

*Speaker:*

Friedrich HEGENBARTH

*Title:*

On minimal Poincare 4-complexes and manifolds

*Abstract:*

Questions of minimal objects come up classifying 4-manifolds and Poincare 4-complexes in the papers of Hambleton-Kreck-Teichner (J.Topology Anal.,2009,123-151) and Hillman (Topology Appl.,2009,1565-1577). Here „minimal“ refers to the „size“ of the second homotopy group. Using ideas of some of our previous papers (for example, A.Cavicchioli, F.H., D.Repovš, Transaction Amer.Math.Soc.,1997,4007-4019),we introduce an order among Poincare-4-complexes leading to the above minimal objects.We shall then address the basic questions of existence and uniqueness of minimal objects. Our method allows construction of minimal objects and to prove uniqueness in some cases.This talk will present the concept and results.