# Reserch results

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In the master course, I mainly studied on the mapping class group of an orientable surface. Mapping class group is a quotient group consisiting equivalent classes of self-homeomorphisms over the surface mudulo isotopy. I learned that it is finitely generated by so-called Dehn twists and it plays an essential role in constructing 3-manifold by Dehn surgery. I submitted these results as my master thesis in Osaka-city university in 2003.

In the second, some manifolds whose fiber bundles have some properties can admit spin structures. Especially, when manifold is a colsed surface, the set of all spin structures on surface and the set of all quadratic forms on the first homology group of the surface corresponds $1:1$. And it is known that the group constructed by automorphisms over the first homology group is isomorphic to the symplectic group. In [2], I aim to determine the subgroup of the symplectic group consisting of automorphisms over the first homology group induced by spin-preserving homeomorphisms, and the reserch is still continued.