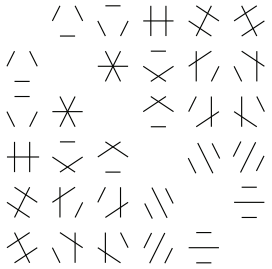
Mathematics Seminar



Rocky Mountain Algebraic Combinatorics Seminar

Negative results in enumerative combinatorics

Miklós Bóna
University of Florida

When we cannot solve an enumeration problem, we wonder whether we are just missing an easy solution or the problem is indeed difficult. In this talk, we will survey some recent methods that can prove that the generating function of some combinatorially defined sequences is *not* rational or *not algebraic*.

As an application, we will show that the generating function for the number of permutations avoiding a given pattern q is almost never rational. In some cases, we will show that that generating function is not even algebraic. We will also show that six classic families of algebraic generating functions will never be rational. We will conclude will some intriguing open problems.

Interval Parking Functions, Spanning Trees, and Partial Orders

Mei Yin
U. Denver

(Full Title: Interval Parking Functions, Edge-Labeled Spanning Trees, and the Bruhat vs. Pseudoreachability Orders)

The topic of parking functions has wide applications in probability, combinatorics, group theory, and computer science. One generalization of the classical parking function is the interval parking function, where each car has an interval rather than a single spot of preference. We classify features of interval parking functions, build a bijection between interval parking functions and edge-labeled spanning trees of the complete graph, and discuss the Bruhat vs. pseudoreachability orders on interval parking functions. Partially based on joint work with Emma Colaric, Ryan DeMuse, and Jeremy L. Martin.

Weber 223
4–6 pm, Friday, Oct 1, 2021
(Refreshments 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.

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