

## SEMINARIO DE SISTEMAS DINÁMICOS DE SANTIAGO

**SPEAKER:** Katrin Gelfert (Universidade Federal do Rio de Janeiro (UFRJ))

**TITLE:** Heterodimensionality of skew-products with concave fiber maps.

**ABSTRACT:** I will discuss examples of skew-products with concave interval fiber maps over a certain subshift. Here the subshift occurs as the projection of those orbits that stay in a given neighborhood and gives rise to a new type of symbolic space which is (essentially) coded. The fiber maps have expanding and contracting regions. As a consequence, the skew-product dynamics has pairs of horseshoes of different types of hyperbolicity. In some cases, they dynamically interact due to the superimposed effects of the (fiber) contraction and expansion, leading to nonhyperbolic dynamics that is reflected on the ergodic level (existence of nonhyperbolic ergodic measures). We provide a description of the space of ergodic measures on the base as an entropy-dense Poulsen simplex. Those measures lift canonically to ergodic measures for the skew-product. We show how these skew-products can be embedded in increasing entropy one-parameter family of diffeomorphisms which stretch from a heterodimensional cycle to a collision of homoclinic classes.

We study associated bifurcation phenomena that involve a jump of the space of ergodic measures and, in some cases, also of entropy. (Joint work with L.J. Díaz and M. Rams)

**DAY / TIME** Wednesday October 28st, 2020 / 3:30 PM - 4:20 PM (Santiago Time)

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