2nd lecture: From knot Floer homology to invariants of 3- and 4-manifolds

In this lecture I will describe the surgery formulas that relate knot Floer homology to the Heegaard Floer homology of 3-manifolds, as well as to the mixed 4-manifold invariants of Ozsvath and Szabo. (The latter are a symplectic analogue of the Seiberg-Witten invariants.) I will explain how the surgery formulas can be used to show that the Heegaard Floer invariants are algorithmically computable. This talk is based on joint work with Ozsvath and D. Thurston.

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