

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, February 20
2:00 – 3:00 PM
Maria Sanford, Room 101

PERMUTATION AVOIDANCE IN MATRICES

ADAM MARCUS

YALE UNIVERSITY

ABSTRACT

Pattern avoidance in $(0,1)$ -matrices has been a useful tool in a number of geometric and combinatorial problems. In this talk, I will concentrate on the case when the pattern to be avoided is a small permutation. In particular, I will prove a conjecture of Furedi and Hajnal regarding the number of 1-entries an n by n $(0,1)$ -matrix can have if it avoids a given permutation of length k . If time permits, I will show how this result can be used to prove the Stanley-Wilf conjecture, a question in algebraic combinatorics concerning hereditary properties of permutations.

The talk will be accessible to anyone who has taken a course in discrete math, so I extend a special invitation to undergraduate students who are interested in mathematics but might otherwise not attend a colloquium for fear of it being too advanced.

This colloquium is sponsored by the NSF STEM scholarship program at CCSU.

For further information:

gotchevi@ccsu.edu 860-832-2839
<http://www.math.ccsu.edu/gotchev/colloquium/>