Topology Seminar

Manuel Krannich

of The University of Cambridge will be speaking on

Mapping class groups of highly connected manifolds

on March 18 at 4:30 in
MIT Room 2-131

The mapping class group of a highly connected almost parallelisable manifold of dimension $2n > 4$ was computed by Kreck in the 70's. His answer, however, left open two extension problems which were later understood in some dimensions, but remained unsettled in most cases. Motivated by renewed interest in these groups in relation to moduli spaces of manifolds, I will explain how to resolve the remaining extension problems for n odd, resulting in a complete description of these mapping class groups in terms of an arithmetic group and the group of exotic spheres. This involves a certain homotopy sphere which might be of particular interest to stable homotopy theorists as its image in coker(J) is still not understood, although omnipresent in the study of highly connected manifolds.