

# Combinatorics Seminar

Friday October 5, 2012 at 2PM

Room MS.03

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## Quasirandom permutations

A systematic study of large combinatorial objects has recently led to discovering many connections between discrete mathematics and analysis. In this talk, we explore the analytic view of large permutations. We associate every sequence of permutations with a measure on a unit square and show the following: if the density of every 4-element subpermutations in a permutation  $\pi$  is  $\frac{1}{4!} + o(1)$ , then the density of every  $k$ -element subpermutation is  $\frac{1}{k!} + o(1)$ . This solves a question of Graham whether quasirandomness of a permutation is captured by densities of its 4-element subpermutations. The talk is based on joint work with Oleg Pikhurko.



[warwick.ac.uk/combinatorics](http://warwick.ac.uk/combinatorics)