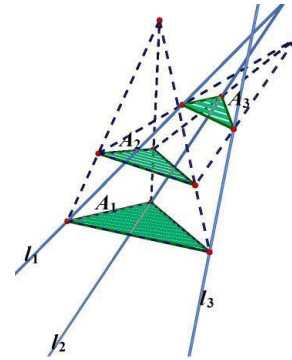# Projective Geometry

and its Applications in Perspective Art

What: Bi-State Math Colloquium
When: Friday, April 5, 4:00PM
Where: Loras College, Hennessy 350
Who: Logan Benson

Projective geometry has applications in many topics; my primary topic of interest involves its applications in perspective art. For centuries, artists have used the mathematics of perspective to create realistic paintings, distort physical laws on the page to depict endless staircases and melting clocks, and to make breathtaking sidewalk chalk art. I will show how projective geometry can make such artwork possible. Using aspects of projective geometry, we will render three-dimensional, perspective skyscrapers from simple schematics. When faced with questions about "legitimate" viewing perspectives, I will turn to anamorphic art and apply concepts from projective geometry to see what we can discover about chalk art that uses perspective elements to fool the eye. I will then discuss the Fundamental Theorem of Projective Geometry to see how conics fit into the perspective picture.

Logan Benson is a senior at Loras College, majoring in Applied Mathematics and Creative Writing. Son of an art teacher, he has enjoyed every mathematical topic he has encountered but none so much as the study of perspective in art.