

## Combinatorics and Probability Seminar

*How often is a random symmetric matrix invertible?*

Marcus Michelen (UIC)

**Abstract:** Let  $A_n$  be chosen uniformly at random from the set of  $n \times n$  symmetric matrices with entries  $-1$  or  $1$ . How often is  $A_n$  invertible? While this is similar to the problem discussed in the previous week, many of the tools used for the asymmetric case (provably) only go so far for the symmetric case. I'll discuss a recent work of mine (joint with Marcelo Campos, Matthew Jenssen, and Julian Sahasrabudhe) that shows the first exponential upper bound on the probability that  $A_n$  is singular.

Monday, October 25 at 2:00 PM in 636 SEO