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From automorphisms of Riemann surfaces to 4-manifolds

I will survey some of the recent works on the geography problem of symplectic 4-manifolds. I will focus on certain families of 4-manifolds which arise from cut-and-paste constructions involving surface bundles. These bundles are cyclic branched covers of cartesian products of 2-manifolds that are branched along graphs of self-diffeomorphisms of 2-manifolds.