

# Hyperbolic Space on the Oculus Rift

**Faculty Mentor: Pierre Albin**

**Team Leader: Daan Michiels**

**Scholars: Kyle McDaniel, Daniel Pugliese, Byron Wooden**

Since the discovery of non-euclidean geometry in the early 19th century many mathematicians have explored hyperbolic space using pen and paper. The goal of this project is to visualize 3-dimensional hyperbolic space as it would look to an inhabitant, using computer software. We use techniques from modern computer games and adapt them to hyperbolic geometry to walk around in this curved space. Apart from a regular computer screen, the software can use the *Oculus Rift*, a virtual reality device to show an immersive 3-dimensional image.

