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SIPo (Seminario de Investigadores Postdoctorales)

Speaker: Christopher Cabezas (CMM)

Title: Decidability of the isomorphism problem between constant-shape substitutions.

Abstract:

An important question in dynamical systems is the classification, i.e., to be able to distinguish two isomorphic dynamical systems. In this work, we focus on the family of multidimensional substitutive subshifts. Constant-shape substitutions are a multidimensional generalization of constant-length substitutions, where any letter is assigned a pattern with the same shape. We prove that in this class of substitutive subshifts, under the hypothesis of having the same structure, it is decidable whether there exists a factor map between two aperiodic minimal substitutive subshifts. The strategy followed in this work consists in giving a complete description of the factor maps between these substitutive subshifts. We will also discuss related results, such as a condition to ensure that the substitution defines a subshift, and some consequences on coalescence, automorphism group and number of symbolic factors. This is a joint work with Julien Leroy.

Date and Time: 21st April, Monday at 2.30 PM
Venue: John Von Neumann Seminar Room, CMM, Beauchef 851, North Tower, 7th Floor