AMMP Seminar

Speaker: Daniel Gomez

Date/time: Oct. 7, 2013, 3:30-4:20 pm

Location: Arts 214

Title: The Canada Day Theorem

Abstract:

The Canada Day Theorem is an identity relating the sum of all $k \times k$ minors of a symmetric matrix to the sum of all principal $k \times k$ minors of a particular matrix product. The proof of this theorem uses classical results as well as some modern combinatorial results relating determinants to path systems on particular directed graphs. An abelian group on such directed graphs is defined which is ultimately responsible for the proof of the theorem. The use of graphs makes the proof very visual and intuitive while still pinning down the underlying mechanism at work.