Department of Mathematics and Statistics Colloquium

Partitions, Regular Partitions, and Modular Forms

Job Candidate

Abstract: A partition of n is a non-increasing sequence of natural numbers whose sum is n. For example, 3, 2+1, and 1+1+1 are all the partitions of 3. Despite this simple definition, the properties of partitions have intrigued mathematicians for centuries. Why are the number of partitions into odd parts equal to the number of partitions into distinct parts? Why are the number of partitions for any n that ends in 4 or 9 always a multiple of 5? We will discuss the development of the rich and complex theory of partitions, including its foundations by Euler, the astounding contributions of Ramanujan, and modern advances which utilize the theory of modular forms.

Wednesday, January 29 at 4:30 in Roop 103

refreshments at 4:15