

# UCCS Mathematics

## Colloquium

Thursday, May 5<sup>th</sup>, 2011

UC 307

12:30 pm – 1:30 pm

(Refreshments at 12:15 pm)

Dr. James Mitchell, University of St. Andrews

Approximating permutations and automorphisms

Abstract: In this talk I'm going to discuss how to finitely approximate permutations on the natural numbers and automorphisms of the rational numbers. In particular, I'll show that given any non-identity such  $f$  there is a  $g$  such that the subgroup generated by  $f$  and  $g$  contains finite approximations of all permutations or automorphisms. I'll also show that for certain types of  $f$  there are many such possibilities for  $g$ . I will also show a connection to some recent work of Zak Mesyan.

