MIT Topology Seminar

Monday, February 13, 4:30pm
MIT Room 2-142

Eric Rains

(UC Davis)

speaking on

The cohomology ring of the real locus of $\bar{M}_{0,n}$

Abstract: The moduli space $M_{0,n}$ (the set of equivalence classes of n- tuples of distinct points on the projective line under simultaneous linear fractional transformations) has a natural compactification to a smooth projective scheme $\bar{M}_{0,n}$. Since this scheme is defined over $\mathbb{Z}$, its real locus is a smooth (in general nonorientable) manifold. The rational cohomology algebra of this manifold has a number of interesting properties, most notably the fact that its Poincaré polynomial factors completely (in sharp contrast to the corresponding complex manifold). I'll discuss recent work with Etingof, Henriques, and Kamnitzer deriving this Poincaré polynomial, as well as an explicit presentation and basis of the cohomology algebra.

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