

1116-05-2453 **Richard Anstee*** (anstee@math.ubc.ca), Mathematics Department, #121- 1984 Mathematics Rd, UBC, Vancouver, BC V6T 1Z2, Canada. *Design Theory and Extremal Combinatorics*.

A design can be thought of as a set system where the sets are the blocks and the set system has some strong properties. Translating designs to set systems, one typically would wish to have *simple* designs; namely no repeated blocks. Keevash has proven results about simple designs that settles many existence questions. A condition for 2-designs that the blocks contain a pair $\{i, j\}$ exactly λ times can be reformulated as having a specified number of blocks while for each pair $\{i, j\}$ we do *not* have $\lambda + 1$ blocks that contain $\{i, j\}$. This becomes a *forbidden configuration* problem for sets. A few topics of this interplay between Designs and Extremal Set Theory (Forbidden Configurations) will be explored and includes joint work with Farzin Barekat, Attila Sali. (Received September 22, 2015)