Algebraic Topology Seminar

Jonathan Rubin

of UCLA will be speaking on

Combinatorial and geometric N_∞ operads

on Tuesday, May 28 at 4:30 pm in

Eckhart 203

Let G be a finite group. A N_∞ G-operad is an equivariant generalization of an E_∞ operad. Such operads govern the natural algebraic structure on spectra over incomplete universes and on localizations of genuine commutative ring G-spectra. Since Blumberg and Hill's pioneering work, it has been known that the homotopy theory of N_∞ operads is essentially algebraic. They proved that the homotopy type of a N_∞ operad is completely determined by a single combinatorial invariant, and subsequent work has revealed that the homotopy theory of N_∞ operads may be modeled entirely with discrete operads in the category of G-sets. On the other hand, there are natural classes of geometrically defined N_∞ operads, which generalize the classical linear isometries and infinite little discs operads. Such operads encode real representation-theoretic properties of G, in addition to purely algebraic data. In this talk, I will explain how to reduce the homotopy theory of N_∞ operads to combinatorics, and then I will discuss how the peculiarities of equivariant linear isometries and infinite little discs operads are encoded in algebra.

There will be a pretalk at 3pm.

For information, write to Dylan Wilson at `dwilson@math.uchicago.edu`