1119-16-154 **Tianyuan Xu*** (tianyuan@uoregon.edu), 1150 Darlene Lane, Apartment 346, Eugene, OR 97401. *The subregular part of Lusztig's Asymptotic Hecke Algebra.* Preliminary report.

Given an arbitrary Coxeter system (W, S), G. Lusztig defined its *asymptotic Hecke algebra* J, an associative algebra closely related to the usual Hecke algebra and the category of Soergel bimodules for (W, S). The algebra J decomposes as a direct sum of subalgebras indexed by the 2-sided Kazhdan-Lusztig cells of W, and in this talk we will present some results on the subalgebra J_C corresponding to a particular cell C known as the subregular cell. We show that products in J_C can be computed by repeated use of (variations of) the Clebsch-Gordan formula arising from the representation theory of $\mathfrak{sl}(2, \mathbb{C})$, and we use this multiplication rule to obtain alternative descriptions of J_C for Coxeter systems of certain types such as all simply-laced ones. (Received February 14, 2016)