

# The Geometry and Topology of Teichmüller Space

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**Abstract:** We will discuss a number of aspects of the geometry of the Teichmüller space of Riemann surfaces: its asymptotic geometry, as seen through Thurston's compactification by measured laminations; its coarse geometry, as captured by the relative hyperbolicity properties of the complex of curves; and the dynamical geometry of its geodesic flows. The interactions between these points of view are important for understanding the different roles Teichmüller space plays, for example in the structure of hyperbolic 3-manifolds. After an overview of these topics we will spend some time talking about the Weil-Petersson geodesic flow, which remains a delicate and difficult to understand part of the theory, and where we are still left with more questions than answers.