1151-20-191   **Elizabeth Wilcox*** (`elizabeth.wilcox@oswego.edu`), Mathematics Department, 398 Shineman Center, State University of New York at Oswego, Oswego, NY 13126, and **Arturo Magidin** and **Luise-Charlotte Kappe**. *Generalizing the Chermak-Delgado Measure and Lattice of a Finite Group.* Preliminary report.

Let G be a finite group. The Chermak-Delgado measure of G, denoted $m^*(G)$, is the maximum value of the set of products, where H ranges over all subgroups of G, of the order of H with the order of its centralizer in G. The set of all subgroups H of G for which this product achieves the maximum value $m^*(G)$ forms a sublattice of the subgroup lattice of G, called the Chermak-Delgado lattice. This lattice has interesting properties, for instance every two subgroups in the lattice permute with one another, the subgroup of smallest order in the Chermak-Delgado lattice is characteristic and contains the group's center, every subgroup in the lattice is subnormal in G, the centralizer of the centralizer of a subgroup in the lattice is the subgroup, ... and more.

Despite these interesting properties, the definition of the Chermak-Delgado measure is limiting – G must be finite and the use of the centralizer, via the commutator word, is very specialized. In this talk we'll discuss some of the pitfalls that occur when attempting to generalize the definition to infinite groups (even very limited ones) and when expanding the definition to other words. (Received August 18, 2019)