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Webinar
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Departamento de Matemática, Universidade de Aveiro

Vaccination against morbidity risks: an evolutionary dynamics analysis

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Abstract

For diseases in which vaccination is not compulsory, individuals take into account different aspects when deciding between to vaccinate or not. Namely, the decision depends on the morbidity risks from both vaccination and infection, and also depends on the probability of being infected, which varies with the course of the disease and the decisions of other individuals. Using some basic game theoretical concepts, we study the evolution of the individual vaccination strategies depending upon the morbidity risks and upon the parameters of the basic reinfection SIRI model. Martins and Pinto introduced in 2017 the evolutionary vaccination dynamics for a homogeneous vaccination strategy of the population, where the individuals change their strategies over time, such that their payoffs increase. Here, we also introduce the dynamical evolution of the morbidity risks and analyze the changes provoked on the population vaccination strategy.
This is joint work with Prof. Alberto Pinto.

Online session: `https://videoconf-colibri.zoom.us/j/86821172545`

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