1125-55-2307 **Victoria R Gerardi*** (`vrgerardi@email.wm.edu`), **Sarah Day** and **Yu-Min Chung**.
Computational Topology in Texture Classification.

Computational topology has proven to be very effective in extracting information in areas such as biology and GIS to collect meaningful data that otherwise may be noisy or chaotic. This talk is focused on computational topology as a tool to classify 2-dimensional digital images of textures. Texture classification is important because being able to distinguish between the different images of materials is something that has many real world applications in fields such as medical imaging, industrial tests, etc. Texture classification is very difficult due to the amount of noise that often exists in digital images. Using the software Perseus, the persistent homology groups of distinct textures such as pasta, canvas, foam, etc. were calculated and then analyzed. The data was then tested as a classification method for textures, and was found to be a relatively functioning classification method between the different textures. (Received September 20, 2016)