Laura Wells Murray* (lwells@nd.edu). Higher categories and factorization algebras.

Factorization algebras are a mathematical tool for modeling the observables of classical and quantum field theories. In this talk I will define equivariant factorization algebras, and compare them to a geometric version of factorization algebras which allows one to incorporate structures helpful for modeling physically relevant field theories. I will touch on the higher categorical structure that is involved in this comparison and how this can be used to describe a parameterized, or ‘smooth’, version of factorization algebras. (Received September 17, 2019)