



سمینار هفتگی ماده چگال نرم

## **On the rapidity of antibiotic resistance evolution facilitated by a concentration gradient**

### **Abstract**

The rapid emergence of bacterial strains resistant to multiple antibiotics is posing a growing public health risk. The mechanisms underlying the rapid evolution of drug resistance are, however, poorly understood. The heterogeneity of the environments in which bacteria encounter antibiotic drugs could play an important role. It has been proposed that this could facilitate the selection of resistant mutants, and recent experiments support this.

To study the role of spatial heterogeneity in the evolution of drug resistance, I'm going to explain a quantitative model describing an environment subdivided into relatively isolated compartments with various antibiotic concentrations, in which bacteria evolve under the stochastic processes of proliferation, migration, mutation and death.

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مکان: کلاس مجازی دکتر اجتهادی

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