1056-05-949   **Jeffrey E Liese*** (`jliese@calpoly.edu`). *The distributions of k-drops and k-excedences in permutations.*

Given a permutation $\sigma = \sigma_1 \ldots \sigma_n$ in the symmetric group S_n, we say that σ has a k-drop at i if $\sigma_i - \sigma_{i+1} = k$ and σ has a k-excedence at i if $\sigma_i - i = k$. The bijection due to Foata which shows that the distribution of descents in permutations in S_n equals the distribution of excedences in S_n also shows that the distribution of k-drops in S_n is equal to the distribution of k-excedences in S_n.

This talk will focus on the distribution of k-drops and k-excedences in S_n, including explicit formulas as well as generating functions. The work in this area is a lovely generalization of many classic results on derangements and a majority of these results can be proven purely combinatorially. (Received September 18, 2009)