1138-46-66   **Leonard Tristan Huang*** (`leonard.huang@colorado.edu`) and **Jonathan Henry Brown** (`jbrown10@udayton.edu`). *Bundles of Generalized Fixed-Point Algebras for Proper Groupoid Dynamical Systems.*

In a groundbreaking 1990 paper, Marc Rieffel defined proper C^*-dynamical systems in order to describe proper actions of a locally compact Hausdorff group on a "non-commutative space". In his 2009 PhD thesis, Jonathan Brown generalized Rieffel's definition to groupoid dynamical systems. The most important aspect of a proper groupoid dynamical system is that we can construct a generalized fixed-point algebra from it. Recently, Brown and I discovered how to put an upper-semicontinuous C^*-algebraic bundle structure on a generalized fixed-point algebra in certain cases, thus completing the generalization of Rieffel's 1990 paper. In this talk, we will first see two applications of the concept of proper groupoid dynamical systems, one to continuous-trace C^*-algebras and the other to graph C^*-algebras. Then we will see how certain assumptions furnish us with an upper-semicontinuous C^*-algebraic bundle structure on a generalized fixed-point algebra, with each fiber C^*-algebra being a generalized fixed-point algebra itself. We will also describe the relevance of this result to future research. (Joint work with Jonathan Brown.) (Received January 29, 2018)