Topology Seminar

John Francis

of Northwestern University will be speaking on

Factorization Homology

on November 28 at 4:30 in
MIT Room 2-131

Factorization homology, or the topological chiral homology of Lurie, is a homology theory for manifolds conceived as a topological analogue of the chiral homology of Beilinson and Drinfeld. I'll describe an axiomatic characterization of factorization homology, generalizing the Eilenberg-Steenrod axioms for usual homology. The use of excision for factorization homology facilitates a short proof of the nonabelian Poincare duality of Salvatore and Lurie; this proof generalizes to give a nonabelian Poincare duality for stratified manifolds, joint work with David Ayala and Hiro Tanaka. Work in progress with Kevin Costello aims to express quantum invariants of knots and 3-manifolds in factorization terms, which, time permitting, I'll outline.