

☺ **ALGEBRA SEMINAR TALK** ☹

FRIDAY, JANUARY 23, 2009

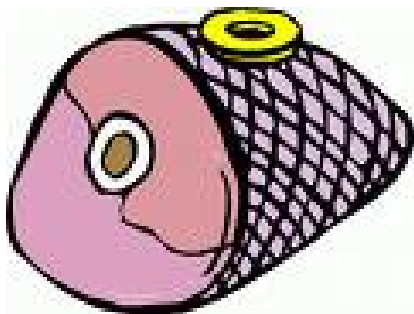
MARTIN PINSONNAULT
(The University of Western Ontario)

2:30 P.M. – Middlesex College Room 106

“Maximal tori in symplectomorphism groups of 4-manifolds”

ABSTRACT:

Let M be a closed symplectic manifold and denote by Ham its group of Hamiltonian diffeomorphisms. When equipped with the standard smooth topology, this is an infinite dimensional Fréchet Lie group. It is generally believed that Ham is “tamer” than the diffeomorphism group $\text{Diff}(M)$ and constitutes an intermediate object between compact Lie groups and more general diffeomorphism groups. To develop a better understanding of this principle, one may look at maximal Hamiltonian actions by tori or, in other words, to classify symplectic conjugacy classes of maximal compact tori in Ham . In this talk, we will show that for 4-dimensional symplectic manifolds, there are at most finitely many of those conjugacy classes. As a by-product, we will also prove that the rational cohomology algebra of the symplectomorphism group of a generic blow-up is not finitely generated.



$$\dot{q} = \partial H / \partial p, \quad \dot{p} = -\partial H / \partial q.$$



Ham and its symplectic conjugacy classes of its maximal tori have looked appetizing before, but wait for Martin Pinsonnault’s talk this Friday, January 23rd, when a generic blow-up will blow you away and you will not be able to wait for your own bite into this Ham.

☺ **ALL ARE WELCOME!**