

UNIVERSITAT DE BARCELONA



UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH

## Barcelona Analysis Seminar2021–2022URL (provisional). https://sites.google.com/view/seminari-analisi-barcelona/2021-2022Date. February 07, 2022Time. 15:00 CETRoom. Room T2, Universitat de BarcelonaOnline streaming (Zoom). https://ub-edu.zoom.us/j/95538016558

## Quantitative uniqueness for evolution equations with critically singular potentials

## Bruno Vergara Universitat de Barcelona

In this talk I will discuss quantitive uniqueness results on linear parabolic and wave equations with singular potentials diverging as an inverse square of the distance to a convex hypersurface in  $\mathbb{R}^n$ . Using Carleman inequalities techniques, we will establish estimates that are sharp in the sense that they capture the natural energy and boundary conditions for the corresponding Cauchy problems. I will describe the role played by the hypersurface geometry and the potential strength, as well as applications including unique continuation and boundary controllability. This is based on joint work with Alberto Enciso and Arick Shao.