Topology, Algebraic Geometry, & Dynamics Seminar

Supermanifolds and derived differential geometry

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Supermanifolds are a generalization of smooth manifolds to allow extra coordinates that anti-commute. They arise in physics in the study of particles with half integer spin- (fermions), e.g. electrons, protons, neutrons etc. We will show how supermanifolds with extra structure can be used to model non-transverse intersections in differential geometry, and present a theory of derived manifolds. Time permitting (though unlikely), we will explain how in turn derived differential geometry naturally arises as a tool to make sense of Feynman path integrals in quantum field theory.

Date: **Friday, April 1, 2022**
Time: **1:30-2:30 pm**
Place: **Exploratory Hall, Room 4208**

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