

*Department of Mathematics,
University of California, San Diego*

Special Combinatorics Seminar

Prof. Mahir Can

Tulane University

Enumeration in the rook monoid.

Abstract:

The rook monoid R_n is the semigroup of 0/1 matrices of size n with at most one 1 in each row and column. The subgroup of invertible elements of R_n is the symmetric group, and almost all questions about permutations make sense for the rooks. In this talk, without assuming any background in the subject, we 1. review some semigroup theoretic properties of R_n , 2. briefly explain the role of R_n in the theory of algebraic monoids, 3. present some recent combinatorial results on R_n . In particular, we show that the celebrated numbers of mathematics such as Eulerian numbers, Catalan numbers, Stirling numbers, etc., all appear rather naturally in enumeration in R_n .

Host: Jeff Remmel

Friday, February 12, 2010

2:00 PM

AP&M 7218
