Hilbert schemes and knot invariants

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In this talk, I will present a conjectural framework that realizes braid invariants as sheaves on a certain variety called the flag Hilbert scheme. Pushing forward this sheaf to the Hilbert scheme of points of the plane is expected to produce a knot invariant. In the case of torus knots, I will recall a surprising appearance of mirror symmetry for an elliptic curve over a finite field. Joint work with Eugene Gorsky and Jacob Rasmussen.