

Topology, Algebraic Geometry, & Dynamics Seminar

Factorization algebras in topology and physics

Owen Gwilliam, UMass Amhrest

Factorization homology arises in algebraic topology as a nonlinear generalization of homology theory a la Eilenberg-Steenrod. The first part of my talk will focus on developing the notions of factorization algebra and factorization homology, as articulated by Ayala-Francis and Lurie. In the second part I will discuss how factorization algebras arise naturally in classical and quantum field theory. The goal is to explain recent joint work with Eugene Rabinovich and Brian Williams about field theory on manifolds with boundary, which offers a useful perspective on Kontsevich's deformation quantization of Poisson manifolds as well as the relationship of loop groups to quantum groups via perturbative Chern-Simons theory.

Date: Friday, February 21, 2020

Time: 1:30-2:30 pm

Place: 4106 Exploratory Hall

For special accommodations, please contact David Carchedi via email at dcarched@gmu.edu.