

# Topology Seminar

**Chris Schommer-Pries**

of Harvard University will be speaking on

## Extensions of 2-Groups and a Finite Dimensional Model of the String Group

on September 14 at 4:30 in  
MIT Room 2-131

The 6-connected cover of  $\text{Spin}(n)$ , known as the group  $\text{String}(n)$ , has fascinating connections with both abstract homotopy theory (through String Bordism and  $\text{TMF}$ ) and with quantum field theory (through the 2D SUSY non-linear sigma model). A better geometric understanding of String geometry has the potential to offer new interactions between these fields. Unfortunately all previous models of  $\text{String}(n)$  are infinite dimensional, making a thorough geometric understanding elusive. In this talk we will construct a finite dimensional model of  $\text{String}(n)$  as a higher categorical version of a group (known as a 2-group). In the process, we will "categorify" the classical notions of group cohomology and derived functor. In particular we will categorify Segal's topological group cohomology, thereby obtaining a classification of extensions of topological 2-groups.