

Topology Seminar

Adela Zhang

of MIT will be speaking on

Let's hit the bar s.s.!

on May 15 at 4:30 in
MIT Room 2-131

The bar spectral sequence for algebras over a spectral operad relates Koszul duality phenomena in several contexts. In this talk, we apply this classical tool to the Koszul dual pair given by the (non-unital) E_∞ operad and the spectral Lie operad over \mathbb{F}_p . The bar s.s. for E_∞ algebras yields the structure of operations on mod p TAQ cohomology and spectral partition Lie algebras, building on the work of Brantner-Mathew. In the colimit, the unary operations are Koszul dual to the Dyer-Lashof algebra. On the other hand, the bar construction against certain spectral Lie algebras models labeled configuration spaces by a theorem of Knudsen. The associated bar s.s. yields new results on their mod p homology at low weights, as well as interesting patterns of universal differentials. Time permitting, I will explain an attempt with Andy Senger on detecting these differentials via deformation of comonads. Beverages relating to the title may be served after the talk.

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