1111-13-41 **Shalom Eliahou*** (eliahou@lmpa.univ-littoral.fr), LMPA-ULCO, 50, rue Ferdinand Buisson, CS 80699, 62228 Calais, France. *Some progress towards Wilf's conjecture.*

Let S be a numerical semigroup, i.e. a subset of $\mathbb{N}$ containing 0, closed under addition and with finite complement in $\mathbb{N}$. This last condition means that a suitable translate $c+\mathbb{N}=\{c,c+1,c+2,\dots\}$ of $\mathbb{N}$ is contained in S. The smallest such integer c is known as the conductor of S. Let e be the embedding dimension of S, i.e. its least number of generators. Let also m be the multiplicity of S, i.e. its smallest non-zero element. In 1978, Wilf conjectured that the number of elements in S which are smaller than c is bounded below by c/e. Wilf's conjecture is known to hold in various cases, including when $c \leq 2m$. In this talk, we settle Wilf's conjecture in the case where $c \leq 3m$, which asymptotically represents, in an appropriate sense, the majority of numerical semigroups. One main ingredient in our proof is a classical theorem of Macaulay on the growth of Hilbert functions of standard graded algebras. (Received January 09, 2015)