

## NUMBER THEORY & COMBINATORICS SEMINAR

Speaker: Kerri Webb  
Date: 2007 Nov 21  
Time: 3:00 – 3:50 pm  
Room: L-1114  
Title: Lattice Path Bijections

### Abstract:

Two opponents play  $2n$  head to head games, and each player wins a total of  $n$  games. In how many ways can this be done, if the second player never has more wins than her opponent?

This puzzle can be solved with lattice paths: paths in the plane from the point  $(0,0)$  to  $(n,n)$ , where each step in the path is in the direction  $(1,0)$  or  $(0,1)$ . We survey enumeration results for various modifications of lattice paths. Classical bijections and a search for a new bijection are also discussed.