



# Algebra/Topology Seminar

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OBSTRUCTIONS TO STABLY FIBERING MANIFOLDS

Tuesday, April 12, 2011

11:45 a.m. in ES-146

(tea & coffee at 11:15 a.m. in ES-152)

ABSTRACT. Given a map  $f: M \rightarrow B$  between compact topological manifolds, is it homotopic to the projection map of a fiber bundle whose fibers are compact manifolds? Obstructions in higher algebraic  $K$ -theory to fibering the given map  $f$  will be defined. The vanishing of these obstructions has a concrete geometrical meaning: the obstructions are zero if and only if  $f$  fibers stably, i.e., after crossing  $M$  with a high-dimensional disk. The methods also provide a classification of the different ways of stably fibering  $f$  in terms of algebraic  $K$ -theory.