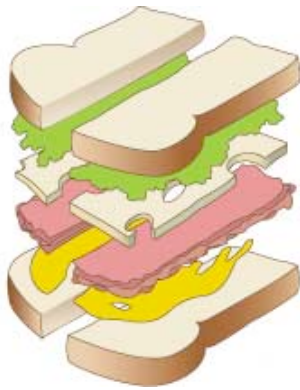


Piney Woods Lecture Series

Ham Sandwiches and Hairy Coconuts-- An Algebraic Topologist's Feast

Dr. T. Christine Stevens
Saint Louis University

April 7, 2008
2 - 3 PM
LDB 214



http://www.eleves.ens.fr/home/trung/images/ham-sandwich_cut.jpg

<http://www.hort.purdue.edu/ext/senior/fruits/coconut1.htm>

Abstract: Everyone knows how to make a ham sandwich: You put a piece of ham between two slices of bread, and you cut it in half. If the piece of ham and the slices of bread are square, then it's easy to cut the sandwich so that each half contains exactly half of the ham and exactly half of each slice of bread.

But what if the ham and the bread aren't square, or even symmetrical? What if the ham is unevenly cut, one slice of bread is in the corner of the room, and the other slice is down the hall somewhere? Using just one swing of the knife, can you still cut the sandwich so that each half contains exactly half of the ham and exactly half of each slice of bread?

The Ham Sandwich Theorem says that the answer is "yes." In the course of explaining why this is true, I'll discuss some concepts from the branch of mathematics that is called topology. I will assume that the audience knows what the graph of a function is, but nothing beyond that. Familiarity with the idea of a continuous function is helpful, but not essential.

Biography: T. Christine Stevens is Professor of Mathematics and Computer Science at Saint Louis University, where she teaches everything from pre-calculus through advanced graduate courses in topology. A graduate of Smith College, she earned her Ph.D. in mathematics at Harvard University. Her research interests are in topological groups and in the history of mathematics, but she has also spent time working for Congress and for the National Science Foundation. She is the director of Project NExT (New Experiences in Teaching), a professional development program that has thus far helped over 1000 new mathematics faculty to launch their careers.