

# BIVARIANT (HERMITIAN) K-THEORY AND APPLICATIONS

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Abstract: Bivariant algebraic K-theory is a functor from a category of associative algebras over a commutative ring to a certain triangulated category; this functor is homotopy invariant, matricially stable and excisive and is universal with those properties. Weibel's homotopy algebraic K-theory is recovered as a hom in the above triangulated category.

In the talk we shall explain how this bivariant theory –and its newly hatched hermitian version– is used to tackle a long standing problem in the theory of graph algebras, which asserts that for a certain family of these algebras,  $K_0$  is a complete invariant of its isomorphism class.