KRISTEN HENDRICKS, Michigan State University
Involutive Heegaard Floer homology

We use the conjugation symmetry on the Heegaard Floer complexes to define a three-manifold invariant called involutive Heegaard Floer homology, which is meant to correspond to $\mathbb{Z}_4$-equivariant Seiberg-Witten Floer homology. From this we obtain two new invariants of homology cobordism, explicitly computable for surgeries on L-space knots and quasi-alternating knots, and two new concordance invariants of knots, one of which (unlike other invariants arising from Heegaard Floer homology) detects non-sliceness of the figure-eight knot. We also give a formula for how this theory behaves under connected sum, and use it to give examples not homology cobordant to anything computable via our surgery formula. This is joint work with C. Manolescu; the last part of is also joint with I. Zemke.