



The Trivial Notions Seminar  
Proudly Announces

Surgery on manifolds

A talk by

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**Abstract**

Surgery theory is a general method for the classification of manifolds. As its name suggests, surgery involves cutting and replacing parts of a manifold, in such a way so as to simplify certain homotopy or homology groups or other interesting invariants of the manifold. Its first major application was in the work of Kervaire and Milnor on the classification of exotic spheres, which led to its emergence as a major tool in high-dimensional topology. The techniques of surgery on manifolds were later generalized to surgery on maps by Browder, Novikov, Sullivan, Wall, and Kirby and Siebenmann to classify manifolds in dimension at least five. I will introduce surgery on manifolds and explain how it was used to classify exotic spheres. At the end, I will introduce the main result in the surgery classification of manifolds, the surgery exact sequence, and explain how one can already see a hint of it in the classification of exotic spheres.

Thursday December 1<sup>st</sup>, at 11:30 am  
Science Center 309