We will start our seminar on Thursday, January 24, in M5 at 1pm.

Harry Gindi

Cartesian-Enriched Quasi-categories, the Isofibration theorem and Yoneda's lemma

Abstract:
In Joyal's theory of quasi-categories, there is a very nice characterization of the fibrant objects and the fibrations between them as the inner-fibrant objects and isomorphism-lifting inner fibrations respectively. Given a nice-enough Reedy category C, we construct a horizontal model structure on the category of presheaves of sets on Θ[C] that shares a variant of this characterization. Moreover, given a Cartesian presentation with respect to simplicial presheaves on C, we show that the horizontal model structure Psh(Θ[C]) admits a left-Bousfield localization that agrees with Rezk's model structure on sPsh(Θ[C]). It will follow by general facts about left-Bousfield localization that the model fibrations between the local objects are exactly the horizontal isofibrations. We will also briefly describe the generalization of the homotopy-coherent nerve and realization for these enriched Quasi-categories and sketch a proof of Yoneda's lemma in this setting, if time permits.