

Arrow algebras

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Arrow algebras are algebraic structures which can be used to construct toposes. These “arrow toposes” include both localic toposes (toposes obtained from a locale, i.e. a complete Heyting algebra) and realizability toposes obtained from partial combinatory algebras. In that way arrow algebras are similar to Alexandre Miquel’s implicative algebras, which were the main source of inspiration for the concept. However, the notion of an arrow algebra is weaker and this weakening is motivated by the desire to include more examples and to have a better interaction with nuclei. In this talk I will explain this (which is joint work with Marcus Briet) and also report on work by Umberto Tarantino who has looked into the question of what would be a good notion of morphism of arrow algebras.

Reference: Benno van den Berg and Marcus Briet. Arrow algebras. [arXiv:2308.14096](https://arxiv.org/abs/2308.14096), 2023.