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Timothy Perutz* (perutz@math.utexas.edu). *Fixed-point Floer homology in spaces of stable pairs over Riemann surfaces.*

Joint work with Andrew Lee. One can obtain 3-manifold invariants via symplectic avatars of gauge-theoretic constructions: Heegaard Floer homology as a model for Seiberg–Witten Floer homology, or Lagrangian Floer homology in representation varieties as a model for instanton homology. The latter approach is limited by difficulties with singularities. I will describe an approach to circumventing such problems by working in a space of stable (or Bradlow) pairs over a Riemann surface—a smooth, compact, monotone symplectic manifold. While Lagrangian submanifolds seem to be hard to construct, the action of the mapping class group leads to fixed-point Floer homology invariants, which we compute in the genus 1 case, and find that they contain the expected information from Seiberg–Witten theory. (Received July 27, 2017)