

Speaker: Guozhen Wang (Fudan University)

Title: The structure of stable homotopy groups

Abstract: Understanding the structure of the stable homotopy groups is a classical problem in algebraic topology. The major approach is via various spectral sequences. We will give a review on some new insights on the structures of these spectral sequences: the deformation theory relating the Adams and Adams-Novikov spectral sequences, the periodic and vanishing properties of certain slice spectral sequences, etc. We will also give some examples of these methods in concrete computations, including the stable homotopy groups of the spheres which leads to the solution of the Kervaire invariant problem.