

TOPOLOGY SEMINAR

Guest Speaker: Alexander Schenkel
University of Nottingham

Date: Tuesday, April 30, 2019

Time: 4:00 PM

Location: 258 Hurley Hall



Lecture Title:

Higher structures in algebraic quantum field theory

Abstract

The “traditional” AQFTs that we have seen in the first talk are only 1-categorical algebraic structures. This turns out to be insufficient to capture important examples appearing in nature, which in physics terminology are called quantum gauge theories, for example the famous Yang-Mills theory. In this talk I will give an overview of our recent works towards establishing a higher categorical framework for AQFT. I will also provide a sketch how examples of such higher categorical theories can be constructed from (linear approximations of) derived stacks and how they relate to the BRST/BV formalism. Again, the fact that we work on Lorentzian manifolds leads to crucial differences to other approaches such as factorization algebras.