Moment map flows and the Hecke correspondence for quivers

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Quiver varieties are a fundamental part of Nakajima's work in Geometric Representation Theory, but some of their basic topological invariants (such as the cohomology ring) are not yet well-understood. In the first part of the talk I will give the definition of a quiver variety and describe some examples, before giving an overview (again with examples) of some of Nakajima's constructions, one of which is the Hecke correspondence for quivers. In the second part of the talk I will explain a new theorem that gives an analytic description of the Hecke correspondence in terms of the gradient flow of an energy functional. This is related to an ongoing program to use Morse theory to study the cohomology of quiver varieties, and, if time permits, then I will state some conjectures in this direction.

Thursday April 21st 2011
3:00-5:00 p.m.
MATH 350