

## Dynamical Systems Seminar

**Date.** October 10, 14h30

**Place.** Room M031

**Speaker.** Miriam Manoel<sup>1</sup> (Universidade de São Paulo, Brazil)

**Title.** Admissible functions on networks

**Abstract.** For a network of coupled dynamical systems I present the characterization of admissible functions, namely the functions on the total space whose gradient is an admissible vector field. The schematic representation of a network dynamical system in this context is of an undirected cell graph. I intend to discuss the nature of certain types of critical points of admissible functions related to the architecture of regular graphs. In particular, we explore critical points that correspond to fully synchronous and 2-state patterns of equilibria of the gradient vector field on these graphs. I wish also to present an analysis of all the critical points of  $S^1$ -invariant admissible functions on a ring of cells. This is a joint work with Mark Roberts.

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<sup>1</sup>Miriam Manoel did her undergraduate studies and MSc in Mathematics at Universidade de São Paulo (1991) and PhD in Mathematics at the University of Warwick, U.K. (1996). She has a permanent position at Universidade de São Paulo, Mathematics Department. Her research projects are related to singularities and invariant theory techniques applied to the study of reversible and equivariant dynamical systems, classification of singularities, divergent diagrams of folds associated with involutions and simultaneous linearization of involutions.