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TBA

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IHES, Amphithéâtre Léon Motchane
Domaines : hep-th

Titre : *TBA*

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Résumé : *In this talk we will start by explaining a spectacular analogy between topological spaces and higher category theory : In [1] Michael Batanin built the globular weak higher groupoid fundamental for any topological space X, wished by Alexander Grothendieck. To do such construction he used the coendomorphism operad associated to the coglobular object of disks in Top, the category of topological spaces. He was able to built the weak higher groupoid fundamental functor thanks to the contractibility of this operad. In the other hand the author [2] built a coglobular object in the category of higher operads, such that algebras for the first object are weak infini-categories, algebras for the second object are weak infini-functors, etc. With such coglobular object we also get a coendomorphism operad, built itself with operads instead of topological spaces. We conjecture that this operad is contractible like the topological one. If this is true then the globular weak higher category of globular weak higher categories exist. Also we will explain how to build the free cubical contractible higher operad which algebras are cubical weak higher categories, and if we have time we will explain how from this we obtain the cubical weak higher groupoid fundamental functor for topological spaces.*

[1] Michael Batanin, Monoidal globular categories as a natural environment for the theory of weak-n-categories, Advances in Mathematics, 1998.

[2] Camell Kachour, Steps toward the weak higher category of weak higher categories in the globular setting, Category and Algebraic Structures with Applications, 2015.