

1077-AD-2904

**Tom Roby\*** ([tom.robby@uconn.edu](mailto:tom.robby@uconn.edu)). *A Beautiful Bijection that Counts and Does More: The Robinson-Schensted-Knuth Correspondence.*

One of the most beautiful bijections in combinatorics was first carefully formulated by C. Schensted to cleverly count  $n$ -permutations whose longest increasing subsequences were of a given length. But this algorithm, now known as the RSK-correspondence, turns out to have lovely and surprising symmetries as well as deep connections to the representation theory of symmetric groups and Lie algebras. In this talk we will discuss from scratch how the algorithm works, note some of its properties, and indicate the larger context in which it (and its many variants) fall. We will assume no background knowledge on the part of the audience, and undergraduates should be able to follow most of it. (Received September 22, 2011)