FELL BUNDLES OVER UNITAL BASED RINGS

KAREN STRUNG

A common strategy for understanding the structure of a C*-algebra is to decompose it into more manageable subcomponents—such as its lattice of ideals or subspaces arising from a grading—with the aim of reconstructing global information from local data and the way these pieces interact. Conversely, one can begin with structured pieces and ask how to assemble them into a C*-algebra. A well-studied example of this approach is the theory of Fell bundles over discrete groups.

In this talk, we present a generalization of Fell bundles from discrete groups to unital based rings, a broader algebraic framework that accommodates richer types of gradings. We describe how to construct a reduced C*-algebra of sections associated to such a bundle and discuss examples arising from group gradings and coactions of compact quantum groups.

This is joint work in progress with Suvrajit Bhattacharjee, Bhishan Jacelon, and Réamonn Ó Buachalla.