Mathematics, Statistics, and Computer Science   **@ UIC**

Geometry, Topology and Dynamics Seminar

Kirwan surjectivity for quiver varieties

Tom Nevins (UIUC)

Abstract: Many interesting hyperkahler, or more generally holomorphic symplectic, manifolds are constructed via hyperkahler/holomorphic symplectic reduction. For such a manifold there is a "hyperkahler Kirwan map," from the equivariant cohomology of the original manifold to the reduced space. It is a long-standing question when this map is surjective (in the Kahler rather than hyperkahler case, this has been known for decades thanks to work of Atiyah-Bott and Kirwan). I'll describe a resolution of the question (joint work with K. McGerty) for Nakajima quiver varieties: their cohomology is generated by Chern classes of "tautological bundles." If there is time, I will explain that this is a particular instance of a general story in noncommutative geometry. The talk will not assume prior familiarity with any of the notions above.

Monday, January 30 at 3:00 PM in SEO 636