
SIMONA PAOLI, University of Leicester
Comonad cohomology of track categories

Simplicial categories are one of the models of $(\infty, 1)$ -categories. They can be studied using the Postnikov decomposition, whose sections are categories enriched in simplicial n -types and whose k -invariants are defined in terms of the (S, O) -cohomology of Dwyer, Kan and Smith. The latter is defined topologically, while the understanding of the k -invariants calls for an algebraic description. In this talk I illustrate the first step of this program, for categories enriched in groupoids, also called track category. We define a comonad cohomology of track categories and we show that, under mild hypothesis on the track category, its comonad cohomology coincides up to a dimension shift with its (S, O) -cohomology, therefore obtaining an algebraic formulation of the latter. This is joint work with David Blanc.