1125-VF-2368 **Jennifer Diemunsch**, **Nathan Graber**, **Lucas Kramer**, **Victor Larsen*** (`vlarsen@kennesaw.edu`), **Lauren Nelsen**, **Luke Nelsen**, **Devon Sigler**, **Derrick Stolee** and **Charlie Suer**. *Color-blind index, computational complexity, and hypergraphs.*

A not necessarily proper edge-coloring on a graph yields a color palette $\overline{c}(v) = \{a_i \ldots, a_k\}$ for each vertex v where a_i is the number of edges incident to v with color i. We reorder $\overline{c}(v)$ for every v in non-increasing order to obtain the *color-blind partition* $c^*(v)$. When the color-blind partition forms a proper vertex labeling, we say that the edge-coloring is *color-blind distinguishing*, and we let dal(G) be the smallest number of colors necessary for a color-blind distinguishing edge-coloring.

In this talk, we examine the problem of determining dal(G) for graphs of low degree, and show its connection with computational complexity theory and hypergraph coloring. We show that, for general graphs, determining dal(G) is NP-complete even when it is known that dal(G) $\in \{2, 3\}$. However, we can use known results from hypergraph coloring to deal with regular bipartite graphs. (Received September 20, 2016)