Tom Halverson, Arun Ram and Nathaniel Thiem* (thiemn@colorado.edu). Flavors of $q$-partition algebras. Preliminary report.

The partition algebra is a classical example of a diagram algebra that contains many of the other famous combinatorial centralizer algebras as subalgebras. The search for a $q$-analogue of these algebras leads to an investigation of the various coincidences that make the partition algebra combinatorially tractable. This talk introduces numerous $q$-analogue candidates and analyzes which desirable characteristics of the partition algebra break or become obscured in each case. (Received August 29, 2016)