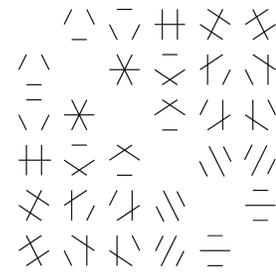


Mathematics Seminar



Rocky Mountain Algebraic Combinatorics Seminar

Lower bound theorems for balanced manifolds

Isabella Novik
University of Washington

In this talk we will concentrate on finite simplicial complexes (that is, points, line segments, triangles, and higher-dimensional simplices nicely glued together) that triangulate manifolds. A $(d - 1)$ -dimensional complex is called balanced if its graph is d -colorable in the usual graph-theoretic sense. After reviewing what is known about the face numbers of triangulated manifolds without the balancedness assumption, we will discuss several very recent balanced analogs of these results. One of them is a lower bound on the number of edges of a balanced triangulation of a manifold M in terms of the number of vertices and the 1st homology of M .

This is joint work with Martina Juhnke-Kubitzke, Satoshi Murai, and Connor Sawaske.

Testing isomorphism of graded algebras

Peter Brooksbank
Bucknell University

The context for this talk is “the isomorphism problem” for finite groups. Much of the recent work on this problem - especially within the computational group theory community - has been concerned with developing practical tools for testing isomorphism of p -groups and their related structures. In this talk, which reports on a current project with Eamonn O’Brien and James Wilson, I propose graded algebras as a natural framework for these efforts and consider the isomorphism problem for such structures. The machinery and theory required draws from a range of recent collaborative works, including a crucial recent one with Joshua Maglione and Wilson.

Weber 223
4–6 pm
Friday, March 24, 2017
(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