

“Hell hath no limits, nor is circumscrib’d
In one self place; for where we are is hell,
And where hell is, there must we ever be”
—Christopher Marlowe, “The Tragical History of Doctor Faustus”

The Trivial Notions Seminar Proudly Announces

Homotopy everything

A talk by
Sam Isaacson

Abstract

The iterated loop space $\Omega^n X$ of a pointed space X becomes a monoid in homotopy via the pinching map, commutative if $n > 1$. Hidden in this statement are choices of homotopies taking $(xy)z$ to $x(yz)$ and in the commutative case, xy to yx . Arguably, there are no good canonical homotopies here, but there are collections of homotopies parameterized continuously by spaces. These spaces fit into larger collections called operads, and their action on $\Omega^n X$ makes $\Omega^n X$ into an algebra over a particular operad. In this talk I’ll introduce operads and discuss the converse problem: when does an operad action on a space force it to have the weak homotopy type of an iterated or infinite loop space?

Friday, November 3rd, 2006 at 2:00 pm
Science Center 507