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## SEMINARIO DE GEOMETRIA ALGEBRAICA

Jueves, 20 de abril de 2017, **13:00**, Seminario 238

**Francesco Strazzanti**

Universidad de Sevilla

Impartirá la conferencia

### Numerical semigroups and applications

*Resumen.*

A numerical semigroup  $S$  is a subsemigroup of the natural numbers  $\mathbb{N}$  containing zero and such that  $\mathbb{N} \setminus S$  is finite. This notion was introduced in relation with the coin problem: if we have infinitely many coins of given denominations, which is the maximal amount that is not possible to obtain?

On the other hand, numerical semigroups appear also in other areas of mathematics, such as commutative algebra, algebraic geometry, coding theory, combinatorics etc.

In this talk we give an introduction to numerical semigroup theory with particular attention to its application in commutative algebra and algebraic geometry. For instance, we explain how it led to construct one-dimensional Gorenstein local rings with decreasing Hilbert function, solving an open problem in commutative algebra.