

# New Trends in Onedimensional Dynamics Celebrating the 70<sup>th</sup> anniversary of Welington de Melo

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**Title:** Some periodic motions in Reeb dynamics which imply positive topological entropy

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**Abstract:** A celebrated theorem of Li-Yorke states that a continuous map of the interval possessing a period three periodic point admits a subset where the dynamics is chaotic. I will present a related result for Reeb flows on contact 3-manifolds: the existence of certain periodic orbits implies positivity of topological entropy. This generalizes a result of Denzler and Mackay which asserts that a geodesic flow on the 2-torus with a simple contractible closed geodesic has positive topological entropy. This is a joint work with Marcelo Alves (Univ. de Neuchtel).