Speaker: Alexander Gamburd

Title: Expanders and sieving in linear groups

Abstract: Expanders are highly connected sparse graphs widely used in computer science. The optimal expanders – Ramanujan graphs – were constructed using deep results from the theory of automorphic forms. Recently tools from arithmetic combinatorics were used to show that many families of Cayley graphs are expanders; this expansion property plays a crucial role in obtaining novel sieving results pertaining to primes in orbits of linear groups.