

Department of Applied Mathematics and Statistics
The Johns Hopkins University

SEMINAR

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October 21, 2004
3 Shaffer Hall
Refreshments: 3:30 p.m. (WH 301)
Seminar: 4:00 p.m.

COUNTING ON DETERMINANTS

ABSTRACT

We demonstrate how determinants solve many interesting combinatorial problems. Determinants count nonintersecting lattice paths, spanning trees, and permutations with specified descent points. Elegant proofs of these results are based on the definition of the determinant and occasionally the principle of inclusion–exclusion. Applications to Pascal’s Triangle, Fibonacci numbers, and Catalan numbers will also be given.

(This talk is based on joint work with Naomi Cameron of Occidental College.)