# University of Notre Dame Department of Mathematics

# SPECIAL TOPOLOGY SEMINAR

## Wolfgang Steimle

Universität Bonn, GERMANY

*Will give a lecture entitled:*

## Obstructions to Stably Fibering Manifolds

***On***

Thursday, March 31, 2011

***At***

10:00 AM

***In***

258 Hurley Hall

***Abstract***

Given a map $f : M \to B$ 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.