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Peter Bonventre* (peterbonventre@uky.edu). *Equivariant trees and equivariant higher algebra.*

Trees provide a useful combinatorial framework for presenting various types of algebraic structure, from multiplication in a symmetric monoidal category to operadic composition. Equivariantly, when there is an action of a finite group, trees are no longer sufficient: in order to distinguish between, for example, the operads which encode genuine G -ring spectra as opposed to naive G -ring spectra, one needs a model which detects the isotropy of the various players involved.

In this talk, we develop a solution through the theory of G -trees, and explore applications to equivariant higher algebra. We will construct a combinatorial model for equivariant operads up to homotopy, generalizing ∞ -operads. Furthermore, we will introduce a new model for genuine equivariant symmetric monoidal categories, recovering permutative Mackey functors.

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