I – Enfisul
Plenária 2
Dia 26/11 – 8:00

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Symmetry breaking in biological systems

Symmetry breaking is an important concept in physics as it represents a mechanism by which many systems are forced to evolve, order and self-organize. In nonlinear dynamical systems, symmetry breaking gives rise to a variety of structures such as atractors and limit cycles. We present how these ideas can be applied to understand the dynamics and structure of some biological systems. We shall discuss, among other examples, pattern formation in systems composed of many elements, typically cells. In some biological networks, the number of atractors can be very large and the study of their dynamics becomes challenging. We will discuss the biological functions that such complexity can confer to these systems.