Victor Saunier, Université Sorbonne Paris Nord

Title: Exact categories and their stable envelopes

Abstract: To any (oo-)category equipped with an exact structure, there exists an initial stable oo-category Stab(E) receiving an exact functor from E. If E is a 1-category, this is its bounded derived category. By a theorem of Klemenc, the map E -> Stab(E) is fully-faithful and in this talk, we will show how to recover E from the datum of an extra-structure on Stab(E) called a heart structure, which recovers a theorem of Bondarko-Sosnilo on stable envelope of additive oo-categories via their weight structures. We will then give example of interesting heart structure as well as illustrate their importance in the realm of trace methods, by stating a categorical version of the split-square case of the Dundas-Goodwillie-McCarthy theorem.