

Joint Math Colloquium

Millersville University and Franklin & Marshall College

Speaker: Mr. Quinn Minnich, Senior Math Major
Department of Mathematics
Millersville University

Title: Equal Circle Packing on Flat Klein Bottles - an REU project

Date: September 28, 2017 (Thursday)

Time: 4:00 pm – 5:00 pm

Place: Room 201, Wickersham Hall, Millersville University

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Abstract:

The study of maximally dense packings of disjoint equal circles is a problem in Discrete Geometry. The optimal densities and arrangements are known for packings of small numbers of equal circles into hard boundary containers, including squares, equilateral triangles and circles. In this presentation, we will explore packings of small numbers of equal circles onto a boundaryless container called a flat Klein bottle. Using numerous figures we will introduce all the basic concepts (including the notion of a flat Klein bottle, an optimal packing and the graph of a packing), illustrate some maximally dense arrangements, and outline the proofs of their optimality. This research was conducted as part of the 2017 REU program at Grand Valley State University.

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