Operator algebras associated with geometric objects

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102 Bradley Hall, 4:00 pm
(Tea 3:30 pm Math Lounge)

Abstract

In the area of mathematics which is called now non commutative geometry, the usual way to study a singular object is to associate to it an operator algebra which reflects in a sense the main features of this object. For example, Poincare duality is well known for smooth manifolds, but how can you formulate and prove Poincare duality, say, for arbitrary simplicial complexes? In this talk I plan to explain how operator algebras are used for this. Applications to the Novikov and the Baum-Connes conjectures will also be discussed.

This talk should be accessible to general faculty.

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