

## **Modelling of Extreme Rainfall in Space and Time**

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The modelling of extreme values of spatial and space-time processes, such as rainfall and heat-waves, has become increasingly important in recent times, not least because of the growing need for accurate estimates of the future risks of rare events in a changing climate. Such estimates are useful for stakeholders including engineers, public authorities and insurance companies, who need probabilistic models because the assumption of stationarity of the underlying phenomenon is no longer reasonable, if it ever was. The purpose of this talk is to survey approaches to the space-time modelling of extreme rainfall, which may be based on max-stable and related processes. Various approaches and models will be described, and their relative merits compared through application to a large set of hourly rainfall data.

**Key words:** Asymptotic independence, Max-stable process, Space-time modelling, Statistics of extremes