

**Title**

Conformal geometry and topology of manifolds

**Abstract**

We will discuss several aspects of conformal geometry and its relationship to the topology of manifolds. In particular, we will describe how the analytical tools, such as conformal Laplace and Dirac operators, are related to topological ones, such as surgery on smooth manifolds. We will aim to explain some applications of those tools to describe recent results on the space of metrics with positive scalar curvature.