Seminários CEMAT-Ciências*

23 de Março - sala 6.2.33

16:00 - 16:45
On the semigroup rank of a group

Mário Branco (Ciências-ULisboa e CEMAT)

Abstract:
For an arbitrary group G, it is shown that either the semigroup rank GrkS equals the group rank GrkG, or GrkS = GrkG +1. This is the starting point for the rest of the work, where the semigroup rank for diverse kinds of groups is analysed. The semigroup rank of any relatively free group is computed. For a finitely generated abelian group G, it is proven that GrkS = GrkG+1 if and only if G is torsion-free. In general, this is not true. Partial results are obtained in the nilpotent case. It is also proven that if M is a connected closed surface and G is its fundamental group, then (G)rkS = (G)rkG +1 if and only if M is orientable.

This is a Joint work with Gracinda M.S. Gomes (Univ. Lisboa) and Pedro V. Silva (Univ. Porto).

16:45 - 17:30
The ADE affair

Peter J. Cameron (Univ. St Andrews e CEMAT)

Abstract:
The Coxeter--Dynkin diagrams of type ADE occur in so many different parts of mathematics, from singularity theory to mathematical physics to graph theory, that they surely play a very deep role in our subject. In the present century, they have occurred in the theory of cluster algebras by Fomin and Zelevinsky, and a constructive version of the McKay correspondence has been found by Dechant. The talk will discuss some of these connections.

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