

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

Tuesday, October 14, 2014, 1:00 pm, 243 Altgeld Hall

David Dumas (UIC)

Polygons, polynomials, fences, and flows

In a recent paper with Michael Wolf, we use affine differential geometry to construct a homeomorphism between the moduli space of polynomial cubic differentials on the complex plane and the space of projective equivalence classes of convex polygons in \mathbb{RP}^2 . In this talk I will briefly recall the results of this project, and then focus primarily on discussing various connections, questions, and conjectures suggested by this work. These include an interpretation of our main theorem in terms of a family of rank-3 meromorphic Higgs bundles, a conjectural relation with the Stokes phenomenon, and a question about the Poisson geometry of the space of twisted polygons.

[Video](#)