

1125-VF-1095 **John Asplund*** (jasplund@daltonstate.edu), 650 College Dr., Dalton, GA 30720, and **N. Bradley Fox** (foxb@apsu.edu). *Counting cycles in the graphs of overlapping permutations.*

It is a common enough practice to count the number of cycles in a graph. One can even be fancy about it and count the number of cycles of a certain length. Soon after beginning this process, most will find frustration in counting all of the cycles in a general graph of a particular length. This leads quickly to counting the number of cycles in classes of graphs, and we do just that! In this talk we look at the graph of overlapping permutations which is an analogue to the De Bruijn graph. In this graph, we will talk about some of the difficulties involved in counting cycles on this graph, some of the success stories, and where one can go from here. (Received September 14, 2016)