UNIVERSIDADE DE LISBOA
CENTRO DE MATEMÁTICA E APLICAÇÕES FUNDAMENTAIS
Av. Prof. Gama Pinto 2, 1649-003 LISBOA, PORTUGAL Tel. (351) 217 904 700 FAX (351) 217 954 288

Mês de: Março 2012

SEMINÁRIO DE LÓGICA MATEMÁTICA

Dia 1 de Março (quinta-feira), às 17h, na Sala A2-25

On variants of CM-triviality

Amador Martin-Pizarro

(Université Lyon 1)

Abstract:

In 2003, Pillay and Ziegler reproved the function field case of Mordell-Lang in all characteristics inspired by Hrushovski's original proof but avoiding the use of the so-called Zariski Geometries. Instead, motivated on Campana's work on algebraic coreductions, they showed that given an (irreducible) definable set X of bounded differential degree in a universal differential closed field (DCF), the field of definition of the constructible set determined by X can be understood (i.e. it is internal) over a generic realisation of X in terms of a finite set of elements coming from the constant field. In model-theoretical terms, DCF has the CBP for types of finite Morley rank with respect to the type of the constants. The CBP is a generalisation of 1-basedness, which has many structural consequences for the definability of groups and fields, in particular, every definable group in a 1-based theory is virtualy abelian.

Another possible generalisation of 1-basedness is called CM-triviality, which prohibits the existence of a particular point-line-plane configuration, present in Euclidean Geometry. In particular, a CM-trivial theory has no infinite definable fields and in the finite rank context, all definable groups are virtually nilpotent.

We will present an overview of the aforementioned concepts, aimed to a general audience, without assuming a strong model theoretical background, and present some variants of CM-triviality and discuss definability of fields and groups in this context.

Please note that the time is again 5pm and it will be like that until the end of the academic year.

Local:
INSTITUTO PARA A INVESTIGAÇÃO INTERDISCIPLINAR
Av. Prof. Gama Pinto, 2
1649-003 Lisboa