Geographisches Kolloquium Sommersemester 2022

UNIVERSITÄT BAYREUTH

Venue: Lecture room H8 (GEO)

Tuesday, 12.07.22, 16.15 - 17.45 Uhr

Invitation to the public inauguration speech of
Jun. Prof. Dr. Meng Lu (Universität Bayreuth)

Learning from spatial-temporal data: statistical analysis for Earth observation and Geohealth

In recent years, the variety and volume of geospatial data has rapidly increased with the advancement of remote sensing techniques and citizen science. The data and computational techniques magnify our capability to describe and understand our natural and urban environments. For example, with Earth observations, we may automatically monitor forest dynamics, detect hazards, and identify complex urban land elements such as informal building environments – at increased spatial scales. Large-scale, more detailed mapping has fostered interdisciplinary studies, such as environmental health, where the spatial-temporal predictions of the environmental variables are applied to understand the health impacts. On the other hand, fundamental problems such as *change of support and uncertainty quantification* remain unsolved and are increasingly prominent in most interdisciplinary studies: if uncertainties from the previous stages of a study are inadequately quantified, or disregarded in the subsequent applications, the scientific results may be invalid. In this talk, I will share my thoughts on spatial-temporal analysis by introducing my works in statistical modelling for Earth observation and air pollution exposure assessment.