

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, November 2
2:00 – 3:00 PM
Maria Sanford, Room 101

EVIL TWINS OF HYPERCUBES

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ABSTRACT

The 2-skeleton of the n -dimensional hypercube is the subcomplex consisting of just the vertices, edges, and square faces. Its structure has a number of nice features, including a very high degree of symmetry.

Surprisingly, there exist two-dimensional "evil twin" complexes which share many structural properties, both local and global, with the 2-skeleta of certain hypercubes, including the appropriate notion of total symmetry. The graphs that occur as the 1-skeleta of the evil twins are also quite interesting.

I'll attempt to give a clear and simple description of the geometric and topological structure of these recently-discovered objects, and will show how group theory is used to find them. Anyone interested in geometry, graph theory, combinatorics, topology, or group theory may find something appealing here. (The talk is based on joint work-in-progress with Ian Leary.)

For further information:

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