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

12:00 pm, Thursday, October 6, 2016, 243 Altgeld Hall
Simion Filip (Harvard)
Hodge theory and its applications in Teichmuller dynamics
The moduli space of Riemann surfaces equipped with a holomophic 1-form carries an interesting action of the group SL(2,R) which shares some features with locally homogeneous spaces. Understanding this action provides insight into understanding dynamics on individual surfaces. Hodge theory, in particular techniques from variations of Hodge structures, play a role in understanding the dynamics in moduli space. I will introduce the basic objects in the story and explain how arithmetic concepts such as real multiplication or torsion points on Jacobians come into play. Time permitting, I will discuss questions in Hodge theory motivated by dynamics, in particular the concept of Lyapunov exponents associated to a variation of Hodge structures.

Video