Department of Mathematics
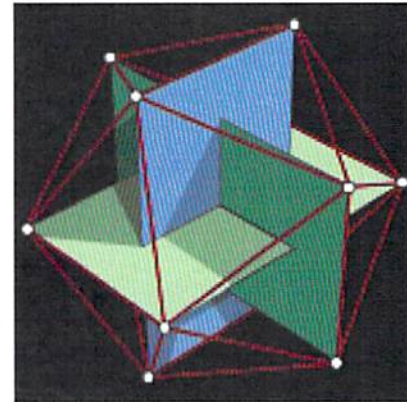## University of Notre Dame

CLUSTER ALGEBRAS SEMINAR

Speaker: Victor Mouquin
University of Toronto

Date: Wednesday, August 31, 2016
Time: 4:00 PM
Location: 258 Hurley Hall

Lecture Title:
The T-leaves of Poisson structures defined by factorizable quasitriangular r-matrices

Abstract

When an abelian Lie group T acts on a Poisson manifolds (Y, π_Y) by Poisson isomorphisms, a natural and interesting question is to classify the so-called T-leaves of π_Y. We study a class of examples where Y is acted on by a Poisson Lie group (G, π_G), π_Y is defined by a factorizable r-matrix r, and $T = M_+ \cap M_-$, where (M_+, M_-) is a pair of subgroups of G satisfying a compatibility condition with r. We show that the intersections of orbits of $M_\pm$ in Y are regular T-Poisson manifolds, and give a criteria for the T-leaves of π_Y to be precisely the connected components of intersections of orbits of M_+ and M_-. We also compute the leaf stabilizer subalgebra in $Lie(T)$ of ede the variety of Lagrangian subalgebras of a quadratic Lie algebra, the wonderful compactification of a complex semisimple Lie group, and (products of) flag varieties with a naturally defined Poisson structure.