

## SEMINARIO

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### ***Hilbert Function and $\mu$ -generic Artin Algebras***

**Abstract:** Suppose  $R$  is a polynomial ring in  $n$  variables and  $I$  is a homogeneous ideal of height  $n$  in  $R$  so that  $R/I$  is an Artin Algebra. Let  $\mu(I)$  denote the minimum number of generators for  $I$ .

If the Hilbert function of  $R/I$  is of the form  $(1, n, \binom{n}{2} + 1, \dots, n, 1)$  then there are  $n$  quadratic generators of  $I$ . Suppose these generators generate an ideal  $I_2$  of height 1. Then we show that there is an upper bound for the number of generators of  $I$  in terms of  $n$  and a Gorenstein ideal  $J$  with embedding dimension  $n - 1$ . We say an ideal  $I$  is  $\mu$  generic if  $\mu(I)$  has this upper bound. We give some criterion when this is achieved and some consequences for the Unmorality of Hilbert functions for a class of co-dimension three Artin algebras.

**Seminario A125. Facultad de Ciencias**

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**Organiza: GIR SINGACOM**

