String Topology

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Thursday, April 1, 2004
102 Bradley Hall, 4:00 pm
(Tea 3:30 pm Math Lounge)

Abstract

String Topology was introduced a few years ago by M. Chas and D. Sullivan, who defined a new algebraic structure, that of a BV-algebra, on the homology of the free loop space in a manifold. This structure describes interaction of strings (loops) in the manifold and mimics Gromov-Witten invariants in a purely topological setting. I will discuss String Topology, as well as a higher-dimensional generalization of it, where strings get replaced by spheres. This generalization is related to Hochschild cohomology and a conjecture of Kontsevich. Some of this is joint work in progress with Sullivan.

This talk should be accessible to graduate students.

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