Mathematics, Statistics, and Computer Science **@ UIC**

Graduate Geometry, Topology and Dynamics Seminar

Geometrically motivated partial orders on simplicial complexes

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Abstract: A simplicial complex is a pair (V, S), where V is a (finite) set and S is a subset of the power set $\mathcal{P}(V)$ closed under taking appropriate subsets (''faces''). The natural partial order from this definition is inclusion, which also makes some geometric sense. I will introduce two other partial orders, based on the Vietoris-Rips and Čech constructions of a simplicial complex from a vertex set and a radius. These orders correspond with the interpretation of a ''path'' in the universal space over the product of the Ran space (space of all finite subsets of some other space) and the non-negative real numbers.

Thursday, April 26 at 4:00 PM in SEO 636