
Post-doctoral Research Associate on a NERC-funded FREE (Flood Risk for Extreme Events) project
'A data-driven exploratory study of extreme events based on joint probability analysis', working under
Professor Jonathan Tawn (Lancaster), in collaboration with CEH Wallingford.

2004 - 2007 : Department of Mathematics and Statistics, Lancaster University
PhD in Extreme Value Theory and applications to the analysis of air pollution data

2001-2004 : Department of Mathematics and Statistics, Lancaster University
BSc Mathematics with Statistics (1st Class)
Included final year courses in likelihood inference, generalised linear models, survival analysis, stochastic processes, probability and measure, design and analysis of experiments, Bayesian statistics and a project on Markov Chain Monte Carlo techniques.

Teaching experience

I acted as a computer lab demonstrator (in R, Matlab and Maple) during the final year of my undergraduate degree. Whilst doing my PhD, acted as a tutor on various undergraduate courses, including maths and statistics for first-year mathematicians, maths and statistics for engineers and statistics for biology and management science. This took the form of running tutorials, workshops and computer labs. I also helped organise, lecture and take lab sessions on the MSc Extreme Value Theory course.

Aside from teaching, I took part in undergraduate open days in the department, giving a mini lecture in statistics and campus tours and led a taster day in mathematics for A-level students.

Other positions

2008-present

Committee member of the Young Statisticians Section of the Royal Statistical Society.

2006-2008

Secretary for extremes reading group, Department of Mathematics and Statistics, Lancaster University. This involves organising times and the distribution of papers for the group, as well as sometimes leading the discussion.

2005-2006

Postgraduate representative for maths and statistics PhD students, Department of Mathematics and Statistics, Lancaster University.

This involved chairing the staff-student committee, attending departmental and faculty meetings and sitting on the departmental computer committee.

Papers

A hierarchical model for non-stationary multivariate extremes: a case study of surface-level ozone and NO_x data in the UK. Eastoe, E.F. (2009) *To appear in Environmetrics*.

Modelling non-stationary extremes with application to surface level ozone. Eastoe, E.F. and Tawn, J.A. (2008) *J. Roy. Statist. Soc C*, **58**, 22-45.

A statistical comparison of survival and replacement analyses for the use of censored data in a contaminant air database: A case study from the Canadian arctic. Eastoe, E.F., Crispin, C.J., Heffernan, J.E. and Hung, H. (2006) *Atm. Env.*, **40**, 6528-6540.

Submitted

The distribution for the cluster maxima of exceedances of sub-asymptotic thresholds. Eastoe E.F. and Tawn J.A. (2007) *Undergoing revisions*.

Nonparametric estimation of the spectral measure, and associated dependence measures, for multivariate extreme values using a limiting conditional representation. Eastoe, E.F., Heffernan, J.E. and Tawn J.A. (2007) *Undergoing revisions*.

Statistical models for over-dispersion in the frequency of peaks over threshold data from UK flow series. Eastoe, E.F. and Tawn, J.A. (2009).

Presentations

2008

Faculty of Science and Technology Christmas Conference, Lancaster University, *Using statistical methods to analyse environmental extremes*

FREE Annual Science Meeting, Reading, *A statistical model for between and within year variation in the rate of extreme river flow events*

UK Extremes Meeting, Lancaster *A hierarchical model for extremes of ozone, NO and NO₂*

Statistics forum, Department of Mathematics and Statistics, Lancaster University *Modelling non-stationary extremes* (revised!)

2007

UK Extremes Meeting, Sheffield *Modelling non-stationary extremes* (extended version)

Research Students Conference, Durham *Modelling non-stationary extremes*

2006

Research Students Conference, Glasgow *An extreme value analysis of air pollution in the UK*

Statistics forum, Department of Mathematics and Statistics, Lancaster University *Modelling extreme air pollution in the UK*

2005

Postgraduate forum, Department of Mathematics and Statistics, Lancaster University *An extreme value analysis of air pollution data*

EVA Gothenburg (poster) *A univariate analysis of UK air pollution data.*