

TOPOLOGY SEMINAR

Guest Speaker: Florian Naef

MIT

Date: Tuesday, February 11, 2020

Time: 2:30 PM

Location: 258 Hurley Hall



Lecture Title:

String topology and the configuration space of two points

Abstract

Given a manifold M , Chas and Sullivan construct a Lie bialgebra structure on the homology of the space of (unparametrized) loops using intersections and self-intersections of loops. We give an algebraic description of this structure under Chen's isomorphism identifying loop space homology with cyclic homology. More precisely, we construct a homotopy involutive Lie bialgebra structure on cyclic cochains that depends on the partition function of a Chern-Simons type field theory. Moreover, we discuss the (non-)homotopy invariance of that structure and its relation to the configuration space of two points.