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**Enrico Carlini\*** ([enrico.carlini@polito.it](mailto:enrico.carlini@polito.it)), Department of Mathematics, Corso Duca degli Abruzzi 24, 10129 Torino, Italy. *Star configuration points and hypersurfaces.*

A  $l$ -star configuration set of points in  $\mathbb{P}^n$  is the  $n$ -wise intersection of a collection of  $l$  hyperplanes. A  $l$ -star configuration set of points  $\mathbb{X}$  consists of  $\binom{l}{n}$  points and of course it is very special among the sets of points having the same cardinality. Nevertheless,  $\mathbb{X}$  has the Hilbert Function of  $\binom{l}{n}$  generic points. This simple remark makes star configuration set of points extremely useful in the study of Hilbert Functions. In this talk we will try to study how star configuration set of points are special with respect to hypersurfaces. More precisely, we will ask the following question: does the generic degree  $d$  hypersurface contain a  $l$ -star configuration? We will see a complete answer in the case of  $\mathbb{P}^2$  and some ideas for the general situation. This is a joint work with Adam van Tuyl (Lakehead University, Ontario) and an ongoing project involving also Elena Guardo (University of Catania, Italy). (Received September 10, 2010)