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Title: The classes of graph algebras, Exel-Laca algebras, and ultragraph algebras coincide up to Morita equivalence.

Abstract: Graph algebras and Exel-Laca algebras arose in the late 1990s as non-unital generalisations of Cuntz-Krieger theory, and ultragraph algebras were introduced in 2003 as a simultaneous generalisation of the two. Results of Fowler-Laca-Raeburn (2000) imply that each graph algebra is Morita equivalent to an Exel-Laca algebra. Results of Tomforde (2003) show that each graph algebra and each Exel-Laca algebra is isomorphic to an ultragraph algebra, and that every ultragraph algebra is Morita equivalent to an Exel-Laca algebra. The extent, if any, to which Morita equivalence classes of ultragraph algebras are more general than Morita equivalence classes of graph algebras was not known.

In this talk we will outline a construction which shows that each ultragraph algebra is Morita equivalent to a graph algebra. In particular, all three classes — graph algebras, Exel-Laca algebras, and ultragraph algebras — coincide up to Morita equivalence. We will also discuss some applications of our theorem to structure theory for ultragraph algebras if time permits.

This is joint work with Katsura, Muhly and Tomforde.