

# Algebra/Topology Seminar

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## ASSEMBLY MAPS FOR TOPOLOGICAL CYCLIC HOMOLOGY OF GROUP ALGEBRAS — PART 3

Thursday, November 19, 2015

1:15 p.m. in ES-143

ABSTRACT. This will be the last talk in the series, and it will be largely independent of the previous one. I will first describe how topological cyclic homology ( $TC$ ) and other related theories ( $TR$ ,  $C$ , ...) are built from topological Hochschild homology ( $THH$ ). I will then review our analysis of the assembly maps for  $THH$  of group algebras, and explain how—and under which additional assumptions on the group and on the coefficient ring or ringspectrum—this leads to injectivity and rational injectivity results for the assembly maps for  $C$ ,  $TR$ ,  $TC$ , .... I will also discuss the possible failure of surjectivity. Some of these results are from our recent preprint [arXiv:1504.03674](https://arxiv.org/abs/1504.03674) with Wolfgang Lück, Holger Reich, and John Rognes, and some are new and will appear in a forthcoming article. I will highlight how they use earlier joint work with Reich on the Adams isomorphism for equivariant orthogonal spectra, and with Lück and Reich on commuting homotopy limits and smash products.