Raphael Zentner (U Regensburg): Instanton gauge theory, the pillowcase, and SU(2)-representations

We review some results about SU(2)-representations of fundamental groups of 3-manifolds, and notably those obtained by instanton gauge theory, and its relevance to 3-manifold topology. We will then explain some key techniques in more detail, some of which are related to area-preserving geometry of the 2-torus.