

Stanford University
Departments of Mathematics and Statistics

PROBABILITY SEMINAR

4pm, Monday, September 24, 2018
Sequoia Hall Room 200

Refreshments served at 3:30pm in the Lounge.

Speaker: Freddie Manners, *Stanford Mathematics*

Title: **Oddly specific conjectures for counting latin squares
(and other things)**

Abstract:

A latin square is an n -by- n grid filled with numbers from 1 to n , so that each number appears once in every row and column. One of the most basic questions about them is: how many are there? Obtaining good bounds is open, and while the problem might seem a bit recreational, it appears to be a good test case that defies known techniques in probability and combinatorics.

In this talk, I'll consider the easier problem of conjecturing what the answer should be, in a very precise form (in case that helps somehow). Specifically, I'll describe a fairly general approach to formulating heuristics for problems of this type using Maximum Entropy ideas and Gibbs distributions, and attempt to persuade people that the system is at least somewhat scientific.

This is joint work with Sean Eberhard and Rudi Mrazovic.