Title: Mapping class group representations on higher cohomology groups

Abstract: By general principles of topological field theory, there are representations of mapping class groups of surfaces on the spaces of conformal blocks, briefly called the block spaces, which in the situation of this talk are spaces of homomorphisms between modules of certain Hopf algebras. Previous work of the speaker and his collaborators has extended these representations from the block spaces to the so-called derived block spaces, which are certain higher cohomology groups, using a framework created by V. Lyubashenko. In this talk, we briefly discuss an example that shows that these representations on the higher cohomology groups are in general different from those that appear in degree zero, i.e., the representations on the ordinary block spaces. The talk is based on joint work with S. Lentner, S. N. Mierach, and C. Schweigert.