Topology Seminar

David Ayala

of University of Southern California will be speaking on

Poincaré Koszul duality and factorization homology

on November 18 at 4:30 in
MIT Room 2-131

Factorization homology is an invariant of an n-manifold M together with an n-disk algebra A. Should M be a circle, this recovers the Hochschild complex of A; should A be an abelian group, this recovers the homology of M with coefficients in A. In general, factorization homology retains more information about a manifold than its underlying homotopy type, and can be interpreted as the global observables of a perturbative TQFT. In this talk we will lift Poincaré duality to factorization homology as it intertwines with Koszul duality for n-disk algebras – all terms will be explained. We will point out a number of consequences of this duality, which concern manifold invariants, algebra invariants, and TQFT's.

This is a report on joint work with John Francis.