Programme du 50^e : Nouveaux développements en probabilités libres et applications « Atelier sur les probabilités libres : la théorie, ses applications » 4 au 8 mars 2019

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Relations between noncommutative convolutions

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I will introduce a family of independence relations which generalize free and Boolean independence in operator valued probability. The independence relations are defined via rooted trees and their associated additive convolutions are called *T*-free convolutions. We will see that *T*-free convolutions form an operad and admit a decomposition property that all *T*-convolutions are combinations of Boolean and orthogonal additive convolutions. Then, I will briefly review the operator valued power convolutions for free and Boolean independence. With the help of the *T*-free decomposition theorem, I will show how to use the matricial functions to prove relations between operator-valued power convolutions and *T*-free convolutions.

Joint work with David Jekel.

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