

# Michigan Math Club

Thursday at 4pm in the Commons

Free Pizza and Pop



## Hilbert's Space-Filling Curve

Jeff Lagarias

Abstract for 22 Sept. 2011



Calculus is concerned with differentiable functions. In 1863 Karl Weierstrass showed there exist continuous functions that are nowhere differentiable. In 1891 Hilbert, improving on Peano, constructed a curve that fills the entire unit square. Nowadays this can be viewed as a prehistoric example of a fractal construction, using two nowhere differentiable functions. This talk describes this connection, and some amazing properties of this curve.