



AMERICAN UNIVERSITY
WASHINGTON, D C

THE DEPARTMENT OF MATHEMATICS AND STATISTICS COLLOQUIUM

Space-Filling Curves

I-Lok Chang
American University
ilchang@american.edu

3:30 p.m. on Tuesday, April 1st (for real...)

Ward 105

Abstract: In this session, we journey over the land of space filling curves. In 1890, Giuseppe Peano presented a curve $c(t) : [0,1] \rightarrow [0,1] \times [0,1]$, whose image covered the unit square in the plane. We begin this session by briefly reviewing some interesting related curves of Hilbert, Lebesgue, Sierpinski, Schoenberg, Salem and Zygmund. Then we will create our own examples. The ability to graph a straight line in the plane is the only necessary mathematical skill needed for this talk. However, familiarity with Cauchy sequences, uniform convergence, the Heine-Borel Theorem, probabilistically independent events, and the complex trigonometric series $\sum_{k=1}^{\infty} c_k e^{in_k x}$ will help us to fully explore the nature of these curves.

Presented by

THE AU MATH/STAT DEPARTMENT AND THE AU CHAPTER OF SIGMA XI

For additional information, contact

*Richard Brown (brown@american.edu), Artur Elezi (aelezi@american.edu) or
Alex White (whiteale@american.edu)*

Next Colloquium:

Tuesday, April 15, 2003 Ward 105

Steve Casey, American University

Harmonic Analysis on the Internal Revenue Service (subject to change...)
