

# Calculating the stable homology of families of configuration spaces and other moduli spaces, IV

Martin Palmer-Anghel // Talk at the GeMAT seminar, IMAR, 12 September 2019

## Abstract.

The first two talks in this series (1,2) were focused on studying the “stable homology” of *configuration spaces* on a manifold, as the number of point-particles goes to infinity.

This talk (4) and the previous one (3) are instead focused on studying the stable homology of *mapping class groups* of (compact, connected, orientable) surfaces, as their genus goes to infinity. Most of the previous talk was dedicated to explaining the connections between these mapping class groups and various other objects, including (a) moduli spaces of Riemann surfaces and (b) moduli spaces of embedded, oriented subsurfaces of Euclidean space. In this talk, I will explain the outline of a proof due to S. Galatius and O. Randal-Williams [GRW] of the Madsen-Weiss theorem [MW], using viewpoint (b).

## References.

- [GRW] S. Galatius, O. Randal-Williams, *Monoids of moduli spaces of manifolds*, Geometry & Topology vol. 14 pp. 1243–1302 (2010).
- [MW] I. Madsen, M. Weiss, *The stable moduli space of Riemann surfaces: Mumford’s conjecture*, Ann. of Math. vol. 165 pp. 843–941 (2007).

*The overall abstract for the series of talks is [here](#).*

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