ABSTRACT

String Topology

String topology is the study of the algebraic structures on the homology of the free loop space of a manifold. The subject was started by Chas and Sullivan, a decade ago, by defining these invariants of smooth manifolds by intersection theory of chains. Later on, Cohen and Jones gave an interpretation of these structures in terms of stable homotopy theory and demonstrated its relation with the Hochschild cohomology of the cochains of the manifold. In this talk I will present the history of the subject, show the various incarnations of these algebraic structures and how they can be generalized to objects that are not necessarily manifolds, like classifying spaces of groups and orbifolds.