Title: Geometric Operator Algebras, their invariants and applications

Course description: I will introduce a class of geometric operator algebras and study their invariants and applications to geometry, topology, and mathematical physics.
In particular, I will discuss the theory of higher invariants and their applications.
References: (1) Higher Index Theory, Rufus Willett and Guoliang Yu, Cambridge University Press.
              (2) Geometric operator algebras, their invariants and applications, Guoliang Yu, CBMS Regional Conference Conference Series in Mathematics, AMS, in preparation.