

## Lahcen Maniar

**Title:** Asymptotic Behaviour of Null Controllability Cost for Parabolic Equations with Vanishing Diffusivity

**Abstract:** In this talk, we study the null-controllability cost of a transport-diffusion system under Robin conditions with distributed control on a bounded space domain. First, we provide some conditions on speed and boundary potential to show that the control cost decays exponentially when the viscosity vanishes and the control time is sufficiently large. On the other hand, under some geometric conditions satisfied by the control region  $\omega$ , we prove that the control cost explodes exponentially for the Neumann conditions case with vanishing viscosity and all control time.