



The University of Mississippi
Department of Mathematics

Analysis Seminar

Dr. Micah Milinovich

The University of Mississippi

4:00 P.M., Thursday, May 4
Hume 321

Title: Fourier Analysis and the zeros of the Riemann zeta-function

Abstract: I will show how the classical Beurling-Selberg extremal problem in harmonic analysis arises naturally when studying the vertical distribution of the zeros of the Riemann zeta-function and other L-functions. Using this relationship, along with techniques from Fourier analysis and reproducing kernel Hilbert spaces, we can prove the sharpest known bounds for the number of zeros in an interval on the critical line and we can also study the pair correlation of zeros. Our results on pair correlation extend earlier work of P. X. Gallagher and give some evidence for the well-known conjecture of H. L. Montgomery. This talk is based on a series of papers joint with E. Carneiro, V. Chandee, and F. Littmann.