Topology Seminar

Emily Riehl

of Harvard University will be speaking on

Algebraic Model Structures and Cellularity

on December 12 at 4:30 in
MIT Room 2-131

Algebraic model categories are a variant of Quillen's classical notion in which the (co)fibrations are equipped with extra structure witnessing their defining lifting properties. Many ordinary model categories admit this extra structure, giving rise to a plethora of examples. In this talk we present several theorems illustrating various features of this theory. In particular, we focus on a series of results that guarantee the existence of algebraic Quillen adjunctions and algebraic monoidal model structures just when particular cofibrations are cellular: eg, relative cell complexes, not mere retracts of such. On account of these results, the algebraic theory places great emphasis on a distinction that is also present in expository accounts of the classical theory, where its role is less transparent.