

Title: Hochschild Cohomology and the Modular Group

Abstract: It is a known fact that the modular group acts projectively on the center of a factorizable ribbon Hopf algebra. As the center is the zeroth Hochschild cohomology group, it is natural to ask whether this action can be extended to the higher Hochschild cohomology groups. As we will explain in this talk, this is indeed the case. In fact, we will see that, up to homotopy, the modular group acts projectively on the entire Hochschild cochain complex. The talk is based on joint work with Simon Lentner, Svea Nora Mierach, and Christoph Schweigert.