

# Topology Seminar

**Yuri Sulyma**

of Brown University will be speaking on

## Floor Homotopy Theory

on April 4 at 4:30 in  
MIT Room 2-131

One perspective on homotopy theory is that it is an enhanced version of arithmetic which remembers combinatorics and symmetry. I will demonstrate this philosophy concretely in the case of the floor and ceiling functions from arithmetic, by explaining several situations where these appear:  $K$ -theory of truncated polynomial algebras; Legendre's formula and its  $q$ -analogue; hyper-representation-graded TR; and equivariant homotopy theory. To understand how these examples are related, I will show how to construct a Tambara functor out of a prism, and discuss a conjectural theory of  $G$ -crystalline/ $G$ -de Rham cohomology generalizing  $q$ -crystalline cohomology and the  $q$ -de Rham complex.