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**Mark R. Budden\***, Department of Mathematics and Computer Sci., Western Carolina University, Cullowhee, NC 28723, and **Gabrielle Beam-Hiatt** and **Tucker Wimbish**. *Weakened Gallai-Ramsey Numbers*.

For a graph  $G$ , the  $t$ -color Ramsey number  $r^t(G)$  is defined to be the least natural number  $n$  such that every  $t$ -coloring of the edges of the complete graph  $K_n$  contains a monochromatic subgraph isomorphic to  $G$ . Two common variations of Ramsey numbers include Gallai-Ramsey numbers (in which only edge colorings that avoid rainbow triangles are considered) and weakened Ramsey numbers (in which subgraphs that use at most  $s \leq t - 1$  colors are sought). In this talk, we will discuss two undergraduate research projects that have focused on the combination of these distinct variations of Ramsey numbers. The first project, with G. Beam, focused on the explicit evaluation of some small weakened Gallai-Ramsey numbers and the use of lexicographic products in the construction of lower bounds. The second project is ongoing with T. Wimbish, and is concerned with the use of a well-known structure theorem for Gallai colorings to obtain upper bounds for weakened Gallai-Ramsey numbers. Some directions for future work on this topic will also be discussed. (Received September 19, 2021)