

Institute for Mathematics and its Applications
2012 Colloquium Series
University of Wollongong

Title: The Equivariant Brauer Group

Speaker: Dana Williams (Dartmouth College)

Time and Date: 3:30pm, Friday 30 November 2012

Location: Room 24.103

Abstract: In algebraic topology, we learn to associate groups $H^n(T)$ to locally compact spaces which “count the n -dimensional holes in T ”. In this talk, I want to describe how to realize $H^3(T)$ as a set $\text{Br}(T)$ of equivalence classes of certain well-behaved C^* -algebras. The group structure imposed on $\text{Br}(T)$ via its identification with $H^3(T)$ is very natural in its C^* -setting. With this group structure, $\text{Br}(T)$ is called the *Brauer group* of T . Depending on your point of view, this result can be viewed either as a concrete realization of $H^3(T)$ or as a classification result for a class of C^* -algebras. In the last part of the talk, I want to describe an equivariant version of $\text{Br}(T)$ developed jointly with David Crocker, Alex Kumjian and Iain Raeburn. No prior knowledge of C^* -algebras or operator algebras will be assumed.