LOGIC AND COMPUTATION

Quantitative Weak Linearisation.

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Friday February 9, 2024.
14h - 15h

Math Department- Mini Auditorium

Abstract.

   Weak-linear terms are such that a (syntactic) linearity condition is demanded only on functions that may be applied, i.e consumed during some reduction path, while non-appliable functions, i.e that persists in any reduction path, can be non-linear. Weak linearisation was originally defined through a static characterisation of virtual redices, based on (legal) paths computed from the (syntactical) term tree. We revisit this notion through a quantitative type system, in which minimal typings are characterised through a notion of tightness, where term constructors are classified as either consumable or persistent, thus allowing us to define an expansion relation, between general λ-terms and weak-linear λ-terms, whilst preserving normal forms by reduction.

   (Joint work with Sandra Alves, presented at ICTAC2022)