

CONSTRUCTING THE ASSOCIAHEDRON

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The associahedron is a polytope whose face lattice corresponds to the refinement lattice of the dissections of a convex polygon. It appears in various topics in combinatorics (Tamari and Cambrian lattices, diameter of flip graphs), in geometry (secondary polytopes, generalized permutahedra) and in algebra (cluster algebras, Hopf algebra of binary trees). This talk will present three geometric constructions of the associahedron with connections to relevant algebraic and combinatorial topics.