

From Configuration to Moduli Spaces*Ulrike Tillmann* (Univ. Oxford)

TUE/P1 14:00–14:50

Configuration spaces are natural objects of study in many different areas of mathematics and have been studied intensely. There is an interesting connection with algebra. Configuration spaces of the Euclidean plane have the homology of braid groups and those of infinite dimensional Euclidean space have the homology of symmetric groups.

We will want to consider configuration spaces as moduli spaces of points, or 0-dimensional manifolds, but generalise the situation to moduli spaces of manifolds of any dimension. These moduli spaces are of great importance in geometry. There has been much progress in the last decade studying in particular the 2-dimensional case which is of particular interest: The moduli space of surfaces in infinite dimensional Euclidean space are closely related to Riemann's moduli spaces and have the homology as the mapping class groups. Much recent interest in them has been motivated by application in topological field theory.

We will review some of these recent developments and explain their consequences.