

NYC Dynamics Seminar at CUNY & Yeshiva University

Enrique Pujals (IMPA and CUNY Graduate Center)

will speak on

On the C^r -typicality of coexistence of infinitely many sinks

Wednesday, October 5th, 5pm

The lecture will last 1 hour and be followed by questions and/or discussion.

CUNY Graduate Center, 365 5th Ave, Room 4201.

Just north of 34th Street. The room is the Science Center on the 4th floor.

Abstract:

In the seventies, Newhouse proved that nearby a smooth surfaces diffeomorphism exhibiting an homoclinic tangency there exist open set of diffeos such that the coexistence of infinitely many attractors (from now on property P) is generic. In an other words, property P is typical from a topological point of view.

It is natural to wonder if such property is typical whenever is considered parametric families (meaning that P is satisfied for a parameter set of positive Lebesgue measure and sometimes called Kolmogorov & Arnold C^r -typicality).

Recently, P. Berger shown that there are open set of smooth parametric families of surfaces endomorphisms such that generically such families exhibit the property P for all parameter. In a joint work with P. Berger and S. Crovisier we extend that results showing that nearby a smooth surfaces endomorphisms exhibiting a bicycle (a coexistence of a tangency and a heterodimensional cycle) there open set of maps such that any generic family has an open and dense set of parameter displaying property P .

In the talk, we will focus on the new tools developed (for instances, recasting parametric hyperbolic sets as hyperbolic dynamics on the space of jets) and we will discuss the C^∞ case.
