1073-33-10          **Daniel Orr\*** (`danorr@live.unc.edu`), University of North Carolina at Chapel Hill, Department
of Mathematics, CB #3250, Chapel Hill, NC 27599. *q-Hermite polynomials, nil-DAHA, and
q-Whittaker functions.*

We will consider the Macdonald polynomials in the limit at $t = 0$ and the corresponding limit of the double affine Hecke algebra (DAHA), leading to the so-called nil-DAHA. In order to keep things as explicit as possible, we will concentrate on the rank-one case. In this setting, the symmetric Macdonald polynomials are identified with a $q$-analogue of the Hermite polynomials. We will explain how the theory of DAHA leads to $q$-Whittaker functions expressed in terms of Macdonald polynomials at $t = 0$. (Received May 31, 2011)