BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

WODZICKI CHERN-SIMONS CLASS FOR LOOP SPACES

Yoshi Maeda

Keio

Feb 24, 2014, 4:15 – 5:15pm

Math/Computer Science, Room 144

111 Cummington Street, Boston

Tea: 4:00pm in Room MCS 144

Abstract: The loop space of a Riemannian manifold has a family of metrics depending on a Sobolev space parameter. The Levi-Civita connections for this family gives rise to Chern-Simons forms on loop spaces. A manifold M with a circle action gives both an element of the fundamental group of $\mathrm{Diff}(M)$ and a cycle on LM. If a particular Chern-Simons form integrated over this cycle is nonzero, the fundamental group of $\mathrm{Diff}(M)$ is infinite. We give examples where M is the total space of a circle bundle over a Kähler surface.

See `http://math.bu.edu/research/geom/seminar.html` or contact Si Li *sili@math.bu.edu* for more information.