

# New Trends in Onedimensional Dynamics

## Celebrating the 70<sup>th</sup> anniversary of Welington de Melo

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**Title:** Quasi-symmetric rigidity of multi-critical circle maps

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**Abstract:** The rigidity problem for one-dimensional dynamical systems has been the subject of intense investigation in recent years. In particular, for smooth homeomorphisms of the circle having exactly one critical point of non-flat type, a fairly complete theory has emerged. By contrast, the corresponding theory for circle homeomorphisms having two or more critical points is very far from being well-developed. In this talk I shall present a first step in this direction, in the form of a pre-rigidity result stating that, under certain natural hypotheses, any two such maps are quasi-symmetrically conjugate as soon as they are topologically equivalent by a conjugacy that maps critical points to critical points. I will also show that this form of pre-rigidity can fail to hold when we compare maps with different numbers of critical points. The talk is based on joint works with G. Estevez and P. Guarino.