

Topology, Arithmetic, & Dynamics Seminar

A new approach to etale homotopy theory

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Etale homotopy theory, as originally introduced by Artin and Mazur in the late 60s, is a way of associating to a suitably nice scheme a pro-object in the homotopy category of spaces, and can be used as a tool to extract topological invariants of the scheme in question. It is a celebrated theorem of theirs that, after profinite completion, the etale homotopy type of an algebraic variety of finite type over the complex numbers agrees with the homotopy type of its underlying topological space equipped with the analytic topology. We will present work of ours which offers a refinement of this construction which produces a pro-object in the infinity-category of spaces (rather than its homotopy category) and applies to a much broader class of objects, including all algebraic stacks. We will also present a generalization of the previously mentioned theorem of Artin-Mazur, which holds in much greater generality than the original result. We will not assume the audience is familiar with infinity-categories or stacks, and will try to make the talk as self-contained as possible.

Date: **Friday, November 6th, 2015**

Time: **2:30-3:45pm**

Place: **4106 Exploratory Hall**

For special accommodations, please contact Sean Lawton via email at slawton3@gmu.edu.