

The Construction of Free Algebras via a Functor on Partial Algebras

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Joint work with Sam van Gool.

In this talk we introduce a new setting, based on partial algebras, for studying constructions of finitely generated free algebras. We give a method to describe, for certain varieties V , the finitely generated free V -algebras as the colimit of a chain of finite partial algebras that is obtained by repeated application of a functor. We give sufficient conditions on V for our method to apply and use duality theory to show that our method applies in particular to certain classes of modal algebras. Finally we discuss some on-going research on relating the construction of finitely generated free Heyting algebras, as described by N. Bezhanishvilli and M. Gehrke, to the universal model in intuitionistic logic.