Categorical equivalence of rings

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A variety of algebras can be considered as a category in a natural way: the objects are the algebras in the variety, and the morphisms are the homomorphisms between them. Two algebras $\mathbf{A}$ and $\mathbf{B}$ are called *categorically equivalent*, if the varieties they generate are equivalent as categories, and the equivalence functor maps $\mathbf{A}$ to $\mathbf{B}$

In this talk I will present some recent results about categorical equivalence of rings with unity.

The talk is based on a joint work with Kalle Kaarli and Tamás Waldhauser (Szeged, Hungary).