Abstract

Mike Todd (University of St Andrews)
Title: Cover times in dynamical systems

What is the expected number of iterates of a point needed for a plot of these iterates to approximate the attractor of the dynamical system up to a given scale delta (i.e., the orbit will have visited a delta-neighbourhood of every point in the attractor)? This question has analogues in random walks on graphs and Markov chains and can be seen as a recurrence problem. I'll present joint work with Natalia Jurga (St Andrews) where we estimate the expectation for this problem as a function of delta for some classes of interval maps using ideas from Hitting Time Statistics, permutations and inducing.

Eduardo Oregón (University of California, Berkeley)
Title: Continuity of Bowen-Margulis currents for hyperbolic groups

For a closed, negatively curved manifold, the geodesic flow has a unique probability measure of maximal entropy: the Bowen-Margulis measure. By a theorem of Katok-Knieper-Pollicott-Weiss, the Bowen-Margulis measure is continuous under perturbations of the Riemannian metric. Instead of the fundamental group of this manifold, we can consider an arbitrary word-hyperbolic group, so that the manifold and its metric are replaced by a proper and cobounded isometric action on a geodesic metric space. For each of these isometric actions, Furman used Patterson-Sullivan measures to construct a geodesic current analogous to the Bowen-Margulis measure, now an invariant Radon measure on the space of pairs of distinct points in the boundary at infinity. In this talk, I will explain a version of Katok-Knieper-Pollicott-Weiss's theorem in the context of word-hyperbolic groups: continuous perturbations of the isometric action give a continuous perturbation of the Bowen-Margulis current.