

SPEAKER: Susie Kimport (Yale)

TITLE: Partition statistics and mock modular forms

ABSTRACT: Defined in 2007 by D. Zagier, mock modular forms have been the subject of a recent flurry of research in number theory and combinatorics, with applications to mathematical physics, among other fields. In this talk, I will give an introduction to mock modular forms through the lens of combinatorics, in particular statistics related to partitions of integers. I will also discuss the relationship between mock modular forms and two infinite families of combinatorial generating functions pertaining to  $k$ -marked Durfee symbols, which are generalizations of partitions. I will end with some examples of other applications of mock modular forms, as well as some new directions related to this field.