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Monday, April 15, 2019

Time: 4:00 p.m.

Location: Weber 223

Title: Unfolding Mathematics at Burning Man

Abstract: A 2-ton interactive sculpture came to life at Burning Man 2018, the world's most influential large-scale sculpture showcase. Rising 12 feet tall with an 18-foot wingspan in the Nevada desert, the unfolding dodecahedron was illuminated by 16,000 LEDs, requiring 6500 person hours and \$40,000 in funds.

Its interior, large enough to hold 15 people, was fully lined with massive mirrors, alluding to a possible shape of our universe. The unfolding exterior points to the 500-year-old work of Albrecht Durer, and the tantalizing open problem of discovering a geometric unfolding for every convex polyhedron. We discuss the state-of-the-art, and consider higher-dimensional unfolding analogs, with elegant geometric and combinatorial relationships to integer partitions and chord diagrams.

Host: Renzo Cavaleri

