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(rahul.a.shah@williams.edu), **Xuancheng Shao** (zero@mit.edu) and **Ezra M Winston***
(ew429@bard.edu). *Nonconvex Polygons and Deformations of Associahedra.*

The $(n-2)$ -dimensional associahedron K_n can be interpreted as the space of possible diagonalizations of a convex $(n+1)$ -gon. We generalize the associahedron by considering diagonalizations of nonconvex polygons. We show that the polytopal complex corresponding to diagonalizations of a nonconvex $(n+1)$ -gon is a contractible subcomplex of the associahedron K_n . (Received September 17, 2008)