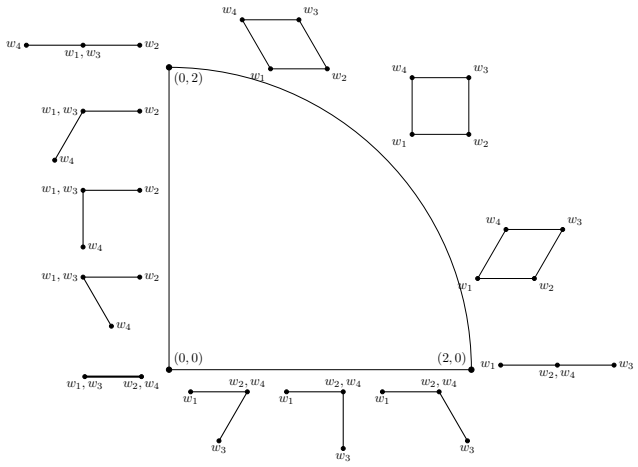
# Student Research Talks (StReeTs)

**Mason Experimental Geometry Lab (MEGL)**

# Polygons in Space

**Jack Love**
Department of Mathematics Sciences
George Mason University




## Abstract

A polygon is a bunch of line segments in $\mathbb{R}^n$ that meet head-to-tail and close to form a loop. A polygon with $m$ sides has $\binom{m}{2} - m$ diagonals. If we fix the sidelengths, the polygons and their diagonals can vary (see the picture above). By choosing an ordering on the diagonal lengths we can assign to each polygon a point in $\mathbb{R}^{\binom{m}{2}-m}$. This image will be the focus of our talk. Is it always convex? Piecewise algebraic? Is it 1 to 1? We look at recent results and open questions. The talk should be accessible to a wide audience and will use basic notions of geometry and convexity.

Date: Friday, September 2, 2016
Time: 2:30pm–3:30pm
Place: Exploratory Hall 4106

**Pizza and soda will be served at the presentation.**

For further information or for special accommodations, please contact Sean Lawton via email at `seanlawton@gmail.com` or drop by the MEGL.