1018-37-127 **Alexander I Bufetov*** (bufetov@math.princeton.edu), Department of Mathematics, University of Chicago, 5734 S. University Ave, Chicago, IL 60637. *The Central Limit Theorem for the Teichmueller Flow on the Moduli Space of Abelian Differentials.*

The talk will be devoted to the Central Limit Theorem for the Teichmueller flow on the moduli space of abelian differentials with a prescribed pattern of singularities. The proof follows the scheme introduced by Sinai for geodesic flows on manifolds of negative curvature.

The first step is a representation of the Teichmueller flow as a suspension flow over the natural extension of the Rauzy-Veech-Zorich induction map on the space of interval exchange transformations. In genus one, this construction corresponds to a representation of the geodesic flow on the modular surface as a suspension flow over the natural extension of the Gauss continued fraction map.

The main step of the proof is a stretched-exponential bound on the decay of correlations for the Rauzy-Veech-Zorich induction map. The induction map admits a natural symbolic representation over a countable alphabet, and the decay of correlations is obtained by the method of Markov approximations of Sinai, Bunimovich-Sinai. After that, the Theorem of Melbourne and Torok completes the proof. (Received March 02, 2006)