

## Classification of $C^*$ -algebras and $*$ -homomorphisms

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Over a long time, there has been an active program to classify nice (simple separable nuclear)  $C^*$ -algebras using K-theoretic invariants; that is to say, to show that two such  $C^*$ -algebras are isomorphic whenever their invariants are the same. I will discuss some history and developments around this problem, including a mention of joint work with Carrion, Gabe, Schafhauser, and White, where we give a new proof of a key case via an abstract classification of  $*$ -homomorphisms.