Einladung
zum
Oberseminar Stochastik

Am Mittwoch, 09.11.2022, um **17:45 Uhr**, im Seminarraum 2 (Raum 204)
der Abteilung Mathematik, Weyertal 86-90, 50931 Köln spricht:

Dr. Natalia Cardona-Tobón

(Universität Göttingen)

zum Thema

The contact process with fitness on Galton-Watson trees

Abstract: The contact process is a simple model for the spread of an infection in a structured population. We consider a variant of the contact process, where vertices are equipped with a random fitness representing inhomogeneities among individuals. In this inhomogeneous contact process, the infection is passed along an edge with rate proportional to the product of the fitness values of the vertices on either end. We assume that the underlying population structure is given by a Galton-Watson tree. Recent works by Huang/Durrett and Bhamidi et al have given necessary and sufficient conditions on the offspring distribution for the classic contact process to exhibit a phase transition. In this spirit, we give sufficient conditions on the fitness and offspring distribution for the contact process with fitness on Galton-Watson trees that either guarantee that there is a phase transition or that the process is always supercritical. In particular, we can see that we need to consider the combined effect of fitness and offspring distribution to decide which scenario occurs. This is joint work with Marcel Ortgiese (University of Bath).

Alle Interessenten sind herzlich eingeladen.

Die Dozenten der Stochastik