The SUMO Speaker Series for Undergraduates

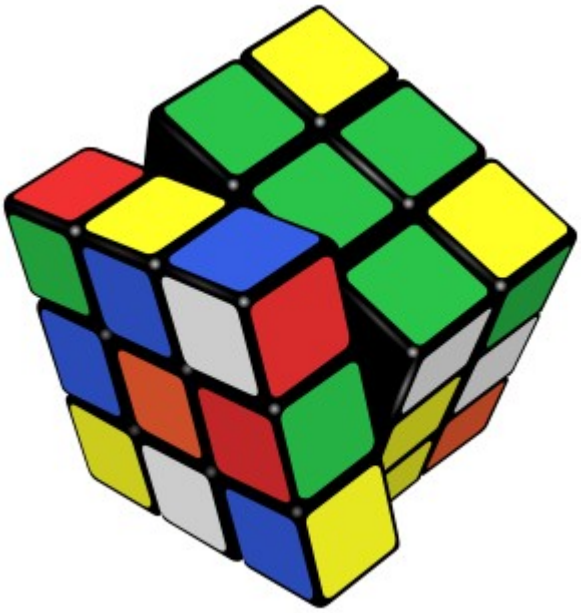
Wednesday, January 14th
5:15-6:15, room 380C (in the basement)

Can a random Rubik's cube be solved?

Prof. Brian Conrad

ABSTRACT:

If the pieces of a Rubik's cube are pried apart with a screwdriver and reassembled in random positions, can the puzzle be solved? It turns out that the answer is no: the proportion of random arrangements of the puzzle pieces that can reach the "solved" position via legal moves is 1/12. In the course of explaining this curious fact, we will see how to use elementary ideas from group theory to analyze this famous puzzle as well as its 19th-century analogue, the 15-puzzle. Previous knowledge of group theory will not be assumed.



Food from Pizza Chicago

contact Nathan Pflueger (pflueger@stanford.edu) for more information