

Dynamical Systems Seminar

Date. November 30, 14h30

Place. Room M031

Speaker. Carlos Rocha¹ (IST - Instituto Superior Técnico)

Title. Global attractors for reaction-diffusion equations

Abstract. We begin by a general overview of some long standing results on the characterization of global attractors for dynamical systems generated by scalar semilinear parabolic equations defined on a interval under separated boundary conditions. We then survey some recent results that extend the previous characterization to the case of periodic boundary conditions. We point out that under separated boundary conditions the generated flow has a variational character and the global attractor has a Morse decomposition, while the case of periodic boundary conditions is, in general, non variational and the flow may possess periodic orbits.

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

¹Carlos Rocha is full professor of Mathematics at IST (Instituto Superior Técnico). He obtained his M.Sc. and Ph.D. degrees in Applied Mathematics at Brown University, in 1983 and in 1985, respectively. He is the director of CAMGSD (Center for Mathematical Analysis, Geometry and Dynamical Systems), at IST. Carlos has given a great contribution to the development of the Dynamical Systems area with the publication of a large number of scientific works. His main scientific interests are dynamical systems, differential equations, bifurcation theory, parabolic partial differential equations. His homepage is <http://www.math.ist.utl.pt/~crocha/>