

Title: Constructing mapping class group representations from Hopf algebras

Abstract: The general principles of topological field theory lead to representations of mapping class groups of surfaces on the spaces of conformal blocks, briefly called the block spaces, which in the context of this talk are spaces of homomorphisms between modules of certain Hopf algebras. There exist a variety of frameworks for this construction, and the first part of the talk will be devoted to an introduction to one of these frameworks, namely the one put forward by V. Lyubashenko. In the second part of the talk, we explain how this construction can be extended from the block spaces mentioned above to the so-called derived block spaces, which are the cohomology groups of a certain cochain complex. The talk is based on joint work with S. Lentner, S. N. Mierach, and C. Schweigert.