Seminari de Geometria Algebraica 2013/2014 (UB-UPC) Divendres 4, 11 i 25 d'octubre a les 15 hs, aula B1 FM–UB http://www.ub.edu/sga/

Secant varieties - combinatorics, geometry and applications

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Our aim is to present classical and new results on secant varieties of algebraic varieties as well as major open problems in the discipline.

The notion of the secant dates back to ancient mathematics. However, recently secant varieties became an object of particular interest. They appear in applied sciences, for example in computational complexity theory, phylogenetics, signal processing.

In the first lecture we will provide a brief introduction to secant varieties, representation theory and toric geometry including motivating examples. The following lectures will focus on more specialized issues like:

- secant varieties of homogeneous varieties,
- equations of secant varieties coming from vector bundles' techniques,
- relations with toric geometry,
- relations with the geometry of Hilbert scheme.