



Centro de Matemática  
Universidade do Porto

## Dynamical Systems Seminar

**Date.** June 28, 14h30

**Place.** Room **M029**

**Speaker.** Davide Azevedo<sup>1</sup> (FCUP)

**Title.** Statistical properties for systems with weak invariant manifolds

**Abstract.** We consider a discrete dynamical system  $f : M \rightarrow M$ , where  $M$  is a Riemannian manifold and  $f$  is a diffeomorphism. We assume that the dynamical system has a Gibbs-Markov-Young structure, which consists of a reference set  $\Lambda$  with a hyperbolic product structure that satisfies certain properties. The properties assumed here are the existence of a Markov partition  $\Lambda_1, \Lambda_2, \dots$  of  $\Lambda$ , polynomial contraction on stable leaves, polynomial backwards contraction on unstable leaves, a bounded distortion property and a certain regularity of the stable foliation.

Our main goals are to prove results establishing a control on the decay of correlations and large deviations, as well as presenting an example of a dynamical system satisfying the Gibbs-Markov-Young structure described above.

**Remark.** Coffee with the speaker is served after the talk (15h30 - 16h00)

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<sup>1</sup>Davide Azevedo is a Ph.D. Student under the supervision of Prof. José Ferreira Alves.