

Northeastern University



Mathematics Department

Geometry, Physics, and Representation Theory Seminar

**Steven Rayan**

University of Saskatchewan

Thursday, February 21, 2:50-3:50 pm, Lake Hall 509

## **Hyperkaehler geometry of hyperpolygon spaces**

### **Abstract**

Introduced by Konno, hyperpolygon spaces are examples of Nakajima quiver varieties. The simplest of these is a noncompact complex surface admitting the structure of a gravitational instanton, and therefore fits nicely into the Kronheimer-Nakajima classification of complete ALE hyperkaehler 4-manifolds, which is a geometric realization of the McKay correspondence for finite subgroups of  $SU(2)$ . For more general hyperpolygon spaces, we can speculate on how this classification might be extended by studying the geometry of hyperpolygons at “infinity”. This is ongoing work with Hartmut Weiss.