

# Abstract bivariant Cuntz semigroups

RAMON ANTOINE

(in collaboration with Hannes Thiel and Francesc Perera)

*Departament de Matemàtiques, Universitat Autònoma de Barcelona*

We present a general construction for sets with a transitive relation which produces a domain (in the lattice theoretical sense). This construction, when appropriately applied to some generalized morphisms in the category  $\text{Cu}$  of abstract Cuntz semigroups, shows that the latter is a closed monoidal category.

We will see how this tools can be used in the setting of  $C^*$ -algebras and, motivated by the success of  $KK$ -theory, indicate how it could be used to obtain a bivariant theory of Cuntz semigroups.