

“Not really being able to digest it, we decided to chew some, and then provide our output as a note ... complete and consistent and accompanied by computer code and examples, but stripped of all philosophy and of all the linguistic gymnastics that ... isn't necessary for the mere purpose of having a working construction.”

—Dror Bar-Natan

The Trivial Notions Seminar
Proudly Announces
Two-Plane Bundles on Complex Projective
Three-Space

A talk by
Morgan Opie

Abstract

In this talk, I will explain the classification of complex, 2-dimensional (topological) vector bundles on $\mathbb{C}P^3$. Equivalence classes of these bundles lie in bijection with homotopy classes of maps into the classifying space $BU(2)$. So, one route to understanding these bundles is to analyze the homotopical structure of $BU(2)$, and use this to build all maps from $\mathbb{C}P^3$ into it. In taking this approach, we encounter friendly instances of important tools in algebraic topology: the Postnikov tower (of $BU(2)$), the Serre spectral sequence (for specific principal fibrations), Steenrod operations (for cohomology of small Eilenberg–Mac Lane spaces), and more.

Friday, December 6th, at 12:30 pm
Science Center 530