



Fall 2009 Seminar Series



Dr. Roger Smith

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Friday, October 16, 2009

Time: 3:15 PM - 4:15 PM

Room: MS 2.02.52

Homogeneous C^* -algebras

A C^* -algebra is a norm closed subalgebra of the bounded operators on a Hilbert space, which we will always assume to include the identity operator. In the early days of the theory, the class of commutative C^* -algebras was completely classified: these algebras are precisely the algebras of continuous functions on compact Hausdorff spaces. This remains the only class to admit a complete classification. The class of homogeneous C^* -algebras, those which have irreducible representations of only a fixed finite dimension, are the next simplest. The most basic examples are spaces of matrices whose entries are continuous functions, but things can be more complicated than that, based on certain phenomena in topology. We will present examples, and also an invariant which can help to distinguish non-isomorphic homogeneous algebras. The talk, which is based on joint work with Dana Williams, will be mainly based on linear algebra and elementary topology, and is intended for a general audience.

A reception will follow the talk and will be held in MS 2.02.52