Affine sieve and expanders

Alireza Salehi Golsefidy University of California, San Diego

I will talk about the fundamental theorem of affine sieve (joint with Sarnak). The main black box in the proof of this result is a theorem on expanders. It gives a necessary and sufficient condition for a finitely generated subgroup of SL(n,Q) under which the Cayley graphs of such a group modulo square free integers form a family of expanders (joint with Varju).