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**Modelling extremal clustering with trawl processes**

In this talk I’ll be presenting a new model for characterising temporal dependence in exceedances above a threshold. The model is based on the class of trawl processes, which are stationary, infinitely divisible stochastic processes. The model for extreme values is constructed by embedding a trawl process in a hierarchical framework, which ensures that the marginal distribution is generalised Pareto, as expected from classical extreme value theory. We also consider a modified version of this model that works with a wider class of generalised Pareto distributions, and has the advantage of separating marginal and temporal dependence properties. The model is illustrated by applications to environmental time series, and it is shown that the model offers considerable flexibility in capturing the dependence structure of extreme value data.

This talk is based on joint work with Ragnhild Noven and Axel Gandy and joint work with Valentin Courgeau (Imperial College London).