



Speaker: Emily Riehl
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Tuesday, January 20, 2015
4:00 PM
117 Hayes-Healy Hall

Title: On the duality between "free" and "forgetful" constructions

Abstract:

Groups, rings, and compact Hausdorff spaces have underlying sets ("forgetting" structure) and admit "free" constructions. Moreover, each type of object is completely characterized by the shadow of this free-forgetful duality cast on the category of sets, and this syntactic encoding provides formulas for direct and inverse limits. After describing a typical encounter with adjunctions, monads, and their algebras, we introduce a new "homotopy coherent" version of this adjoint duality together with a graphical calculus that is used to define a homotopy coherent algebra in quite general contexts.