## BOSTON UNIVERSITY GEOMETRY SEMINAR

## Nilmanifolds, loop spaces, and OPE's

Marco Aldi (Brandeis)

Wednesday Oct. 12, 4-5 pm in MCS B21. Tea 3:45-4 in MCS 144.

**Abstract:** We introduce a natural Poisson structure on the loop space of certain (possibly twisted) nilmanifolds. We show that by working at the level of loop spaces, non-trivial relations between the geometry of two topologically distinct nilmanifolds can emerge. The OPEs encoding the Poisson structure have unusual singularities of dilogarthmic type. This suggests a possible role of hyperbolic geometry of 3-manifolds in our picture. This is joint work with Reimundo Heluani.