Roy Araiza

SJSU

C^*-Algebras and Real Operator Systems

April 8, 2015, MH320

Abstract: An operator system is a closed subspace of some $B(H)$, where $B(H)$ is a space of bounded linear operators on a Hilbert Space H, such that the operator system is closed under the adjoint operation and contains the identity operator I. In the complex case, it was shown by Webster and Winkler that for operator systems with complex-valued entries, any operator system is completely order-isomorphic to a space of continuous matrix affine functions on a compact matrix convex set. A natural question then arises of whether this property will hold for operator systems with real number entries. We will begin by reviewing Hilbert space theory, and introducing objects such as Banach algebras, C^*-algebras and von Neumann algebras. We will then provide concrete examples of real operator systems and elaborate on their relationship with spaces of matrix affine functions on a compact matrix convex set.

Background: One semester each of analysis and linear algebra.

About the speaker: Roy Araiza finished his BA Math at SJSU in Fall 2014 and will begin his Ph.D. in August 2015. His research interests are in functional analysis, operator algebras, and operator theory.

Snacks in MH331B at 2:30 pm
Talks start at 3 pm

For more information, see our full schedule at:

`http://www.math.sjsu.edu/~hsu/colloq/`