1165-53-249 **Aleksander Doan***, Department of Mathematics, Columbia University, New York, NY. *Counting embedded curves in symplectic six-manifolds.*

The number of embedded pseudo-holomorphic curves in a symplectic manifold typically depends on the choice of an almost complex structure on the manifold and so does not lead to a symplectic invariant. However, I will discuss two instances in which such naive counting does define a symplectic invariant, which turns out to be related to the Gopakumar-Vafa conjecture inspired by string theory. Time permitting, I will discuss also an interesting relationship between curve counting invariants and the Yang-Mills equations. This talk is based on joint work with Thomas Walpuski. (Received January 18, 2021)