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# The topology of the mapping class group and its Torelli subgroup

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## Abstract

I will give a broad survey of what is known about the topology of the mapping class group and its Torelli subgroup, focusing on two main topics:

1. The stable cohomology of the mapping class group (in particular, the Madsen-Weiss theorem), and how it changes when you pass to finite-index subgroups; and
2. The low-dimensional homology of the Torelli group, in particular recent work of the speaker with Minahan where we compute the second rational homology of the Torelli group for  $g$  at least 6.

No prior knowledge of these groups will be assumed.

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