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Peter Ozsvath*, Princeton University, Princeton, NJ 08544. *From knots to symplectic geometry and algebra.*

Heegaard Floer homology is an invariant for three-manifolds which is inspired by gauge theory and defined using the theory of pseudo-holomorphic curves. Knot Floer homology is a variant of this construction, giving an invariant for knots in three-space. It has the form of a bigraded vector space, encoding interesting topological information about the knot. After explaining the basic form of knot Floer homology, and giving some of its applications, I will present a recent algebraic description of knot Floer homology, discovered in joint work with Zoltan Szabo, building on earlier joint work with Robert Lipshitz and Dylan Thurston. (Received May 31, 2018)