

Kolloquium „Statistische Methoden in der empirischen Forschung“

Wann: 05. Dezember 2017, 17:00 – 18:30 Uhr

Wo: Robert Koch-Institut | Nordufer 20 | 13353 Berlin (Wedding),
S41, S42, U9 Westhafen | U9, Bus 142 Amrumer Str

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Inference of spreading paths of African swine fever

African swine fever is a highly contagious disease affecting wild boar and domestic pig populations with usually lethal outcome. Since 2007 it has been progressing in Europe at fast pace reaching in 2017 territories bordering Germany. The majority of available spatio-temporal modeling approaches to ASF spread utilize continuous spatial interaction kernels. In contrast, we model the edges connecting geographical regions of an effective ASF transmission network as a gravity-like law. To this end we take into account abundances of covariates (wild boar and domestic pig populations) as well as the distance between regions. We review recent situation of ASF in Europe, introduce the network approach and report preliminary results on the most probable spreading paths of ASF in Poland. Our approach could be generalized to include other covariates and to describe diseases with clear geographical dependence.