Philadelphia Area Number Theory Seminar

Karen Taylor

Bronx Community College and Bryn Mawr College

Quadratic Identities and Modularity

Abstract: The work of Andrews, Dyson, and Hickerson (ADH), and, of Cohen show that the fourier coefficients of the function

$$\sigma(q) = 1 + \sum_{n=1}^{\infty} \frac{q^{\frac{n(n+1)}{2}}}{(1+q)(1+q^2)\cdots(1+q^n)},$$

are defined by the arithmetic in $\mathbb{Z}[\sqrt{6}]$ and can be used to construct a Maass waveform on $\Gamma_0(2)$. $\sigma(q)$ is a function studied by Ramanujan.

In this talk, I will discuss the problem of generalizing the results of (ADH) and Cohen. This is joint work, in progress, with Larry Rolen.

Wednesday, August 15, 2018
2:40 – 3:50 PM

Bryn Mawr College
Department of Mathematics
Park Science Center **338**

Tea and refreshments at 2:20PM in Park 339