Speaker: Michael Brannan *(U. Waterloo, Canada)*

Title: *Quantum path spaces, correspondences, and quantum Cuntz-Krieger algebras*

Abstract: In recent years there has been a significant interest in studying generalizations of graphs within the framework of noncommutative geometry. Such objects are called quantum graphs. In this talk I will explain what a quantum graph is, and also introduce quantum Cuntz-Krieger (QCK) algebras, which are a class of universal C*-algebras associated to quantum graphs previously introduced by Eifler, Voigt, Weber and the speaker. As the name suggests, QCK algebras generalize Cuntz-Krieger algebras of ordinary graphs, but they turn out to be very hard to understand. In this talk I will explain some attempts to better understand QCK algebras by considering quantum analogues of graph correspondences and their associated Cuntz-Pimsner algebras, as well as infinite quantum path spaces and their associated Exel crossed products. This is based on joint work with Mitch Hamidi, Lara Ismert, Brent Nelson and Mateusz Wasilewski.