

TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Room 617 Wachman Hall

Monday, March 23, 2014, 2:40 p.m.

On the geometry and topology of zero sets of Schrödinger eigenfunctions

by Yaiza Canzani

Department of Mathematics

Harvard University

and

Institute for Advanced Study

In this talk I will present some new results on the structure of the zero sets of Schrödinger eigenfunctions on compact Riemannian manifolds. I will first explain how wiggly the zero sets can be by studying the number of intersections with a fixed curve as the eigenvalue grows to infinity. Then, I will discuss some results on the topology of the zero sets when the eigenfunctions are randomized. This talk is based on joint works with John Toth and Peter Sarnak.