1145-VP-2906 **Katie Anders**, **Alissa Crans**, **Briana Foster-Greenwood*** (brianaf@cpp.edu), **Blake Mellor** and **Julianna Tymoczko**. *Decomposing Rings of Generalized Graph Splines.*

Splines arise in many areas of mathematics as a way to interpolate and fit given data. Generalized graph splines are a combinatorial version of this idea. Given a graph with edges labeled by ideals in a ring, a spline on the graph is a vertex-labeling such that the endpoints of each edge are congruent modulo the edge label. The set of splines on a graph forms a ring, and in this talk, we discuss how to use certain subgraphs to decompose the ring of splines into a direct sum of splines on smaller graphs. We then apply these techniques recursively to find the ring of splines for graphs whose edge labels can be linearly ordered by inclusion. (Received September 25, 2018)