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Satyan L Devadoss* (satyan.devadoss@williams.edu). *Realization of graph-associahedra*. Preliminary report.

The associahedron (or Stasheff polytope) is an object appearing in numerous areas of mathematics, from homotopy theory (operads), configuration spaces (particle collisions), statistics (phylogenetic trees), geometric group theory (Coxeter complexes), and combinatorics. Given any graph G , we construct a convex polytope PG (dubbed the graph-associahedra) with some elegant properties. For example, when G is a path, PG is the associahedron; when G is a cycle, PG is the cyclohedron. This construction leads to a simple geometric realization of graph-associahedra. We show that these polytopes provide the tiling for certain compactified real moduli spaces of curves. (Received July 07, 2006)