1147-20-620 **Georgia Benkart*** (benkart@math.wisc.edu), Department of Mathematics, University of Wisconsin-Madison, Madison, WI 53706. *McKay Centralizer Algebras – Some Thoughts on the Exceptional Cases.*

The McKay correspondence is a bijection between the finite subgroups G of SU_2 and the simply-laced affine Dynkin diagrams. Such a subgroup must be one of the following: (a) a cyclic group $\mathbf{C}_n$, (b) a binary dihedral group $\mathbf{D}_n$, or (c) one of the 3 exceptional groups: the binary tetrahedral group $\mathbf{T}$, binary octahedral group $\mathbf{O}$, or binary icosahedral group $\mathbf{I}$. McKay's observation was that the quivers determined by tensoring the simple modules of $\mathsf{G} = \mathbf{C}_n, \mathbf{D}_n, \mathbf{T}, \mathbf{O}, \mathbf{I}$ with the G-module $\mathsf{V} = \mathbb{C}^2$ exactly correspond to the Dynkin diagrams $\hat{\mathsf{A}}_{n-1}$, $\hat{\mathsf{D}}_{n+2}$, $\hat{\mathsf{E}}_6$, $\hat{\mathsf{E}}_7$, $\hat{\mathsf{E}}_8$, respectively. We examine the McKay correspondence from the point of view of Schur-Weyl duality. Since the McKay quiver provides a way to encode the rule for tensoring by the G-module V, we consider the tensor product module $\mathsf{V}^{\otimes k}$ and the centralizer algebra $\mathsf{End}_{\mathsf{G}}(\mathsf{V}^{\otimes k})$. A focus of the talk will be on results for the binary polyhedral groups $\mathbf{T}, \mathbf{O}, \mathbf{I}$. This is joint work with J. Barnes and T. Halverson. (Received January 27, 2019)