



Leibniz  
Universität  
Hannover

Oberseminar Analysis und Theoretische Physik

**Prof. Dr. Julie Rowlett**

University of Gothenburg

# Game theory in microbe ecology

(a talk based on joint work with S. Menden-Deuer and M. Nursultanov)

Microbes are critically important to life on Earth. In particular, planktonic microbes collectively generate as much organic matter and oxygen as all terrestrial plants combined. Understanding the abundance, distribution and diversity of microbes in general and plankton in particular is critical to predicting their globally important functions. I will explain here a simple game-theoretic model my co-authors and I have been investigating to understand competition among microbes for limited resources. We have made some interesting discoveries: mathematical theorems! These theorems may provide new explanatory power for some of the rather unique and puzzling ecological features of microbes. Here, I will explain the mathematical results, their proofs, and how we are using them to gain biological insights.

**Dienstag, 9.7.2019, 16:15 Uhr, Raum c311  
Hauptgebäude der Leibniz Universität**

Dazu laden herzlich ein:

Prof. Dr. Wolfram Bauer, Prof. Dr. Joachim Escher,  
Prof. Dr. Elmar Schrohe, Prof. Dr. Christoph Walker