Geometry, Groups and Dynamics/GEAR Seminar
(held at the Illinois hub of GEAR)

12:00 pm, Thursday, March 17, 2016, 243 Altgeld Hall
Corrin Clarkson (Indiana University)
Heegaard Floer homology and 3-manifold mutation

Abstract: The mutation operation is easy to define: cut a 3-manifold along an embedded surfaces and gluing it back together. It is also familiar; special cases include Dehn surgery and the construction of mapping tori. In many cases, the effects of mutation are significant and easily detected, but some gluings are more subtle. One such subtle gluing map is the genus-2 hyperelliptic involution. This is the only higher genus mapping class whose mutations might preserve the total rank of Heegaard Floer homology. I will show that all other gluings can change the total rank of HF-hat and give and overview of our understanding of the exceptional case: mutating by the genus two hyper elliptic involution.
Video