Topology Seminar

Geoffroy Horel

of MIT will be speaking on

Operads, Modules and higher Hochschild cohomology

on April 22 at 4:30 in
MIT Room 2-131

In this talk I will describe a general theory of modules over an algebra over an operad. Specializing to the operad Ed of little d-dimensional disks, I will show that each d-1 manifold gives rise to a theory of modules. I will then describe a geometric construction of the homomorphisms objects in these categories of modules inspired by factorization homology (also called chiral homology). A particular case of this construction is higher Hochschild cohomology (i.e. Hochschild cohomology for Ed-algebras). This construction enlightens the relationship between Hocshchild cohomology and geometric objects like the cobordism category and the spaces of long knots.