

Spatial statistics and the real world – the old, the new and the challenging

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Vortrag im Rahmen des Institutskolloquiums

6. Juni 2013, 16:00 Uhr s.t.

Seminarraum, Ludwigstraße 33 I

Over the years, most of my research has involved interdisciplinary work applying spatial statistics to problems in ecology. Using spatial statistics, and in particular point process methods, in ecology is a natural choice since a lot of ecological research is interested in the analysis of natural populations - large groups of individuals in space. Hence, spatial statistical methods have been used increasingly to tackle topical ecological questions. This talk will review some of the contributions that this interdisciplinary work has made to ecology, primarily in the context of biodiversity. Examples include assessing theories of biodiversity, measuring biodiversity and modelling biodiversity in space (and time). I will also discuss a number of more recent challenges I have come across including several interesting applications from outside ecology, such as geolinguistics and crime modelling.