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Title: On exotic 4-manifolds

Abstract: Topological 4-manifolds tend to have infinitely many different smooth structure (or have none). In the closed case these 'exotic' structures are distinguished by gauge theoretic invariants (like the Seiberg-Witten invariants), which invariants say very little in the most interesting case: for the 4-dimensional sphere. In the lecture we review some constructions providing potential examples of exotic spheres, and examine the limitations of distinguishing smooth structures based on sliceness properties of knots and links in manifolds with boundary naturally associated to the closed manifolds. This is joint work with Alberto Cavallo.