

Why do algebraic topologists care about categories?

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Abstract: The study of category theory was started by Eilenberg and MacLane, in their effort to codify the axioms for homology. Category theory provides a language to express the different structures that we see in topology, and in most of mathematics. Categories also play another role in algebraic topology. Via the classifying space construction, topologists use categories to build spaces whose topology encodes the algebraic structure of the category. This construction is a fruitful way of producing important examples of spaces used in algebraic topology. In this talk we will describe how this process works, starting from classic examples and ending with some recent work.