1014-05-1149 **Sarah K. Mason*** (sarahm2@math.upenn.edu), University of Pennsylvania, Department of Mathematics, 209 South 33rd Street, Philadelphia, PA 19104. *Nonsymmetric Schur functions and standard bases.* Preliminary report.

The Schur functions, s_μ, form a basis for the ring of symmetric functions. Macdonald polynomials are symmetric functions $P_\mu(x;q,t)$ in variables $x = x_1, x_2, ...$, with coefficients which are rational functions of two parameters q and t. The Schur functions are obtained from Macdonald polynomials by setting $q = t = 0$. Recently Haglund, Haiman, and Loehr derived a combinatorial formula for nonsymmetric Macdonald polynomials, which gives a new decomposition of the Macdonald polynomial into nonsymmetric components and provides a combinatorial description of the nonsymmetric Schur functions, NS_λ. Letting $q = t = 0$ in this identity implies $s_\mu(x) = \sum_\lambda NS_\lambda(x)$, where the sum is over all rearrangements λ of the partition μ. We exhibit a weight-preserving bijection between semi-standard Young tableaux and semi-standard skyline fillings to give a combinatorial proof of the formula. The bijection involves an analogue of the Robinson-Schensted-Knuth Algorithm. We also provide a non-recursive combinatorial interpretation of the standard bases of Lascoux and Schützenberger. (Received September 27, 2005)