Alexander Schenkel
Quantized Abelian connections on Lorentzian manifolds

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n my talk I will construct a covariant functor from a category of Abelian principal bundles over globally hyperbolic spacetimes to a category of *-algebras that describes quantized principal connections. This theory allows for nontrivial 'generally covariant topological quantum fields' describing electric and magnetic charges, which are formulated by natural transformations from singular homology functors to the QFT functor. Identifying the electric charges with zero, I will show that the resulting QFT functor satisfies all axioms of locally covariant quantum field theory. This talk is based on a joined work with Marco Benini and Claudio Dappiaggi.

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