Algebra
Seminar

The excedance algebra and box polynomials

Cyrus Hettle

Univeristy of Kentucky

Abstract: The excedance algebra, given by the noncommutative quotient Z¡a,b¿/(ba-a-b-ab), is motivated by a recurrence for a permutation statistic. We examine this algebra and a related matrix construction known as the excedance matrix. We then consider properties of the box polynomials, which arise from applying the finite difference operator to monomials and whose coefficients are the entries of the rightmost column of the excedance matrix. Evaluating these polynomials yields a variety of identities involving set partition enumeration. We extend these identities using restricted growth words and a new operator called the fast Fourier operator. This talk is based on joint work with Richard Ehrenborg and Dustin Hedmark.

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Mathematics and Science Center: W306

Mathematics and Computer Science
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