

*Department of Mathematics,
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Math 269 - Combinatorics Seminar

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Stabbing simplices by points and affine spaces

Abstract:

B'ar'any showed that there is a constant $c_d > 0$ such that if S is any n -point set in R^d , then there exists a point in c_d fraction of simplices spanned by S . We present a simple construction of a point set for which there is no point contained in many simplices. The construction is optimal for $d = 2$ and gives the first non-trivial upper bounds on c_d for $d \geq 3$. We will also discuss generalizations to stabbing simplices by affine spaces. Joint work with Jiř'ı Matoušek and Gabriel Nivasch.

Host: Jacques Verstraete

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4:00 PM

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