1116-52-2249   **Matthew J Dannenberg*** (`mdannenberg@g.hmc.edu`), 340 E. Foothill Blvd, Box 154, Claremont, CA 91711, and **John Berry**, **Jason Liang** and **Yingyi Zeng**. *The Convex Body Isoperimetric Conjecture.*

If a bubble with specific volume was placed in a convex container, what shape would it take and how little surface area could it have? What shape should the container be so as to maximize the required surface area of a bubble enclosing that volume? The Convex Body Isoperimetric Conjecture states that the least perimeter needed to enclose a given volume inside an open ball in $\mathbb{R}^n$ is greater than inside any other convex body with the same volume as the ball. The two-dimensional case has been proved by Esposito et al. for the case of exactly half the volume. In this talk, we unveil partial results toward a novel proof of the full conjecture in two dimensions. (Received September 22, 2015)