

We will continue on Thursday, **October 30, in boardroom (2nd floor) at 1pm** by the talk

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Cartesian fibrations of $(\infty,2)$ -categories

Abstract:

The problem of dealing with infinitely many coherence constraints in ∞ -category theory when trying to define ∞ -functors has led to a fibrational approach, in which one represents diagrams of the form $B \rightarrow \text{Cat}_{\infty}$ as a suitable kind of fibrations over B . While this is a theorem, due to Lurie, in the case of ∞ -categories (i.e. $(\infty,1)$ -categories), so far there has been no combinatorial definition of a cartesian fibration of $(\infty,2)$ -categories.

In this talk, I will define cartesian fibrations in this context, prove some of their basic properties and show they are equivalent (under a suitable equivalence of $(\infty,2)$ -categories) to the counterpart in the context of categories enriched over marked simplicial sets (where the definition is given, *mutatis mutandis*, based on what happens with 2-categories). Furthermore, I will prove some statements made by Gaitsgory and Rozendly concerning locally cartesian fibrations and $(\infty,2)$ -categories fibred over $(\infty,1)$ -categories, thus substantiating the validity of our definition.