



## Algebra and Number Theory Seminar

**Title:** Slopes of modular forms and the ghost conjecture

**Speaker:** Robert Pollack (Boston)

**Date:** Thu 22nd October 2020 at 2:00PM

**Location:** Online

**Abstract:** Modular forms are mathematical objects born in complex analysis but in fact have become central objects in number theory. In particular, special modular forms, called eigenforms, have Fourier coefficients which are algebraic integers and these integers contain loads of number theoretic data. In this talk, we will focus on one slice of this data, namely, the highest power of  $p$  dividing the  $p$ th Fourier coefficient (called the slope of the form). Through many numerical examples, we will discuss the properties of these slopes and ultimately state the so-called 'ghost conjecture' which predicts them in a combinatorial way.

<https://ucd-ie.zoom.us/j/5963025149?pwd=MFJQSG1GaDhaT2hQdzBjcURvVTYyZz09>