

BOSTON UNIVERSITY GEOMETRY SEMINAR

# Gerbal representations of double loop groups

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Wednesday Oct. 7, 3-4 pm in room PSY B37  
Tea 2:45-3 in MCS 153

**Abstract:** It is long expected that to study the double loop groups, the third cohomology classes in their group cohomology should play important roles. In representation theory, such classes appear when groups act projectively on categories rather than vector spaces. In this talk, I will construct a certain abelian category, on which all the double loop groups act such that their certain nontrivial third cohomology classes are realized. This category is the analogue of the fermionic Fock module in the ordinary loop case. At the end of the talk, I will also give a proposal to realize this category geometrically. This is joint work with Edward Frenkel.