

SEMINARI I DEPARTAMENTIT TË MATEMATIKËS

“Math UP Seminar”

Kemi kënaqësinë t’ju njoftojmë se ligjërata e radhës në kuadër të Seminarit të Departamentit të Matematikës në FSHMN

ka folës:

Erida Gjini (Lisbonë)

Orari: 11 maj 2023, 13:00—14:00 (online)

Titulli: Eco-evolutionary dynamics in co-colonization systems with multiple strains

Abstrakti: The high number and diversity of microbial strains circulating in host populations has inspired extensive research on the mechanisms that maintain biodiversity. While much of this work focuses on strain-specific parameters and cross-immunity interactions, the role of co-infection (co-colonization) and co-infection interactions between strains has received less attention. Diversity in such interaction coefficients enables strains to create dynamically their niches for growth and persistence, and 'engineer' their common environment. How such a network of interactions with others mediates collective coexistence remains puzzling analytically and computationally difficult to simulate. Furthermore, the gradients modulating stability-complexity regimes in such multi-player endemic systems remain poorly understood. In this talk, I will present results from recent work, where we analyze such an interacting system and the eco-evolutionary dynamics that emerge. Adopting slow-fast dynamic decomposition of the original coinfection model, we obtain a replicator equation, which sheds light on the key coexistence principles and evolutionary trajectories of a system.

Seminari mbahet në anglisht dhe organizohet për një audiencë të gjerë (studentët e vitit të parë janë të mirëseardhur!). Për t'i marrë detajet e qasjes online, ju lutem na shkruani në adresën mathupseminar@gmail.com.