



## Oberseminar Stochastik

Am **Dienstag, 7. November 2023**, wird

Herr **Marco Seiler (Goethe-Universität Frankfurt/M.)**

einen Vortrag halten mit dem Titel:

### “Spatial Invasion of Cooperative Parasites”

Abstract:

We consider a host-parasite model in a spatially structured host environment, where parasites need to cooperate to successfully invade a new host. This model is in particular motivated by the biological application of a phage population invading a bacterial host population.

It was found, that certain defence mechanisms of phages against the immune system of their bacterial hosts rely on cooperation of phages. We identify the spatial scale at which invasion of parasites turns from being an unlikely to a highly probable event and give in the critical regime upper and lower bounds on the invasion probability and study the time until the invasion of the host population concluded.

This talk is based on joint work with Vianney Brouard, Cornelia Pokalyuk and Hung Tran.

Zeit: Dienstag, 07. November 2023, 14 Uhr c.t.

Ort: Raum 05-136, Institut für Mathematik, Staudingerweg 9, 55128 Mainz

Alle Interessierten sind herzlich eingeladen!

gez. Christian Mönch