

# UNIVERSITY OF HOUSTON DEPARTMENT OF MATHEMATICS

## Analysis Seminar

**Samuel Harris**

Texas A and M University

### Operator system crossed products

**1:00 pm in 646 PGH**

**November 15, 2019**

#### **Abstract**

There is a wealth of research on crossed products of  $C^*$ -algebras given by actions of (locally compact) groups on  $C^*$ -algebras by  $*$ -isomorphisms. In recent years, a study of crossed products of operator algebras has been initiated by Katsoulis and Ramsey, partially as an approach to the Hao-Ng isomorphism problem. In this talk, we'll explore the theory of crossed products of operator systems (that is, self-adjoint unital subspaces of  $C^*$ -algebras) by discrete groups, where the group action is given by complete order isomorphisms. We'll discuss how the canonical crossed products behave with respect to hyperrigidity and certain  $C^*$ -covers. Using Kavruk's nuclearity-detecting operator system, we will also resolve (in the negative) two of the Katsoulis-Ramsey problems on operator algebra crossed products. (Joint work with Se-Jin Kim.)