

# The structure of almost linear Boolean functions

*Date* Tuesday, April 8

*Time* 3 pm

*Location* 303 Mudd

*Abstract:* A Boolean function  $f : \{0, 1\}^n \rightarrow \{0, 1\}$  is *linear* if it is a linear combination of its inputs. It is a simple exercise to show that a linear Boolean function depends on at most one coordinate. Friedgut, Kalai and Naor showed that if  $f$  is *almost* linear then it is *close* to a function depending on at most one coordinate. We consider generalizations of their result to functions on  $S_n$  and on the Johnson association scheme. These can be used to prove stability for Erdos-Ko-Rado type theorems, which was our original motivation.

Joint work with David Ellis and Ehud Friedgut.