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Benjamin Steinberg* (bsteinberg@ccny.cuny.edu). *Etale groupoid algebras and inverse semigroups.*

The speaker has associated to any commutative ring with unit \mathbb{k} and etale groupoid \mathcal{G} with totally disconnected unit space an associative \mathbb{k} -algebra. In the case that the base ring is the field of complex numbers, one obtains a pre- C^* -algebra whose completion is the usual groupoid C^* -algebra of \mathcal{G} .

Special cases of this construction include Leavitt path algebras, group algebras, inverse semigroup algebras, commutative algebras generated by idempotents and certain group cross products and partial cross products. Nekrashevych has recently used groupoid algebras to provide a uniform construction of finitely generated simple algebras of quadratic growth over arbitrary base fields.

In this talk, we survey some of the recent developments, focussing on aspects like simplicity, primitivity and semi-primitivity and Mortia equivalence. (Received February 18, 2016)