

#7 Topic: Nash Equilibria of Correlated Games

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Abstract:

Henk Stoof is a professor at the Institute for Theoretical Physics. His main line of research deals with many body physics, namely collective quantum phenomena in ultracold atomic gases, light, neutron stars, electron-hole systems such as bilayer graphene, Dirac and Weyl semimetals, and quantum Hall systems. He is also interested in using the methods from Theoretical Physics to explain complexity phenomena in nature and social interactions.

This week we will look at how game theory can be used to describe such phenomena, and how physics can boost its application, by introducing correlations. During the reading group we will look at how the cooperating or cheating behavior in yeast eventually leads to a snowdrift game in the population density. In the Science Jam the existence of correlations underlying the bacteria behavior will be motivated, we will discuss how to describe correlations in games and brainstorm about how we can measure these correlations using the yeast population data.