

Noncommutative Choquet theory

Matthew Kennedy

Associate Professor

University of Waterloo

I will present a new framework for noncommutative convexity and noncommutative function theory, along with a corresponding noncommutative Choquet theory that generalizes much of classical Choquet theory. These ideas provide a new perspective on operator systems (including C^* -algebras) and completely positive maps. I will discuss several applications, including an integral representation theorem that generalizes Choquet's theorem. I will also introduce a notion of noncommutative Choquet simplex, which generalizes the classical notion of Choquet simplex and plays an analogous role in noncommutative dynamics.

This includes joint work with Ken Davidson and Eli Shamovich