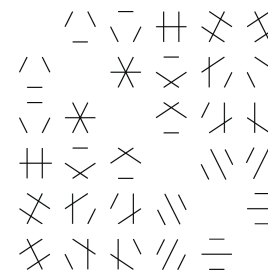


Mathematics Seminar



Rocky Mountain Algebraic Combinatorics Seminar

Recognition and Embedding of Planar Graphs

Ross McConnell
Colorado State University

A graph is *planar* if it can be drawn in the plane without crossing any edges. Such a drawing is called a *planar embedding*. Planar graphs and planar embeddings have been studied extensively since the time of Euler. Web sites that challenge visitors to rearrange planar graphs to obtain planar embeddings have been popular with the lay public; see www.jasondavies.com/planarity to try your hand at these engaging puzzles. The talk is a survey on interesting properties of planar graphs, as well as recent developments in conceptually simple algorithms for finding planar embeddings, and other related problems that the speaker has worked on.

A random dynamical system and generalized Catalan numbers

Henry Adams
Colorado State University

This talk on joint work with Michal Adamaszek and Francis Motta will be a healthy blend of topology, dynamical systems, and combinatorics. A question about random topological spaces lead us to study the following dynamical system. Fix $r > 0$ and let X be a uniformly random sample of points from the circle. Define a dynamical system on X which maps a point to its furthest clockwise neighbor in X within distance at most r . What is the expected fraction of periodic points? We were surprised to learn the answer involves generalized Catalan numbers (the number of Dyck paths of bounded height) and their generating functions.

Weber 223
4–6 pm
Friday, September 25, 2015
(Refreshments in Weber 117, 3:30–4 pm)
Colorado State University

This is a joint Denver U / UC Boulder / UC Denver / U of Wyoming / CSU seminar that meets biweekly.
Anyone interested is welcome to join us at a local restaurant for dinner after the talks.



Department of Mathematics
Fort Collins, Colorado 80523