## The 3rd Combinatorics Day

## Saturday, 2nd of March of 2013

room 8.2.23, in C8, FCUL

Abstracts

## 11:45-12:30 Paula Rama (CIDMA,UA):

Topological indices: the modified Schultz index

**Abstract:** A topological index of a graph is a numerical parameter that is mathematically derived from the structure of the graph. Many topological indices emerged in Chemical Graph Theory in the development of new relationships between the physico-chemical properties of a molecule and its chemical structure, represented by a graph.

The modified Schultz index, also known as the Gutman index, is defined as

$$S^*(G) = \sum_{\{u,v\} \subset V(G)} d_G(u) d_G(v) dist_G(u,v).$$

In this talk we present some properties of the modified Schultz index of tricyclic graphs with three cycles, that is, connected graphs with exactly three cycles. We also determine the modified Schultz index of several graph products and show some connections with other topological indices. Joint work with Paula Carvalho.