

BI-CO MATHEMATICS COLLOQUIUM

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“The Outstanding Elements of Permutations and Words”

Monday, January 28, 2007

Talk at 4:15 p.m. – Hilles 109

Tea at 4:00 p.m. – Math Lounge, KINSC H208

Abstract: Given a sequence of members of a linearly ordered set, we say j is an outstanding element if the j /th value (from the left) in this sequence is larger than all values preceding it. We will explore the contexts in which the sequence is a permutation, a multiset permutation, or a word over some finite alphabet. A famous theorem of Renyi states that the number of permutations with r outstanding elements is equal to the number of such permutations with r cycles, the latter being given by an unsigned Stirling number of the first kind. We will discuss this and other interesting and surprising results.

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