1060-05-202 **Breeann Tonnsen***, 2302 Braun Court, Golden, CO 80401, and **Michael Ferrara** and **Ellen Gethner**. *List-Distinguishing Colorings of Graphs.* Preliminary report.

A labeling of the vertices of a graph G is said to be *distinguishing* provided that no nontrivial automorphism of G preserves all of the vertex labels. The *distinguishing number* of G, denoted $D(G)$, is the minimum number of labels in a distinguishing labeling of G. The distinguishing number, first introduced by Albertson and Collins in 1996, has been widely studied and a number of interesting results exist throughout the literature.

Here, we extend this notion to list-distinguishing colorings. Given a family L of lists assigning available colors to the vertices of G, we say that G is L-distinguishable if there is a distinguishing coloring f of G such that $f(v) \in L(v)$ for all v. The *list-distinguishing number* of G, $D_\ell(G)$, is the minimum integer k such that G is L-distinguishable for any assignment L of lists with $|L(v)| = k$ for all v. In this talk, we will discuss several results and open problems concerning the list-distinguishing number. (Received March 30, 2010)