University of Notre Dame Department of Mathematics
TOPOLOGY SEMINAR

Shmuel Weinberger

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Will give a lecture entitled:
Aspherical Manifolds Whose Fundamental Groups Have Center

On

Thursday, March 3, 2011

At

12:45 PM

In

258 Hurley Hall

Abstract

Aspherical manifolds are manifolds whose universal covers are contractible. The first goal of this talk is to explain the central role that these play in topology, at least at the level of conjecture. A key role is played by analogies to the rigidity theory of locally symmetric spaces, but this mirror has several cracks (and more are believed -- at least by me -- to exist). The second main goal of the talk is to explain some constructions of non-classical aspherical manifolds and how these crack the mirror (i.e. lead to counterexamples to some of these problems), and change one's expectations about others.

The talk will be based on work of A.Borel, M.Gromov, I.Piatetski-Shapiro, C.T.C.Wall, S.Cappell, M.Davis, T.Januszkiewicz, P.Conner, F.Raymond, J.Block, J. Fowler, M. Yan, T.Farrell, L.Jones, A.Bartels, W.Lück, and of mine, and will more aim to describe the landscape than give detailed constructions.