



Speaker: Matthew Dyer
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Tuesday, September 15, 2015

10:00 AM

258 Hurley Hall

Title: Infinitely long elements of Coxeter groups

Abstract:

The inversion set of an element of a Coxeter group is the (finite) set of positive roots it makes negative. An interesting part of the elementary combinatorics of Coxeter groups (reduced expressions, braid operations etc) may be expressed directly in terms of inversion sets, and conjecturally extends to certain infinite subsets of positive roots called biclosed sets. Depending on the context, biclosed sets actually or conjecturally parametrize interesting "twists" of important algebraic, combinatorial, geometric and representation theoretic objects attached to Coxeter groups. The biclosed sets may be loosely regarded as infinite length limits of elements of the Coxeter group, and the twisting may sometimes be achieved by taking a renormalized limit of finite twists defined using the group action. Study of twisting, especially in certain representation theoretic situations where it apparently cannot be accomplished so straight-forwardly, will be a theme of the seminar this semester. This first talk will indicate some of what is known or conjectured about biclosed sets themselves.