MANY CHEERFUL FACTS

presents

Classifying Surface Automorphisms

a talk by Daniel Berwick Evans

12:10 – 1:00pm on Wednesday, January 31, in room 1015.

Given a compact oriented surface, how many self-homeomorphisms are there? In the case of the torus, maps are relatively easy to visualize and classify, but for surfaces of higher genus the problem becomes more subtle. I will classify these latter automorphisms up to isotopy as discovered by Neilson and Thurston, with notable parallels to the simple case of the torus. I will use my sock to demonstrate complicated topological constructions, rant about sprinkled doughnuts at length, and prove theorems using artwork.

I am the very model of a modern Major General,
I've information vegetable, animal, and mineral,
I know the kings of England, and I quote the fights historical
From Marathon to Waterloo, in order categorical;
I'm very well acquainted, too, with matters mathematical,
I understand equations, both the simple and quadratical,
About binomial theorem I'm teeming with a lot o' news,
With many cheerful facts about the square of the hypotenuse!

- Gilbert & Sullivan $P \circ P$

The website for Many Cheerful Facts is
http://www.math.berkeley.edu/∼slofstra/mcf