

# Combinatorics Seminar

Wednesday, October 12, 2016

3:00 pm in Hume 331

Dr. Xuezheng Lv

Department of Mathematics

Renmin University of China

Beijing 100872, China

*r*-hued chromatic number of  $P_t$ -free graphs

## ABSTRACT

For integers  $k, r > 0$ , a  $(k, r)$ -coloring of a graph  $G$  is a proper coloring on the vertices of  $G$  with  $k$  colors such that every vertex  $v$  of degree  $d(v)$  is adjacent to vertices with at least  $\min\{d(v), r\}$  different colors. The  $r$ -hued chromatic number, denoted by  $\chi^r(G)$ , is the smallest integer  $k$  for which a graph  $G$  has a  $(k, r)$ -coloring. We focus on the upper bound of  $\chi^r(G) \leq \chi(G)$ , where  $G$  is a  $P_t$ -free graph. This is a joint work with Hong-Jian Lai and Murong Xu from West Virginia University.