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Catherine Yan* (cyan@math.tamu.edu), Department of Mathematics, Texas A&M University, MS 3368, College Station, TX 77843-3368, and **Dimitrije Kostic**. *Multiparking Functions, Graph Search, and Tutte Polynomial*.

We present the relation between parking functions and the Tutte polynomial of a general graph G by a combinatorial approach. The main step is to construct a family of graph searching algorithms which induce bijections between the spanning forests of a graph and the generalized parking functions associated with the graph. In particular, the bijection induced by the breadth-first search leads to a new characterization of the external activity, and hence a representation of Tutte polynomial. (Received September 15, 2009)