The Hilbert scheme of points on a quasi-projective variety is a classical object in algebraic geometry. However, its geometry is nowadays still not completely accessible.

The motive of a variety X is an invariant attached to X and it is considered as a universal Euler characteristic. In a joint project with Monavari, Moschetti and Ricolfi we give general formulas to compute the motive of the Hilbert scheme of points, provided the knowledge of a
finite amount of data (that we gave explicitly in some cases).

In my seminar I will explain how to obtain our formulas. Along the way, I will show how many numerical identities (such as relations in the Pascal triangle) can be understood as a specialisation of motivic ones.