1021-55-67 **Ralph M Kaufmann*** (`kaufmann@math.uconn.edu`), University of Connecticut, Dept of Mathematics, 196 Auditorium Rd, Storrs, CT 06268-3009. *Moduli Space Actions on the Hochschild co-chains of a Frobenius algebra.*

We discuss our recent work on the action of cellular PROP and operad models of the moduli space of surfaces with boundary and marked points and its compactification by Penner. These algebraic structures are extensions of the Arc operad of [KLP].

On the one hand we obtain the moduli space actions expected from D-branes and on the other hand a PROPic action of a version of Sullivan Chord diagrams on the Hochschild co-chains and hence the E^1 term of the spectral sequence computing the loop homology of a simply connected manifold. (Received August 22, 2006)