1103-05-185 **Eugene Gorsky*** (egorsky@math.columbia.edu), Department of Mathematics, Columbia University, 2990 Broadway, New York, NY 10027, and **Mikhail Mazin** and **Monica Vazirani**.
Affine permutations and rational slope parking functions.

We introduce a new approach to the enumeration of rational slope parking functions with respect to the area and a generalized dinv statistics, and relate the combinatorics of parking functions to that of affine permutations. We relate our construction to two previously known combinatorial constructions: Haglund's bijection exchanging the pairs of statistics (area,dinv) and (bounce,area) on Dyck paths, and Pak-Stanley labeling of the regions of k-Shi hyperplane arrangements by k-parking functions. Essentially, our approach can be viewed as a generalization and a unification of these two constructions. We also relate our combinatorial constructions to representation theory. We derive new formulas for the Poincare polynomials of certain affine Springer fibers and describe a connection to the theory of finite dimensional representations of DAHA and nonsymmetric Macdonald polynomials. (Received August 19, 2014)