

“I can’t see how else it will go.”

Vladimir Voevodsky when asked whether he really thought some day it would be standard practice for all mathematicians to write computer-verified formal proofs.

“What we need are foundations which can be used to construct reliable proofs despite being inconsistent.”

Vladimir Voevodsky in “What if Current Foundations of Mathematics are Inconsistent?”

The Trivial Notions Seminar Proudly Announces

Homotopy Theory in the Foundations of Mathematics

A talk by
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Abstract

Ask most mathematicians what the foundations of mathematics are based on and you will get the answer that mathematics is founded in set theory. When we say mathematics can be formalized we mean that all definitions can be given ultimately in terms of sets and that all proofs can, in principle, be written in the language of set theory. But sets are not the only option! In this talk, I’ll describe Homotopy Type Theory and the Univalent Foundations program, a new candidate for foundations which directly axiomatizes homotopy theory rather than set theory. I’ll attempt to give a concrete sense of what the theory looks like, how one uses it, how it relates to homotopy theory and other branches of mathematics, what it can and cannot currently do and why you might be interested even if you normally stay away from foundations.

Thursday October 10th, at 1:00 pm
Science Center 507