

18th NRW Topology Meeting – Bielefeld (Germany)

Friday, November 16, 2012

15.30, Hörsaal 16

Mark Ullmann: (Berlin) **“On the isomorphism conjecture in algebraic K-theory for simplicial rings”**

The Farrell-Jones isomorphism conjecture in algebraic K-theory makes predictions about the algebraic K-theory of a group ring $R[G]$, where G is a discrete group and R a (discrete) ring. For example, the Whitehead group of G , the obstruction group for the s-cobordism theorem, vanishes if G is a discrete torsionfree group for which the Farrell-Jones conjecture holds. The conjecture for discrete rings is known for a large class of groups by work of Farrell, Jones, Bartels, Lück, Reich and others.

A simplicial ring is a homotopical generalization of a (discrete) ring. I will introduce the isomorphism conjecture for algebraic K-theory for simplicial rings and explain some of the underlying constructions and my recent results. One step is constructing a non-connective algebraic K-theory spectrum for a simplicial ring.