

Tres seminarios de
GEOMETRÍA ALGEBRAICA
Martes 4 de Diciembre, Seminario 238

12:00 **Prof. Jarosław A. Wiśniewski** (Universidad de Varsovia)

Total coordinate rings of resolutions of quotient singularities

Abstract: Total coordinate rings, or Cox rings, if finitely generated they contain information about all linear systems on the variety in question and provide the description of the variety and of all its birational small modifications. I will report on the joint project with Maria Donten-Bury. We believe that, in some situations, the resolutions of quotient singularities can be obtained via understanding of their Cox rings.

14:30 **Prof. Alessandra Bernardi** (Universidad de Turín)

A generalization of Sylvester's algorithm

Abstract: The idea of a method to decompose a binary form as a sum of pure powers, is classically attributed to Sylvester. After having described it, I will show a theoretical algorithm that generalizes Sylvester's one to any form.

16:00 **Prof. Gianluca Occhetta** (Universidad de Trento)

Varieties of Minimal Rational Tangents and Congruences of Lines:

A classical counterexample to a modern conjecture

Abstract: In this talk I will first define and discuss the Variety of Minimal Rational Tangents (VMRT for short), an object introduced by Hwang and Mok to study Fano manifolds by means of a minimal degree family of rational curves. Some results obtained by Hwang and Mok require that the VMRT is not a disjoint union of linear spaces, and they conjectured this is always the case.

In the second part of the talk I will present a counterexample to this conjecture, constructed by studying congruences of lines of order one with smooth fundamental locus.
