

Topology, Algebraic Geometry, & Dynamics Seminar

Connecting Outreach and Continued Fraction Expansions
Through Tessellations

Claire Merriman

Department of Mathematics
University of Illinois, Urbana-Champaign

The Illinois Geometry Lab is an undergraduate research lab that also takes math into our local community by turning research results into hands-on activities. These activities are designed to get kids and adults excited about mathematics. We also run these activities in the calculus classes to encourage undergraduates to consider getting involved in the IGL. I will give a shortened version of the IGLs tessellation/tiling activity, which we use in classroom visits and the Summer Illinois Math Camp. Then I will show how this ties into my own research on continued fractions. Specifically, how can we use hyperbolic tessellations to generate continued fractions of the form $\frac{1}{a_1 + \frac{1}{a_2 + \frac{1}{a_3 \dots}}}$ and $\frac{1}{2k_1 + 1 \pm \frac{1}{2k_2 + 1 \pm \frac{1}{2k_3 + 1 \pm \dots}}}$.

Date: **Friday, April 6th, 2018**
SPECIAL TIME: **4:40-5:30 pm**
Place: **4106 Exploratory Hall**

For special accommodations, please contact Sean Lawton via email at slawton3@gnu.edu.