

Many Cheerful Facts

Organizer: Alvin Kerber

Wednesday April 11, 3-4 PM, 891 Evans

Speaker: Bryan Gillespie, UC Berkeley

Title: *Planar Bond Percolation: An Example of a Nontrivial Phase Transition*

A common theme in probability is the existence of so-called "phase transitions": boundaries in a parameter space where the qualitative properties of a probabilistic system fundamentally change. In this talk we will introduce bond percolation, a simple graph-theoretic probabilistic system which can exhibit such phase transitions, and we will show that the phase transition of bond percolation on the integer lattice is strictly bounded away from the trivial edges of the parameter space.

I am the very model of a modern Major-General,
I've information vegetable, animal, and mineral,
I know the kings of England, and I quote the flights historical
From Marathon to Waterloo, in order categorical;
I'm very well acquainted, too, with matters mathematical,
I understand equations, both the simple and quadratical,
About binomial theorem I'm teeming with a lot o' news,
With many cheerful facts about the square of the hypotenuse.
I'm very good at integral and differential calculus;
I know the scientific names of beings animalculous:
In short, in matters vegetable, animal, and mineral,
I am the very model of a modern Major-General.