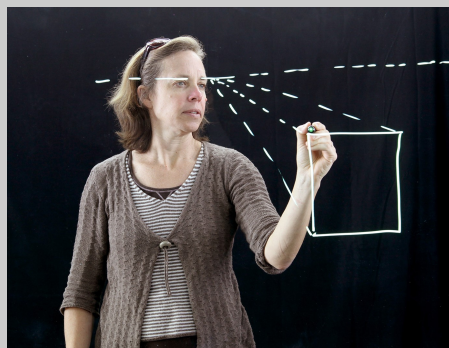


# BI-CO MATHEMATICS COLLOQUIUM

**Dr. Annalisa Crannell**

Franklin and Marshall College



## *“The Moon Tilt Illusion and Perspective Geometry”*

*Monday, February 19, 2024*

*Talk at 4:15 PM – Park 245*

*Reception at 4:00 PM – Park 361, Math Lounge*

### **Abstract:**

In this talk, we'll explore the wonders of how geometry and perspective art can help us look at the world in new ways (literally). We'll use this geometry to dig into a controversy about classical art (was Ivins correct that Dürer messed up perspective in his iconic etching of St. Jerome?). And then we'll use our tools to analyze an illusion that most of us haven't even thought to contemplate.

The Moon Tilt illusion confuses the viewer about the direction of illumination of a waxing or waning moon. We give several examples of this phenomenon and explain how the illusion arises from standard (but surprising) aspects of perspective projections. Familiar perspective drawings and photographs of objects such as clocks and cubes help us further analyze the unfamiliar explanations of pictures of illuminated portions of spheres.

**BRYN MAWR COLLEGE**