5 December
2023

JVP SEMINARS

9:00- 10:00 JÉRÔME CARRAND

"Transfer operator techniques in hyperbolic and parabolic dynamics"

The aim of this talk will be to present how versatile spectral properties of transfer operators acting on appropriate anisotropic Banach spaces are when used in the setup of hyperbolic and parabolic dynamical systems. I will first explain how these operators have been used in order to construct and study equilibrium states for Sinaï Billiard maps and flows, in particular the measures of maximal entropy. Then, I will discuss their use to characterize deviations for some renormalisable flows on surface.

10:00-11:00 IVAN YURI VIOLO

"Analysis on non-smooth spaces with curvature bounded below"

The goal will be to give an overview of singular metric spaces with Ricci curvature bounded below and of their analytical properties. We will also see how the study of these spaces can have application in the classical smooth setting. In particular I will present some recent results on the stability of Sobolev inequalities and on nodal domains of eigenfunctions.

11:00-12:00 MARLEY YOUNG

"Integrality results in arithmetic dynamics"

I will give a broad overview of some problems regarding finiteness of integral preperiodic points of rational maps, how these were motivated by analogous unlikely intersections problems in arithmetic geometry, and how equidistribution theorems have been a key tool in both contexts. In particular, I will discuss how quantitative forms of equidistribution (developed via techniques in potential theory and dynamics) have been central in effective and uniform results in both geometry and dynamics.

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