

1116-VF-1682 **Elliot M Laforge*** (elliott.m.laforge@wmich.edu). *Chromatic Connections in Graphs*.

Let G be an edge-colored connected graph. A path P is a proper path in G if no two adjacent edges of P are colored the same. If P is a proper u - v path of length $d(u, v)$, then P is a proper u - v geodesic. An edge coloring c is a proper-path coloring of a connected graph G if every pair u, v of distinct vertices of G are connected by a proper u - v path in G , while c is a strong proper-path coloring if every two vertices u and v are connected by a proper u - v geodesic in G . The minimum number of colors required for a proper-path coloring and strong proper-path coloring of G is called the proper connection number and strong proper connection number of G , respectively. Several results and open questions are presented in this area of research. (Received September 21, 2015)