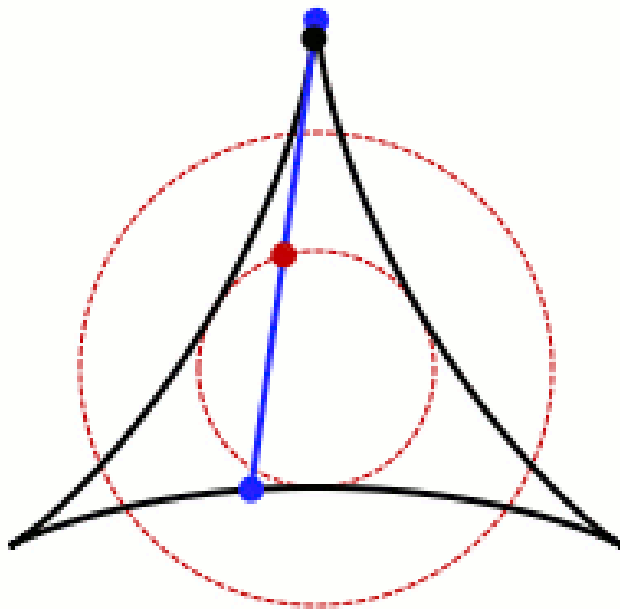# The Kakeya Needle Problem

Undergraduate Math Club
CORNELL UNIVERSITY

SPEAKER

Jason Snyder

ABSTRACT

A deltoid (pictured above) of area $\pi/8$ has the property that a unit line segment can be continuously rotated $360°$ entirely within the shape. Do there exist smaller shapes with this property? This question, first posed for convex shapes by Soichi Kakeya in 1917, has both a surprising answer and a surprising number of applications!

FEB 12 at 4:45pm

Malott 532 ⋆ Refreshments