Counting Factorizations of Permutations into Star Transpositions

Professor John Irving
St. Marys University, NS

November 2, 2007
Room HH-3017 at 2 pm

Abstract

We consider the problem of finding the number of ways of expressing a given permutation on \( \{1, 2, ..., n\} \) as an ordered product of a minimal number of transpositions of the form \((1 \ j)\). The outcome is a surprisingly simple enumerative formula with an as-yet-unexplained symmetry. Our proof is combinatorial, but the general connection between factorization problems and both algebra and geometry will also be discussed. This is joint work with A. Rattan (M.I.T.).