

VCU Discrete Mathematics Seminar

Anticoncentration via the strong perfect graph theorem

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Wednesday, Mar. 29
1:00-1:50 EDT

On Zoom! @ [https://vcu.zoom.us/j/92975799914
password=graphs2357](https://vcu.zoom.us/j/92975799914?password=graphs2357)



In this talk we shall address anticoncentration inequalities for sums of random vectors. In particular, we shall discuss how to asymptotically establish two conjectures: one by Lee Jones (1978) and another by Leader-Radcliffe (1994). Perhaps surprisingly, the main ingredient to establish the latter result is the strong perfect graph theorem by Chudnovsky, Robertson, Seymour and Thomas (2002).

Most of the talk will be centered not so much on the proofs, but more on how two seemingly different branches of mathematics can be linked in a useful way (Probability and Structural Graph Theory). We shall also give a gentle introduction to classical results such as the Littlewood-Offord problem and Erdős's beautiful proof using Sperner's theorem.

The talk is based on recent joint work with V. Kurauskas (Vilnius University, Lithuania).

For the DM seminar schedule, see:

<https://go.vcu.edu/discrete>