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**John Shareshian** and **Michelle L Wachs\*** ([wachs@math.miami.edu](mailto:wachs@math.miami.edu)), Department of Mathematics, University of Miami, Coral Gables, FL 33124. *Eulerian quasisymmetric functions.*

In this paper we consider an interesting class of symmetric functions that we call Eulerian quasisymmetric functions because they are defined as sums of fundamental quasisymmetric functions associated with permutations having a given number of excedences. These symmetric functions play an essential role in our study of the joint distribution of the permutation statistics major index and excedence number. In this talk I will discuss various properties of the Eulerian quasisymmetric functions, such as Schur positivity and Schur unimodality. Consequences for the  $(\text{maj}, \text{exc})$   $q$ -Eulerian polynomials and their cycle-type refinements will also be discussed. (Received September 08, 2009)