Discrete Mathematics Seminar

Time: Friday, 4 October 2013, 1:00 – 2:00 PM
Location: 238 Derrick Hall
Title: Solvable Permutation Groups and Orbits on Power Sets
Speaker: Dr. Yong Yang, Mathematics Department

Abstract:

A permutation group G acting on a set Ω induces a permutation group on the power set $\mathscr{P}(\Omega)$. Let G be a finite permutation group of degree n and let $s(G)$ denote the number of set-orbits of G. We determine $\inf(\frac{\log_2 s(G)}{n})$ over all solvable groups G. This answers a question of Babai and Pyber 'Permutation groups without exponentially many orbits on the power set', J. of Comb. Theory, Series A, 66 (1994), 160-168. In this talk, we will discuss this result and some related questions.