

1167-11-263

**Trevor M Ferguson\*** ([tferggie@mail.fresnostate.edu](mailto:tferggie@mail.fresnostate.edu)). *Of Partition Congruences and Representations of Nonnegative Integers.*

In this talk, we discuss the rich history of partitions, representations of integers, and  $q$ -series. We begin by providing a brief history of discoveries and theorems before the work of Srinivasa Ramanujan and continue with how his work has affected the modern research of the topics. We will cover Ramanujan's Famous Congruences and recent discoveries of the partition function, the tau function and its known congruences, and the expressions for counting the number of representations of nonnegative integers by sums of squares and sums of triangular numbers. (Received March 08, 2021)