ROBERT HARRIS, UQÀM

Exotic structures on non-simply connected 4-manifolds

To build exotic 4-manifolds (homeomorphic manifolds that are not diffeomorphic) with non-trivial π_1, one typically needs two ingredients: A free, smooth action on a simply connected space and an equivariant operation to modify the smooth structure on the quotient. We discuss what makes certain universal covers candidates better than others, some of the obstructions to finding exotic structures on quotients, and one of the end goals for these constructions (definite exotica). This is based on joint work with P. Naylor and B. D. Park.