1088-57-139 **Genevieve S. Walsh*** (genevieve.walsh@gmail.com), Tufts University Mathematics, 503 Boston Ave, Medford, MA 02155. *Right-angled Coxeter groups and acute triangulations.*

Abstract: Given a (combinatorial) triangulation T of the two-sphere, there is a right-angled coxeter group C(T) which is defined by the one-skeleton of T. When the triangulation T can be realized as an acute triangulation, we show how to build a CAT(-1) polyhedral complex on which C(T) acts geometrically. This space is quasi-isometric to $\mathbb{H}^3$. As a corollary, a triangulation of the two-sphere can be realized as an acute triangulation if and only if it does not contain any separating 3- or 4- cycles. This is joint work with Sang-hyun Kim, KAIST. (Received February 07, 2013)