SPEAKER:

Fernando Shao, University of Kentucky

TITLE:

Higher-order Fourier analysis and applications

ABSTRACT:

Higher-order Fourier analysis is a a tool to count solutions to systems of linear equations in sets of integers. I will discuss why this generalization of traditional Fourier analysis is necessary, what it is, what applications it has, and what open questions remain. As a particular application I hope to discuss some recent work on primes in short intervals.