STUDENT SEMINAR

SELCUK AYGIN

POST-DOC

MATHEMATICS & COMPUTER SCIENCE
UNIVERSITY OF LETHBRIDGE

Title: "Ramanujan's congruences for the partition function, ranks and cranks"

Abstract:
Let n be a natural number and p(n) denote the partition function, the number of different ways to write n as a sum of a collection of smaller numbers. Ramanujan has proven the following elementary congruences for the partition function:

$p(5n+4) \equiv 0 \mod 5$

$p(7n+5) \equiv 0 \mod 7$

$p(11n+6) \equiv 0 \mod 11$

In this talk we prove the first two of the above congruences using analytic techniques. We then introduce ranks and cranks which give combinatorial interpretations for these congruences. Finally, we will introduce some open problems in the study of partition functions, ranks and cranks.

WHEN
FRIDAY, OCT 11
12:00—12:50

WHERE
C640

WHO
ANYONE WHO'S INTERESTED

REFRESHMENTS
DONUTS

Pacific Institute for the Mathematical Sciences