

Anna Olson

Mentor: Cris Moore, SFI Professor

Anna is working with Cris Moore on the phase transition in k -colorability of random graphs. In Erdos-Renyi random graphs, it appears that there is a real number $d(k)$ such that as n , the number of nodes, approaches infinity, the probability that a random graph is k -colorable approaches 1 if the average degree of a node is less than $d(k)$, and approaches 0 if the average degree of a node is greater than $d(k)$. Moore has already found an upper bound on $d(k)$ using the Potts spin glass model and statistical analysis tools, and over the summer we hope to verify his conjectured lower bound on $d(k)$.