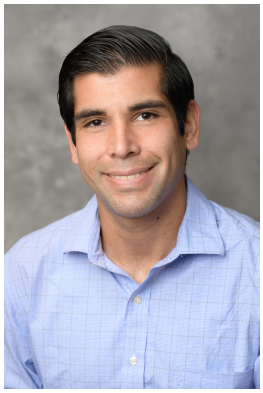
The Math/Stats Colloquium
Department of Mathematics and Statistics
San José State University



Roy Araiza

U. Ill. Urbana-Champaign

From Correlation Sets to Tensor Products of C^*-algebras: The Connes-Kirchberg Problem

Sep 29, 2021, via Zoom

Abstract: During this lecture I will talk about how one uses techniques from the theory of operator algebras to approach questions which naturally arise in quantum information theory. By the work of many authors over many decades, it has been shown that a question regarding the coincidence of particular sets of correlations is equivalent to one of the most famous problems in the field of operator algebras. Despite the (potentially intimidating) title of my talk, this will be a very gentle dive into how these connections came about, and the rich history behind them. By looking at the history, our goal will be to understand how the language of operator algebras is an extremely convenient tool in looking at correlation sets.

Background: Linear algebra and a first course in analysis would be helpful, but I will do my best to make this accessible to all participants.

About the speaker: Roy Araiza did his graduate work at Purdue University and is now a J.L. Doob Research Assistant Professor at the University of Illinois at Urbana-Champaign. His research interests are in operator space theory and quantum information theory.

Colloquium broadcast via Zoom, 4:15pm Pacific
Email `tim.hsu@sjsu.edu` for an invitation

For our full schedule, see: `http://www.timhsu.net/colloq/`