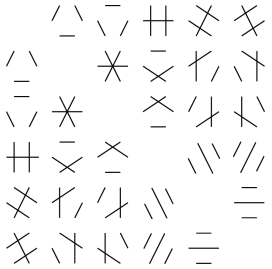
Mathematics Seminar



Rocky Mountain Algebraic Combinatorics Seminar

Representations of generalized nil-Temperley–Lieb algebras

Richard Green
University Of Colorado, Boulder

Generalized nil-Temperley–Lieb algebras are certain associative algebras defined by generators and relations. The defining relations resemble those of the generalized Temperley–Lieb algebras, but with certain products of generators set equal to zero. I will explain how to use the combinatorics of heaps to define representations of the nil versions of the algebras, and describe some of their properties.

New families of strongly regular graphs

Tim Penttila
Colorado State University

Strongly regular graphs are those finite, regular, non-complete, non-null graphs such that the polynomial algebra in the adjacency matrix has the minimum dimension (three), and they also have a (simpler) combinatorial definition. In 1982, Chris Godsil and Brendan McKay invented a construction technique for co-spectral graphs (those where the adjacency matrices have the same multiset of eigenvalues). We apply their technique to graphs arising in finite geometry from quadrics in binary projective spaces to obtain new families of strongly regular graphs with the same parameters as the collinearity graphs of the quadrics. Related work by Bill Kantor, Aida Adiab and Willem Haemers and Alice Huiman Wa will also be mentioned in passing.

This is joint work with Susan Barwick, Wen-Ai Jackson.

Weber 223
4–6 pm
Friday, November 13, 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.

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