

# MATH and PIZZA

Shortest paths, soap films,  
And the shape of the universe

Speaker

**Michael Dorff**

Brigham Young University

Sponsored by

Department of Mathematics  
University of Kentucky



+



*All students  
with an interest in Mathematics  
are welcome to attend!!*

**Date:** Wednesday, April 27, 2011

**Time:** 4:00pm - 5:00pm

**Room:** 114, Classroom Building

**Abstract:** In high school geometry we learn that the shortest path between two points is a line. In this talk we will explore this idea in several different settings. First, we will apply this idea to finding the shortest path connecting four points. Then we will move this idea up a dimension and look at a few equivalent ideas in terms of surfaces in 3-dimensional space. Surprisingly, these first two settings are connected through soap films that result when a wire frame is dipped into soap solution. We will use a hands-on approach to look at the geometry of some specific soap films or "minimal surfaces". We will explore this area and end up relating all of this to a brief discussion about the shape of the universe.

**Michael Dorff** earned his Ph.D. in mathematics at the University of Kentucky in 1997. After that he was hired as an Assistant Professor at the University of Missouri—Rolla. In 2000, he accepted a position at Brigham Young University. Currently, he is an Associate Professor and Associate Chair in the BYU Math Dept. Also, he is the Director of the NSF-funded BYU summer mathematics REU and the Director of the NSF-funded Center for Undergraduate Research in Mathematics (CURM).

**UK Math Club**

[www.math.uky.edu/~mathclub](http://www.math.uky.edu/~mathclub)



search for "UK Math Club"