

**Date:** April 22nd, 2009

**Speaker:** Terry Munroe, UNC Asheville

**Title:** *On the density, form, and infinitude of twin primes*

**Abstract:** The set of twin primes has become a popular subject of study ever since Alphonse de Polignac worked with the infinitude of twin primes. While proofs on the infinitude of primes have been presented, there is still no solution to Polignac's problem, now known as the Twin Prime Conjecture. Years later, the actual study of the form and density of twin primes has become popular. In this talk, I will outline the Twin Prime Conjecture and some of the attempts made to prove its validity. I will also walk through a proof of the modular form of twin primes, discovered by P.A. Clement. I will then transition to the development of the idea of the density of twin primes, including discussion on Brun's constant, the Hardy-Littlewood Conjecture, and the Twin Prime Constant.