1171-16-255 Hongdi Huang, Chelsea Walton, Elizabeth Wicks* (elizabeth.wicks@microsoft.com) and Robert Won. Universal Quantum Semigroupoids.

We introduce the concept of a universal quantum linear semigroupoid (UQSGd), which is a weak bialgebra that coacts on a (not necessarily connected) graded algebra A universally while preserving grading. We restrict our attention to algebraic structures with a commutative base so that the UQSGds under investigation are face algebras (due to Hayashi). The UQSGd construction generalizes the universal quantum linear semigroups introduced by Manin in 1988, which are bialgebras that coact on a connected graded algebra universally while preserving grading. Our main result is that when A is the path algebra kQ of a finite quiver Q, each of the various UQSGds introduced here is isomorphic to the face algebra attached to Q. The UQSGds of preprojective algebras and of other algebras attached to quivers are also investigated. (Received August 18, 2021)