Abstract

The s-cobordism theorem says that in higher dimensions h-cobordant manifolds are diffeomorphic (homeomorphic, PL-equivalent) if a certain invariant, the Whitehead torsion, vanishes. However, this condition is not necessary: there exist h-cobordisms between diffeomorphic manifolds with non-trivial torsion. I will discuss more generally the relationship between h-cobordant manifolds and give examples of the different phenomena that may occur. This is joint work with Slawomir Kwasik, Tulane University.