

Geometry, Groups and Dynamics/GEAR Seminar (held at the Illinois hub of GEAR)

1:00 pm, Thursday, December 3, 2015, 243 Altgeld Hall

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Complex deformations of Anosov representations

Abstract: An Anosov representation of a hyperbolic surface group is a homomorphism from the surface group into a semi-simple Lie group which satisfies certain dynamical properties: from these properties one deduces that Anosov representations are discrete, faithful and the set of all Anosov representations is an open subset of the space of all homomorphisms. In recent years, Guichard-Wienhard produced examples of co-compact domains of discontinuity for Anosov representations, which lie in various homogeneous spaces, thus giving an answer to the question of whether or not Anosov representations appear as monodromies of locally homogeneous geometric structures on compact manifolds. In this talk, which comprises joint work with David Dumas, I will discuss some of the complex analytic features of these locally homogeneous geometric manifolds in the case the relevant homogeneous space is a generalized complex flag variety. In particular, we give sufficient conditions to compute the space of all infinitesimal deformations of the complex manifold underlying these locally homogeneous manifolds.

[Video](#)