Savana Ammons, Young Jin Kim, Laura Seaberg and Holly Swisher* (swisherh@math.oregonstate.edu). An analogue of $k$-marked Durfee symbols for strongly unimodal sequences. Preliminary report.

Andrews’ $k$-marked Durfee symbols, which generalize partitions, have been widely studied from both a combinatorial and automorphic forms perspective. In particular, there have been many interesting and motivating results establishing modularity properties for multivariate rank generating functions for these objects. Here, we define an analog of $k$-marked Durfee symbols which generalize strongly unimodal sequences. We establish a mutivariate rank generating function for these objects, and prove some partition-theoretic results which mirror Andrews’ original work with $k$-marked Durfee symbols. We conclude with some questions about potential modularity properties.

This work is joint with Savana Ammons, Young Jin Kim, and Laura Seaberg. It was initiated during the 2019 Oregon State University summer REU program, funded by the NSF grant DMS-1757995 and Oregon State University. (Received September 11, 2019)