1119-06-113 **Luke E Nelson*** (luke.nelson@asu.edu), School of Mathematical & Statistical Sciences, Arizona State University, P.O. Box 871804, Tempe, AZ 85287-1804. *A lattice of maximal chains of the Tamari lattice.* Preliminary report.

The family of Tamari lattices Tn, based on a Catalan set of objects, was originally defined on bracketings of a set of n + 1 objects, with a cover relation the associativity rule in one direction. The Tamari lattice is the one-skeleton of the associahedron and is a quotient of the weak Bruhat order. Despite the plethora of papers on this subject, the enumeration of maximal chains in Tamari lattices is still an open problem. This is especially odd, because the numbers of maximal chains in closely related lattices are known. In this talk we define a partially ordered set on equivalence classes of maximal chains of the Tamari lattice and discuss its structure. We call this poset the Tamari Block poset, TBn. We prove that TBn is a graded lattice. Furthermore, we discuss a useful characterization of the elements of TBn and its connections with other known posets. (Received February 11, 2016)