THE UNIVERSITY OF CHICAGO

Departments of Mathematics and Statistics

ALGEBRAIC GEOMETRY SEMINAR

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Flat Surface, Moduli of Differentials, and Teichmüeller Dynamics

TUESDAY, May 21, 2013. from 4:30–6:00 PM

202 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

An abelian differential on a Riemann surface X defines a flat structure, such that X can be realized as a plane polygon. Changing the shape of the polygon induces an $\mathrm{SL}(2,\mathbb{R})$-action on the moduli space of abelian differentials, called the Teichmüeller dynamics. A central question is to study the orbit closures of this action and the associated dynamical quantities, like the Lyapunov exponents and the Siegel-Veech constants. In this talk I will focus on the minimal orbit closures, called Teichmüeller curves, and introduce tools in algebraic geometry to study them. As an application, we prove a conjecture of Kontsevich-Zorich regarding a special numerical property of Teichmüeller curves in low genus (joint work with Martin Möller).

Organizers:

For further information on this event, please email Lek-Heng Lim at lekheng@galton.uchicago.edu or Madhav Nori at nori@math.uchicago.edu.

UCAGS Seminar URL: `http://www.stat.uchicago.edu/~lekheng/ag.html`