

Topology, Arithmetic, & Dynamics Seminar

The Gauss map and Diophantine approximation in the
Heisenberg group

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In this talk, I will describe the geometry of the Heisenberg group, discuss the driving question of the ergodicity of the Heisenberg Gauss map, and our new results on Diophantine approximation that provide the first connection to hyperbolic geometry. The talk will be accessible to a wide audience, and include 3D-printed visuals. The geometry of the Heisenberg group arises in the work of Gromov, Mostow, and Thurston (among many others) as a natural variation on the geometry of Euclidean space. Recently, Joseph Vandehey and I showed that number-theoretic constructions such as base- b expansions and continued fractions continue to work in the Heisenberg group, leading to questions about the associated dynamics.

Date: **Friday, March 4, 2016**

Time: **2:30-3:30pm**

Place: **4106 Exploratory Hall**

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